

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/11409

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details				
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.				
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.				
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.				
TM149	Determination of Pesticides by Large Volume Injection on GC Triple Quad MS, based upon USEPA method 8270D v5:2014	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				

APPENDIX E - GEOTECHNICAL IN SITU FIELDWORK AND LABORATORY RESULTS

TEST REPORT

Client Tier Environmental Ltd

Address Suite 513
Chadwick House
Warrington Road
Birchwood
WA3 6AE

Contract TE1749 -
Bryn Lane Outline Planning

Job Number MRN 4625/32A
Replaces report no. MRN 4625/32

Date of Issue 17 August 2023

Page 1 of 19

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

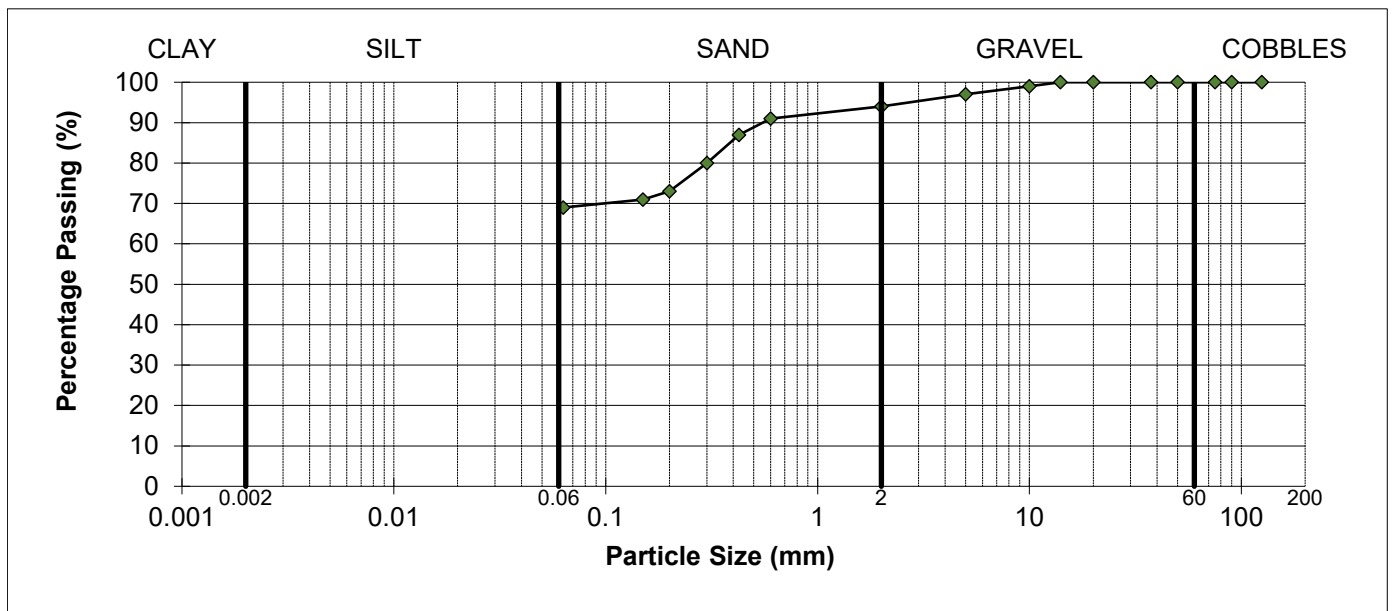
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP04 0.8 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126557	DATE RECEIVED	08-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	97	
90	100		2	94	
75	100		0.6	91	
50	100		0.425	87	
37.5	100		0.3	80	
20	100		0.2	73	
14	100		0.15	71	
10	99		0.063	69	



REMARKS

SIGNED



NAME

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

DATE

17-Aug-23

TEST CERTIFICATE
PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

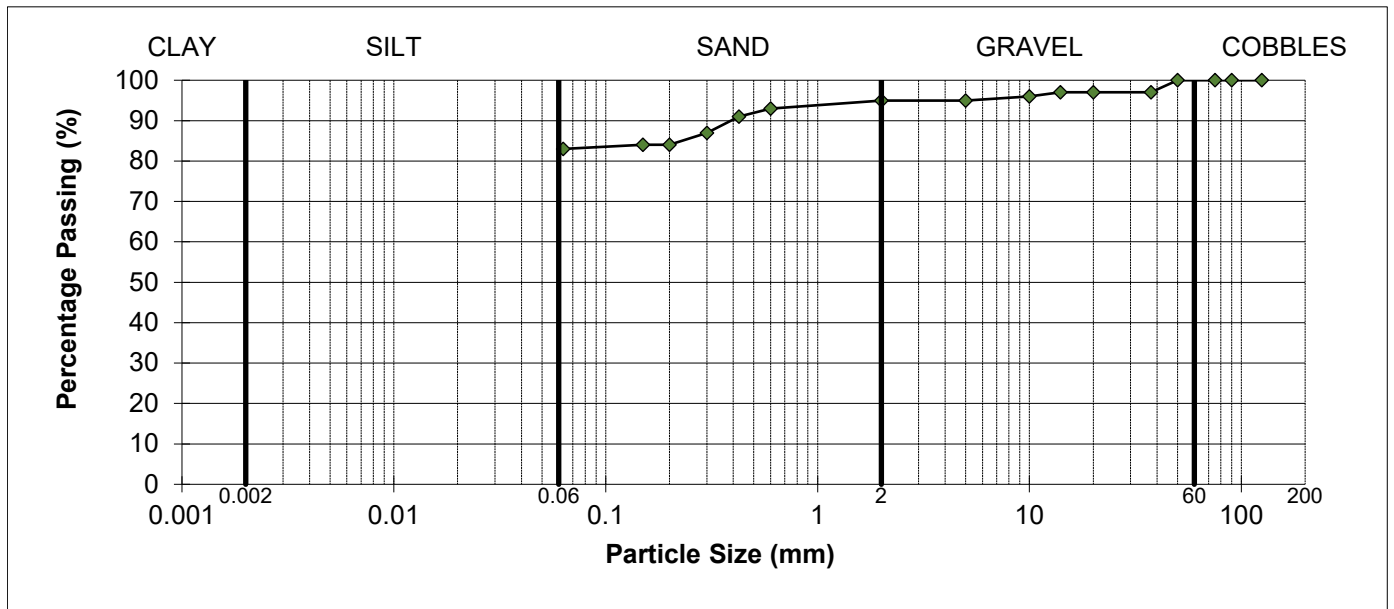
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP05 0.4 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126881	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	95	
90	100		2	95	
75	100		0.6	93	
50	100		0.425	91	
37.5	97		0.3	87	
20	97		0.2	84	
14	97		0.15	84	
10	96		0.063	83	



REMARKS

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(Laboratory Manager)

