SITE INVESTIGATION
FACTUAL REPORT

Report No:	169544
Client:	CRAWFORD CLAIMS MGMT SUS
Site:	2 Oakfields, Eastleigh
Client Ref:	SU1304166-Mrs Farr
Date of Visit:	05/12/2013

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

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CET is the trading name of CET Structures Ltd
Registered in England No. 02527130

Investigation Layout Plan

Sheet: 1 of 1

Job No: 169544E

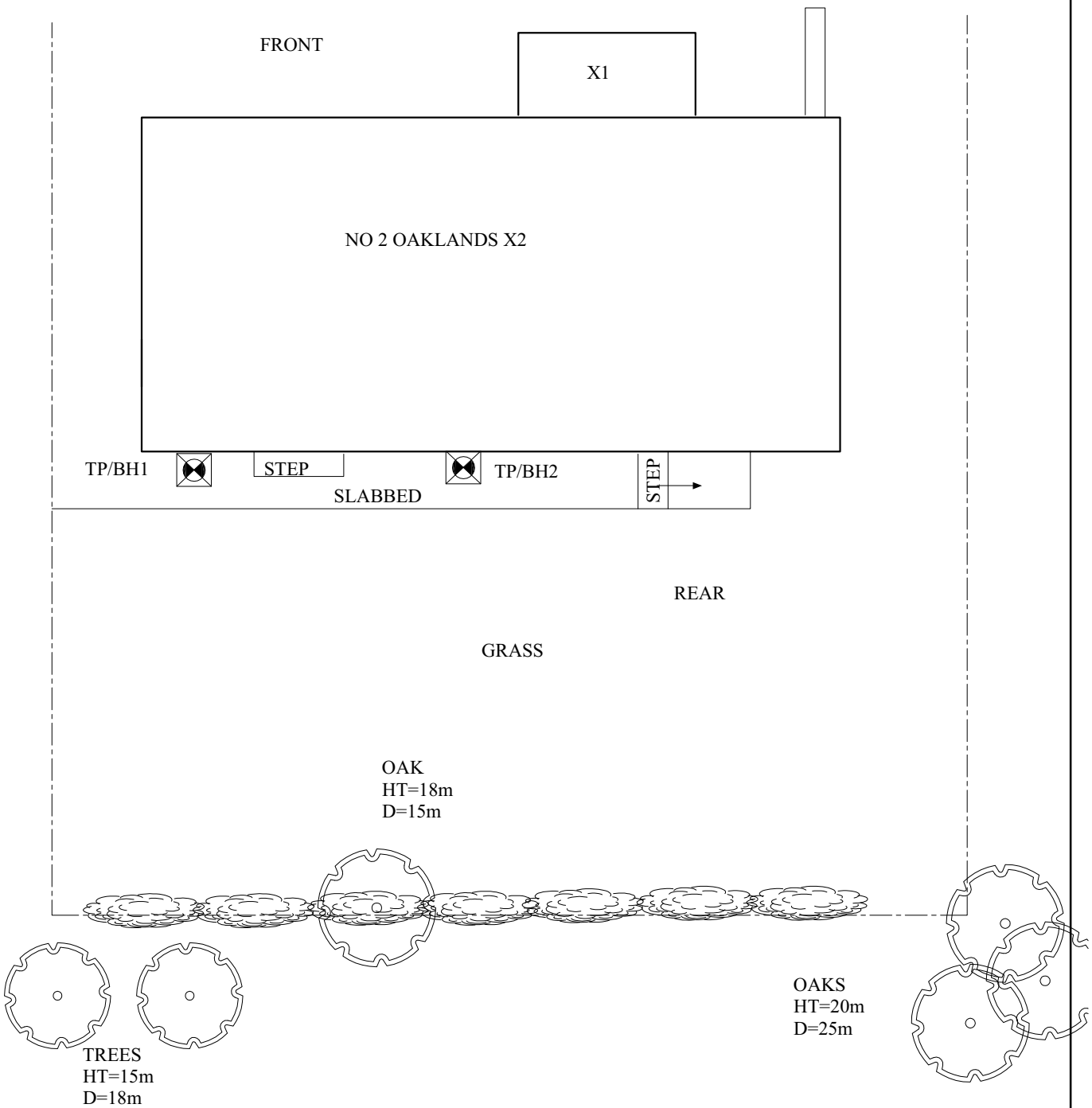
Date: 05.12.13

Site: 2 Oakfields, Eastleigh

Work carried out for: Crawford Claims Management

AH (SI) | SE (Checked) | DVC (Drawn)

Weather: DRY



ON SITE TREE IDENTIFICATION FOR GUIDANCE ONLY. NOT AUTHENTICATED.

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		

Scale: N.T.S.

