

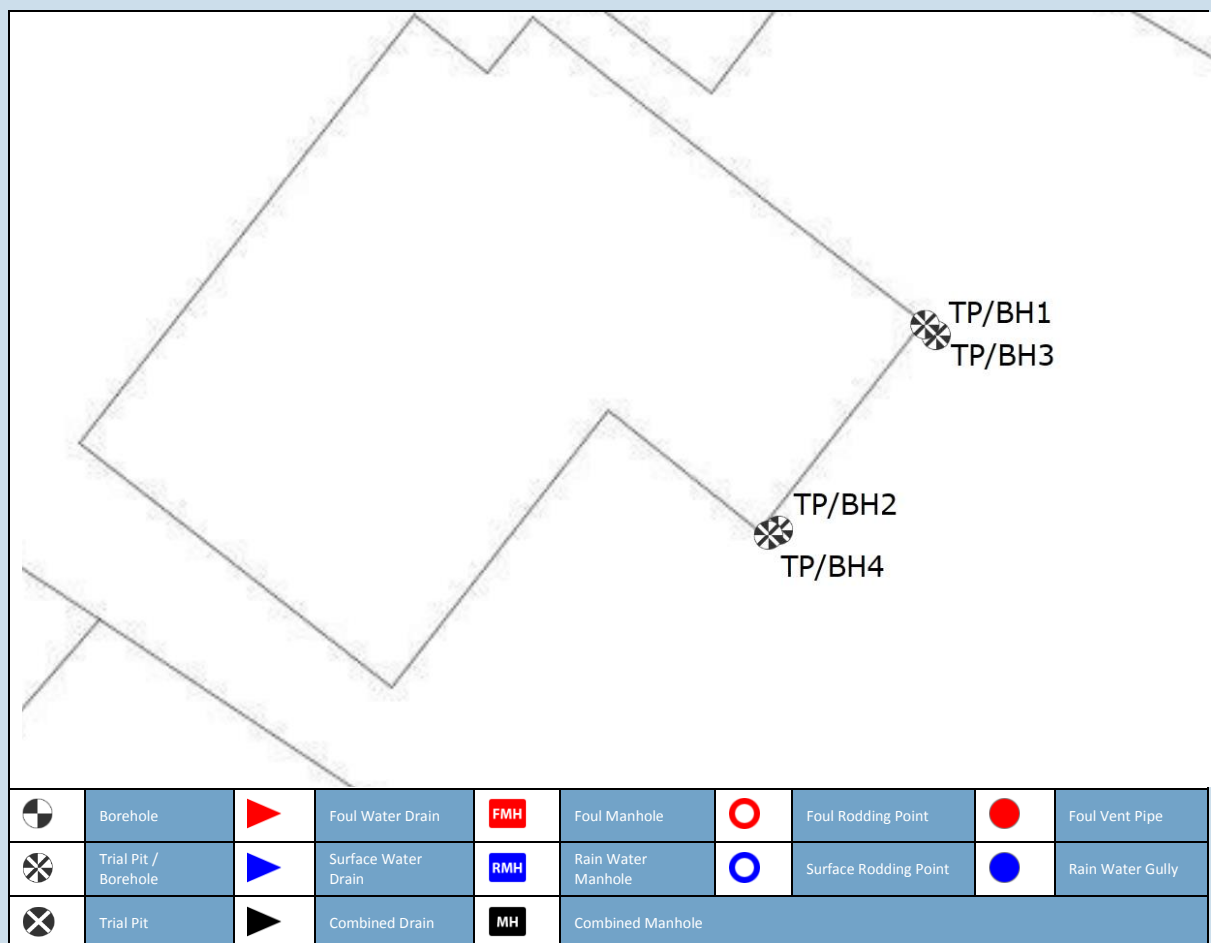
GEOTECHNICAL

for Subsidence Management Services

29 Nicholas Way, Northwood, Middlesex, HA6 2TR

Client: Subsidence Management Services
Client Contact: Ian Davies
Client Ref: IFS-AVI-SUB-18-0076236
Policy Holder: Mr Adrian Paterson
Report Date: 15 April 2019
Our Ref: C40933G21308