DATE

17-Aug-23

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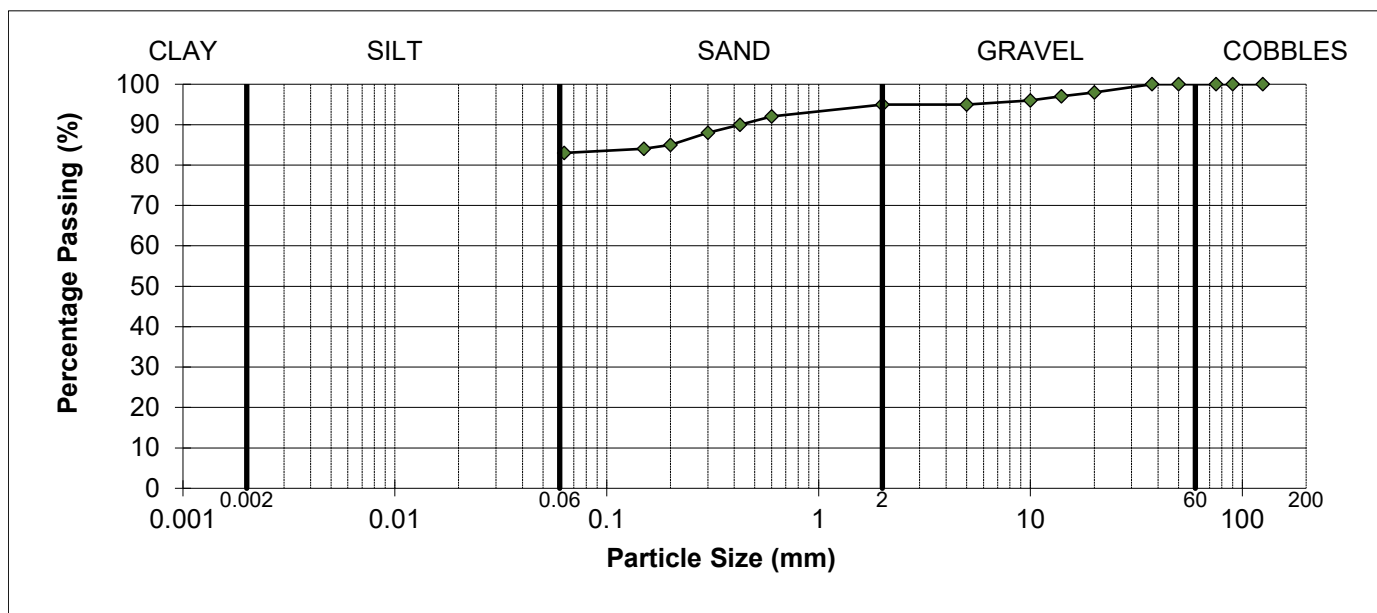
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP16 1.5 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126912	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	95	
90	100		2	95	
75	100		0.6	92	
50	100		0.425	90	
37.5	100		0.3	88	
20	98		0.2	85	
14	97		0.15	84	
10	96		0.063	83	



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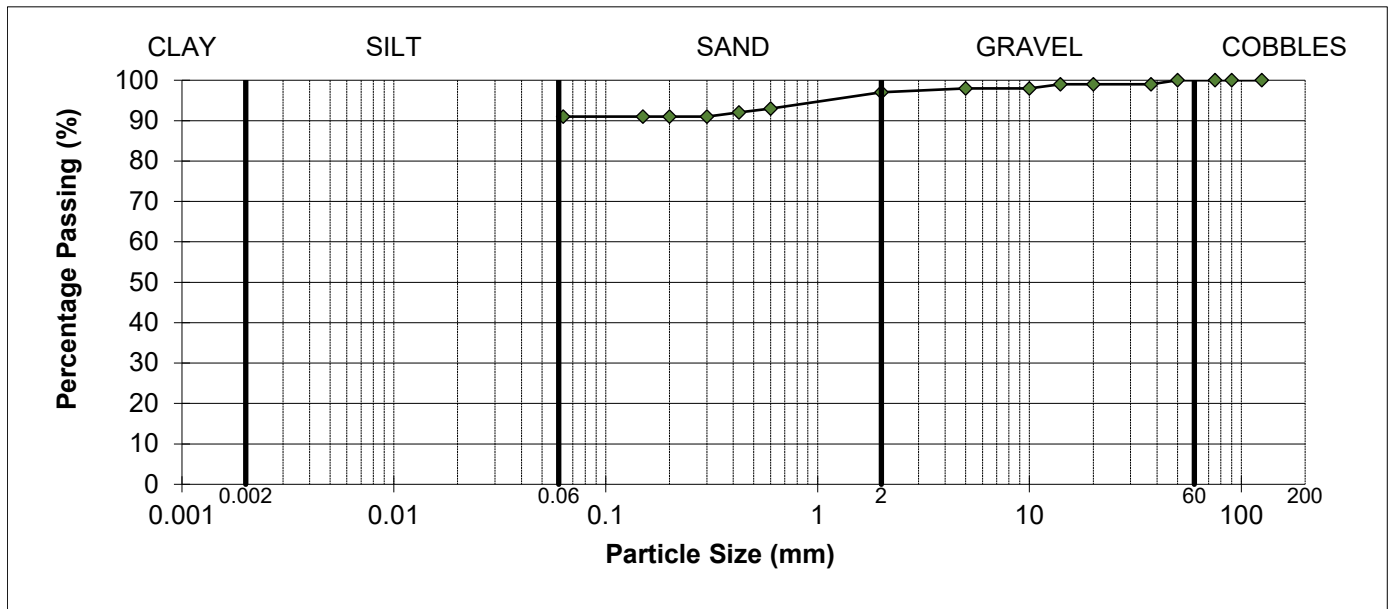
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP07 2.7 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126886	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	98	
90	100		2	97	
75	100		0.6	93	
50	100		0.425	92	
37.5	99		0.3	91	
20	99		0.2	91	
14	99		0.15	91	
10	98		0.063	91	



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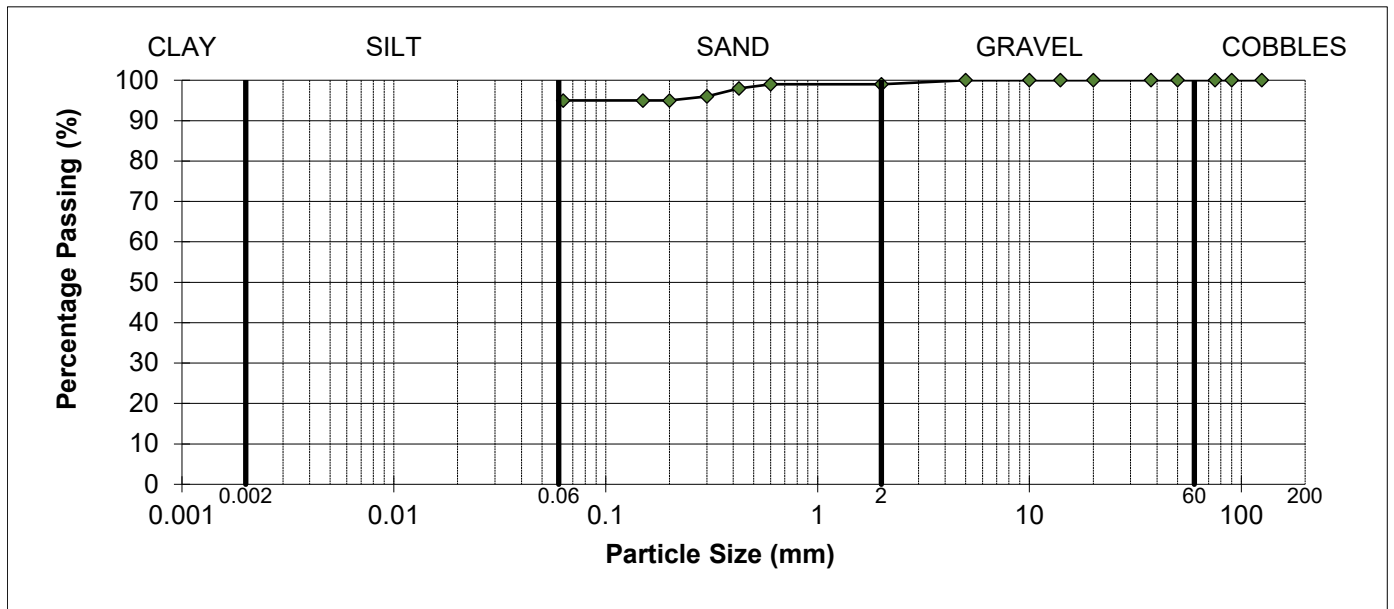
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP17 2 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126893	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	100	
90	100		2	99	
75	100		0.6	99	
50	100		0.425	98	
37.5	100		0.3	96	
20	100		0.2	95	
14	100		0.15	95	
10	100		0.063	95	



