

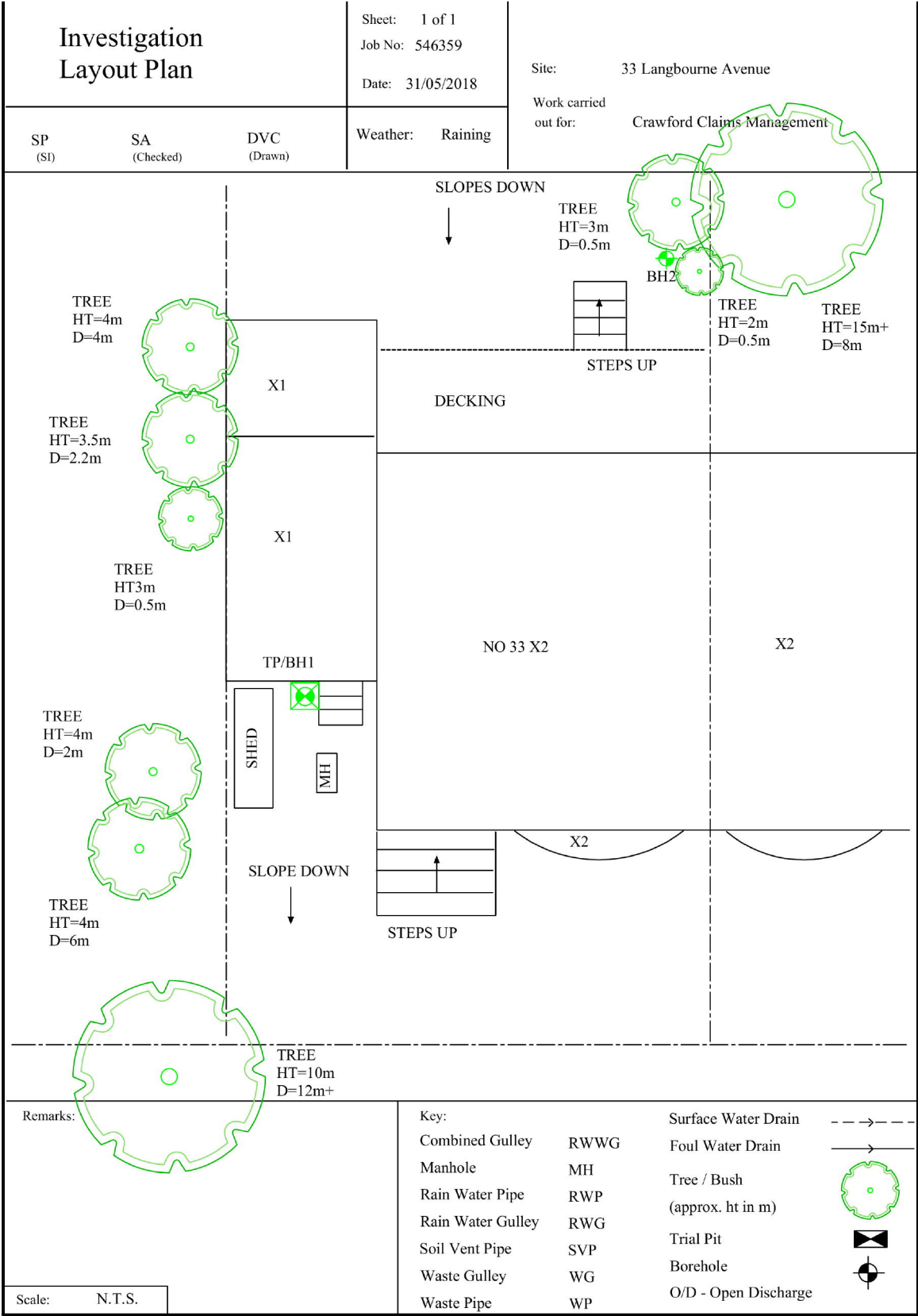
SITE INVESTIGATION FACTUAL REPORT

Report No: 546359
Client: Crawford Claims Management
Site: 33 Langbourne Avenue
Client Ref: [REDACTED]
Date of Visit: 12/11/18



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





TEST REPORT: Trial Pit

REPORT NUMBER: C948472 / 54464.1.1.1

TRIAL PIT REF: TP1

DATE: 12/11/2018

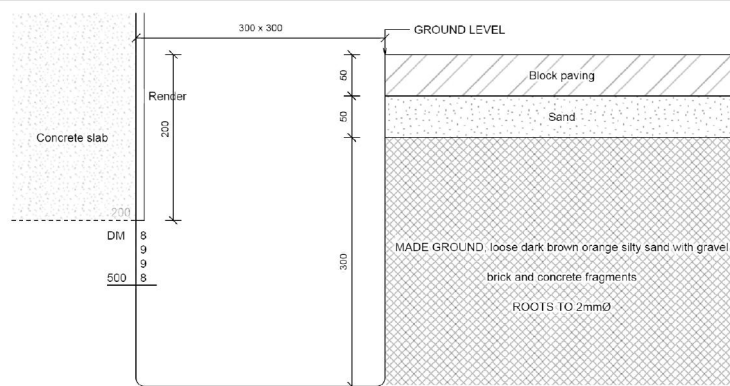
CLIENT: Crawford & Co

SITE: 33 Langbourne Avenue, N6 6PS

JOB NO: 546359

WEATHER: Dry

EXCAVATION METHOD: Hand tools



For Strata below 400mm 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:
Amended report. This test report supersedes test report version 1