Trial Pit No: 1

Sheet: 1 of 1

Job No: 169544E

Date: 05.12.13

Site: 2 Oakfields, Eastleigh

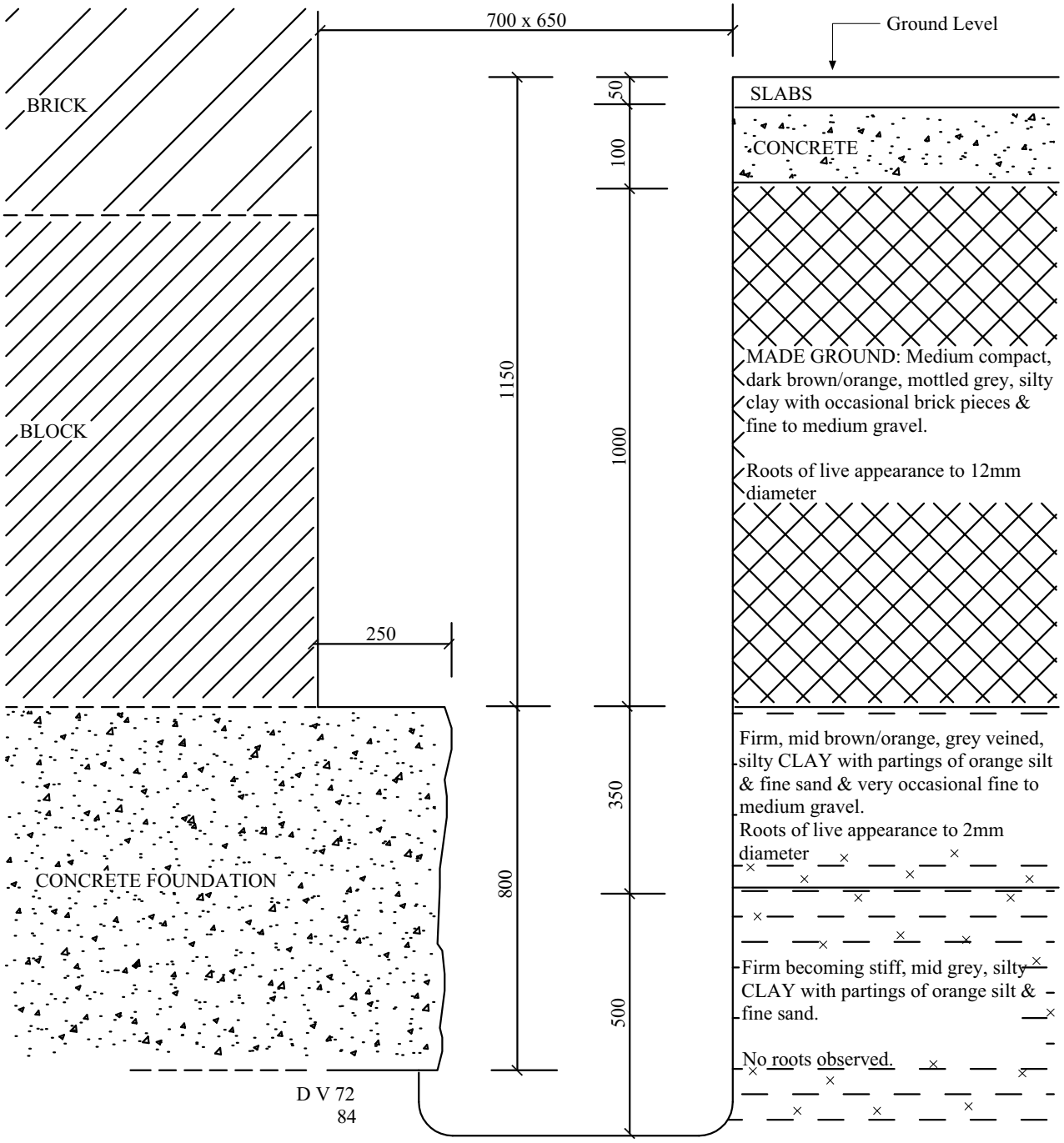
Excavation Method: Hand Tools

Drawn by: DVC

Work carried out for: Crawford Claims Management

Weather: DRY

Ground Level mOD:



FOR STRATA BELOW 2000mm SEE BH LOG 1

Remarks: All measurements in millimetres.

Underside found with the aid of a 100mm plate auger and curved steel pin - curved steel pin hammered 250mm beyond foundation face

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: AH | Checked: | Approved: | Scale: N.T.S.

