

SITE INVESTIGATION FACTUAL REPORT

Report No: 541336
Client: Crawford Claims Management
Site: 61 Park Avenue, Ruislip

Client Ref: SU1803352
Date of Visit: 29/10/18

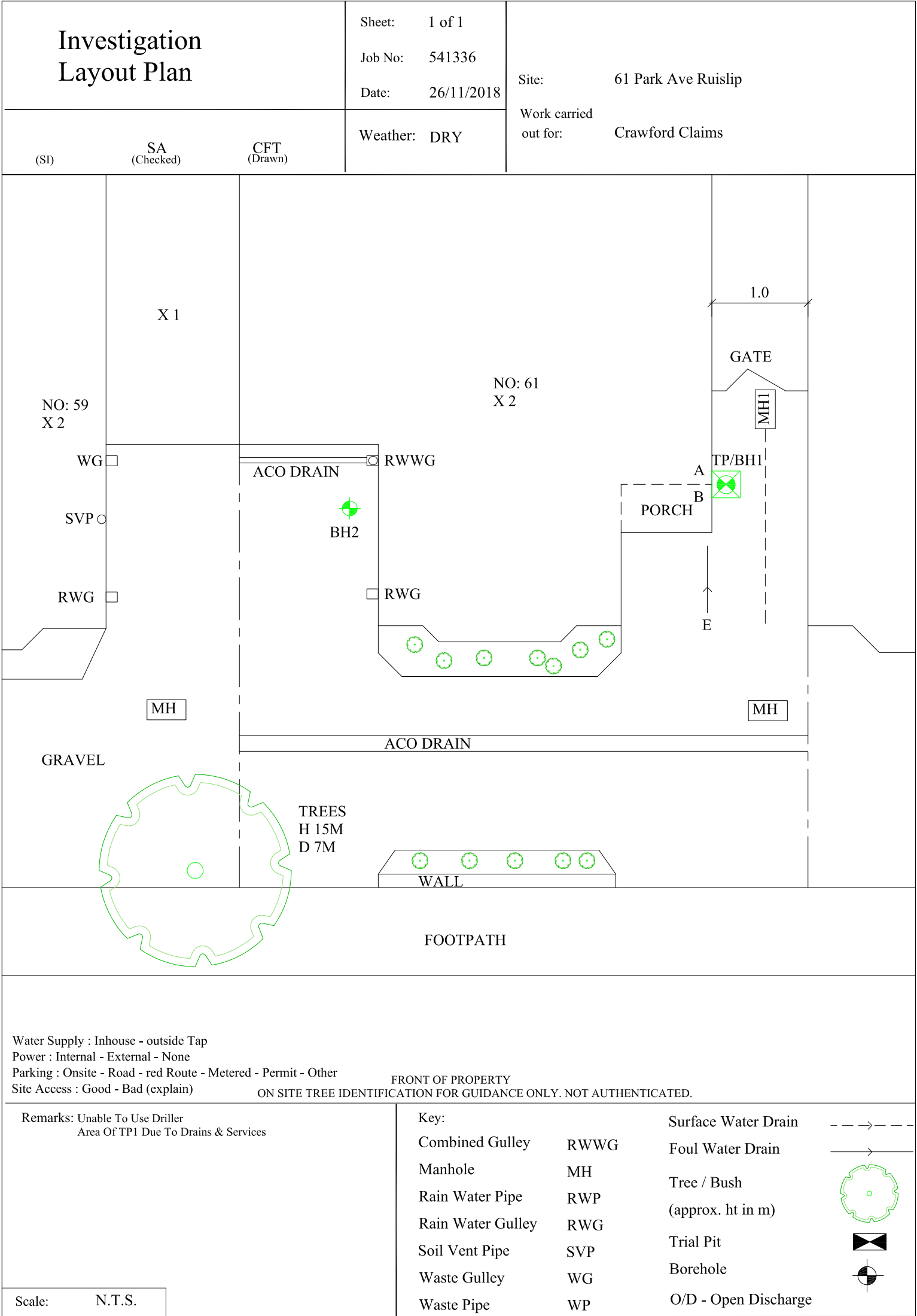


Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys

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

☎ 0843 2272362
✉ enquiries@cet-uk.com
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CET is the trading name of CET Structures Ltd
Registered in England No. 02527130