Site Plan



TP/BH3 Foundation Detail and Borehole Log

Foundation Detail

Extension foundation comprised of brick wall to 0.70mm bgl, bearing on stepped concrete to 1.70mm bgl with a total projection of 0.10mm from the elevation. Underside of foundation (USF) was exposed to 0.10mm back from the face of the foundation and probed 0.10mm back from the face of the foundation.

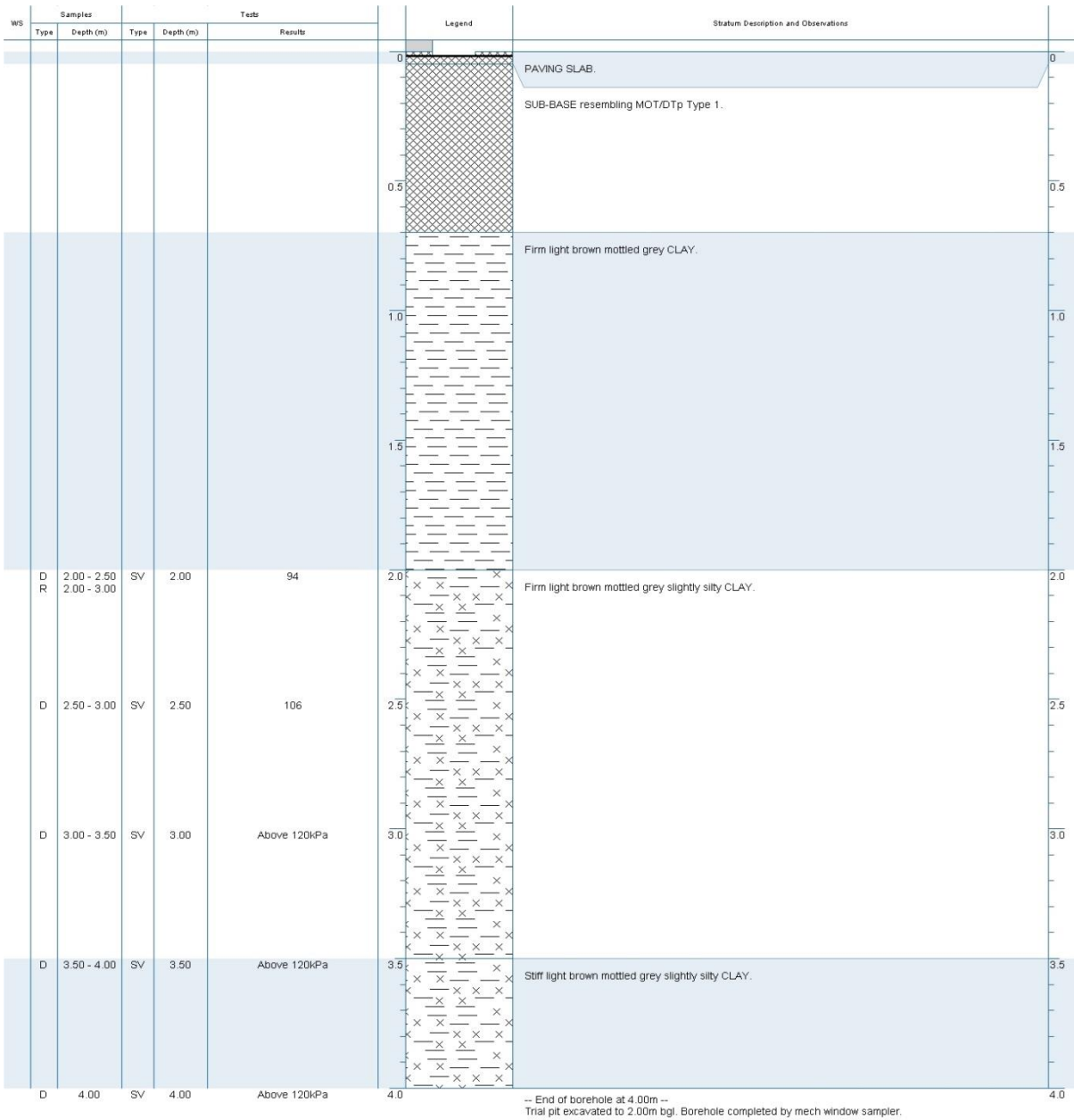
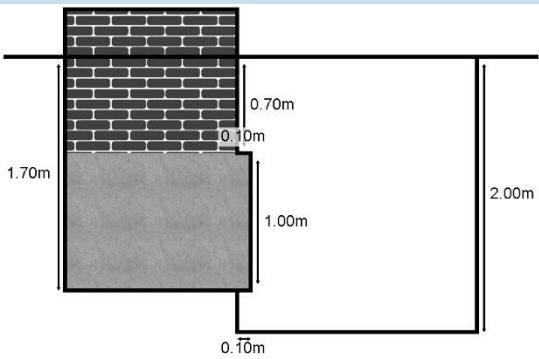


