SITE INVESTIGATION
FACTUAL REPORT

Report No:	399437
Client:	Cunningham Lindsey - Maidstone
Site:	Flat 1 & 2, 108 Greencroft Gardens
Client Ref:	6332780-108 [redacted]
Date of Visit:	21/02/17

Unit E2 First Floor Suite, Boundary Court
Willow Farm Business Park, Castle Donington
Leicestershire, DE74 2NN

☎ 0843 2272362
✉ enquiries@cet-uk.com
www.cet-uk.com

Investigation Layout Plan

Sheet: 1 of 1

Job No: 399437

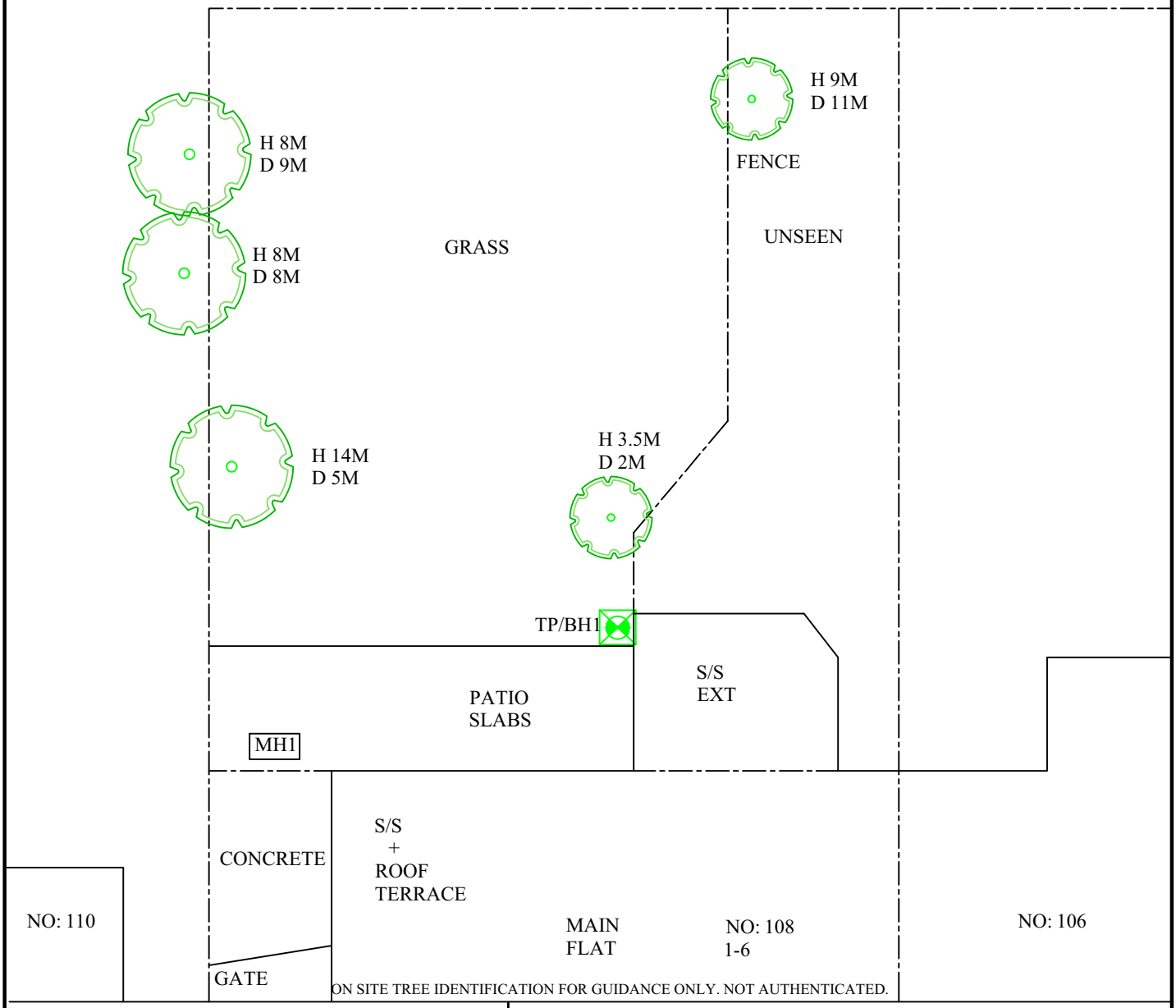
Date: 21/02/2017

Site: Flate 1 + 2 108 Greencroft Gardens

