

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
TP301	2.30		D	Brown mottled orangish brown and grey very sandy CLAY.	25.6	43	19	24	100	CI	2	1
TP305	1.70		D	Brown mottled orange and grey sandy CLAY with rare fine to medium gravel.	29.3	46	19	27	99	CI	2	1
TP307	2.30		D	Brown very sandy CLAY.	25.8	40	18	22	100	CI	2	1
TP308	3.10		D	Brown mottled orange and light grey very sandy CLAY.	24.9	39	17	22	100	CI	2	1
TP310	1.60		D	Orangish brown mottled light grey very sandy CLAY.	25.7	41	16	25	100	CI	2	1
TP312A	2.30		D	Brown mottled greyish brown very sandy CLAY.	22.2	43	17	26	100	CI	2	1
TP315	1.50		D	Orange mottled light grey sandy CLAY.	28.6	49	19	30	100	CI	2	1
TP318	2.30		D	Brown mottled light grey sandy CLAY.	28.7	50	19	31	100	CI	2	1
TP320	1.70		D	Brown mottled light grey sandy CLAY.	27.9	51	22	29	100	CH	2	1
TP325	1.20		D	Brown mottled orange and light grey sandy CLAY.	26.3	55	21	34	100	CH	2	1
TP329	3.20		D	Brown very sandy CLAY.	23.7	42	17	25	100	CI	2	1
TP343	1.10		D	Greyish brown mottled light brown and orangish brown very sandy CLAY with rare fine gravel.	24.1	31	16	15	99	CL	2	1
TP345	2.70		D	Brownish grey mottled brown sandy CLAY.	27.1	53	20	33	100	CH	2	1
TP348	3.00		D	Light brown and greyish brown mottled sandy CLAY.	30.4	51	19	32	100	CH	2	1
TP350	1.50		D	Brown mottled greyish brown very sandy CLAY.	24.4	44	16	28	100	CI	2	1

Test Type:

1 - 1 point 80g / 30° fall cone method.
 2 - 4 point 80g / 30° fall cone method.
 3 - Non plastic determination.

Sample condition:

1 - As Received
 2 - Air Dried
 3 - Washed & Air Dried

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HOGWOOD FARM
 41623



Test Type:	Sample condition:
1 - 1 point 80g / 30° fall cone method.	1 - As Received
2 - 4 point 80g / 30° fall cone method.	2 - Air Dried
3 - Non plastic determination.	3 - Washed & Air Dried

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LIQUID AND PLASTIC LIMITS

Location TP301
Depth (m) 2.30
Sample Type D

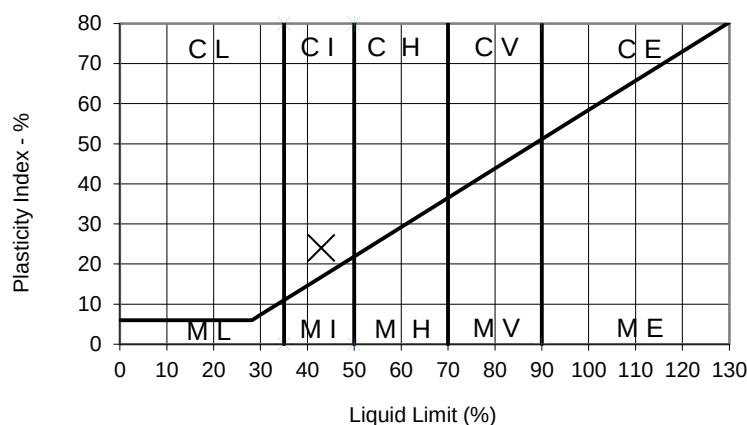
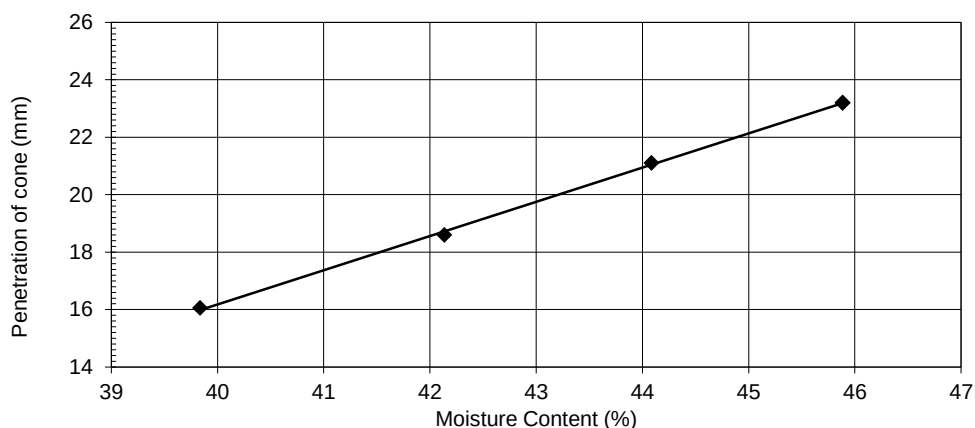
Description:

Brown mottled orangish brown and grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 25.6 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 43 %
Plastic Limit : 19 %
Plasticity Index : 24 %

Equivalent Water Content of material passing 425µm sieve : 25.6 %
Liquidity Index : 0.28



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LIQUID AND PLASTIC LIMITS

Location TP305
Depth (m) 1.70
Sample Type D

Description:

Brown mottled orange and grey sandy CLAY with rare fine to medium gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014) 29.3 %