Trial Pit No: 2

Sheet: 1 of 1

Job No: 169544E

Date: 05.12.13

Site: 2 Oakfields, Eastleigh

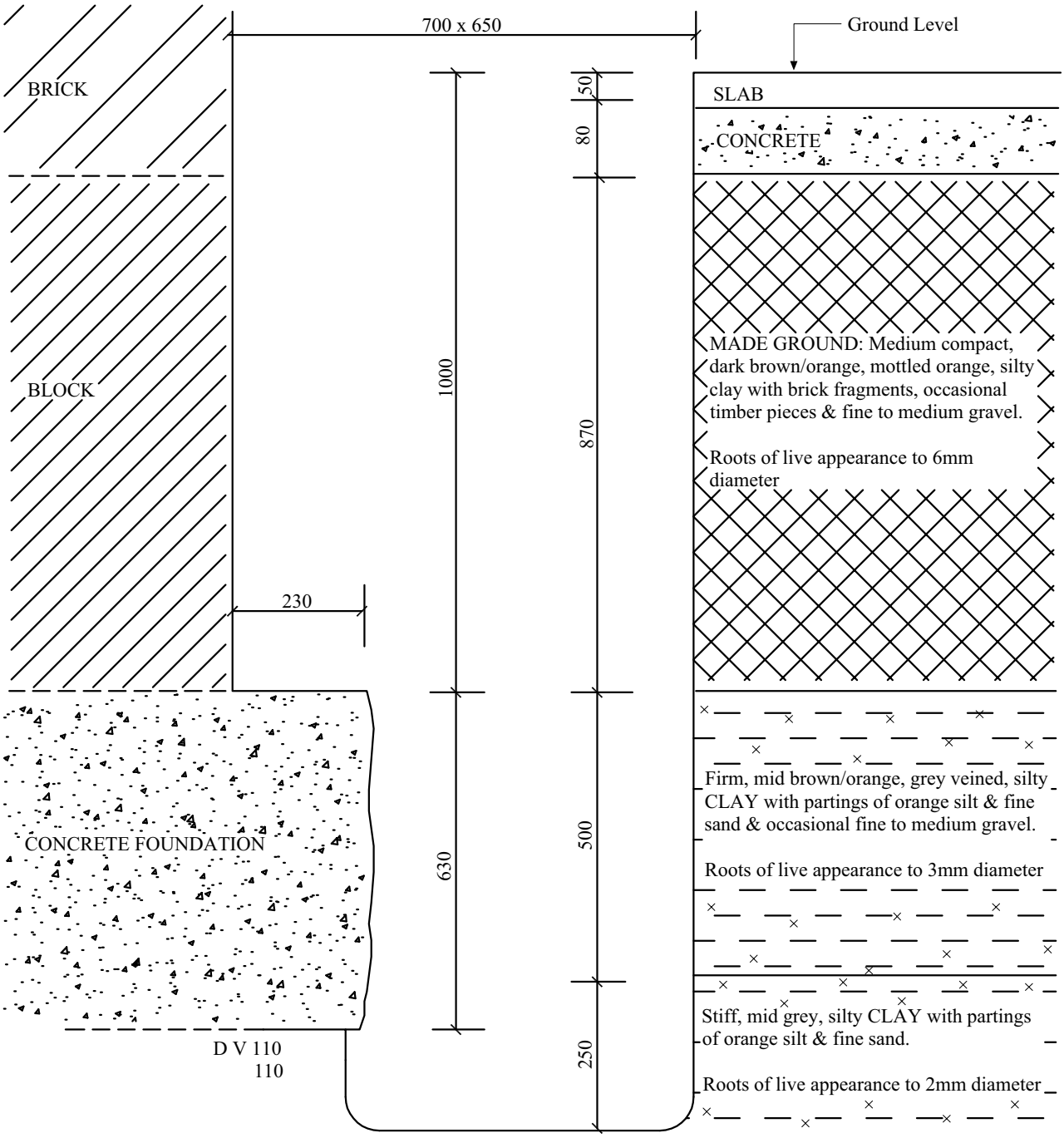
Excavation Method: Hand Tools

Drawn by: DVC

Work carried out for: Crawford Claims Management

Weather: DRY

Ground Level mOD:



FOR STRATA BELOW 1750mm SEE BH LOG 2

Remarks: All measurements in millimetres.

Underside of foundation found with the aid of a 100mm diameter plate auger and curved steel pin - curved steel pin hammered 250mm beyond foundation face

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: AH | Checked: | Approved: | Scale: N.T.S.