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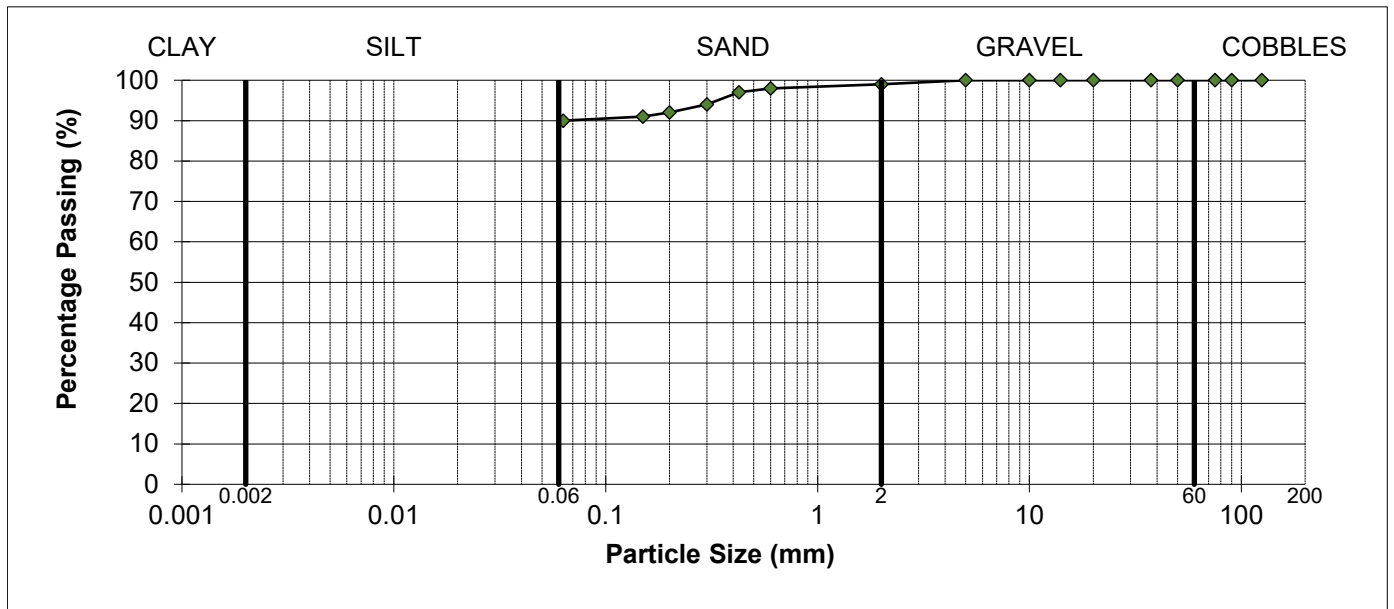
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP102 0.5-0.7 B	DATE SAMPLED	Not advised
LAB SAMPLE No	126551	DATE RECEIVED	08-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	100	
90	100		2	99	
75	100		0.6	98	
50	100		0.425	97	
37.5	100		0.3	94	
20	100		0.2	92	
14	100		0.15	91	
10	100		0.063	90	



REMARKS

SIGNED



NAME

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

DATE

17-Aug-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

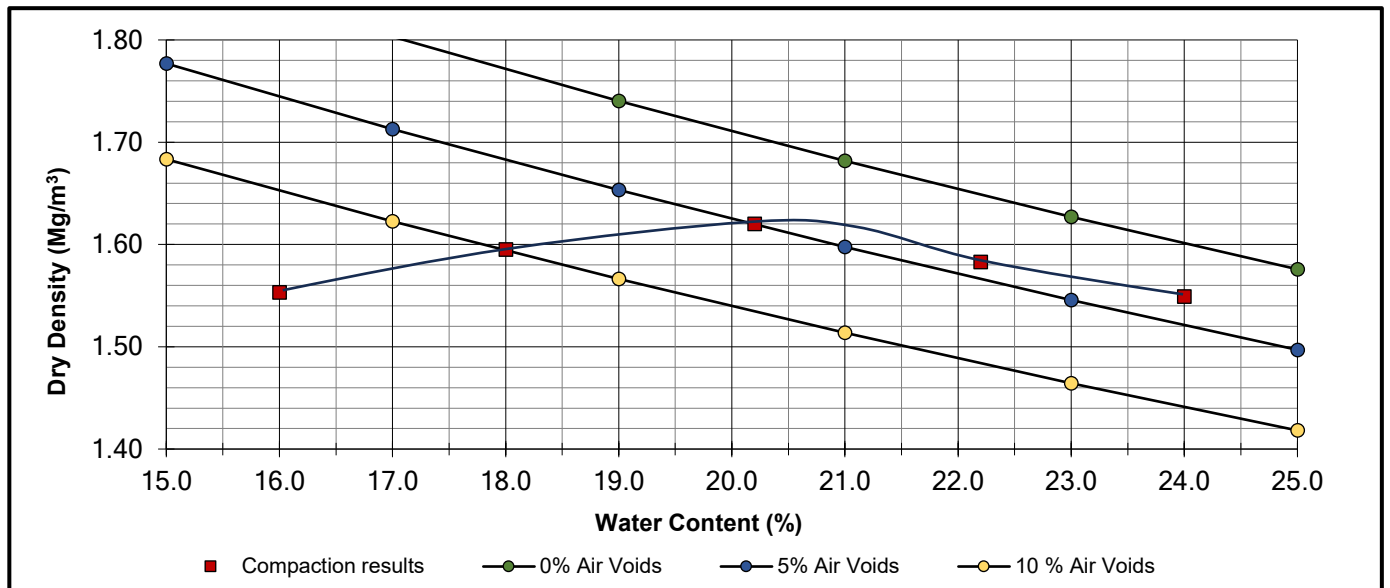
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP04 0.8 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126557	DATE RECEIVED	08-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	0 %	GRADING ZONE	Zone 4
RETAINED 20mm	0 %	PARTICLE DENSITY	2.60 Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	16.0	1.553
2	18.0	1.595
3	20.2	1.620
4	22.2	1.583
5	24.0	1.549



OPTIMUM WATER CONTENT	21 (%)
MAXIMUM DRY DENSITY	1.62 (Mg/m ³)

REMARKS

As received water content = 16.9%

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

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DATE 17-Aug-23

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TEL 0161 475 0870



TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

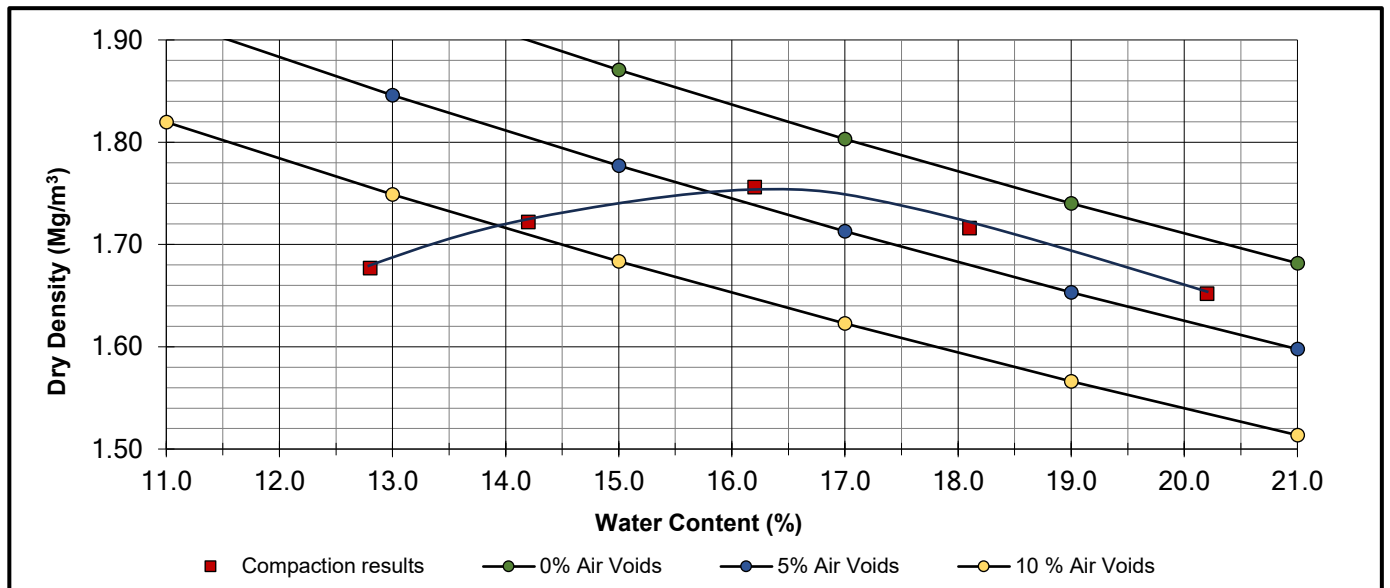
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP05 0.4 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126881	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY
ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried / Single Sample