Diagram illustrating the cross-section of a wall. The wall consists of a brickwork section (top) and a concrete section (bottom). The total height of the wall is 1.70m. The brickwork section is 0.70m high and 0.10m thick. The concrete section is 1.00m high and 0.10m thick. The wall is shown in cross-section with a brick pattern and a concrete pattern.

SubsNetuk

Site Observations

GENERAL:

Site Investigation works (TP/BH3 and TP/BH4) undertaken on 1 April 2019 during dry weather (i.e. no rain).

HEALTH AND SAFETY:

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH3).

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH4).

FOUNDATIONS:

Utility building foundation was exposed and the underside of foundation (USF) recorded to be 1.70m bgl (TP/BH3 and TP/BH4).

ROOTS:

Roots encountered to 3m bgl (TP/BH 3).

Roots encountered to 3m bgl (TP/BH 4).

IN SITU TESTING:

Hand Shear Vane (SV) undertaken at 2m bgl (TP/BH3 and TP/BH4) within the borehole and thereafter in the borehole at maximum 0.50m intervals.

WATER STRIKES:

No water strikes (NWS) encountered (TP/BH 3 and TP/BH4).

SOIL ANALYSIS

for Subsidence Management Services

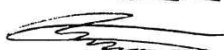
29 Nicholas Way, Northwood, Middlesex, HA6 2TR

Client: Subsidence Management Services
Client Contact: Ian Davies
Claim Number: 18N602915
Policy Holder: Mr Adrian Paterson
Report Date: 7 June 2019
Our Ref: C15568S40933
Laboratory Ref: L16344

Compiled By:



Checked By:



Date samples received: 8 April 2019
Moisture Content Test Date: 25 April 2019
Atterberg Limits Test Date: 3 June 2019
Oedometer Test Date: 10 June 2019

Notes relating to soils testing

Unless otherwise stated, all soils testing was undertaken at Environmental Services' soils laboratory at unit 10H Maybrook Business Park, B76 1AL.

Soil samples have been prepared in accordance with BS1377:Part 1: 2016 Section 7

Descriptions of soil samples within the laboratory have been undertaken generally in accordance with BS5930:2015. Descriptions of soil samples fall outside of the scope of UKAS accreditation and have been shortened to remove tertiary components for ease of reference.

Following the issue of this soil analysis report, samples will be retained for 1 month should additional testing, or referencing, be required. It should be noted that any tests undertaken on soils retained subsequent to the issue of this report may not give an accurate indication of the in-situ conditions of the sample.