TEST REPORT: Trial Pit

REPORT NUMBER: C954390 / 55696.1.1.1

TRIAL PIT REF: TP1A

DATE: 26/11/2018

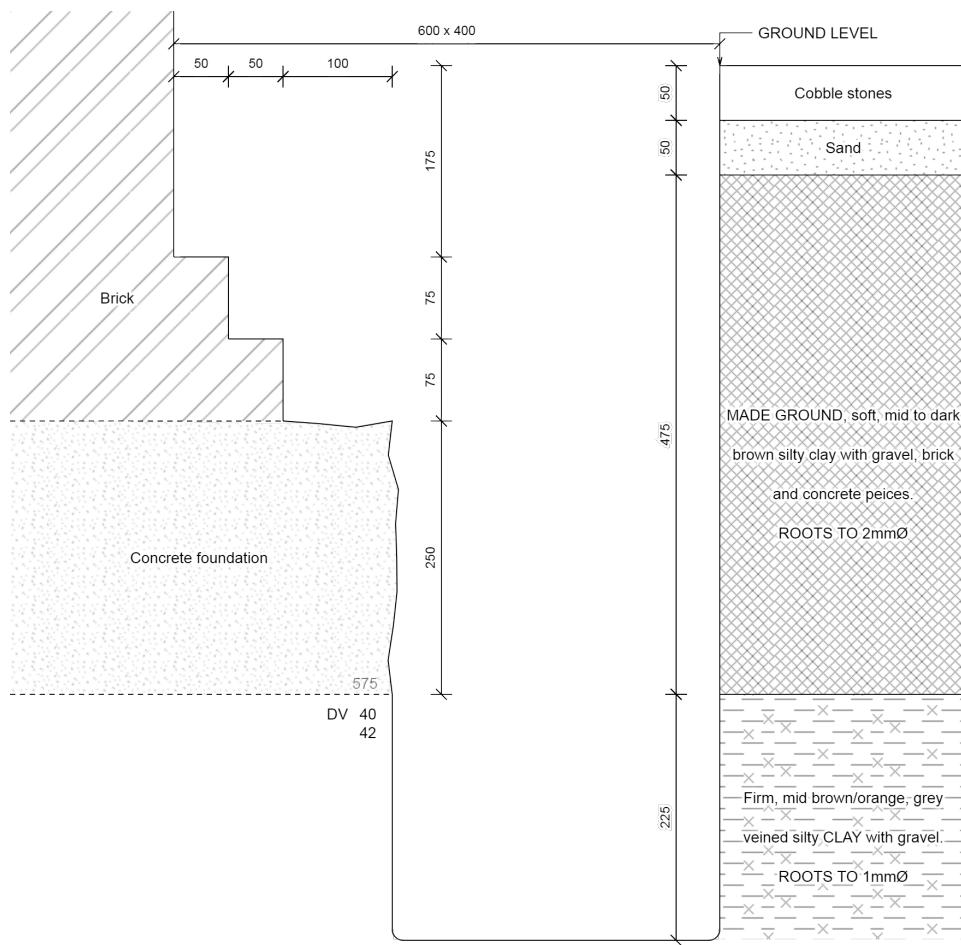
CLIENT: Crawford & Co

SITE: 61 Park Avenue, HA4 7UL

JOB NO: 541336

WEATHER: Dry

EXCAVATION METHOD: Hand tools



For Strata below 800mm see Bore Hole log

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

Remarks:

For and on behalf of CET
Scott Alger - Lab

Report Format:

Approved Signatory
27-Nov-18

DE74 2UD

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Report version 1

Page 1 of 1

[illegible]