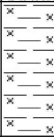
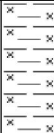
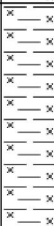

For and on behalf of CET
Steve Lumley - Regional Manager

Report Format:

Approved Signatory
22-Nov-18



[illegible]

Borehole		2			Sheet:	1 of 1	Site:	33 Langbourne Avenue				
					Job No:	546359						
					Date:	12/11/2018						
Boring Method:		Hand Auger		Ground Level:				Client:	Crawford Claims Management			
Diameter (mm):		75	Weather:	dry								
Depth	Soil Description							Thickness	Legend	Samples and Tests		
(m)										Depth	Type	Result
0.00	MADEGROUND medium compact brown silty sandy clay with ocassional gravel and brick fragments							0.80				
								0.50		DM	30	
											31	
										24		
0.80	Stiff orange-brown silty CLAY							0.60				28
								1.00		DV	80	
											78	
1.40	Very stiff orange-brown silty CLAY							0.60				
								1.50		DV	140+	
											140+	
2.00	Stiff orange-brown silty CLAY							1.00				108
											110	
								2.50		DV	104	
											108	
3.00	End of BH									3.00	DV	116
											116	
Remarks:							Key:			To	Max	
BH ends at 3m.BH dry and open on completion,no roots observed below 1.7m.							D - Disturbed Sample			Depth	Dia	
							B - Bulk Sample			(m)	(mm)	
							W - Water Sample Roots			1.00	4	
							J - Jar Sample Roots			1.70	1	
							V - Pilcon Shear Vane (kPa) Roots					
							M - Mackintosh Probe Depth to Water (m)					
							TDTD - Too Dense To Drive					
Logged:							Version			N.T.S.		
SP	SA	Checked:	Approved:	V1.0 28/01/16								

Laboratory Summary Results

Our Ref: 546359

Date Sampled: 12/11/18

Location: 33, Langbourne Avenue, London

Date Received: 13/11/18

Client: Crawford Claims Management

Date Tested: 13/11/18

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

Date of Report: 21/11/18

Sample Ref		Type	Moisture Content	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/PH No	Depth (m)																	SO ₃ [14]	SO ₄ [15]	
1	U/S 0.20	D	12	92	Not suitable for further testing - ENP															
	0.5	D	21	35	Insufficient sample for further testing															
	1.0	D	34	<5																
	1.5	D	29	<5	80	23	57	0.10	57	CV	168	126			100					
	2.0	D	35	<5							168	179			> 140					
	2.5	D	36	<5							168	157			> 140					
	3.0	D	35	<5	85	25	60	0.16	60	CV	168	184			> 140					

Test Methods / Notes

[1] BS 1377: Part 3: 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: 1991 - Figure 31 - Plasticity Chart for the classification of fine soils

[8] In-house method S9a adapted from BRE IP 493

[9] In-house Test Procedure S17c One Dimensional Swell/Shrink Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CPT using

a) Plastic limit value or (b) shear value (CV).

[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] SO₃ = 1.2 x SO₄

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

Note that if the SO₄ content falls into the D5-4 or D5-5 class, it would be

prudent to consider the sample as falling into the D5-4M or D5-5M

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

FNP Presumably Non-Plastic by inspection

US Underside of Foundation



Version: SBH V1.5 - 26.06.18

8618

Our Ref: 546359

Laboratory Testing Results

Date Sampled: 12/11/18

Location: 33, Langbourne Avenue, London

Date Received: 13/11/18

Client: Crawford Claims Management

Date Tested: 13/11/18

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

Date of Report: 21/11/18

Sample Ref.		Type	Moisture Content (%) [11]	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
TP/BH No.	Depth (m.)																	SO3 [14]	SO4 [15]	[16]	
BH2	0.5	D	20	16	65	24	41	-0.10	35	CH	Not suitable for suction testing-made ground										
	1.0	D	34	<5							168	135			79						
	1.5	D	25	<5	75	25	50	0.00	50	CV	168	351			> 140						
	2.0	D	32	<5							168	229			109						
	2.5	D	35	<5							168	157			106						
	3.0	D	38	<5	87	29	58	0.16	58	CV	168	175			116						

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

[7] BS 9990: 1991: Figure 31 - Plasticity Chart for the classification of fine soils.