Natural Moisture Content Tests are undertaken in accordance with ISO 17892:Part 1:2014

The Liquid Limit test is undertaken in accordance with BS1377:Part 2:1990 Section 4.4

The Plastic Limit test and the determination of the Plasticity Index is undertaken in accordance with BS1377:Part 2:1990 Section 5

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Note

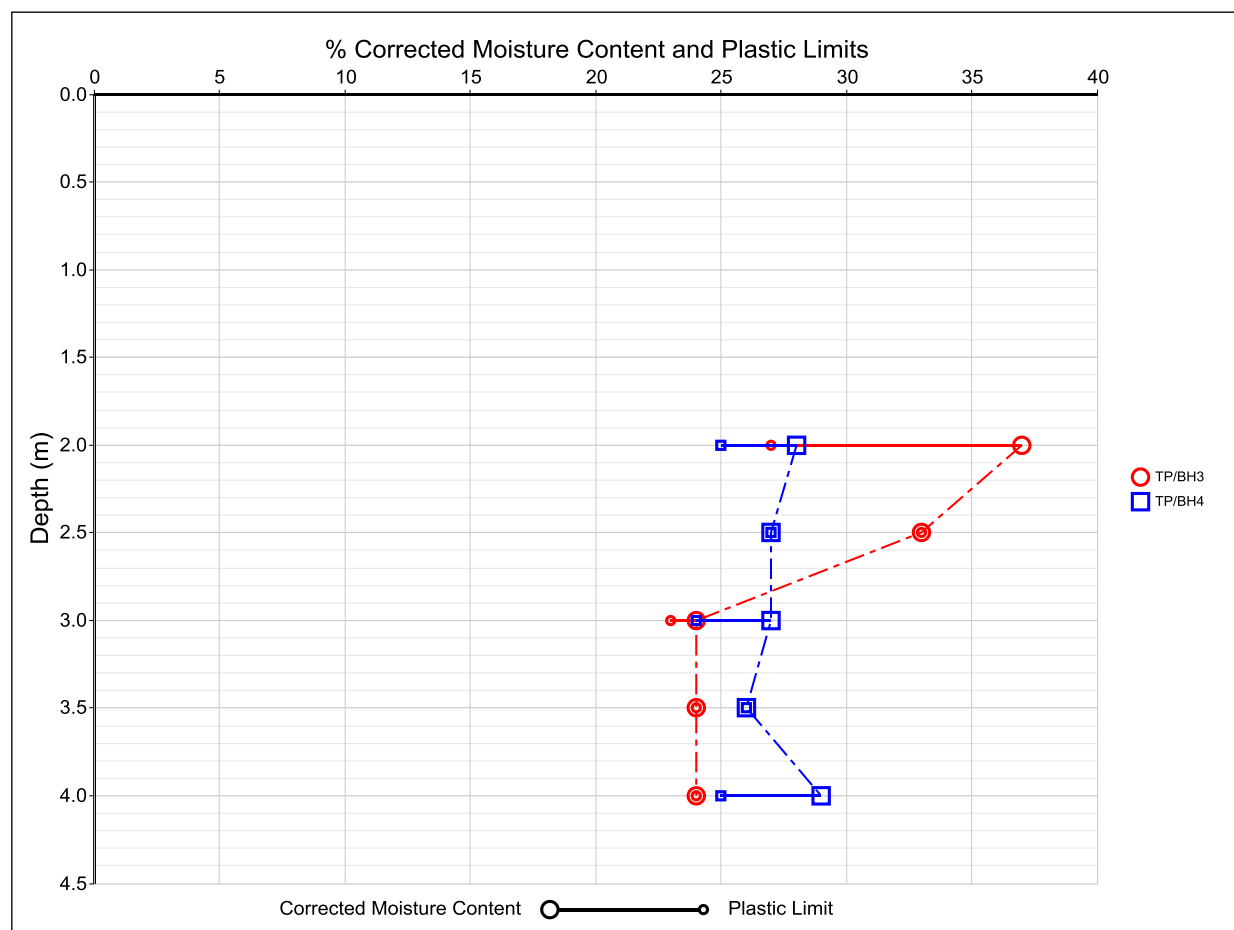
Where appropriate moisture contents have been corrected to demonstrate the equivalent moisture content following the sample being passed through a .425 mm sieve for comparison with the Liquid & Plastic Limit. Where this is not available, uncorrected moisture contents have been used in the graph on the following page.