RETAINED 37.5mm	3 %	GRADING ZONE	Zone 4
RETAINED 20mm	3 %	PARTICLE DENSITY	2.60 Mg/m ³ (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	12.8	1.677
2	14.2	1.722
3	16.2	1.756
4	18.1	1.716
5	20.2	1.652



OPTIMUM WATER CONTENT	16 (%)
MAXIMUM DRY DENSITY	1.75 (Mg/m ³)

REMARKS

As received water content = 17.6%

NAME O.P. Davies BA (Hons)
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DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

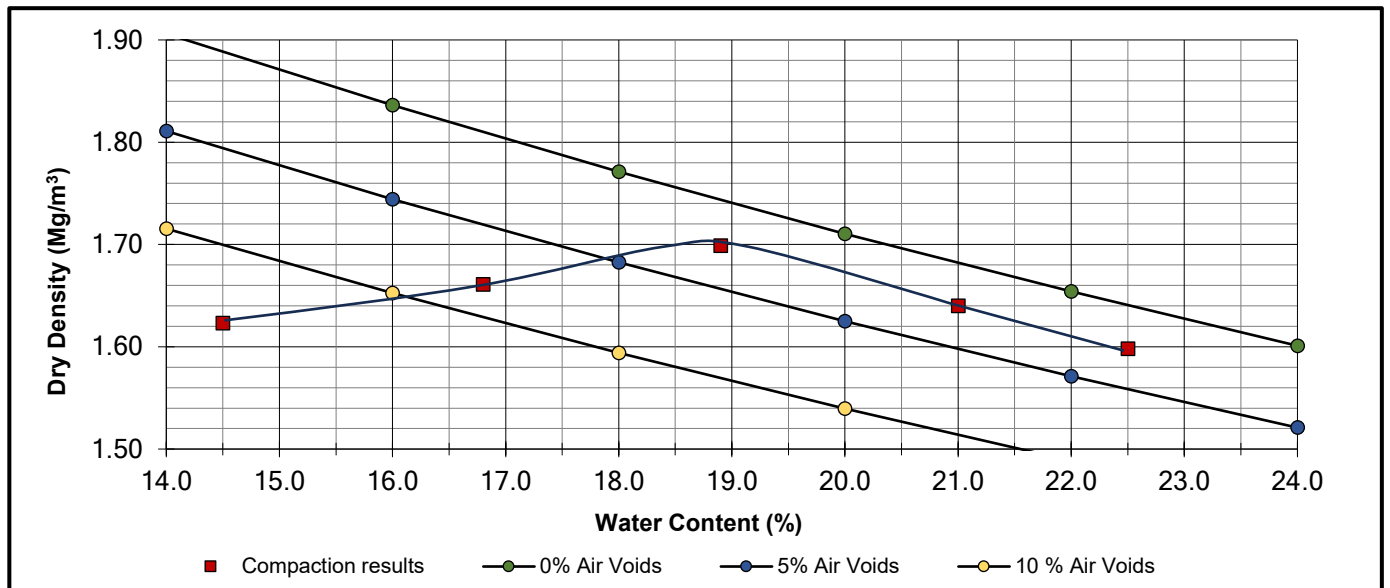
CLIENT	Tier Environmental Ltd		
SITE	TE1749 - Bryn Lane Outline Planning		
JOB NUMBER	MRN 4625/32A		

SAMPLE LABEL	TP16 1.5 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126912	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample		
PRE TREATMENT	Air Dried / Single Sample		

RETAINED 37.5mm	0 %	GRADING ZONE	Zone 2
RETAINED 20mm	2 %	PARTICLE DENSITY	2.60 Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	14.5	1.623
2	16.8	1.661
3	18.9	1.699
4	21.0	1.640
5	22.5	1.598



OPTIMUM WATER CONTENT	19 (%)
MAXIMUM DRY DENSITY	1.70 (Mg/m ³)

REMARKS

As received water content = 38.9%

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

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BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

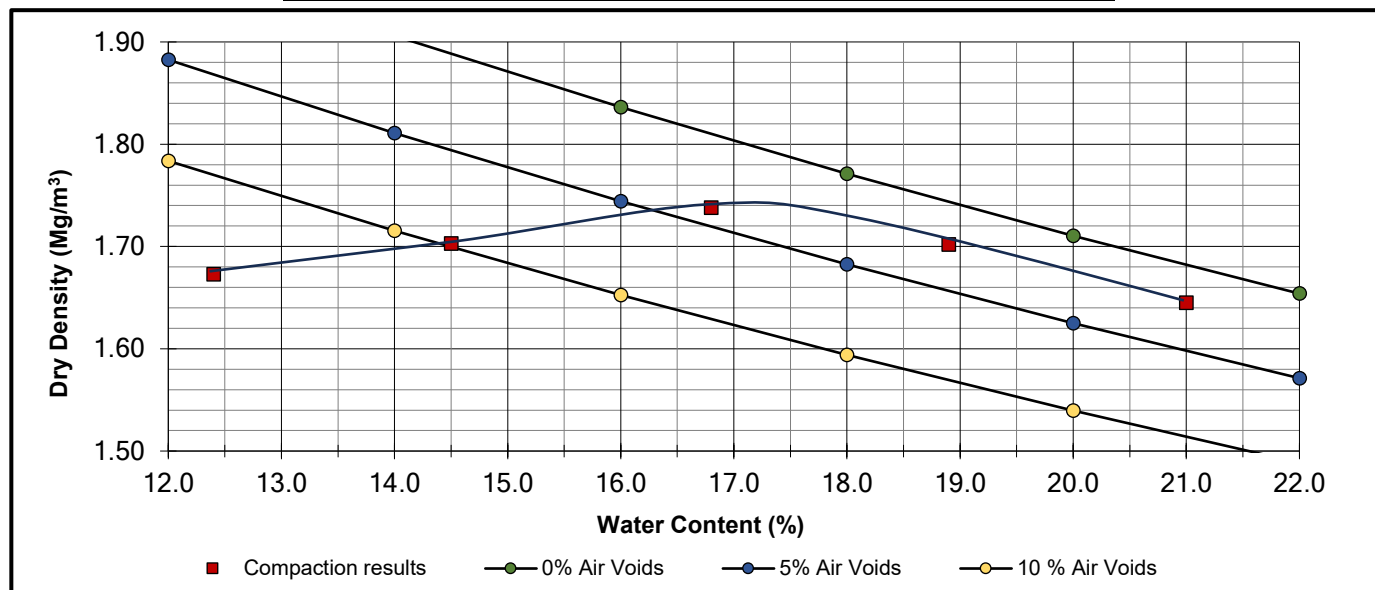
CLIENT	Tier Environmental Ltd		
SITE	TE1749 - Bryn Lane Outline Planning		
JOB NUMBER	MRN 4625/32A		

SAMPLE LABEL	TP07 2.7 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126886	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample		
PRE TREATMENT	Air Dried / Single Sample		

RETAINED 37.5mm	1	%	GRADING ZONE	Zone 4	
RETAINED 20mm	1	%	PARTICLE DENSITY	2.60	Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	12.4	1.673
2	14.5	1.703
3	16.8	1.738
4	18.9	1.702
5	21.0	1.645



OPTIMUM WATER CONTENT	17	(%)
MAXIMUM DRY DENSITY	1.74	(Mg/m ³)

REMARKS

As received water content = 19.9%

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

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DATE 17-Aug-23

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DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