Work carried out for: Cunningham Lindsey

Weather: DRY

MR (SI) SA (Checked) PS (Drawn)



Remarks:

Key:

Combined Gulley	RWWG	Surface Water Drain
Manhole	MH	Foul Water Drain
Rain Water Pipe	RWP	Tree / Bush (approx. ht in m)
Rain Water Gulley	RWG	
Soil Vent Pipe	SVP	Trial Pit
Waste Gulley	WG	Borehole
Waste Pipe	WP	O/D - Open Discharge

Scale: N.T.S.

Trial Pit No: 1

Sheet: 1 of 1

Job No: 399437

Date: 21/02/2017

Site: Flat 1 & 2 108 Greencroft Gardens

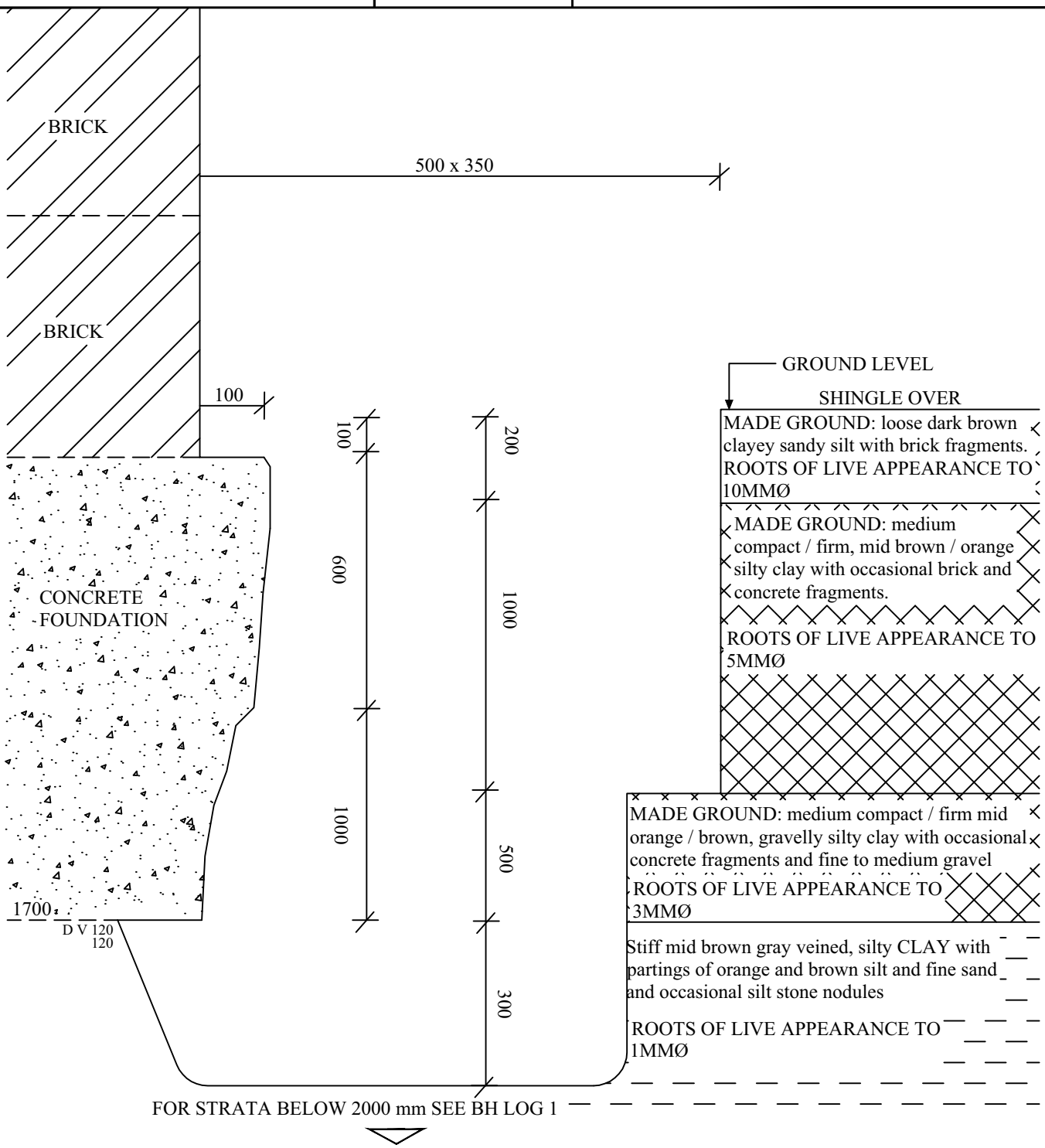
Work carried out for: Cunningham Lindsey

