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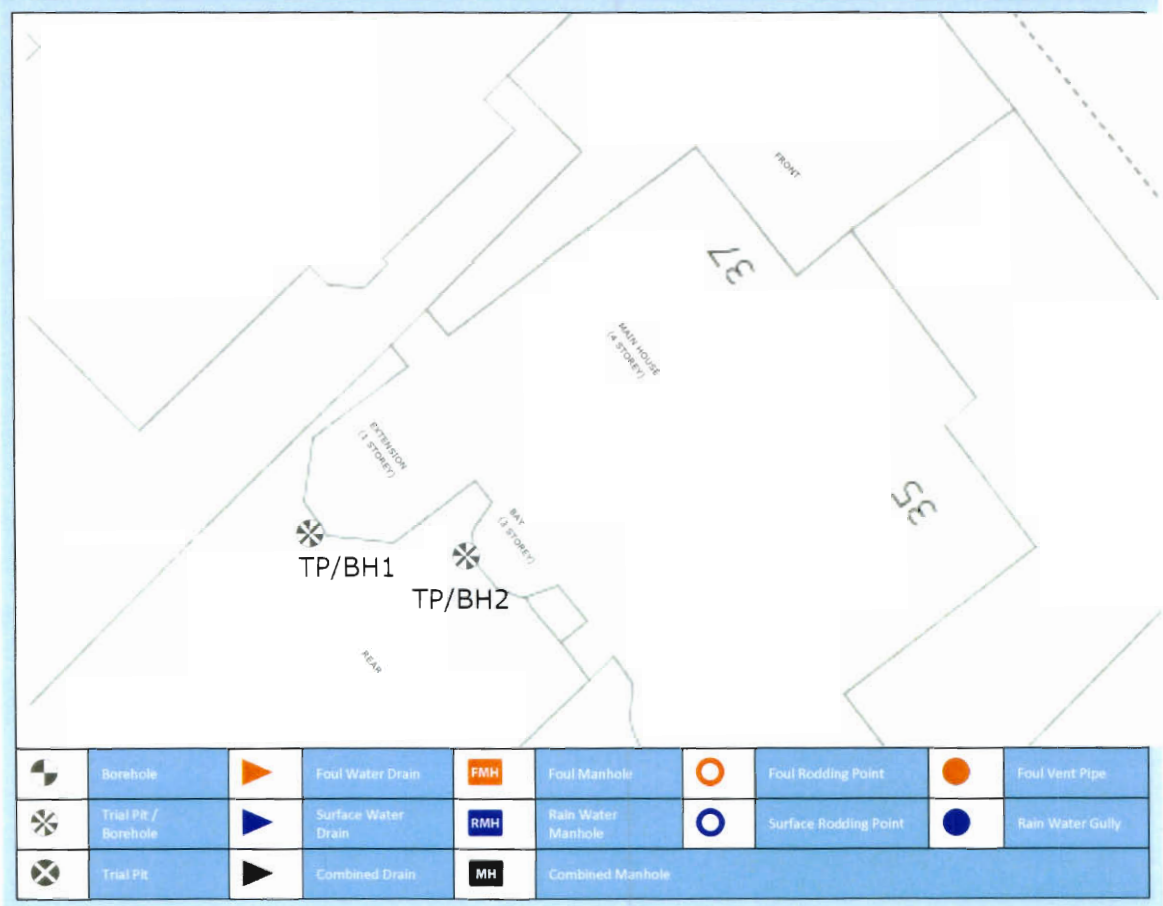
GEOTECHNICAL
for Agrical

Garden Flat, 37 Redington Road,, London, NW3 7QY

Client:	Agrical
Client Contact:	Martin Gent
Client Ref:	PC162562
Policy Holder:	Holmes
Report Date:	17 February 2017
Our Ref:	C32658G15224

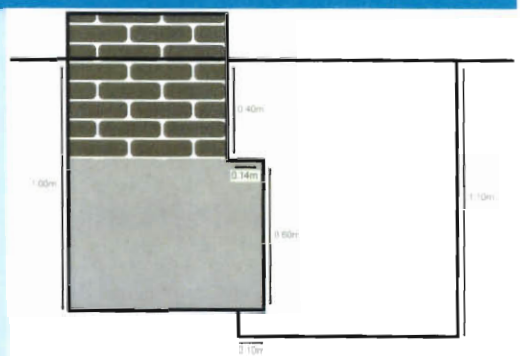
Site Plan



TP/BH1 Foundation Detail and Borehole Log

Foundation Detail

Extension foundation comprised of brick wall to 400mm bgl, bearing on concrete to 1000mm bgl, with a total projection of 140mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 300mm back from the face of the foundation.



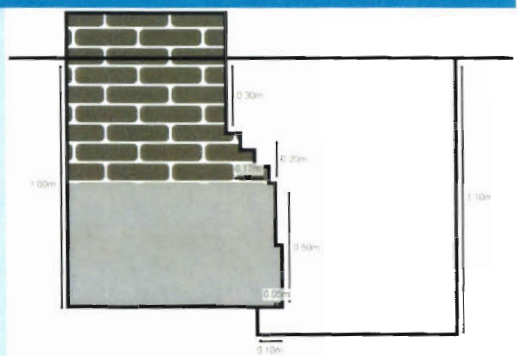
WS	Samples Type	Samples Depth (m)	Tests Type	Tests Depth (m)	Tests Results	Legend	Strata Description and Observations
						0	BRICK PAVING
							CONCRETE (unreinforced)
							Stiff light brown mottled orange and grey CLAY with rare veins of silt.
							at 0.20m to 1.00m bgl occasional roots of live appearance encountered.
							at 0.20m to 3.00m bgl soils described as being slightly moist.
						0.5	0.5
D R	1.00 1.00 - 2.00	SV	1.00	Above 120kPa		1.0	at 1.00m to 2.00m bgl numerous roots of live appearance encountered and sampled.
							at 1.00m bgl UNDERSIDE OF EXTENSION FOUNDATION.
							at 1.10m bgl base of hand excavated trial pit.
							at 1.10m bgl switched to Hand Auger.
D	1.50	SV	1.50	107		1.5	Roots 1.0 to 2.0
D	2.00	SV	2.00	Above 120kPa		2.0	at 2.00m to 3.00m bgl no roots encountered. Extensive inspection of soil samples encountered no roots.
							No roots
D	2.50	SV	2.50	Above 120kPa		2.5	2.5
D	3.00	SV	3.00	Above 120kPa		3.0	at 3.00m bgl target depth achieved.