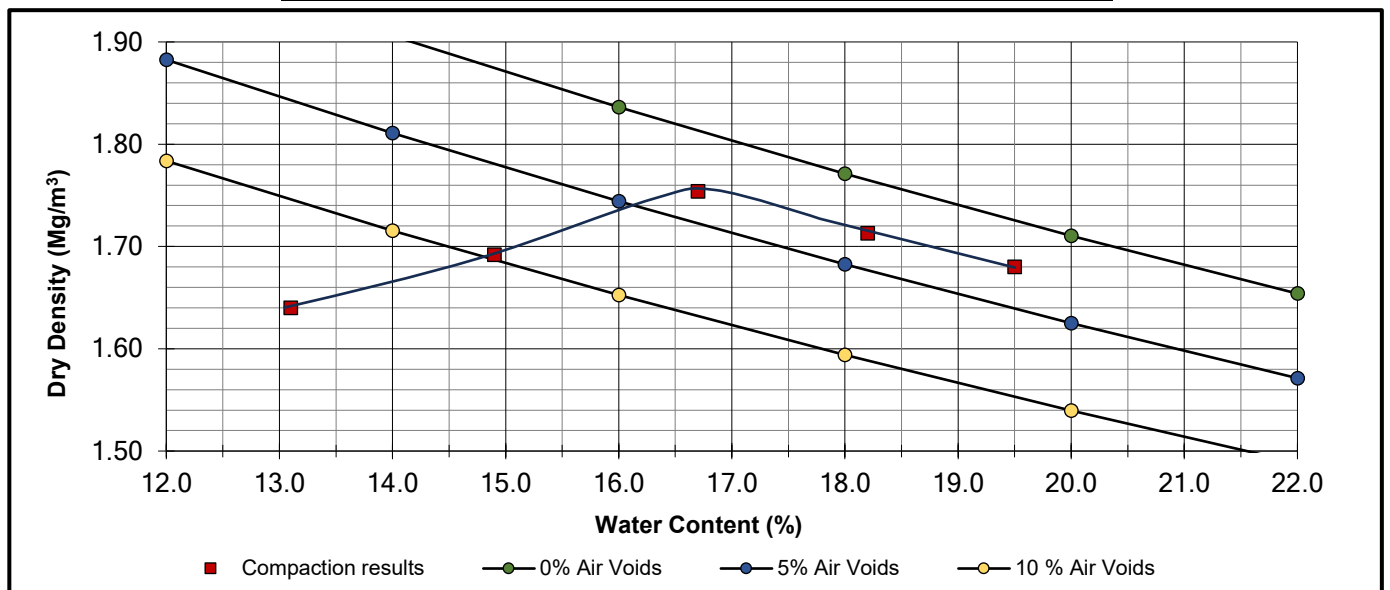
CLIENT	Tier Environmental Ltd		
SITE	TE1749 - Bryn Lane Outline Planning		
JOB NUMBER	MRN 4625/32A		

SAMPLE LABEL	TP17 2 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126893	DATE RECEIVED	16-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample		
PRE TREATMENT	Air Dried / Single Sample		

RETAINED 37.5mm	0	%	GRADING ZONE	Zone 1	
RETAINED 20mm	0	%	PARTICLE DENSITY	2.60	Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	13.1	1.640
2	14.9	1.692
3	16.7	1.754
4	18.2	1.713
5	19.5	1.680



OPTIMUM WATER CONTENT	17	(%)
MAXIMUM DRY DENSITY	1.75	(Mg/m ³)

REMARKS

As received water content = 19.1%

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

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DATE 17-Aug-23

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TEST CERTIFICATE

DRY DENSITY/WATER CONTENT RELATIONSHIP 2.5kg RAMMER

BS 1377-2:2022 Cl.11

PARTICLE DENSITY METHOD BS 1377-2:2022 Cl.9.2

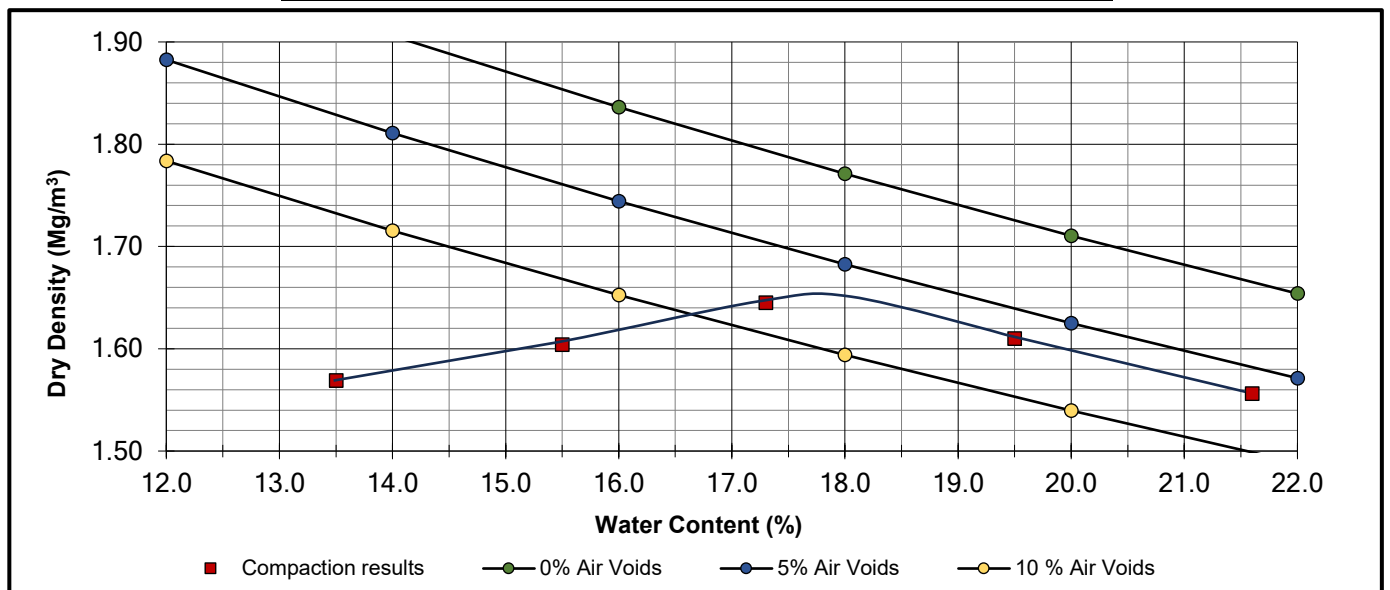
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SITE	TE1749 - Bryn Lane Outline Planning		
JOB NUMBER	MRN 4625/32A		

SAMPLE LABEL	TP102 0.5-0.7 B	DATE SAMPLED	Not advised
SAMPLE NUMBER	126551	DATE RECEIVED	08-Jun-23
DATE TESTED	07-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample		
PRE TREATMENT	Air Dried / Single Sample		

RETAINED 37.5mm	0	%	GRADING ZONE	Zone 1	
RETAINED 20mm	0	%	PARTICLE DENSITY	2.60	Mg/m3 (Assumed)

POINT NUMBER	WATER CONTENT (%)	DRY DENSITY (Mg/m ³)
1	13.5	1.569
2	15.5	1.604
3	17.3	1.645
4	19.5	1.610
5	21.6	1.556



OPTIMUM WATER CONTENT	18	(%)
MAXIMUM DRY DENSITY	1.65	(Mg/m ³)

REMARKS

As received water content = 24.8%

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

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DATE 17-Aug-23

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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