Borehole No: 1

Sheet: 1 of 1

Job No: 169544E

Site: 2 Oakfields, Eastleigh

Boring Method: Hand Auger

Date: 05/12/2013

Diameter: 75mm

Coordinates:

Ground Level mOD:

Work Carried out for: Crawford Claims Management

Depth (m)	Description of Strata	Thick-ness (m)	Legend	Sample	Test Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
	As Trial Pit 1	2.00							
2.00								No roots observed	
	Stiff, mid grey, silty CLAY with partings of orange silt & fine sand.	0.20							
2.20									
	Stiff, mid brown, silty CLAY with partings of orange silt & fine sand.	0.80		D	V	120 110	2.50		
3.00				D	V	130+ 130+	3.00		
	Borehole ends at 3m								

Remarks:

Borehole dry and open on completion

Key: T.D.T.D. Too Dense to Drive

D Small disturbed sample

B Bulk disturbed sample

W Water sample

J Jar sample

V Pilcon Vane (kPa)

M Mackintosh Probe

Logged: AH

Checked: SE

Typed by: DVC

Scale: NTS

Weather: DRY

Borehole No: 2

Sheet: 1 of 1

Job No: 169544E

Site: 2 Oakfields, Eastleigh

Boring Method: Hand Auger

Date: 05/12/2013

Diameter: 75mm

Coordinates:

Ground Level mOD:

Work Carried out for: Crawford Claims Management

Depth (m)	Description of Strata	Thick-ness (m)	Legend	Sample	Test Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
	As Trial Pit 2	1.75							
1.75	Stiff, mid grey, silty CLAY with partings of orange silt & fine sand.	0.45		D	V	124 128	2.00	Roots of live appearance to 2mm diameter & hair & fibrous roots to 2.2m	
2.20	Stiff, mid brown, silty CLAY with partings of orange silt & fine sand.	0.80		D	V	130+ 130+	2.50	No roots observed below 2.2m	
3.00	Borehole ends at 3m			D	V	130+ 130+	3.00		

Remarks: Borehole dry and open on completion

Key: T.D.T.D. Too Dense to Drive

D Small disturbed sample
J Jar sample
B Bulk disturbed sample
V Pilcon Vane (kPa)
W Water sample
M Mackintosh Probe

Logged: AH | Checked: SE | Typed by: DVC | Scale: NTS | Weather: DRY

Our Ref : 169544

Laboratory Testing Results

Date Sampled: 05/12/2013

Location : 2, Oakfields, Eastleigh

Date Received : 06/12/2013

Work carried out for: CRAWFORD CLAIMS MGMT SUS

Date Tested : 09/12/2013

Date of Report : 17/12/2013

Sample Ref		Type	Moisture Content	Soil Fraction	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Modified Plasticity Index	Soil Class	Filter Paper Contact Time	Soil Sample Suction	In situ Shear Vane Strength	Organic Content	pH Value	Sulphate Content (g / l)		Class
TP/BH No	Depth (m)		(%) *[1]*	> 0.425mm (%) *[2]*	(%) *[3]*	(%) *[4]*	(%) *[5]*	*[5]*	(%) [6]	*[7]*	(h) *[8]*	(kPa)	(kPa) *[9]*	(%)*[10]*	*[11]*	SO_3 *[12]*	SO_4 *[13]*	*[14]*
1	1.95(U/S)	D	29	<5	85	28	57	0.02	57	CV	168	110	78					
	2.5	D	32	<5							168	155	115					
	3.0	D	34	<5	75	29	46	0.09	46	CV	168	140	> 130					

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

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

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

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

[13] $SO_4 = 1.2 \times SO_3$

[14] BRE Special Digest One (Concrete in Aggressive Ground) August 2005

Note that if the SO_4 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 soluble magnesium testing is undertaken to prove otherwise

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

Our Ref : 169544

Laboratory Testing Results

Date Sampled : 05/12/2013

Location : 2, Oakfields, Eastleigh

Date Received : 06/12/2013

Work carried out for: CRAWFORD CLAIMS MGMT SUS

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TP/BH No.	Depth (m)		(%) *[1]*	> 0.425mm (%) *[2]*	(%) *[3]*	(%) *[4]*	(%) *[5]*	*[5]*	(%) [6]	*[7]*	(h) *[8]*	(kPa)	(kPa) *[9]*	(%)*[10]*	*[11]*	SO_3 *[12]*	SO_4 *[13]*	*[14]*
2	1.63(U/S)	D	29	<5	80	27	53	0.05	53	CV	168	127	110					
	2.0	D	28	<5	85	26	59	0.02	59	CV	168	353	126					
	2.5	D	27	<5							168	392	> 130					
	3.0	D	29	<5	78	27	52	0.05	52	CV	168	202	> 130					