Hand Tools

Drawn by: RM

Weather: DRY

Ground Level mOD:



Remarks: All measurements in millimetres. TP excavated to 1200MM. Then extended to 2000MM with the aid of a hand auger. curved steel pin driven 100MM under foundation at 1700MM below ground level.

Key:

D	Small disturbed sample	J	Jar sample
B	Bulk disturbed sample	V	Pilcon Vane (kPa)
W	Water sample	M	Mackintosh probe
TDTD	Too dense to drive		

Logged: MR | Checked: SA | Approved: | Scale: N.T.S.

Borehole 1

Sheet:	1 of 1	Site:	Flat 1 & 2		
Job No:	399437				
Date:	21/02/2017				
Boring Method:	Hand Auger	Ground Level:		Client:	Cunningham Lindsey - Maidstone
Diameter (mm):	75	Weather:	dry		

Depth (m)	Soil Description	Thickness	Legend	Samples and Tests Depth	Type	Result
0.00	See Trial Pit	2.00				
2.00	Stiff brown silty CLAY with partings of orange silt and fine sand with occassional siltstone and crystals	3.00		2.00	DV	120+
						120+
				2.50	DV	120+
						120+
				3.00	DV	120+
						120+
				3.50	DV	120+
						120+
				4.00	DV	120+
						120+
				4.50	DV	120+
						120+
5.00	End of BH			5.00	DV	120+
						120+

Remarks:
BH ends at 5.0m.BH dry and open on completion.Hair and fibrous rootS to 3.1m.Dead and decomposing roots to 4.6m. No roots observed below 4.6m.

Key:

		To Depth (m)	Max Dia (mm)
D - Disturbed Sample			
B - Bulk Sample			
W - Water Sample	Roots	2.90	1
J - Jar Sample	Roots		
V - Pilcon Shear Vane (kPa	Roots		
M - Mackintosh Probe	Depth to Water (m)		

TDTD - Too Dense To Drive

Logged:	MR	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.