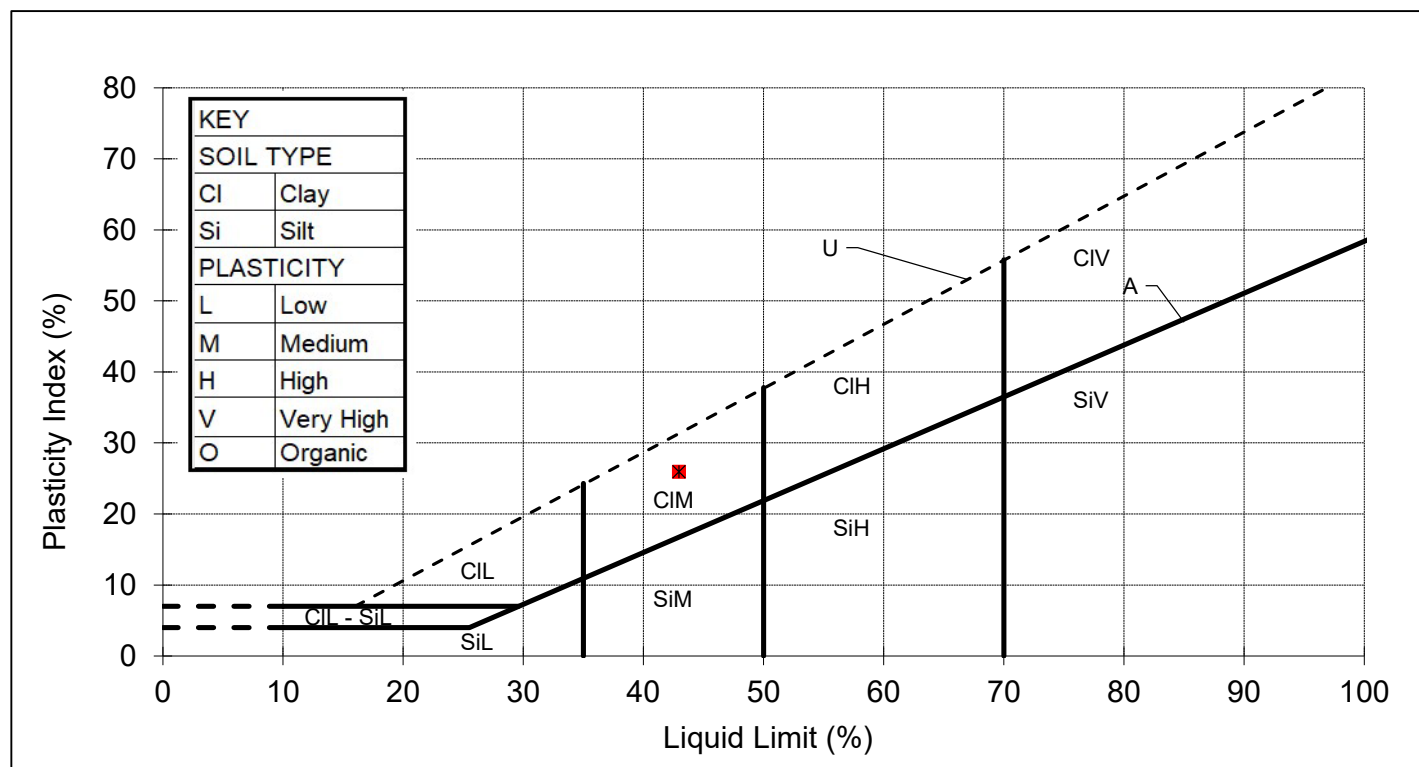
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP12 2.25 B	DATE SAMPLED	Not advised
SAMPLE No.	126892	DATE RECEIVED	16-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	19.1	42.2	1.019	
Determination 2 (avg)	19.0	42.1		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.8	43	17	26	91



REMARKS

SIGNED

NAME

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

DATE

17-Aug-23

MURRAY RIX

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



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

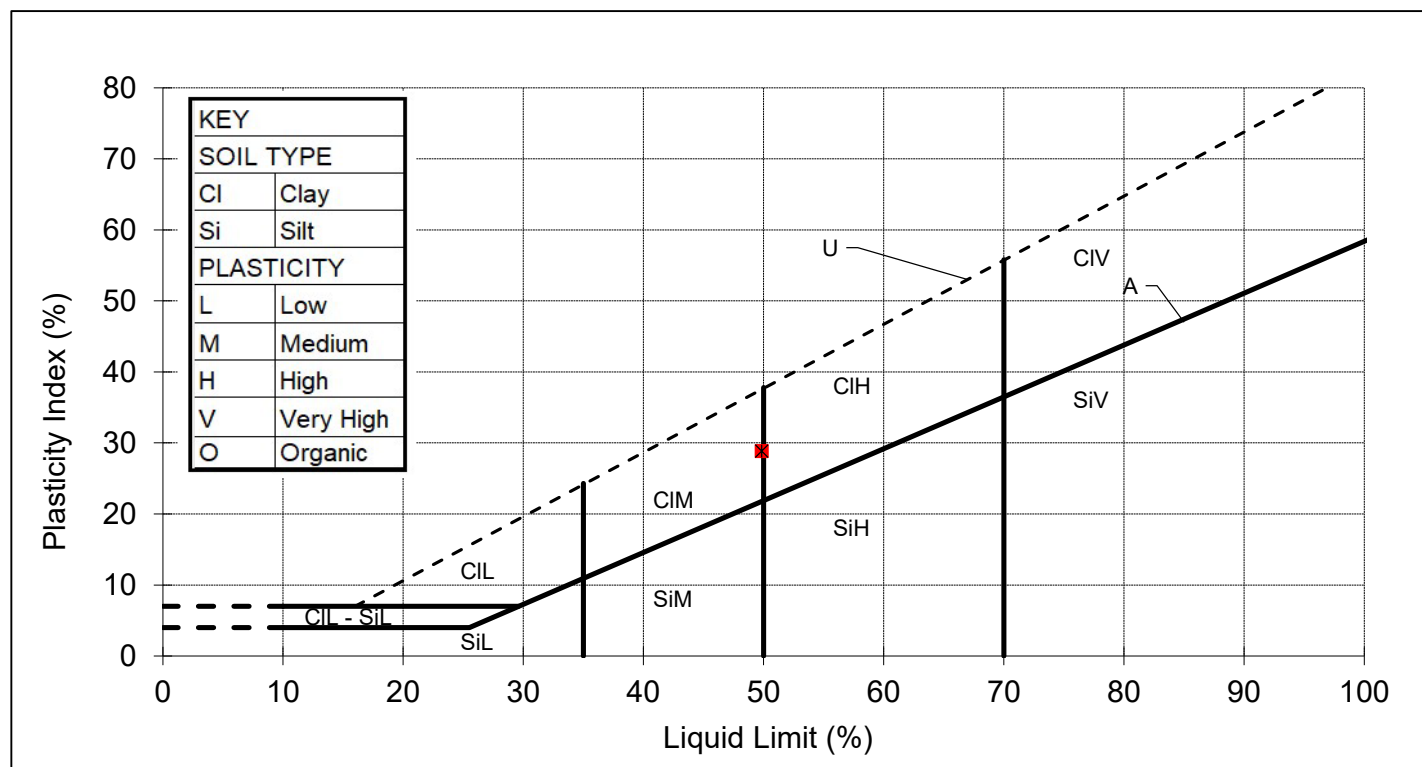
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP14 0.8 B	DATE SAMPLED	Not advised
SAMPLE No.	126910	DATE RECEIVED	16-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	19.9	49.6	1.002	
Determination 2 (avg)	19.9	49.9		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
44.0	50	21	29	98