Borehole		2			Sheet:	1 of 2	Site:	61 Park Avenue				
					Job No:	541336						
					Date:	26/11/2018						
Boring Method:		Rotary Auger			Ground Level:			Client:	Crawford Claims Management			
Diameter (mm):		100	Weather:	dry								
Depth	Soil Description							Samples and Tests				
(m)								Thickness	Legend	Depth	Type	Result
0.00	MADEGROUND cobblestones over sand							0.30				
0.30	MADEGROUND medium compact dark brown silty sandy clay with gravel and brick fragments							0.30				
0.60	Stiff mid brown/orange grey veined silty CLAY							1.90				
										1.00	DV	102
												110
										1.50	D	
										2.00	DV	120+
												120+
2.50	Medium dense wet orange-brown silty SAND							1.50		2.50	D	
										3.00	D	
										3.50	D	
4.00	Stiff wet orange-brown grey veined silty CLAY							1.50		4.00	D	
										4.50	D	
Remarks:					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample Roots J - Jar Sample Roots V - Pilcon Shear Vane (kPa Roots M - Mackintosh Probe Depth to Water (m) TDTD - Too Dense To Drive					To Max Depth Dia (m) (mm)		
Logged:					Version					N.T.S.		
MD		SA		Checked:		Approved:		V1.0 28/01/16				

[illegible]

Laboratory Summary Results

Our Ref : 541336

Location : 61, Park Avenue, Ruislip, Middlesex

Client : Crawford Claims Management

Address : Cartwright House, Tottle Road, Riverside Business Park, NG2 1RU

Date Sampled: 26/11/18

Date Received : 27/11/18

Date Tested : 01/12/18

Date of Report : 04/02/19

Sample Ref		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)		* Class [16]
TP/BH No	Depth (m)																	SO ₃ [14]	SO ₄ [15]	
1	(B) U/S 0.10	D	20	29	53	22	31	-0.07	22	CH	Insufficient sample for further testing									
	(A) U/S 0.575	D	31	9	64	28	36	0.09	33	CH			0.0171	2.1	41					
	1.0	D	21	12	67	22	45	-0.03	40	CH			0.0222	4.4	105					
	1.5	D	17	<5							Not suitable for oedometer testing-too stiff				> 120					
	2.0	D	20	<5	50	20	30	0.01	30	CH			0.0066	0.0	80					
	2.5	D	26	7	Not suitable for further testing - ENP															
Free surface heave potential over the borehole depth is about 0cm to 2cm																				

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] SO₄ = 1.2 x SO₃

[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 soluble 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



Our Ref :

541336

Location :

61, Park Avenue, Ruislip, Middlesex

Client:

Crawford Claims Management

Address:

Cartwright House, Tottle Road, Riverside Business Park, NG2 1RU

Laboratory Testing Results

Date Sampled :

26/11/18

Date Received :

27/11/18

Date Tested :

01/12/18

Date of Report :

04/02/19

Sample Ref.		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)		* Class [16]		
TP/BH No.	Depth (m)																	SO3 [14]			SO4 [15]	
BH2	1.0	D	26	<5	72	25	47	0.03	47	CV			0.0214	13.2	106							
	1.5	D	20	<5						Not suitable for oedometer testing-too stiff												
	2.0	D	20	<5						Not suitable for oedometer testing-too stiff					> 120							
	2.5	D	25	<5		Not suitable for further testing - ENP																
	3.0	D	25	<5		Not suitable for further testing - ENP																
	4.0	D	24	<5									0.0091	0.0								
	5.0	D	29	<5	66	27	39	0.05	39	CH			0.0026	0.0								
	6.0	D	33	<5		Not suitable for further testing - ENP																
Free surface heave potential over the borehole depth is about 0cm to 3cm																						

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

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

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

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[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 soluble magnesium testing is undertaken to prove otherwise.

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B Disturbed sample (bulk)

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ENP Essentially Non-Plastic by inspection

U/S Underside of Foundation

CET Structures Ltd – CET Property Assurance Division - Lawness Barns, Mountnessing Road, Billericay, Essex CM12 0TS