Laboratory Summary Results

Our Ref : 399437

Location : Flat 1 & 2, Greencroft Gardens, NW6

Client: Cunningham Lindsey - Maidstone

Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Date Sampled: 21/02/17

Date Received : 22/02/17

Date Tested : 23/02/17

Date of Report : 07/03/17

Sample Ref TP/BH No	Sample Ref Depth (m)	Type	Moisture Content (%) [1]	Soil Fraction > 0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquidity * Index [5]	Modified * Plasticity Index (%) [6]	Soil * Class [7]	Filter Paper Contact Time (h)	Soil Sample Suction (kPa) [8]	Oedometer Strain [9]	Estimated Heave Potential (Dd) (mm)[10]	In situ * Shear Vane Strength (kPa) [11]	Organic * Content (%)[12]	pH * Value [13]	Sulphate Content * (g / l) SO_3 [14]	Sulphate Content * (g / l) SO_4 [15]	* Class [16]
1	U/S 1.70	D	26	<5	70	23	47	0.07	47	CV	168	677			> 120					
	2.0	D	28	<5											> 120					
	2.5	D	32	<5	72	29	43	0.07	43	CV	168	333			> 120					
	3.0	D	30	<5											> 120					
	3.5	D	30	<5	69	29	40	0.04	40	CH	168	422			> 120					
	4.0	D	29	<5											> 120					
	4.5	D	31	<5							168	481			> 120					
	5.0	D	31	<5							168	521			> 120					

Test Methods / Notes

[1] BS 1377 : Part 2 : 1990, Test No 3.2

[2] Estimated if <5%, otherwise measured

[3] BS 1377 : Part 2 : 1990, Test No 4.4

[4] BS 1377 : Part 2 : 1990, Test No 5.3

[5] BS 1377 : Part 2 : 1990, Test No 5.4

[6] BRE Digest 240 : 1993

[7] BS 5930 : 1981 : Figure 31 - Plasticity Chart for the classification of fine soils

[8] In-house method S9a adapted from BRE IP 4/93

[9] In-house Test Procedure S17a: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CET using a Pilcon hand vane or Geonor vane (GV).

[12] BS 1377 : Part 3 : 1990, Test No 4

[13] BS 1377 : Part 2 : 1990, Test No 9

[14] BS 1377 : Part 3 : 1990, Test No 5.6

[15] $SO_4 = 1.2 \times SO_3$

[16] BRE Special Digest One (Concrete in Aggressive Ground) August 2005
Note that if the SO4 content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4M or DS-5M class respectively unless water soluable magnesium testing is undertaken to prove otherwise.

* These tests are not UKAS accredited
Full reports can be provided upon request

Key

D	Disturbed sample (small)
B	Disturbed sample (bulk)
U	Undisturbed sample
W	Groundwater sample
ENP	Essentially Non-Plastic by inspection
U/S	Underside of Foundation