Estimated percentage passing 425µm sieve : 99 %

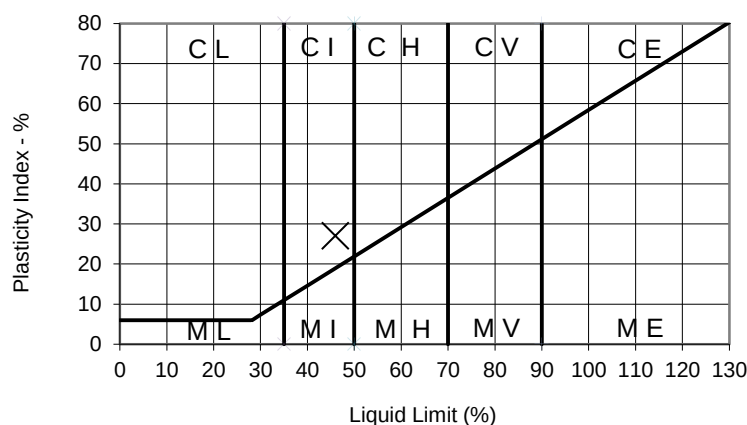
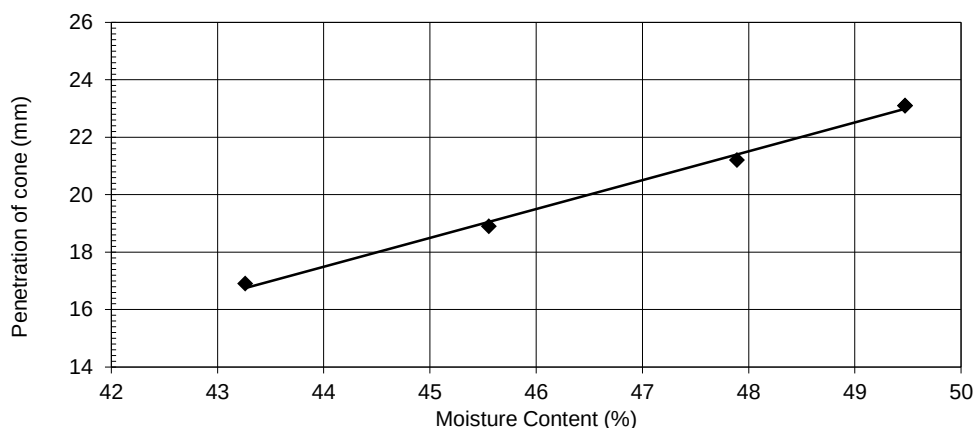
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 46 %

Plastic Limit : 19 %

Plasticity Index : 27 %

Equivalent Water Content of material passing 425µm sieve : 29.7 %

Liquidity Index : 0.40



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LIQUID AND PLASTIC LIMITS

Location TP307
Depth (m) 2.30
Sample Type D

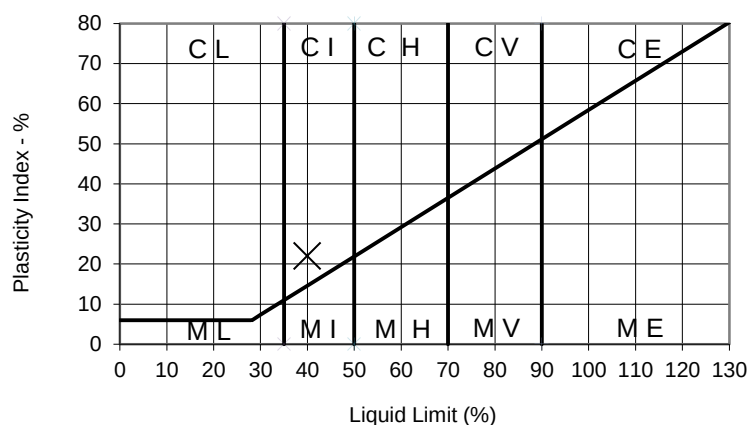
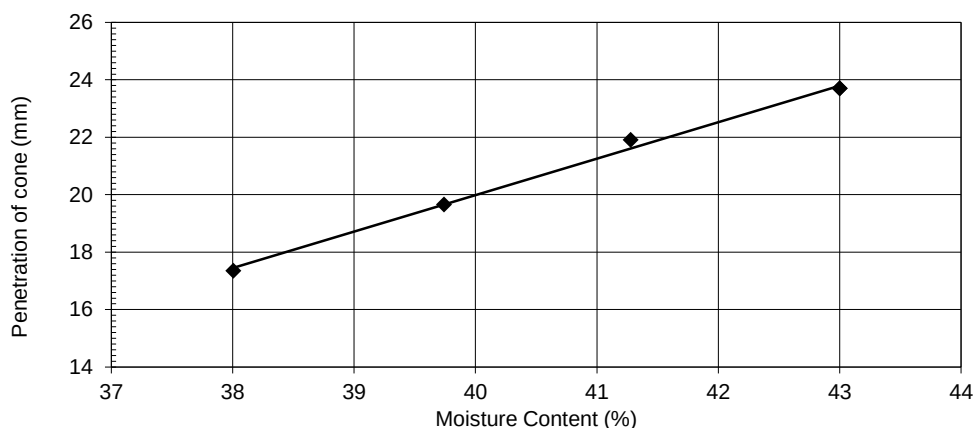
Description:

Brown very sandy CLAY.

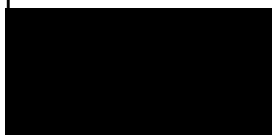
Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 25.8 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 40 %
Plastic Limit : 18 %
Plasticity Index : 22 %

Equivalent Water Content of material passing 425µm sieve : 25.8 %
Liquidity Index : 0.35



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LIQUID AND PLASTIC LIMITS

Location TP308
Depth (m) 3.10
Sample Type D

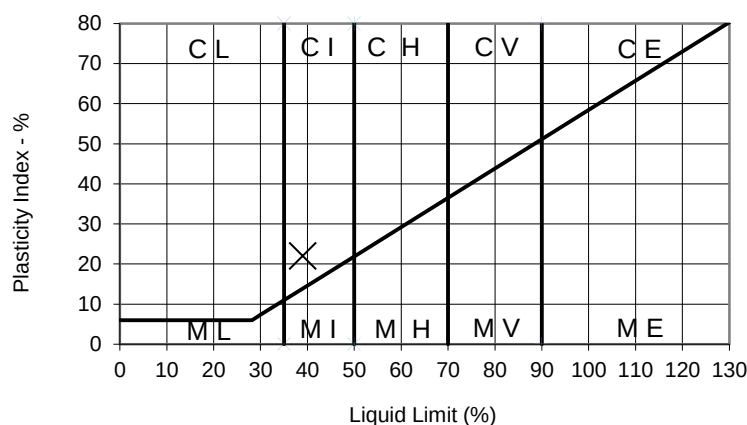
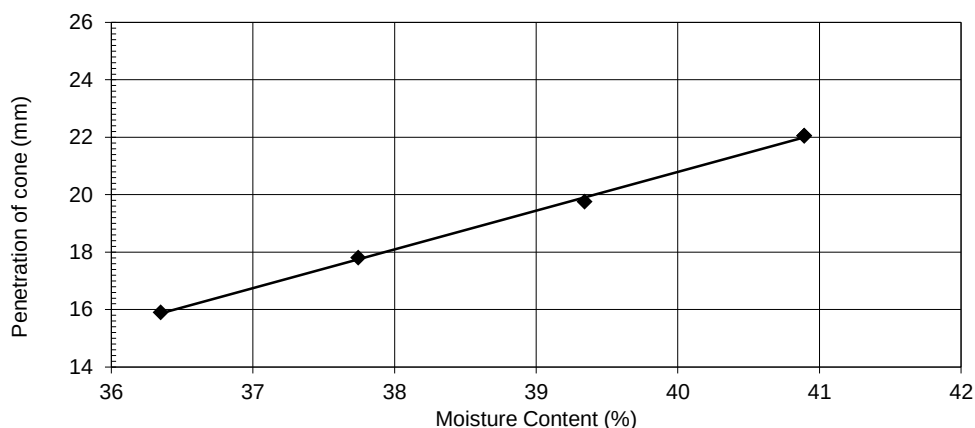
Description:

Brown mottled orange and light grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 24.9 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 39 %
Plastic Limit : 17 %
Plasticity Index : 22 %

Equivalent Water Content of material passing 425µm sieve : 24.9 %
Liquidity Index : 0.36



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LIQUID AND PLASTIC LIMITS

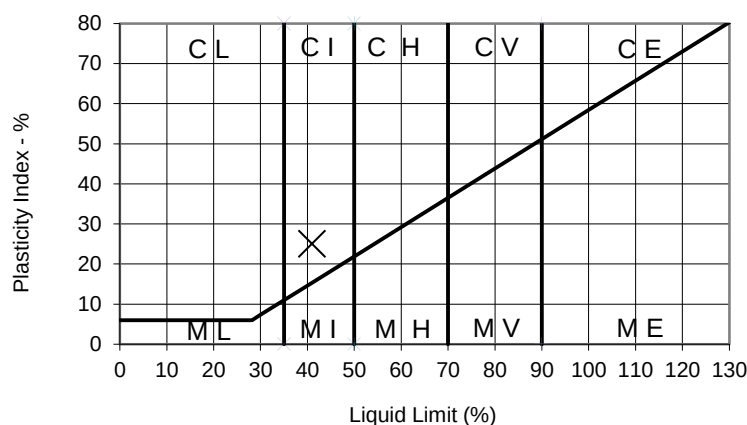
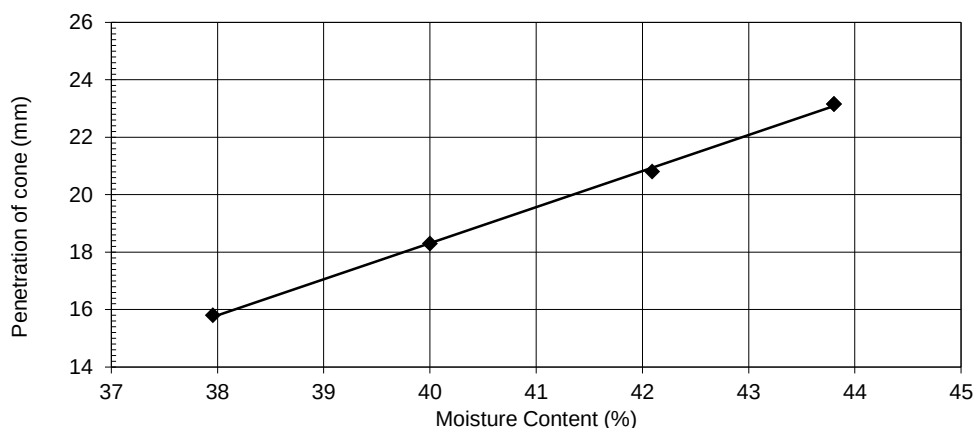
Location TP310
Depth (m) 1.60
Sample Type D

Description:

Orangish brown mottled light grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 25.7 %
 Estimated percentage passing 425µm sieve : 100 %
 Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 41 %
 Plastic Limit : 16 %
 Plasticity Index : 25 %
 Equivalent Water Content of material passing 425µm sieve : 25.7 %
 Liquidity Index : 0.39



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LIQUID AND PLASTIC LIMITS

Location TP312A
Depth (m) 2.30
Sample Type D

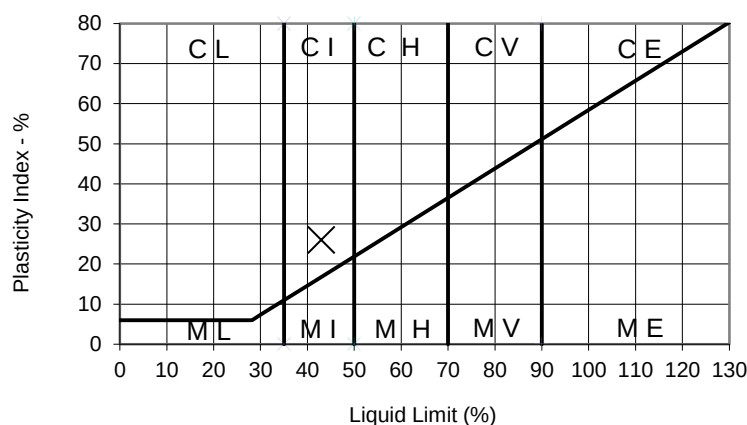
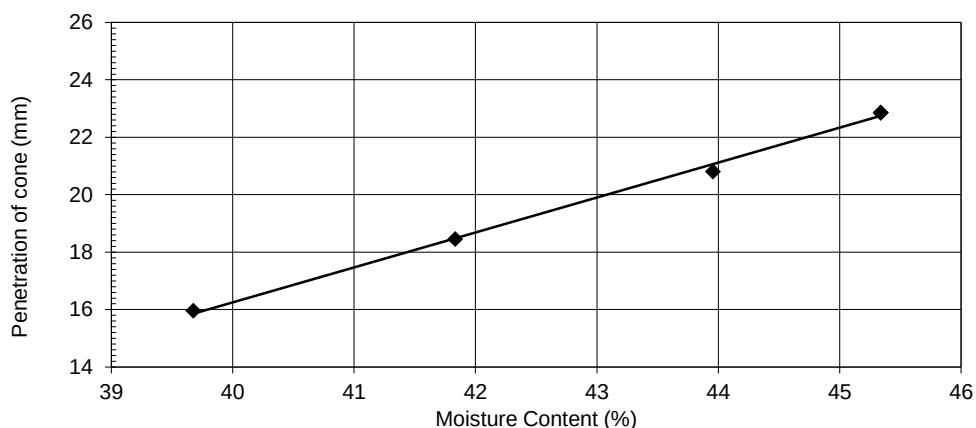
Description:

Brown mottled greyish brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 22.2 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 43 %
Plastic Limit : 17 %
Plasticity Index : 26 %

Equivalent Water Content of material passing 425µm sieve : 22.2 %
Liquidity Index : 0.20