REMARKS

SIGNED

NAME

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

DATE

17-Aug-23

MURRAY RIX

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



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

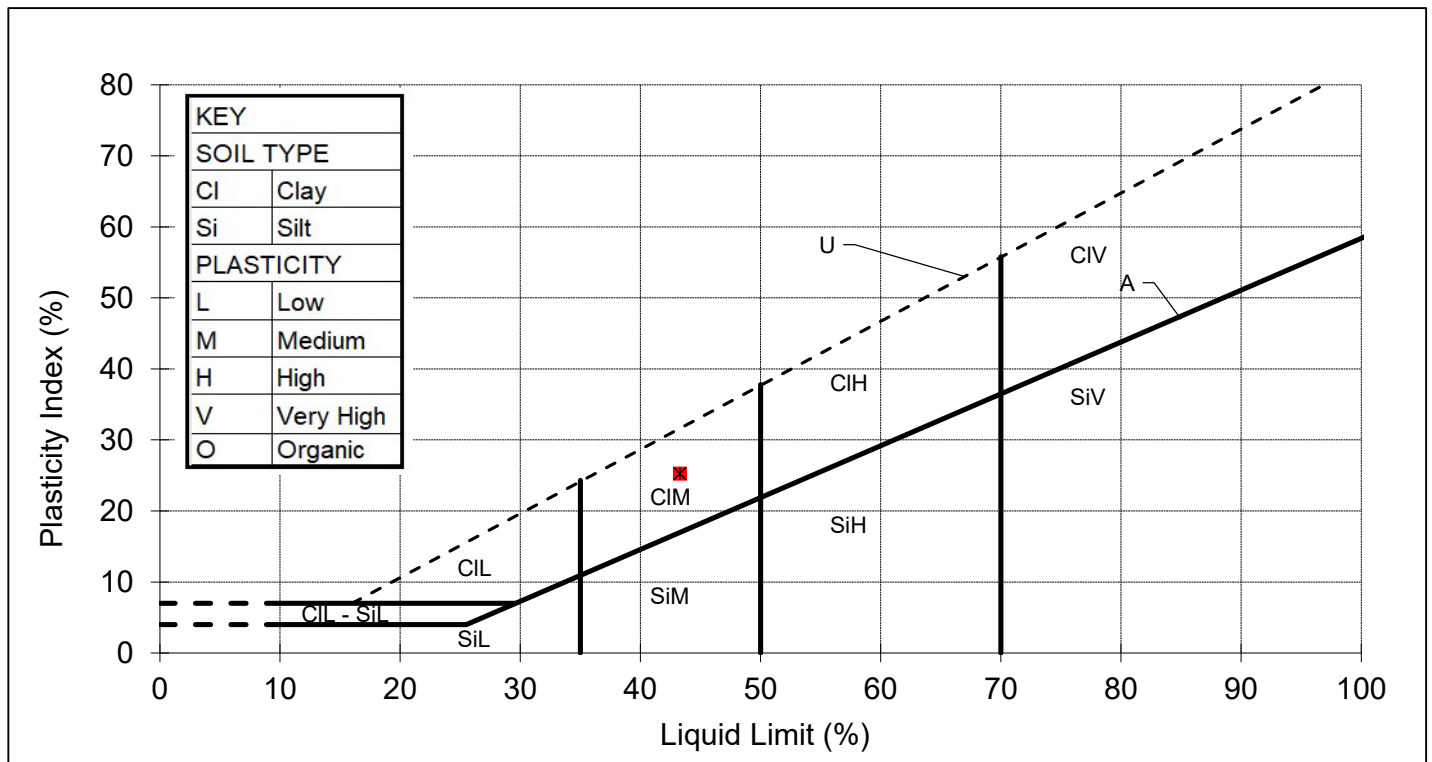
CLIENT	Tier Environmental Ltd		
SITE	TE1749 - Bryn Lane Outline Planning		
JOB NUMBER	MRN 4625/32A		

SAMPLE LABEL	TP01 1.5 B	DATE SAMPLED	Not advised
SAMPLE No.	126549	DATE RECEIVED	08-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	20.8	43.8	0.988	
Determination 2 (avg)	20.7	43.8		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
22.8	43	18	25	98



REMARKS

SIGNED

NAME

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

DATE

17-Aug-23

MURRAY RIX

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



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

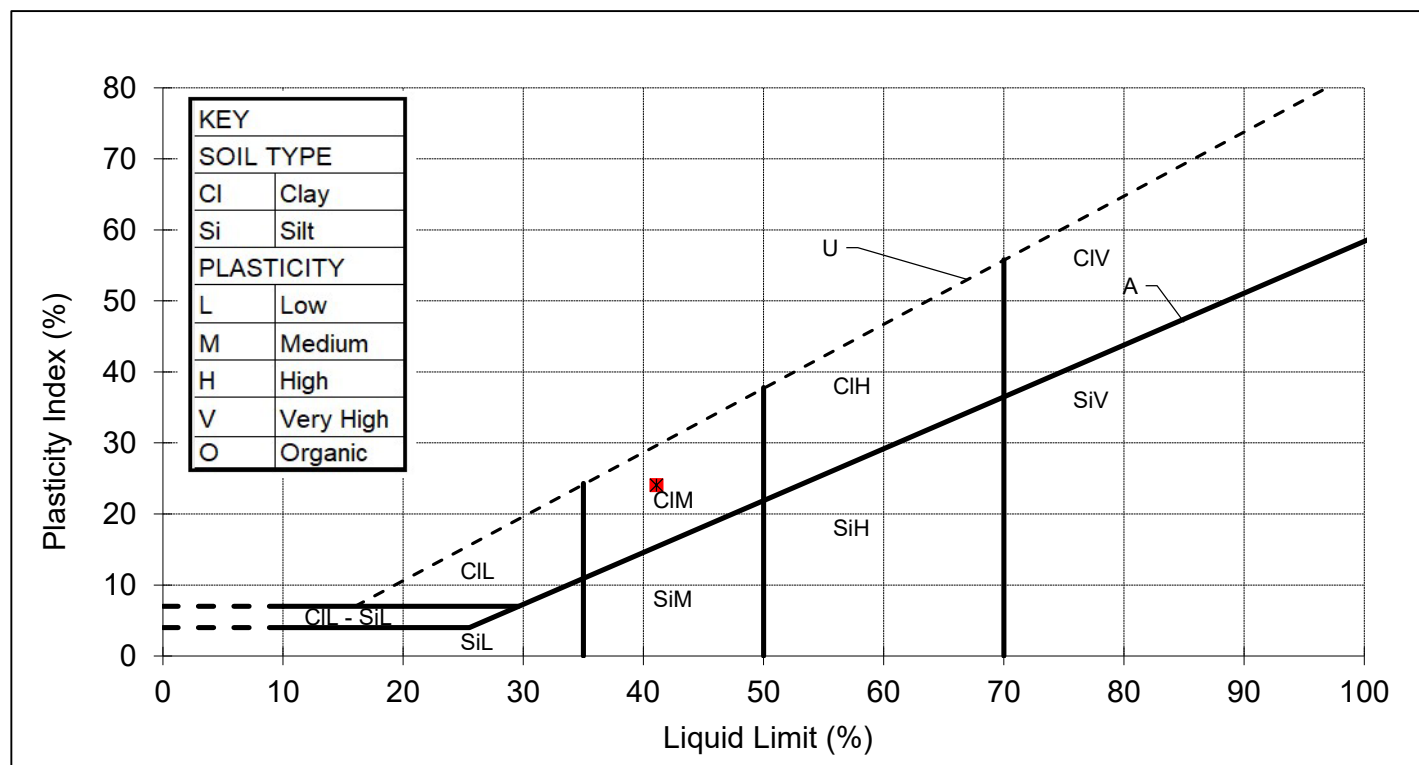
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP10 2.3 B	DATE SAMPLED	Not advised
SAMPLE No.	126890	DATE RECEIVED	16-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	19.9	41.0	1.002	
Determination 2 (avg)	19.9	41.0		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.0	41	17	24	96