UKAS TESTING
8618

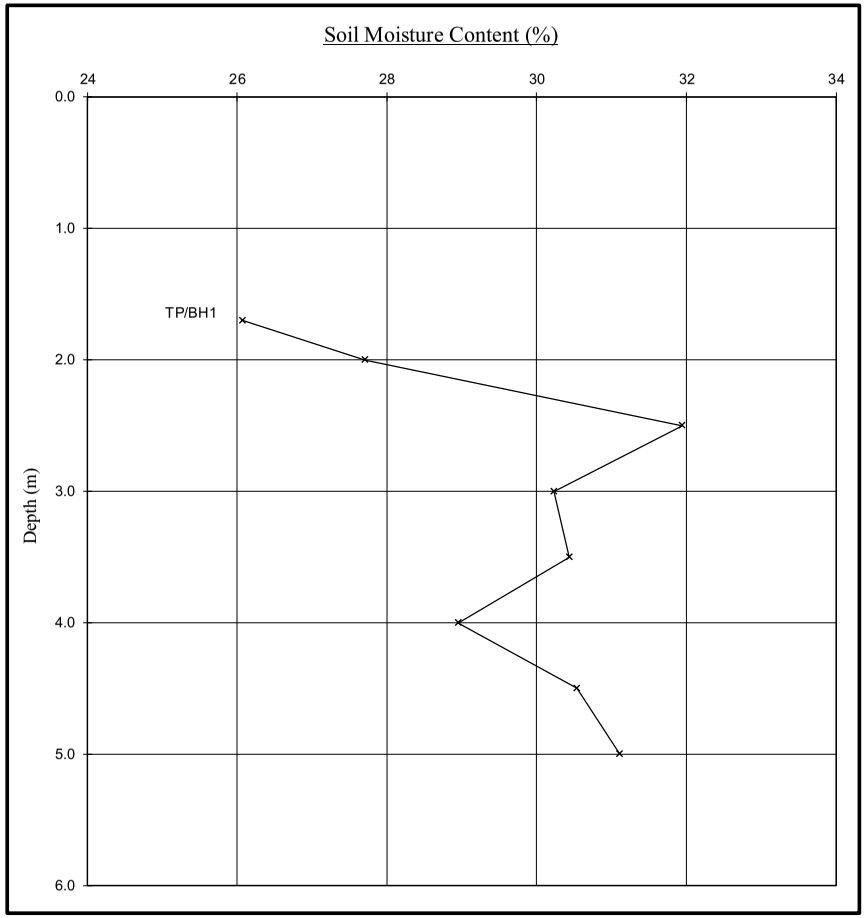
Version: 5BH V1.4 - 11/05/15

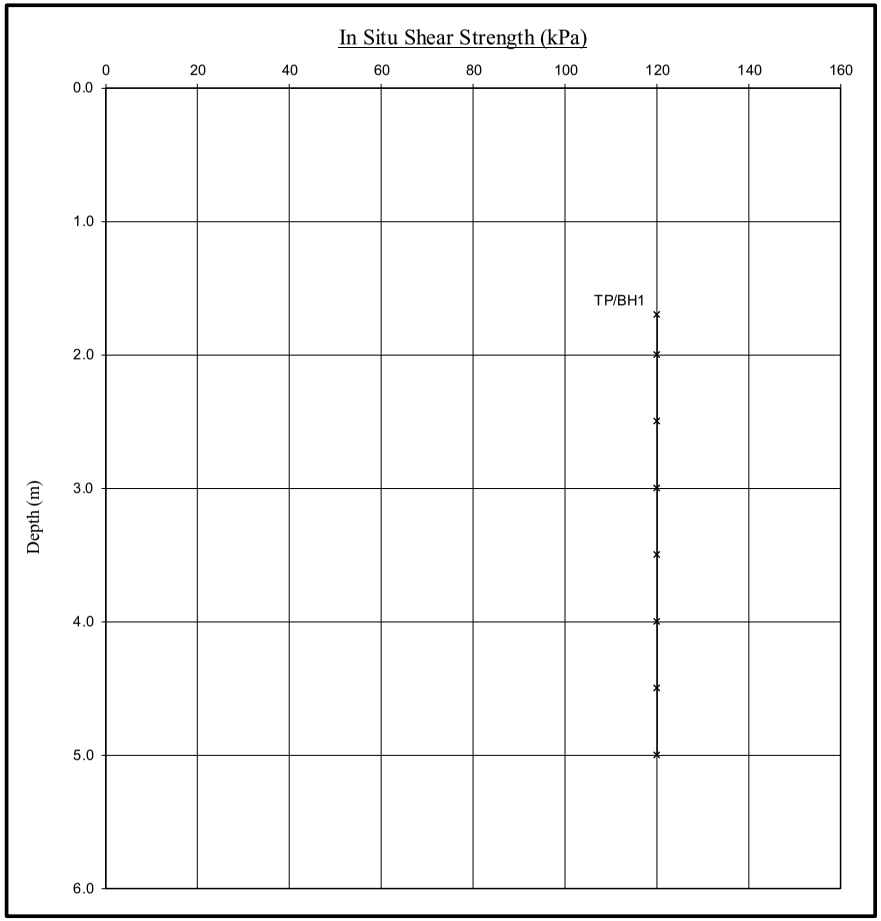
Moisture Content Profiles

Shear Strength Profiles

Our Ref : 399437
Location : Flat 1 & 2, Greencroft Gardens, NW6
Work carried out for: Cunningham Lindsey - Maidstone