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LIQUID AND PLASTIC LIMITS

Location TP315
Depth (m) 1.50
Sample Type D

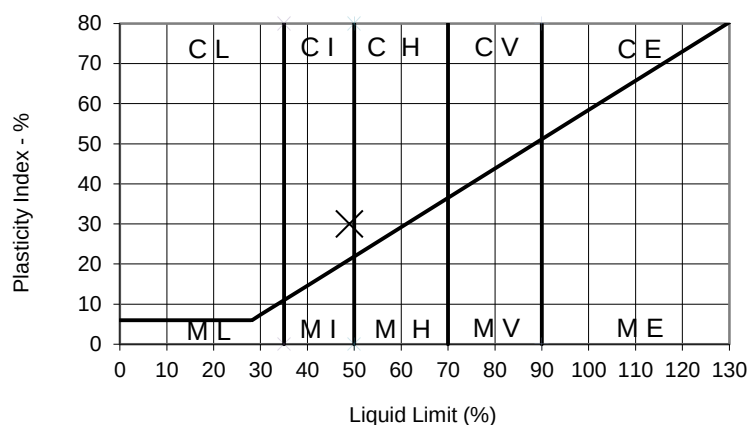
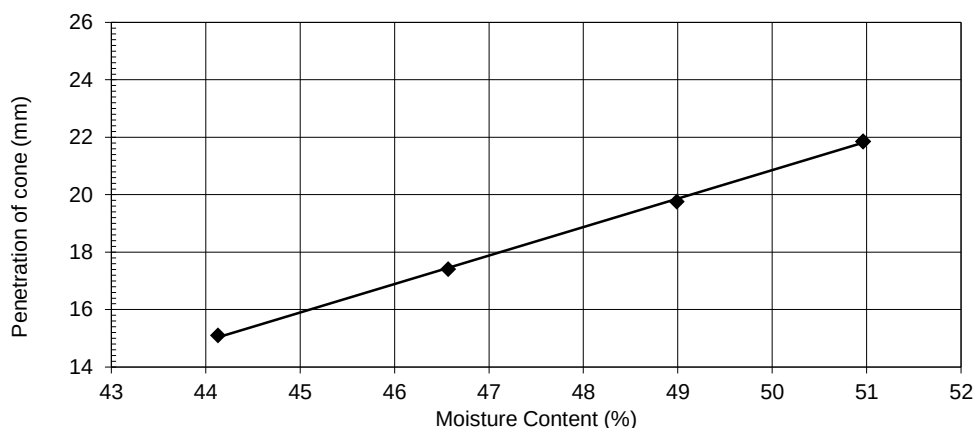
Description:

Orange mottled light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 28.6 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 49 %
Plastic Limit : 19 %
Plasticity Index : 30 %

Equivalent Water Content of material passing 425µm sieve : 28.6 %
Liquidity Index : 0.32



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LIQUID AND PLASTIC LIMITS

Location TP318
Depth (m) 2.30
Sample Type D

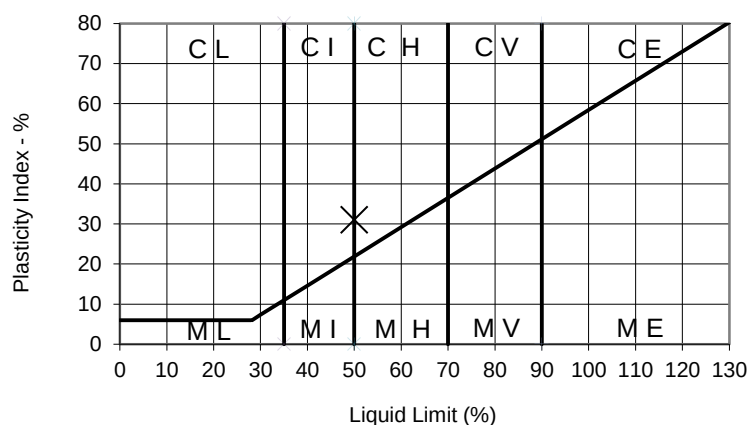
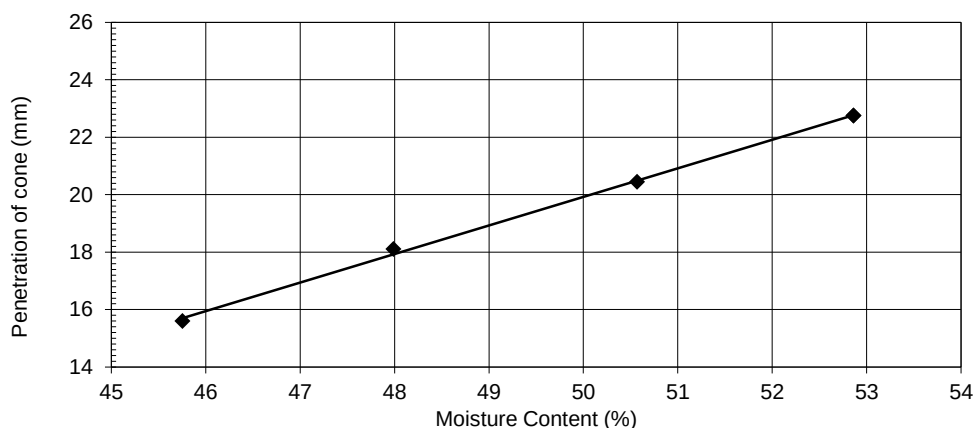
Description:

Brown mottled light grey sandy CLAY.

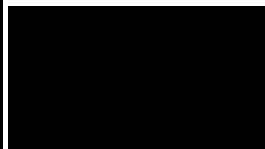
Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 28.7 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 50 %
Plastic Limit : 19 %
Plasticity Index : 31 %

Equivalent Water Content of material passing 425µm sieve : 28.7 %
Liquidity Index : 0.31