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

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Key

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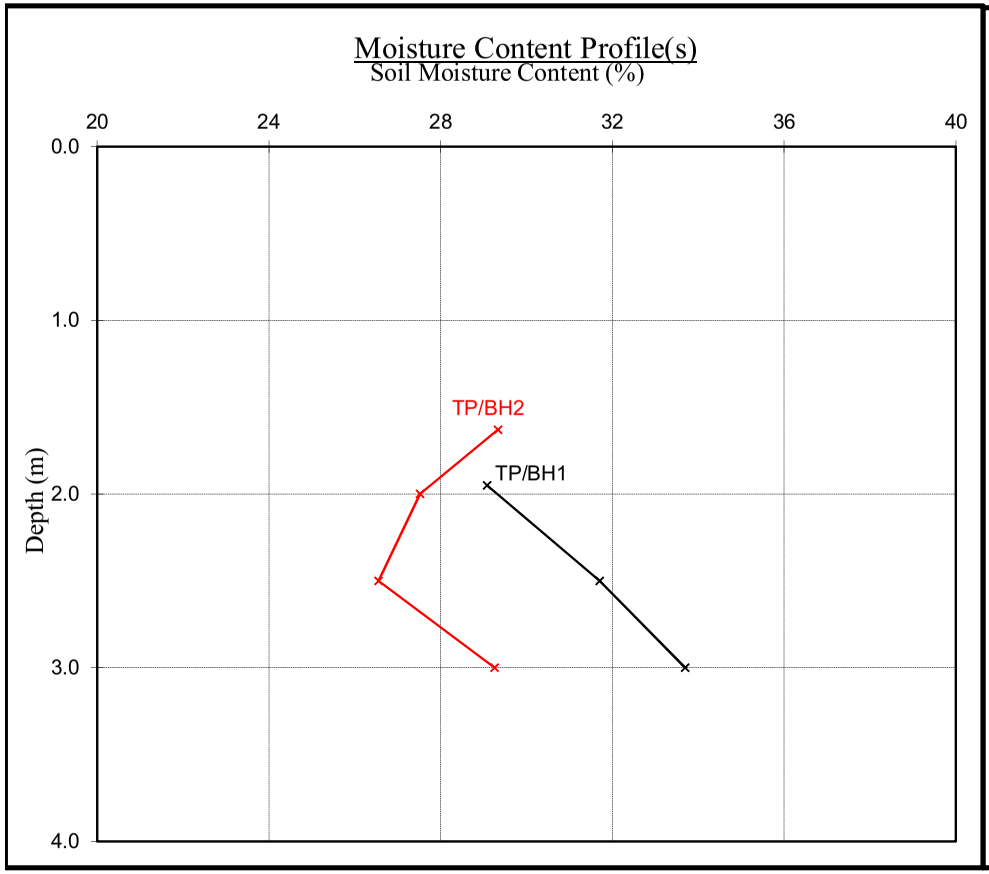
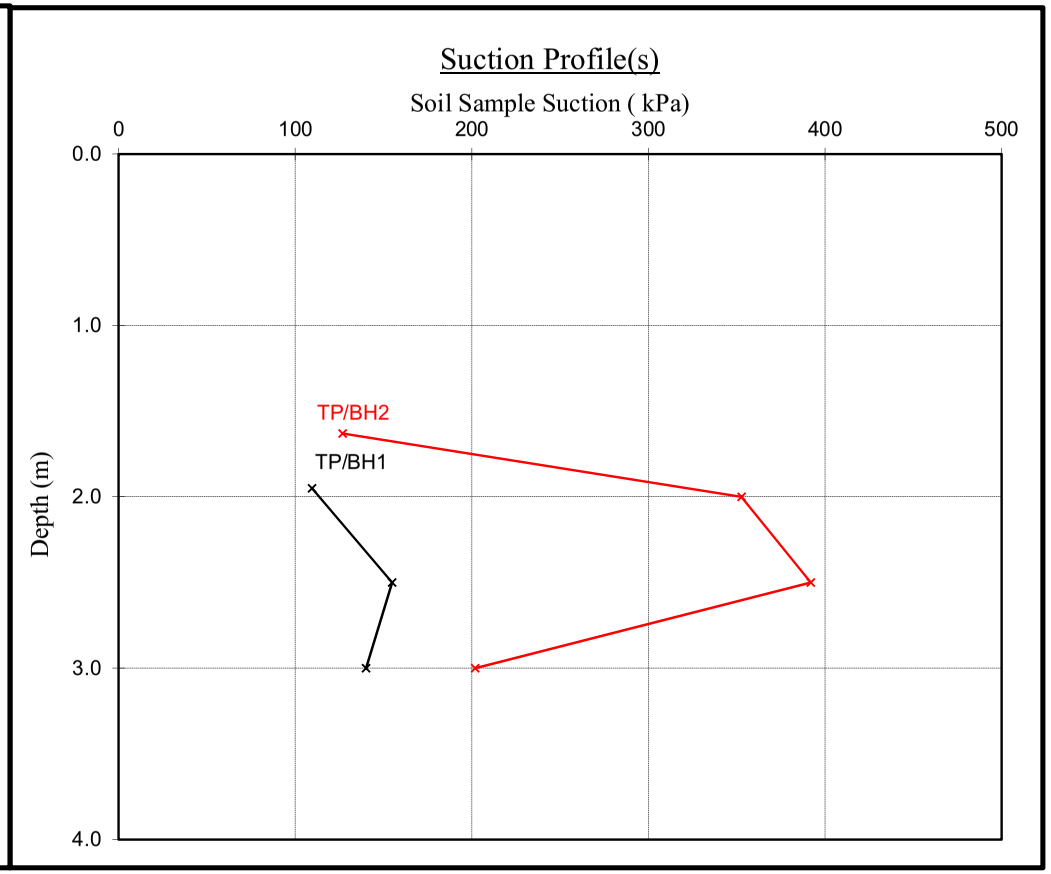
B	Disturbed sample (bulk)
U	Undisturbed sample
W	Groundwater sample
ENP	Essentially Non-Plastic by inspection
U/S	Underside of Foundation