Date Sampled : 21/02/17
Date Received : 22/02/17
Date Tested : 23/02/17
Date of Report : 07/03/17





Notes
1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

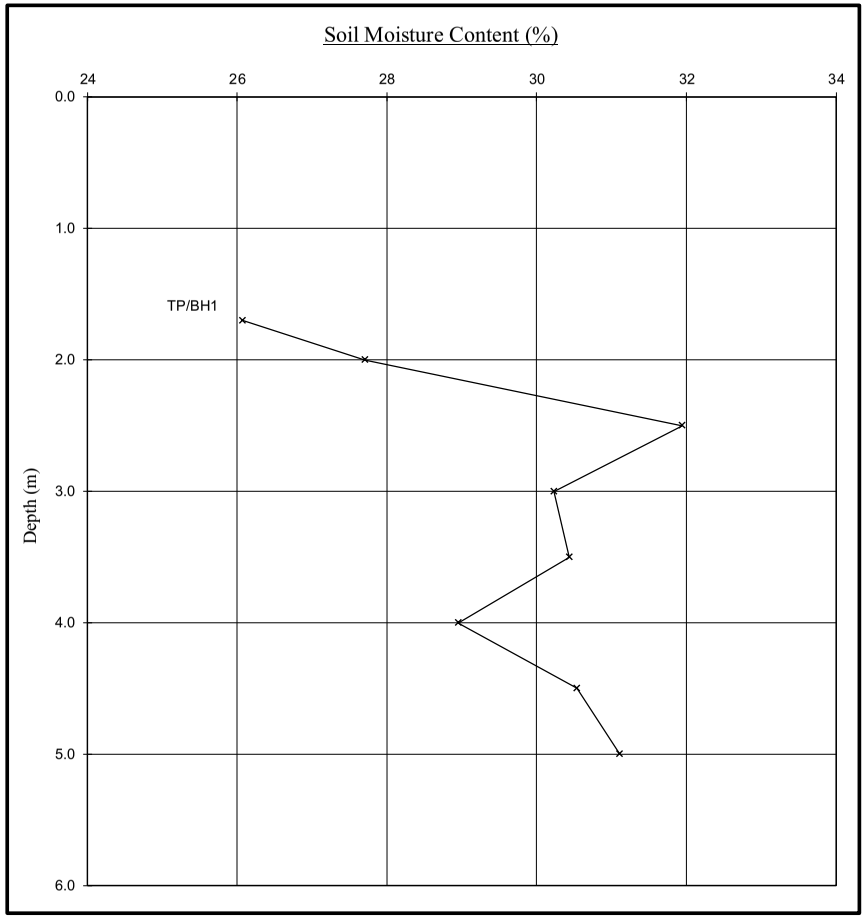
Note
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 120 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