Deviations to testing schedule:

All testing has been undertaken in line with the soils testing schedule provided

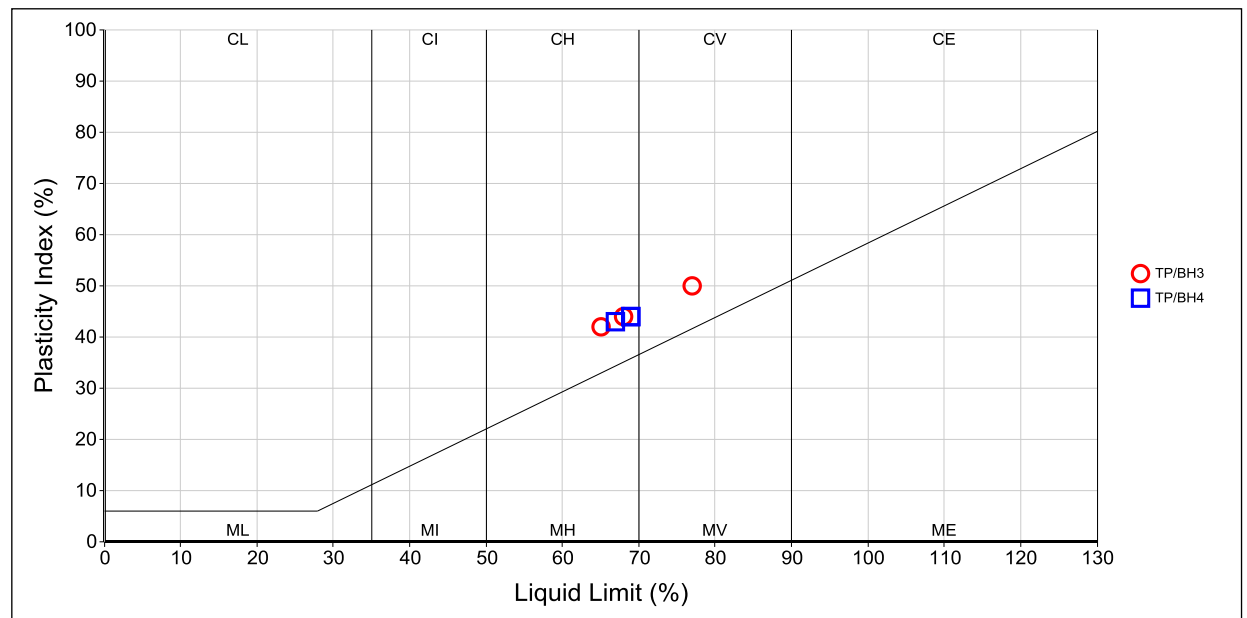
Lab Ref	Depth (m)	MC (%)	Corr MC (%)	LL (%)	PL (%)	PI (%)	% Passing .425mm
Samples from TP/BH3							
001	2.00	37	37	77	27	50	100
002	2.50	33					
003	3.00	24	24	65	23	42	100
004	3.50	24					
005	4.00	24	24	68	24	44	100
Samples from TP/BH4							
006	2.00	28	28	69	25	44	100
007	2.50	27					
008	3.00	27	27	67	24	43	100
009	3.50	26					
010	4.00	29	29	69	25	44	100