Moisture Content and Suction Profiles

Our Ref :	169544		Date Sampled : 05/12/2013
Location :	2, Oakfields, Eastleigh		Date Received : 06/12/2013
Work carried out for:	CRAWFORD CLAIMS MGMT SUS	Note : Unless specifically noted the profiles have not been related to a site datum.	Date Tested : 09/12/2013
			Date of Report : 17/12/2013





Notes

1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clays) at shallow depths.

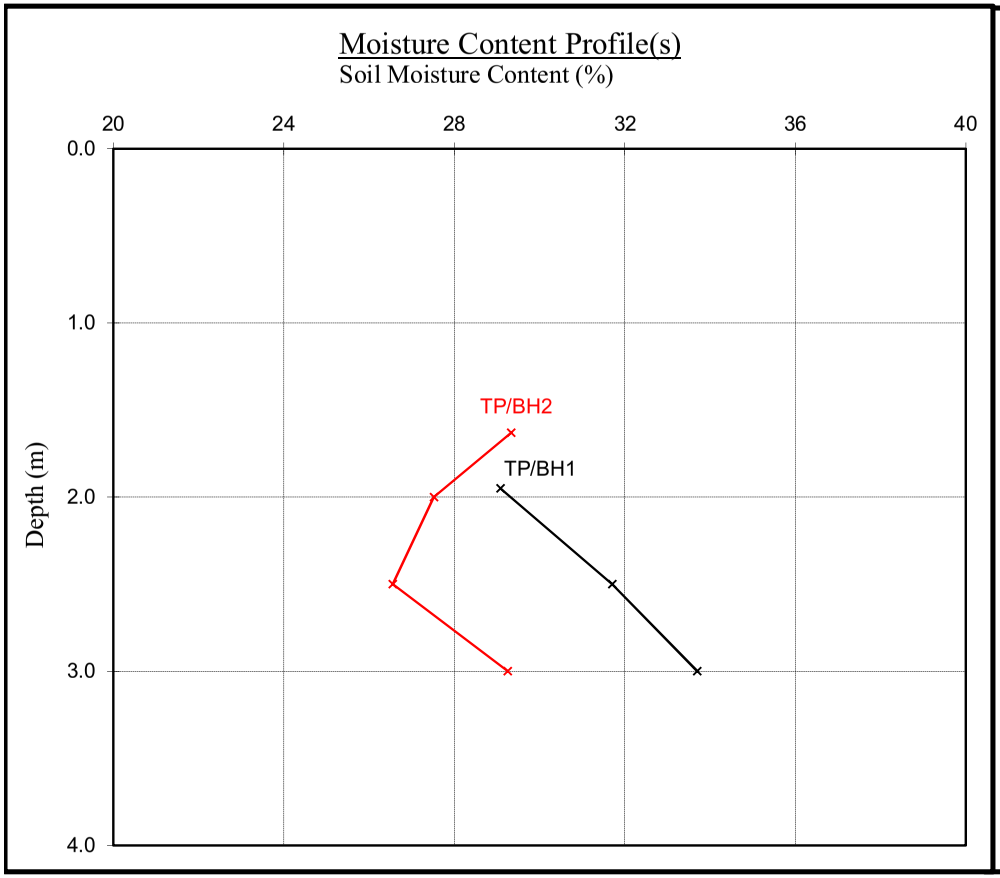
Note

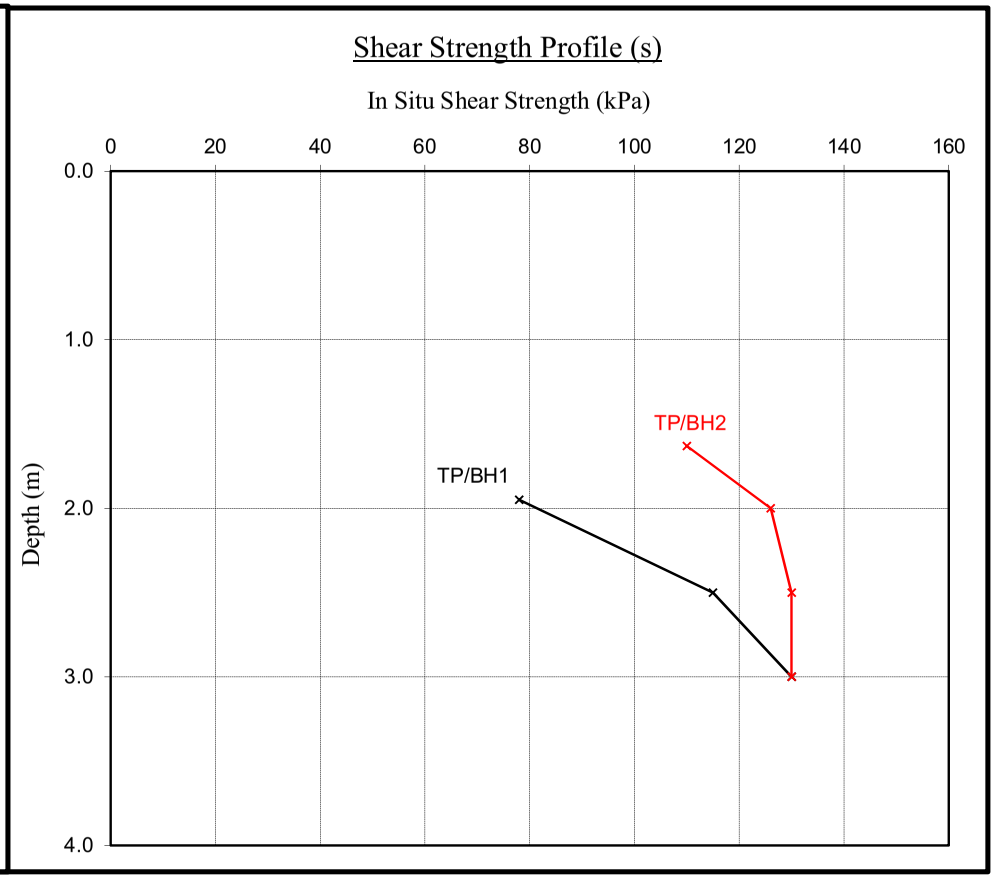
When shown, the theoretical equilibrium suction profiles are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependant on the method of sampling and any subsequent recompaction. The above 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.

Moisture Content and Shear Strength Profiles

Our Ref :	169544	Date Sampled :	05/12/2013