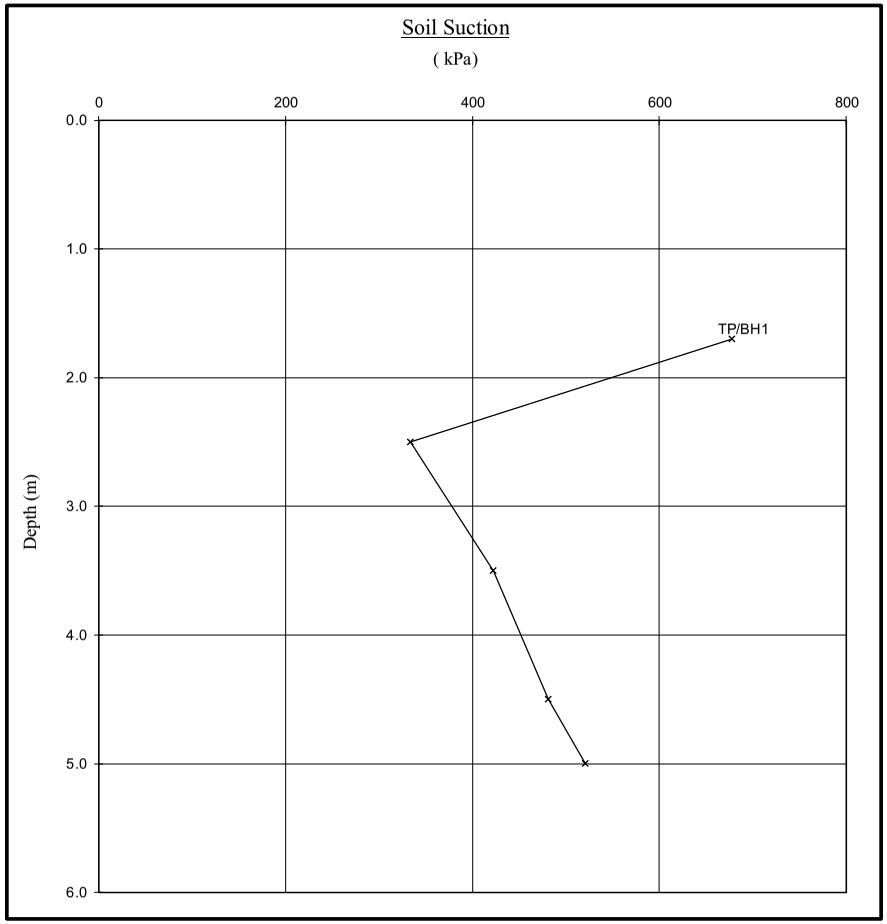
Moisture Content Profiles

Soil Suction Profiles

Our Ref : 399437
Location : Flat 1 & 2, Greencroft Gardens, NW6
Work carried out for: Cunningham Lindsey - Maidstone

Date Sampled : 21/02/17
Date Received : 22/02/17
Date Tested : 23/02/17
Date of Report : 07/03/17





Notes
1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.
2. Unless specifically noted the profiles have not been related to a site datum.

Note
When shown, the theoretical equilibrium suction profiles are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependant on the method of sampling and any subsequent recompaction. The above plots show this to be 100kPa which is the value suggested by the BRE on the basis of their limited number of tests on recompacted samples. This may or may not be appropriate in this instance and judgement should be exercised.

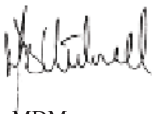
EPSL ***European Plant Science Laboratory***	Sheet: 1 of 1 Job No: **399437** Date: **01/03/2017** Order No: **951263** EPSL Ref: **R18020**	Site: **Flats 1 and 2, 108 Greencroft Gardens,** Work carried out for: **Cunningham Lindsey**

Certificate of Analysis

The following work was commissioned by CET on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.
The results were as follows -

Trial pit/ Borehole number	**Root diameter (mm)**	**Tree, shrub or climber from which root originates**	**Result of starch test**
TP1 (USF)	1 mm	Quercus spp. 4 roots	Positive
BH1 (2.9-4.6m)	1 mm	Quercus spp. 4 roots	Positive

Quercus spp. are oaks (both deciduous and evergreen).



MDM

Address for correspondence: EPSL, Intec, Parc Menai, Bangor, Gwynedd, North Wales, LL57 4FG
Telephone: 01248 672 652
e-mail: lab@innovation-environmental.co.uk
Head of Laboratory Services : M D Mitchell B.Sc. (Hons), M.Phil.
Plant Anatomist : Dr G S Turner B.Sc. (Hons), M.Sc., Ph.D
Plant Anatomist : Dr D P Aebischer B.Sc. (Hons), M.Sc., Ph.D
Consultant: Dr M P Denne B.Sc. (Hons), M.Sc., Ph.D
Registered in England. No 3256771, Registered Office:Yarmouth House, 1300 Parkway, Solent Business Park, Hampshire, PO15 7AE