Corrected Moisture Content and Plastic Limits Graph



Lab Ref	Depth (m)	Description	BS:5930	NHBC Chapter 4.2
Samples from TP/BH3				
001	2.00	Soft brown CLAY	CV	High
002	2.50	Soft brown CLAY		
003	3.00	Firm brown CLAY	CH	High
004	3.50	Firm brown CLAY		
005	4.00	Firm brown CLAY	CH	High
Samples from TP/BH4				
006	2.00	Firm brown CLAY	CH	High
007	2.50	Firm brown CLAY		
008	3.00	Firm brown CLAY	CH	High
009	3.50	Firm brown CLAY		
010	4.00	Firm brown CLAY	CH	High

Plasticity Chart for Casagrande Classification

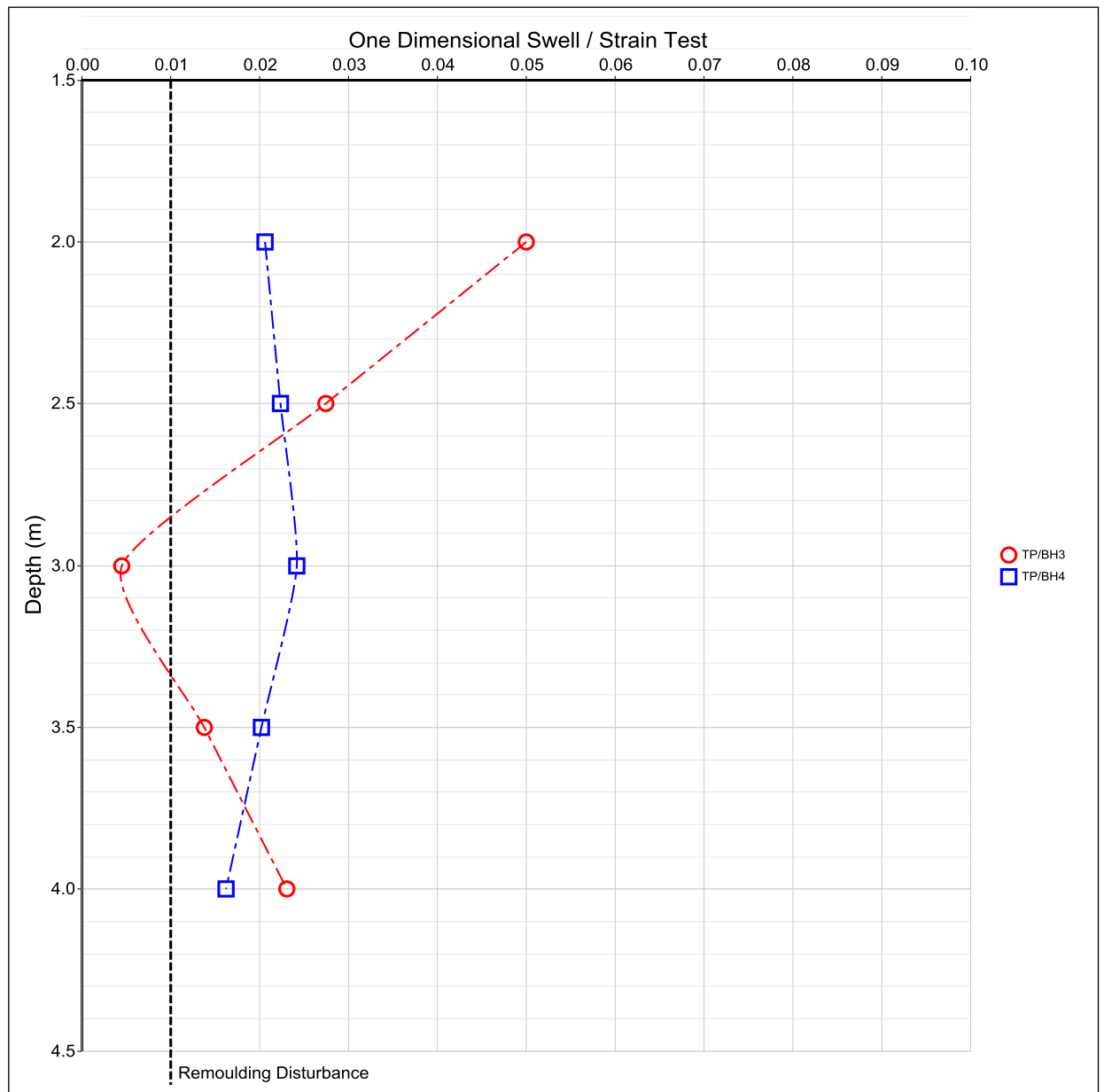


Summary of Oedometer Testing

Lab Ref	Depth (m)	Strain	Dd (mm)	Remarks
Samples from TP/BH3				
001	2.00	0.0500	50.0	
002	2.50	0.0275	6.9	
003	3.00	0.0046	1.1	
004	3.50	0.0138	3.5	
005	4.00	0.0231	5.8	
Samples from TP/BH4				
006	2.00	0.0207	20.7	
007	2.50	0.0224	5.6	
008	3.00	0.0242	6.0	
009	3.50	0.0203	5.1	
010	4.00	0.0163	4.1	

TP/BH3 Dd Total: 67.3mm
TP/BH4 Dd Total: 41.5mm

Oedometer Strain



References and Interpretation

The following provides a brief interpretation of the test results by comparison of the results to published classifications. The Atterberg Limit test may be used to classify the plasticity of soils; the plasticity classes defined in BS5930:1999 "Code of Practice for Site Investigations" are as follows.

CL (ML)	CLAY and CLAY/SILT of Low plasticity
CI (MI)	CLAY and CLAY/SILT of Intermediate plasticity
CH (MH)	CLAY and CLAY/SILT of High plasticity
CV (MV)	CLAY and CLAY/SILT of Very High plasticity
CE (ME)	CLAY and CLAY/SILT of Extremely High plasticity
O	The letter O is added to prefixes to symbolise a significant proportion of organic matter.
NP	Non-plastic