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

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

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CPT using

a Picon hand vane or Geosir 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] SO₃, ~ 1.2 x SO₄

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

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
US Underside of Foundation

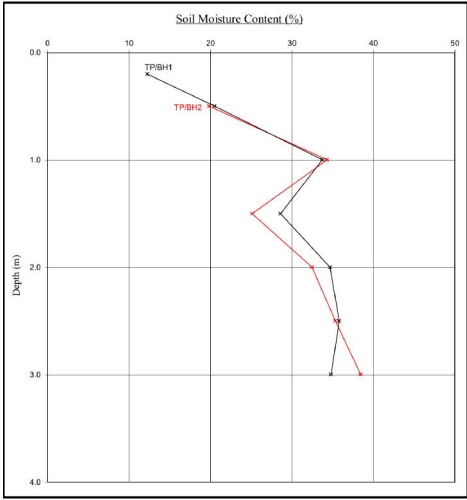


Version: SBH V1.5 - 26.06.18

8618

Moisture Content Profiles

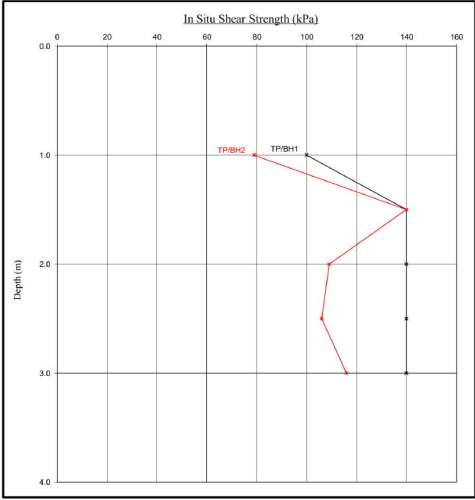
Our Ref: 546359
Location: 33, Langhouse Avenue, London
Work carried out for: Crawford Claims Management



Notes
1. If plotted, $0.4LL$ 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.

Shear Strength Profiles

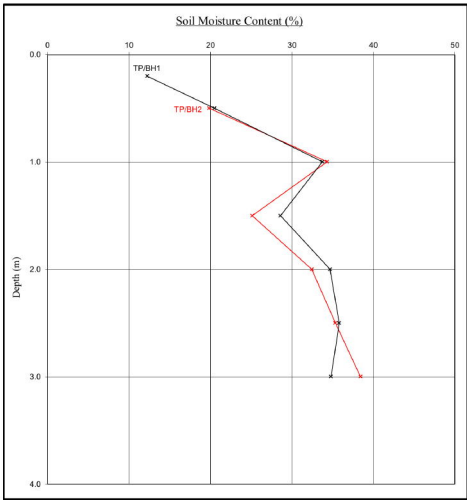
Date Sampled: 12/11/18
Date Received: 13/11/18
Date Tested: 13/11/18
Date of Report: 21/11/18



Note
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Picon Hand Vane the calibration of which is limited to a maximum reading of 140 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

Moisture Content Profiles

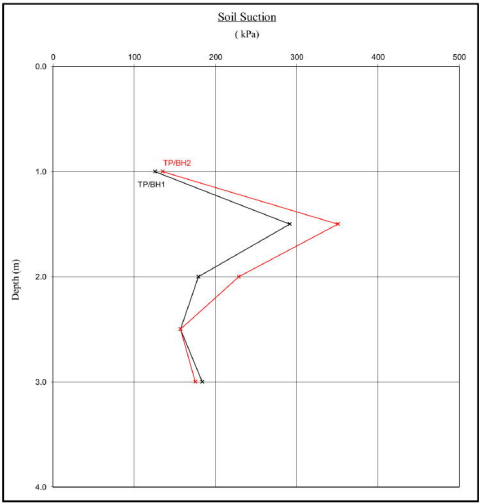
Our Ref: 546359
Location : 33, Langhorne Avenue, London
Work carried out for: Crawford Claims Management



Notes
1. If plotted, $0.4LL$ 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.

Soil Suction Profiles

Date Sampled : 12/11/18
Date Received : 13/11/18
Date Tested : 13/11/18
Date of Report : 21/11/18



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 dependent 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	Site: 33 Langbourne Avenue,
	Job No: 546359	Work carried out for: Crawford Claims MGMT SUS
	Date: 16/11/2018	
	Order No: [REDACTED]	
EPSSL Ref: [REDACTED]		

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)	2 mm	Syringa spp. or related shrub species 4 roots	Positive
BH1 (to 2m)	1.5 mm	Quercus spp. 3 roots	Positive
BH2 (1-1.7m)	1 mm	Probably Ceanothus spp. *	Negative
BH2 (1-1.7m)	1 mm	broadleaved species, too decayed for positive identification	Negative
BH2 (1-1.7m)	<1 mm	broadleaved species, too juvenile for positive identification † 2 roots	Positive

* In poor condition.

Syringa spp. are lilacs. Related species include privet, jasmines and forsythia.
Quercus spp. are oaks (both deciduous and evergreen).
Ceanothus spp. are common garden shrubs (Californian lilacs).

† It may be possible to include/discount species from the list of possibilities. Please contact the laboratory with a list of species on site if this would be useful.


MDM

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

Registered in England.