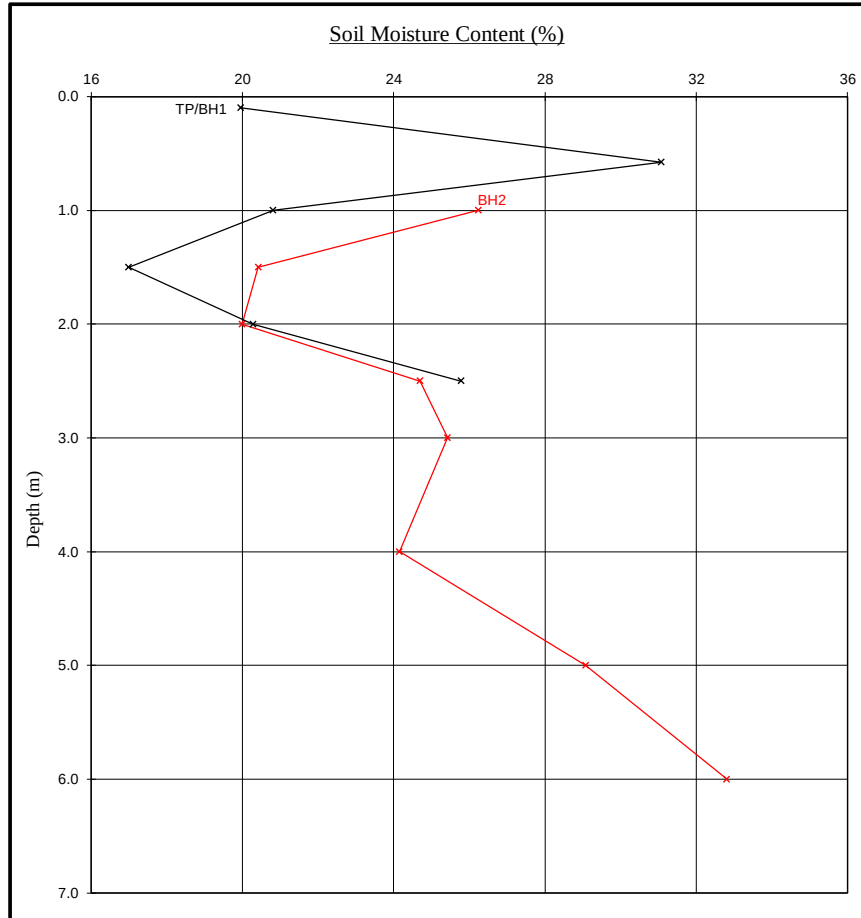
Version: 5BH V1.5 - 26.06.18



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Moisture Content Profiles

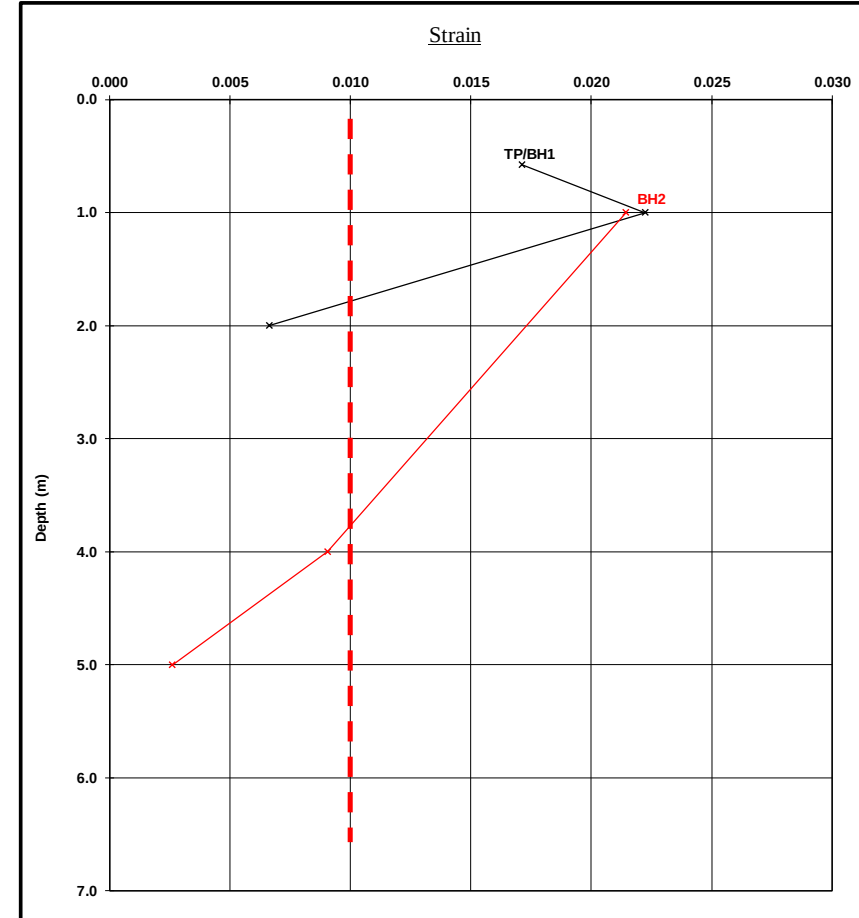
Our Ref : 541336
 Location : 61, Park Avenue, Ruislip, Middlesex
 Work carried out for: Crawford Claims Management
 Cartwright House, Tottle Road, Riverside Business Park, NG2 1RU