Location :	2, Oakfields, Eastleigh	Date Received :	06/12/2013
Work carried out for:	CRAWFORD CLAIMS MGMT SUS	Date Tested :	09/12/2013
		Date of Report :	17/12/2013

Note : Unless specifically noted the profiles have not been related to a site datum.





Notes

1. If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clays) at shallow depths.

Note

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 130 kPa.

Moisture Content and Suction Profiles

Our Ref :	169544		Date Sampled : 05/12/2013
Location :	2, Oakfields, Eastleigh		Date Received : 06/12/2013
Work carried out for:	CRAWFORD CLAIMS MGMT SUS	Note : Unless specifically noted the profiles have not been related to a site datum.	Date Tested : 09/12/2013
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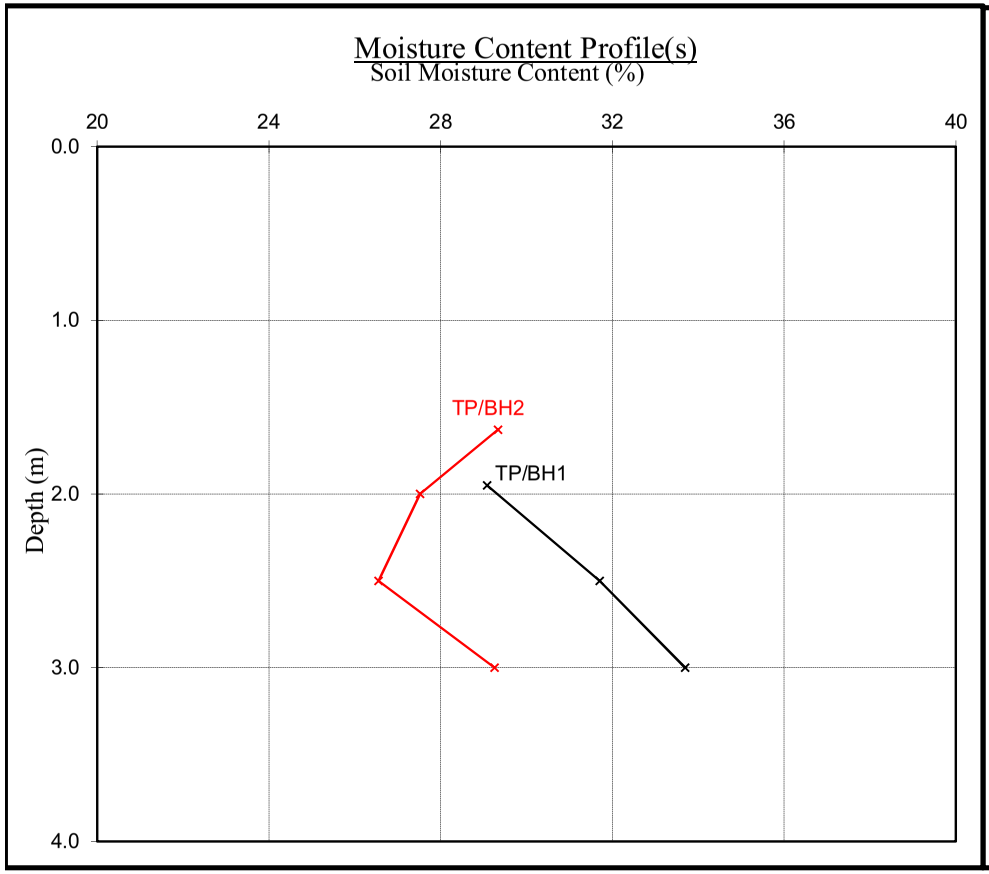