The Plasticity Index (PI) Result obtained from the Atterberg Limit tests may also be used to classify the potential for volume change of fine soils, in accordance with the National House Building Council's standards - Chapter 4.2 (2003) "Building Near Trees", as summarised below.

Modified PI < 10	Non Classified.
Modified PI = 10 to <20	Low volume change potential.
Modified PI = 20 to <40	Medium volume change potential.
Modified PI = 40 or greater	High volume change potential.

The 2003 edition of Chapter 4.2 also permits use of the Plasticity Index without modification. The classifications for this are grouped by soil type (soils with similar visual soils description and using unmodified Plasticity Indices).

ROOT IDENTIFICATION

for Subsidence Management Services

29 Nicholas Way, Northwood, Middlesex, HA6 2TR

Client: Subsidence Management Services
Client Contact: Ian Davies
Claim Number: 18N602915
Client Reference: IFS-AVI-SUB-18-0076236
Policy Holder: Mr Adrian Paterson
Report Date: 2 May 2019
Our Ref: R27567



Intec
Parc Menai, Bangor,
Gwynedd, North Wales
LL57 4FG
Tel: 01248 672652

Sub Sample	Species Identified		Root Diameter	Starch
TP/BH3:				
2-3m	either <i>Quercus</i> spp. or <i>Castanea</i> spp.	1	1 mm	Low
2-3m	broadleaved species, too decayed for positive identification		<1 mm	Absent
TP/BH4:				
2-3m	broadleaved species, too decayed for positive identification	2	1 mm	Absent

Comments:

- 1 - Rather juvenile.
- 2 - Plus 1 other the same.

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

Signed: M P Denne

Unless we are otherwise instructed in writing, the above sample material will normally be disposed of 6 years after the date of this report.