- 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.

Oedometer Strain Profiles

Date Sampled : 26/11/18
 Date Received : 27/11/18
 Date Tested : 01/12/18
 Date of Report : 04/02/19



--- Remoulding Disturbance

Assumptions

1. Soil Bulk Density (moist unit weight) is equal to 2039kg/m³
2. The water table is assumed as 1.0m below ground level.
3. Shrinkage Factor (sf) of 2 has been applied to the predicted heave, where applicable
4. Any possible surcharge stresses due to construction are not considered

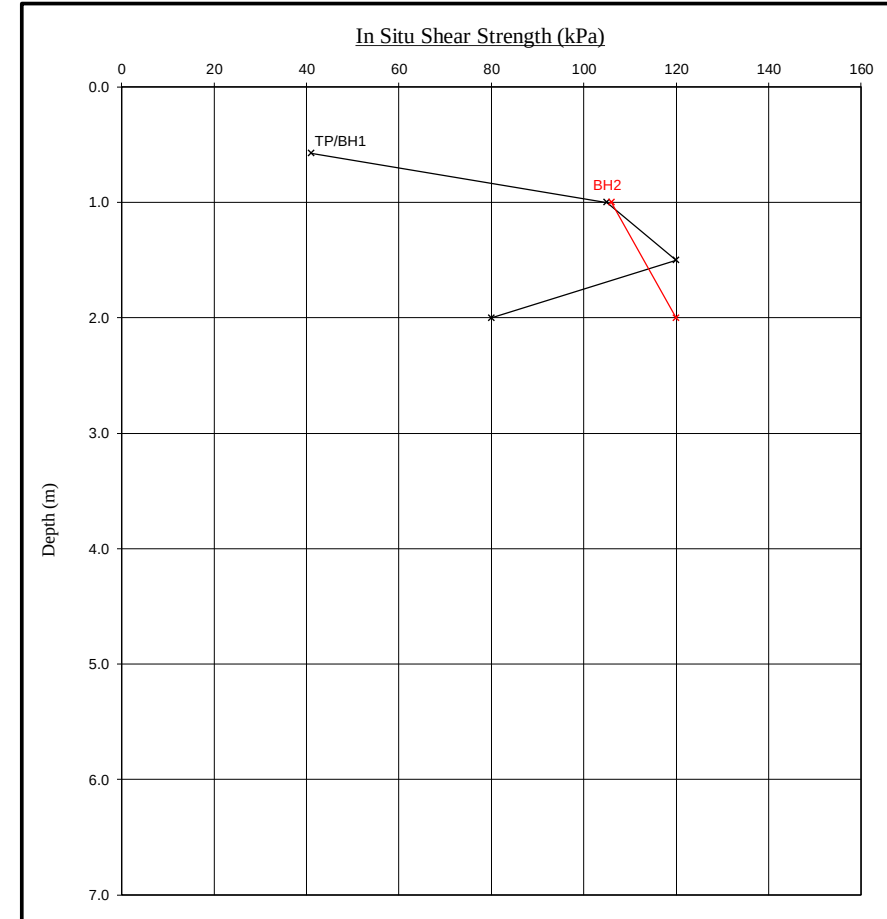
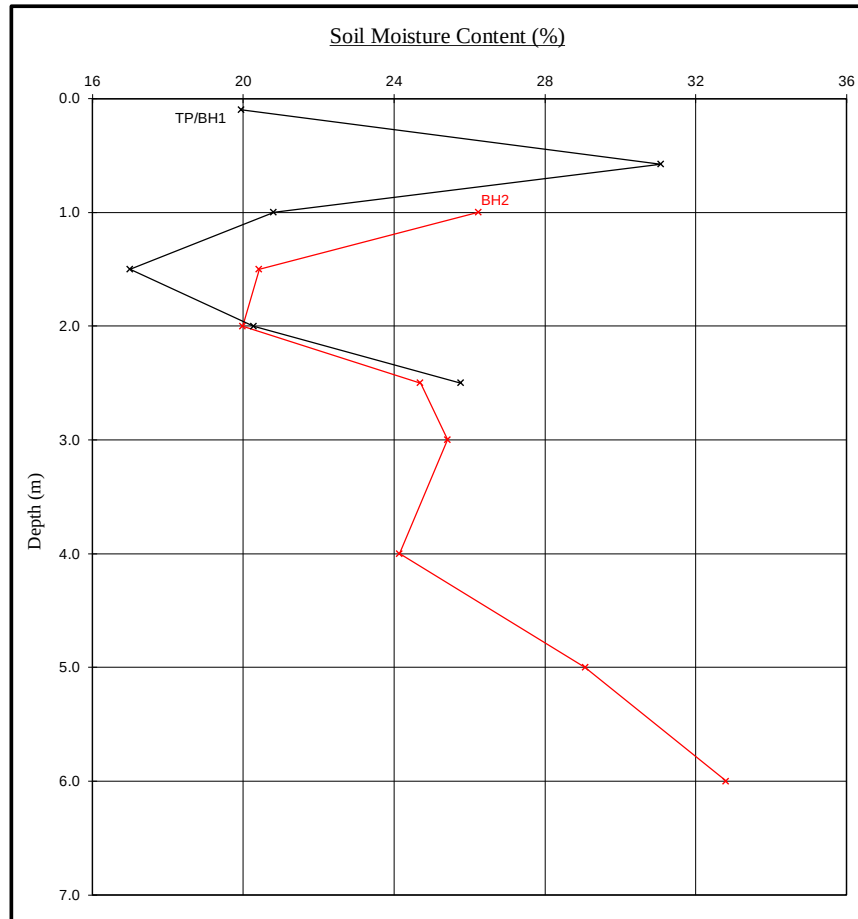
Notes