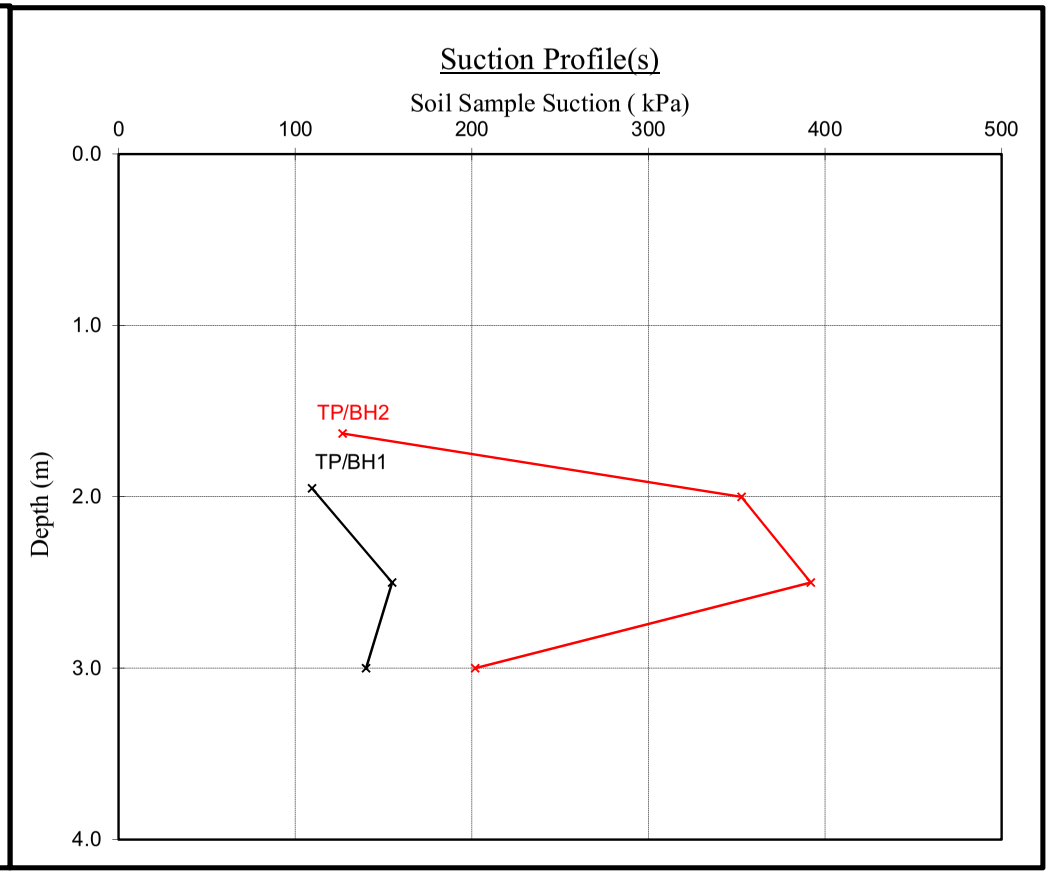

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Tree Root Identification Ltd

Sheet: 1 of 1

Job No: 169544
Date: 10/12/2013
Order No: 500239

Our Ref: CET101213

Site: 2 Oakfields, Eastleigh.

Work carried out for: Crawford Claims MGMT SUS

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#**
TP2 (underside)	1.5-2.0	Quercus (oak) (1 root)	positive
BH2 (roots to 2200mm)	2.0	Quercus (oak) (1 root)	positive

The presence of starch indicates that the root was alive in the recent past.

Ronald Macleod

DR RONALD D MACLEOD
Principal Scientist

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