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LIQUID AND PLASTIC LIMITS

Location TP320
Depth (m) 1.70
Sample Type D

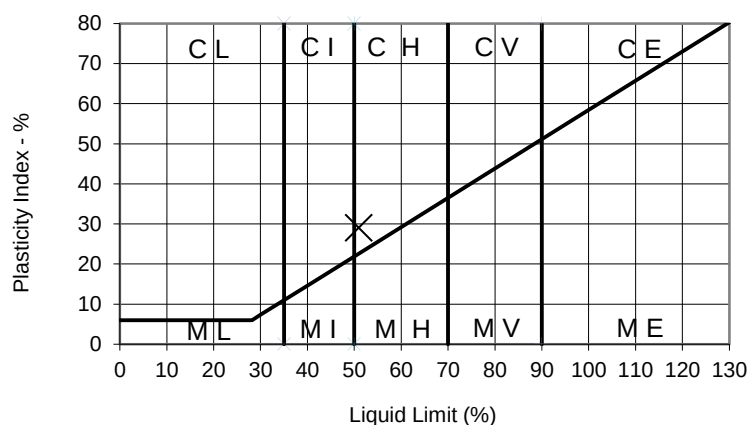
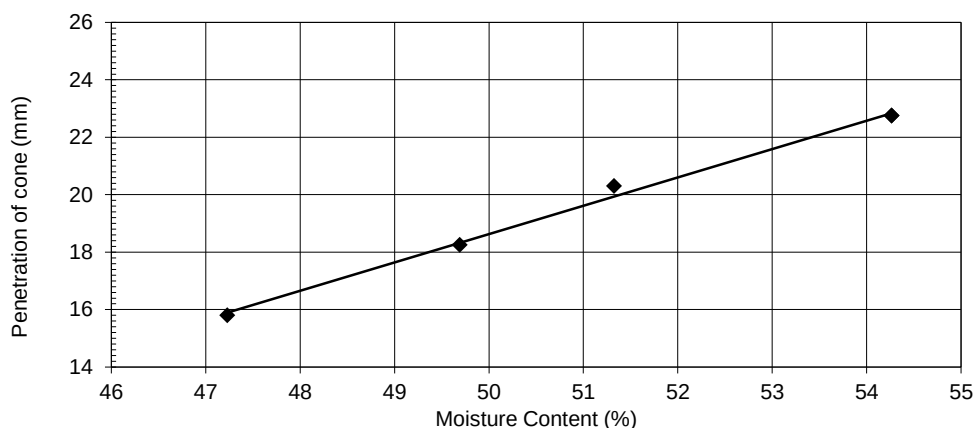
Description:

Brown mottled light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 27.9 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 51 %
Plastic Limit : 22 %
Plasticity Index : 29 %

Equivalent Water Content of material passing 425µm sieve : 27.9 %
Liquidity Index : 0.20



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LIQUID AND PLASTIC LIMITS

Location TP325
Depth (m) 1.20
Sample Type D

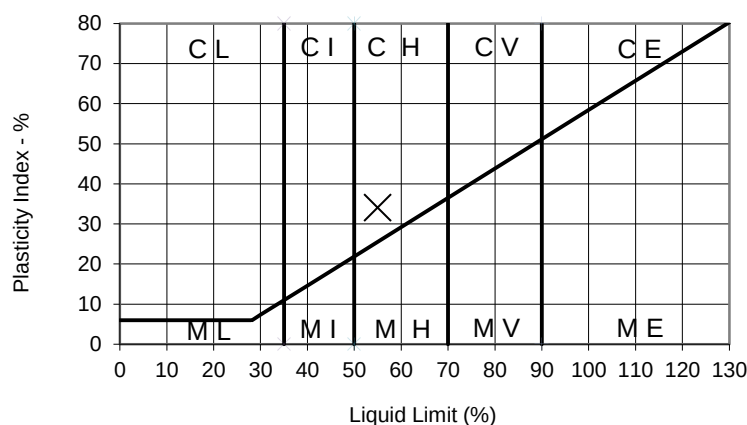
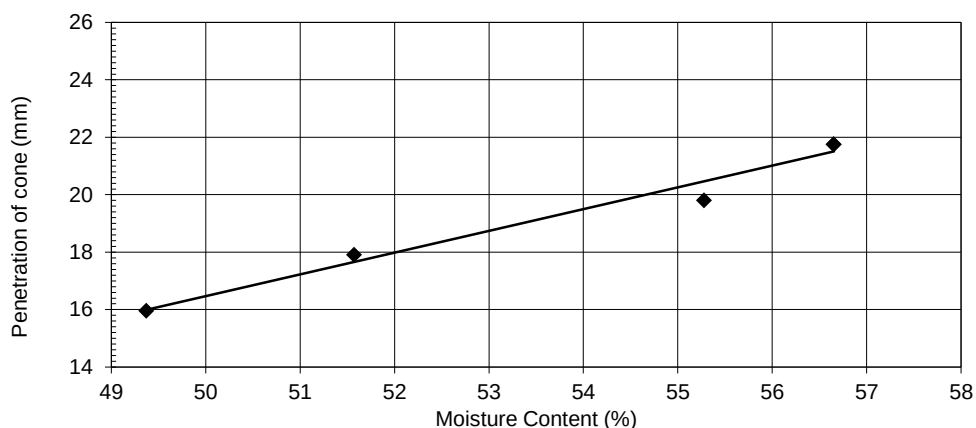
Description:

Brown mottled orange and light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 26.3 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 55 %
Plastic Limit : 21 %
Plasticity Index : 34 %

Equivalent Water Content of material passing 425µm sieve : 26.3 %
Liquidity Index : 0.16



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LIQUID AND PLASTIC LIMITS

Location TP329
Depth (m) 3.20
Sample Type D

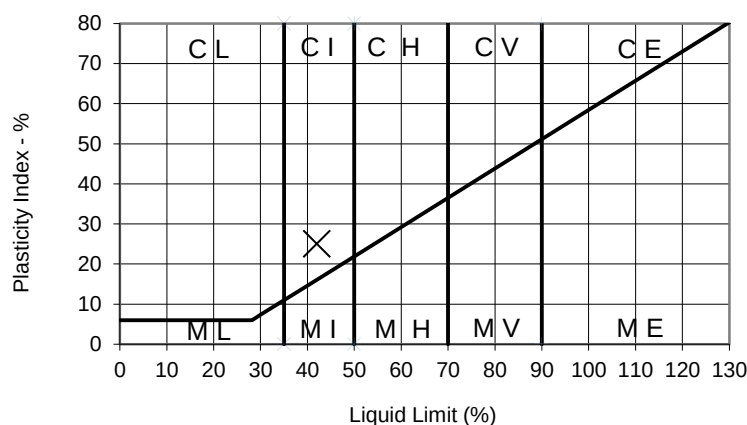
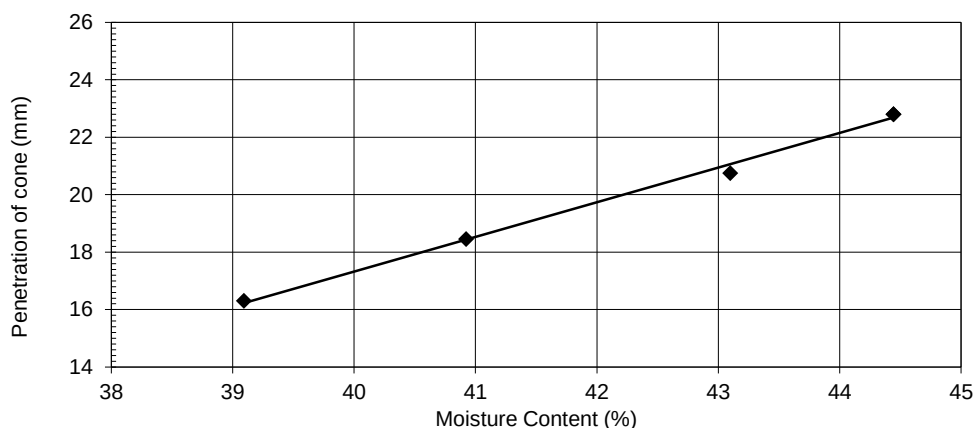
Description:

Brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 23.7 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 42 %
Plastic Limit : 17 %
Plasticity Index : 25 %

Equivalent Water Content of material passing 425µm sieve : 23.7 %
Liquidity Index : 0.27



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LIQUID AND PLASTIC LIMITS

Location TP343
Depth (m) 1.10
Sample Type D

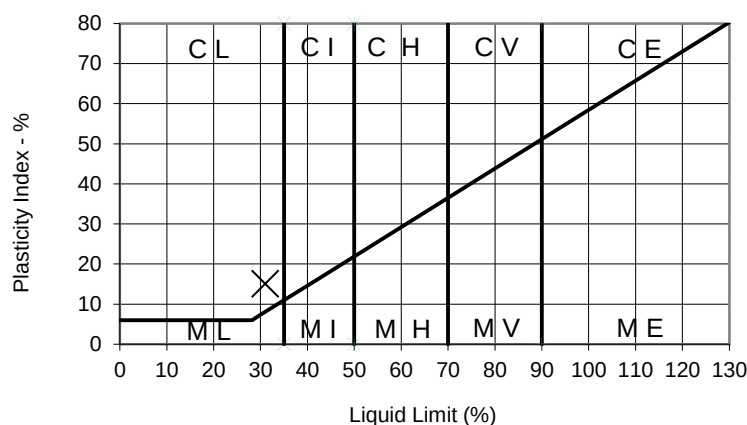
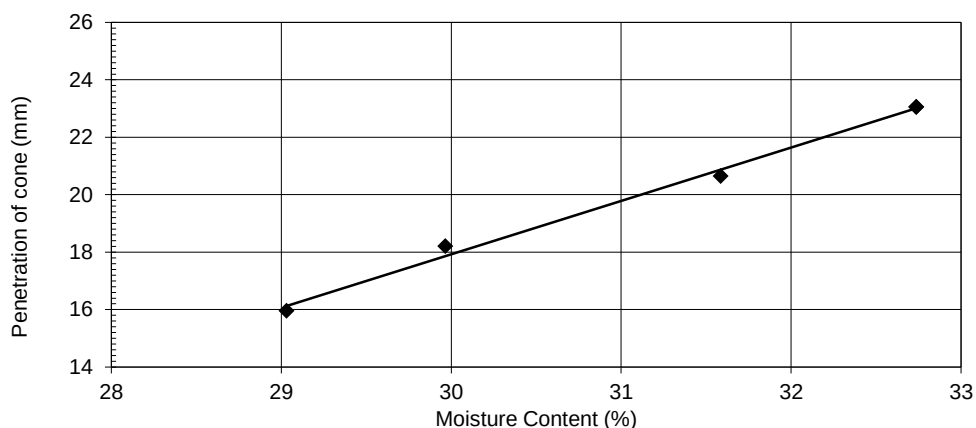
Description:

Greyish brown mottled light brown and orangish brown very sandy CLAY with rare fine gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014) 24.1 %
Estimated percentage passing 425µm sieve : 99 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 31 %
Plastic Limit : 16 %
Plasticity Index : 15 %

Equivalent Water Content of material passing 425µm sieve : 24.4 %
Liquidity Index : 0.56



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LIQUID AND PLASTIC LIMITS

Location TP345
Depth (m) 2.70
Sample Type D

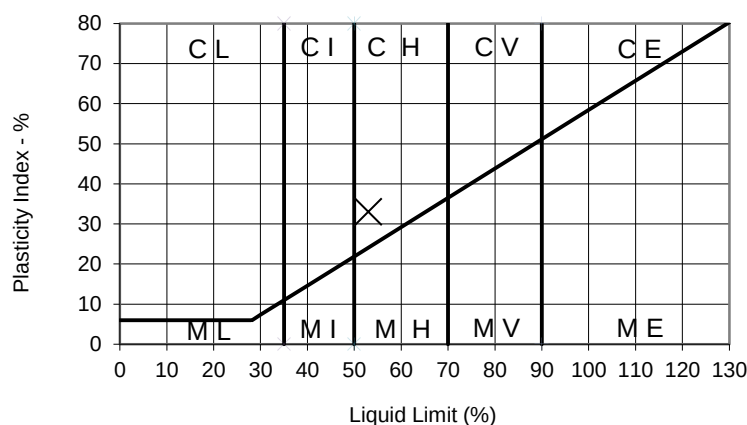
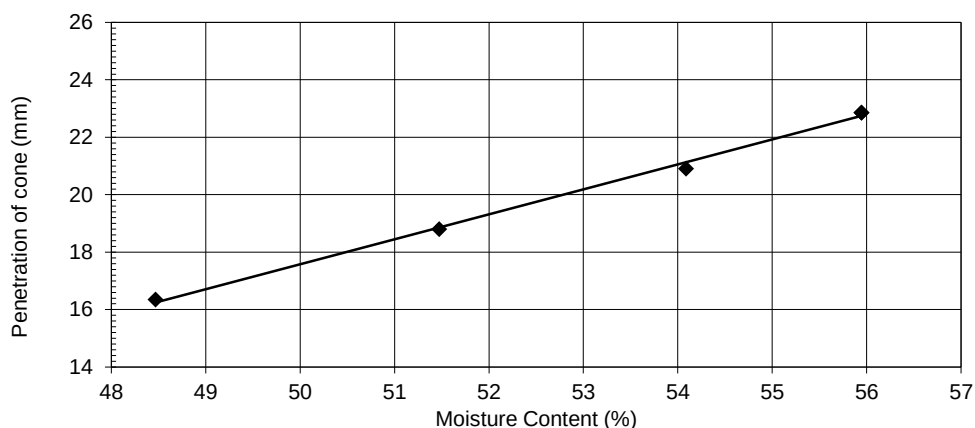
Description:

Brownish grey mottled brown sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 27.1 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 53 %
Plastic Limit : 20 %
Plasticity Index : 33 %

Equivalent Water Content of material passing 425µm sieve : 27.1 %
Liquidity Index : 0.22