REMARKS

SIGNED

NAME

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

DATE

17-Aug-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

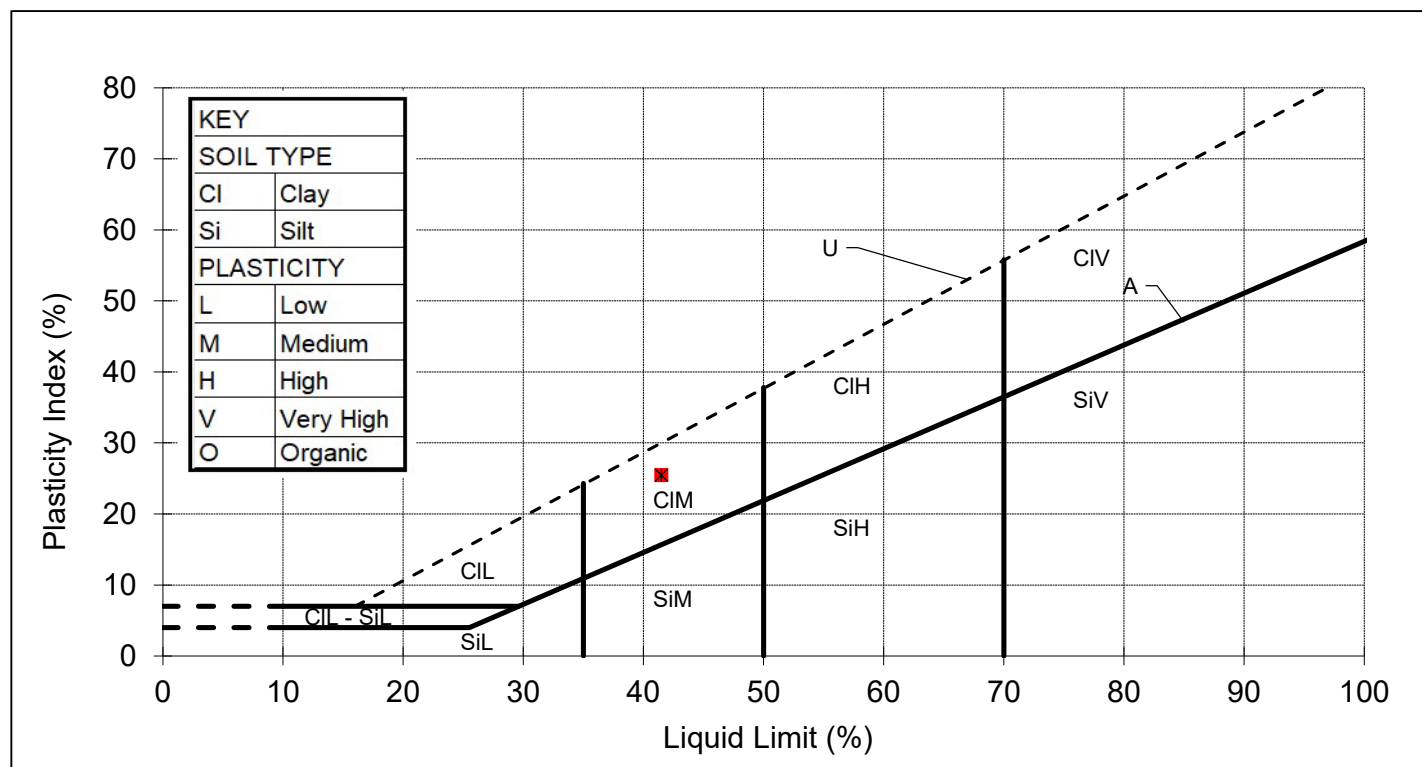
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP09 0.7 B	DATE SAMPLED	Not advised
SAMPLE No.	126888	DATE RECEIVED	16-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	17.8	40.0	1.036	
Determination 2 (avg)	17.8	40.1		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
17.2	41	16	25	90



REMARKS

SIGNED

NAME

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

DATE

17-Aug-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD

PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5

WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

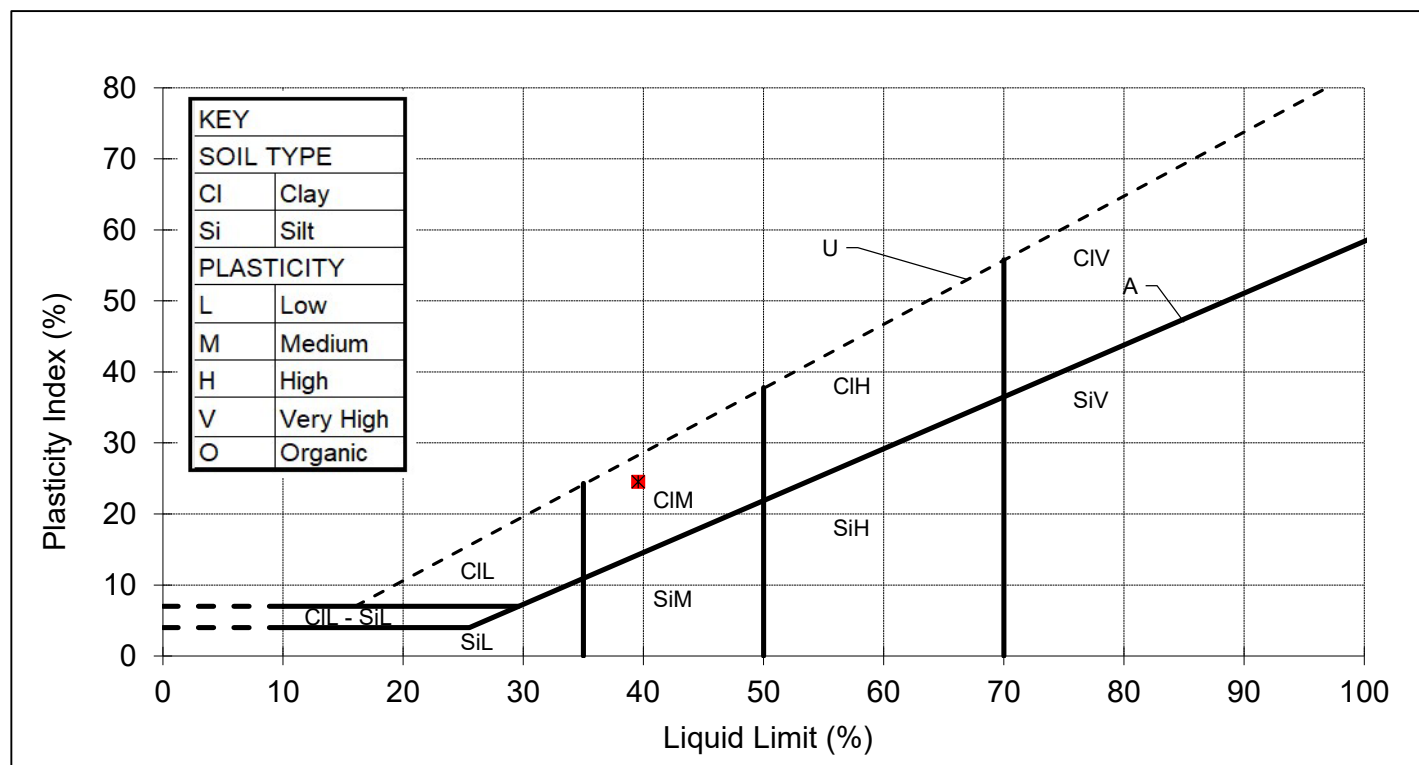
CLIENT	Tier Environmental Ltd
SITE	TE1749 - Bryn Lane Outline Planning
JOB NUMBER	MRN 4625/32A

SAMPLE LABEL	TP15 3 B	DATE SAMPLED	Not advised
SAMPLE No.	126911	DATE RECEIVED	16-Jun-23
DATE TESTED	08-Jul-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
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)	18.6	38.5	
Determination 2 (avg)	18.8	38.9	

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.8	40	15	25	93



REMARKS

SIGNED

NAME


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

DATE

17-Aug-23

APPENDIX F - GROUNDWATER AND GAS MONITORING RESULTS

Job No:	TE1749		
Visit No:	1	of	2
Operator:	HC		
Project Manager:	SL		

O ₂	21.4
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	Snow
	Strong
	Overcast
	Heavy
1014	After
	Rising

☐ Frozen

Pressure Trend

[illegible]

Job No:	TE1749		
Visit No:	2	of	2
Operator:	SW AND LH		
Project Manager:	SL		

O_2	20.8
-------	------

	Snow
	Strong
	Overcast
	Heavy
1016	After
X	Rising

☐ Frozen

Pressure Trend

[illegible]

APPENDIX G - PHOTOGRAPHS

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID
Project No. TE1749			TP01
Engineer Eve Rowland			
Client Net World Sports			
			Pit
			Spoil
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID
Project No. TE1749			TP02
Engineer Eve Rowland			
Client Net World Sports			
		Pit	
		Spoil	
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID
Project No. TE1749			TP03
Engineer Eve Rowland			
Client Net World Sports			
		Pit	
		Spoil	
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID
Project No. TE1749			TP04
Engineer Eve Rowland			
Client Net World Sports			
			Pit
			Spoil
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID
Project No. TE1749			TP05
Engineer Eve Rowland			
Client Net World Sports			
			
	Pit		
			
	Spoil		
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID TP06
Project No. TE1749			
Engineer Eve Rowland			
Client Net World Sports			
			Pit
			Spoil
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID TP07
Project No. TE1749			
Engineer Eve Rowland			
Client Net World Sports			
		Pit	
		Spoil	
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID TP08
Project No. TE1749			
Engineer Eve Rowland			
Client Net World Sports			
		Pit	
		Spoil	
Photographed By		Date	
ER		05.06.2023	

Project Name Bryn Lane, Wrexham		Photographic Record	Borehole ID TP09
Project No. TE1749			
Engineer Eve Rowland			
Client Net World Sports			
			
		Pit	
			
		Spoil	
Photographed By		Date	
ER		05.06.2023	