1. Sample prepared in accordance with BS1377: Part 1: 1990 clause 7.7 at Natural (as received) Moisture
2. Unless specifically noted the profiles have not been related to a site datum.

Moisture Content Profiles

Our Ref : 541336
 Location : 61, Park Avenue, Ruislip, Middlesex
 Work carried out for: Crawford Claims Management

Date Sampled : 26/11/18
 Date Received : 27/11/18
 Date Tested : 01/12/18
 Date of Report : 04/02/19



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.

EPSL**European Plant Science Laboratory**

Sheet: 1 of 1

Job No: **541336**Date: **03/12/2018**Order No: **1248005**EPSL Ref: **R26503**Site: **61 Park Avenue, Ruislip,**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 -

<u>Trial pit/ Borehole number</u>	<u>Root diameter (mm)</u>	<u>Tree, shrub or climber from which root originates</u>	<u>Result of starch test</u>
TP1 (USF)	1 mm	Pomoideae gp.	Positive
TP1 (USF)	<1 mm	either Quercus spp. or Castanea spp. * 2 roots	Positive
TP1 (USF)	<1 mm	broadleaved species, too juvenile for positive identification	Positive
BH1 (1.2-2.2m)	1.5 mm	probably Quercus spp. but possibly Castanea spp. 4 roots	Positive
BH2 (to 1.7m)	2 mm	Quercus spp. 4 roots	Positive

* Both rather juvenile.

Pomoideae gp include apple, cotoneaster, hawthorn, pear, pyracantha, quince, rowan, snowy mespil and whitebeam.

Quercus spp. are oaks. Castanea spp. include sweet chestnut.



MDM

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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 R J Shaw B.Sc. (Hons), Ph.D

Consultant: Dr M P Denne B.Sc. (Hons), M.Sc., Ph.D

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