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LIQUID AND PLASTIC LIMITS

Location TP348
Depth (m) 3.00
Sample Type D

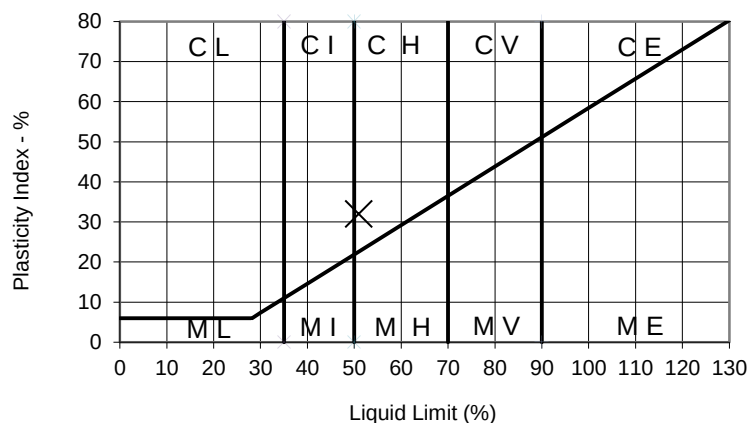
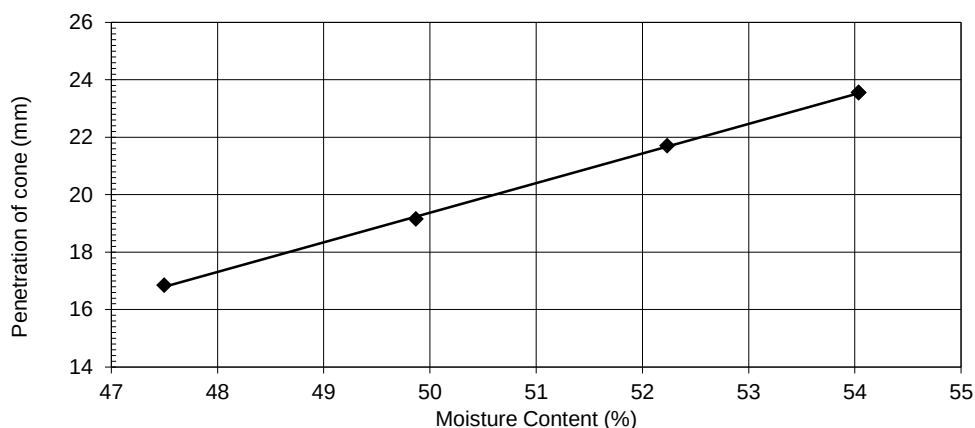
Description:

Light brown and greyish brown mottled sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 30.4 %
Estimated percentage passing 425µm sieve : 100 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 51 %
Plastic Limit : 19 %
Plasticity Index : 32 %

Equivalent Water Content of material passing 425µm sieve : 30.4 %
Liquidity Index : 0.36



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LIQUID AND PLASTIC LIMITS

Location TP350
Depth (m) 1.50
Sample Type D

Description:

Brown mottled greyish brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014) 24.4 %

Estimated percentage passing 425µm sieve : 100 %

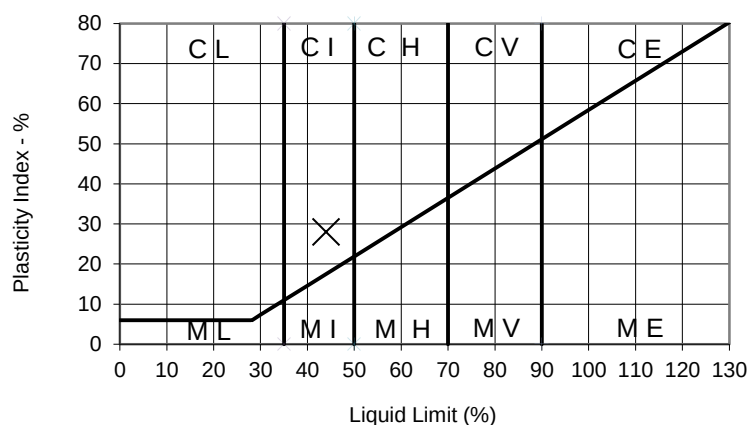
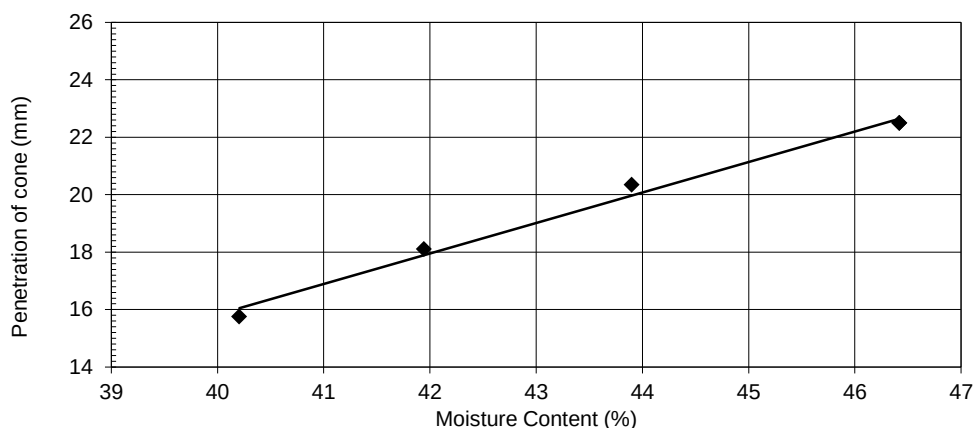
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 44 %

Plastic Limit : 16 %

Plasticity Index : 28 %

Equivalent Water Content of material passing 425µm sieve : 24.4 %

Liquidity Index : 0.30



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LIQUID AND PLASTIC LIMITS

Location TP360
Depth (m) 1.00
Sample Type D

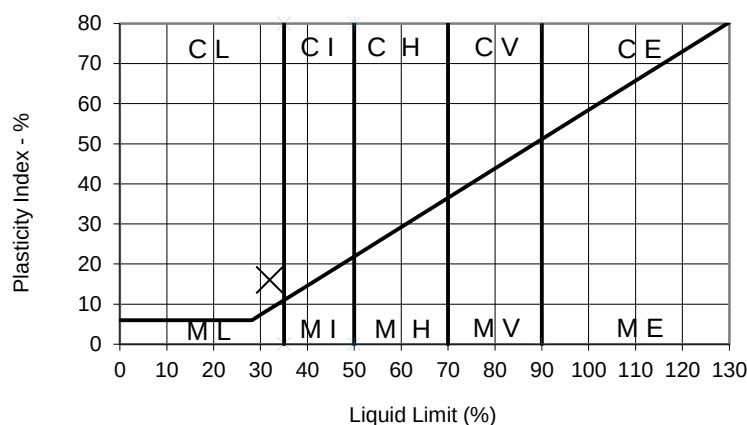
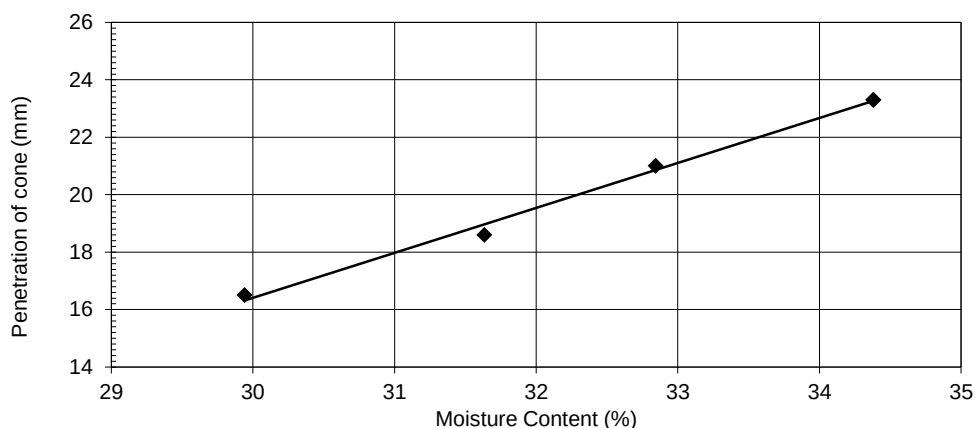
Description:

Brown mottled orange, light grey and dark brown very sandy CLAY with rare fine gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014) 22.0 %
Estimated percentage passing 425µm sieve : 99 %
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 32 %
Plastic Limit : 16 %
Plasticity Index : 16 %

Equivalent Water Content of material passing 425µm sieve : 22.3 %
Liquidity Index : 0.39



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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
BH102	4.00		U	Very stiff fissured dark brown CLAY.	27.0					2.10	1.66	Undisturbed	76	213	107				
BH102	8.50		D																Chemical
BH102	13.00		U	Very stiff fissured dark brown CLAY.	20.8					2.07	1.72	Undisturbed	260	426	213				
BH102	17.50		D																Chemical
BH103	2.50		D																Chemical
BH103	7.00		U	Very stiff fissured dark brown silty CLAY.	22.4					2.11	1.72	Undisturbed	140	442	221				
BH103	11.50		D																Chemical
BH103	16.00		U	Very stiff fissured dark brown CLAY.	30.1					2.08	1.60	Undisturbed	320	339	170				
BH104	5.50		D																Chemical
BH104	10.00		U	Very stiff fissured dark brown CLAY.	24.6					2.09	1.68	Undisturbed	200	482	241				

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
BH104	14.50		D																Chemical
BH104	19.00		U	Very stiff fissured dark brown CLAY.	23.4					2.09	1.69	Undisturbed	380	529	264				

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

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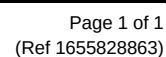
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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

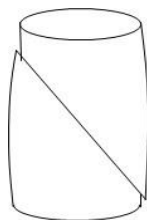
Location BH102
Depth (m) 4.00
Sample Type U

Description:

Very stiff fissured dark brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	201.7
Diameter (mm)	101.3
Moisture content (%)	27.0
Bulk density (Mg/m ³)	2.10
Dry density (Mg/m ³)	1.66
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	201.7
Membrane correction (kPa)	1.1
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	76
Strain at failure (%)	19.8
Maximum deviator stress (kPa)	213
Shear Stress Cu (kPa)	107

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

170

Project Number:

GEO / 35548

Project Name:

HOGWOOD FARM, FINCHAMPSTEAD
41623



UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH102
Depth (m) 13.00
Sample Type U

Description:

Very stiff fissured dark brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	201.3
Diameter (mm)	101.6
Moisture content (%)	20.8
Bulk density (Mg/m ³)	2.07
Dry density (Mg/m ³)	1.72
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	201.3
Membrane correction (kPa)	1.1
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	260
Strain at failure (%)	19.9
Maximum deviator stress (kPa)	426
Shear Stress Cu (kPa)	213

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

85

Project Number:

GEO / 35548

Project Name:

HOGWOOD FARM, FINCHAMPSTEAD
41623



UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

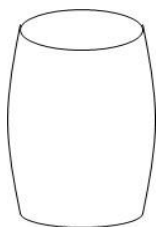
Location BH103
Depth (m) 7.00
Sample Type U

Description:

Very stiff fissured dark brown silty CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	188.3
Diameter (mm)	102.2
Moisture content (%)	22.4
Bulk density (Mg/m ³)	2.11
Dry density (Mg/m ³)	1.72
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	188.3
Membrane correction (kPa)	0.4
Mean rate of shear (%/min)	2.1
Cell pressure (kPa)	140
Strain at failure (%)	5.3
Maximum deviator stress (kPa)	442
Shear Stress Cu (kPa)	221

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

20

Project Number:

GEO / 35548

Project Name:

**HOGWOOD FARM, FINCHAMPSTEAD
41623**



UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH103
Depth (m) 16.00
Sample Type U

Description:

Very stiff fissured dark brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	200.7
Diameter (mm)	102.2
Moisture content (%)	30.1
Bulk density (Mg/m ³)	2.08
Dry density (Mg/m ³)	1.60
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	200.7
Membrane correction (kPa)	1.1
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	320
Strain at failure (%)	19.4
Maximum deviator stress (kPa)	339
Shear Stress Cu (kPa)	170

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

130

Project Number:

GEO / 35548

Project Name:

HOGWOOD FARM, FINCHAMPSTEAD
41623



UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

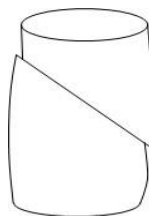
Location BH104
Depth (m) 10.00
Sample Type U

Description:

Very stiff fissured dark brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	176.3
Diameter (mm)	102.2
Moisture content (%)	24.6
Bulk density (Mg/m ³)	2.09
Dry density (Mg/m ³)	1.68
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	176.3
Membrane correction (kPa)	0.7
Mean rate of shear (%/min)	2.3
Cell pressure (kPa)	200
Strain at failure (%)	10.2
Maximum deviator stress (kPa)	482
Shear Stress Cu (kPa)	241

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

50

Project Number:

GEO / 35548

Project Name:

HOGWOOD FARM, FINCHAMPSTEAD
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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH104
Depth (m) 19.00
Sample Type U

Description:

Very stiff fissured dark brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	201.7
Diameter (mm)	101.9
Moisture content (%)	23.4
Bulk density (Mg/m ³)	2.09
Dry density (Mg/m ³)	1.69
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	201.7
Membrane correction (kPa)	1.1
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	380
Strain at failure (%)	18.8
Maximum deviator stress (kPa)	529
Shear Stress Cu (kPa)	264

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

125

Project Number:

GEO / 35548

Project Name:

**HOGWOOD FARM, FINCHAMPSTEAD
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