-- End of borehole at 3.00m --
Trial pit excavated to 1.10m bgl. Borehole completed by hand auger. Roots encountered to 2.00m bgl.
Groundwater strikes not encountered.

TP/BH2 Foundation Detail and Borehole Log

Foundation Detail

Bay foundation comprised of brick wall to 300mm bgl, bearing on stepped brick to 500mm bgl with a total projection of 170mm from the elevation. In turn, bearing on stepped concrete to 1000mm bgl with a total projection of 220mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 300mm back from the face of the foundation.



WS	Samples Type	Samples Depth (m)	Tests Type	Tests Depth (m)	Tests Results	Legend	Stratum Description and Observations
						0	BRICK PAVING
							CONCRETE (unreinforced)
							CLINKER
							at 0.15m to 0.30m bgl soils described as being dry
						0.5	MADE GROUND: Stiff light brown mottled orange and grey CLAY with rare veins of silt
							at 0.30m to 0.50m bgl soils described as being slightly moist.
							at 0.30m to 0.50m bgl occasional roots of live appearance encountered.
							Stiff light brown mottled orange and grey CLAY with rare veins of silt
							at 0.50m to 1.00m bgl numerous roots of live appearance encountered.
							at 0.50m to 3.00m bgl soils described as being slightly moist.
D R	1.00 1.00 - 2.00		SV	1.00	Above 120kPa	1.0	at 1.00m to 2.00m bgl occasional roots of live appearance encountered and sampled.
							at 1.00m bgl UNDERSIDE OF BAY FOUNDATION.
							at 1.10m bgl base of hand excavated trial pit.
							at 1.10m bgl switched to Hand Auger.
D	1.50		SV	1.50	Above 120kPa	1.5	Roots 1.0 to 2.0m
D	2.00		SV	2.00	Above 120kPa	2.0	at 2.00m to 3.00m bgl no roots encountered. Extensive inspection of soil samples encountered no roots.
							No Roots
D	2.50		SV	2.50	Above 120kPa	2.5	
D	3.00		SV	3.00	Above 120kPa	3.0	at 3.00m bgl target depth achieved.

-- End of borehole at 3.00m --
Trial pit excavated to 1.10m bgl. Borehole completed by hand auger. Roots encountered to 2.00m bgl
Groundwater strikes not encountered.

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Site Observations

GENERAL:
Site Investigation works undertaken on 2 February 2017 during moderate rain.

HEALTH AND SAFETY:
Negative signal obtained in Power and Radio and Genny mode on the Cable Avoidance Tool (CAT) at TP/BH 1.
Positive signal obtained in Genny mode on the Cable Avoidance Tool (CAT) at TP/BH 2.
Buried services not encountered/ positively identified at TP/BH 2.

FOUNDATIONS:
Extension foundation was exposed and the underside of foundation (USF) recorded to be 1.00m bgl in TP/BH 1.
Bay foundation was exposed and the underside of foundation (USF) recorded to be 1.00m bgl in TP/BH 2.

ROOTS:
Roots encountered to 2.00m bgl in TP/BH 1 and TP/BH 2.

INSITU TESTING:
Hand Shear Vane (SV) undertaken at 1.00m bgl within the hand excavated trial pit and thereafter in the hand auger borehole at maximum 0.50m intervals in TP/BH 1 and TP/BH 2.

WATER STRIKES:
No water strike/s (NWS) encountered in TP/BH 1 and TP/BH 2.

The groundwater observations do not necessarily indicate equilibrium conditions. It should be appreciated that groundwater levels are subject to both seasonal and weather induced variations. Other effects such as construction activities may also change groundwater levels.

SOIL ANALYSIS
for Agrical

Garden Flat, 37 Redington Road,, London, NW3 7QY

Client:	Agrical
Client Contact:	Martin Gent
Claim Number:	8002249
Policy Holder:	Holmes
Report Date:	20 February 2017
Our Ref:	C10706S32658
Laboratory Ref:	S10706

Compiled By:

Checked By:

Date samples received:	3 February 2017
Moisture Content Test Date:	5 February 2017
Atterberg Limits Test Date:	15 February 2017
Oedometer Test Date:	19 February 2017

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UKAS TESTING
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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: 1990 Section 7

Descriptions of soil samples within the laboratory have been undertaken generally in accordance with BS5930:1999

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

The Oedometer swell/strain test method is based upon BS1377:Part 5:1990 Section 4.4 'Determination of swelling and collapse characteristics' and unless otherwise stated is undertaken on a remoulded, disturbed, sample.

The Oedometer Swell/Strain Test is undertaken in a controlled environment within a temperature range of 16°C and 24°C

The uncertainty of measurement for the displacement transducers is within 0.002mm, typically 0.1% of the range of consolidation and swell of a sample, and the deformation of the consolidation apparatus typically at around 0.15% of the consolidation of a sample and adding these to other human factors the accuracy of the quoted strain measurement in an individual test is deemed to be within +/- 2.5%.

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Note

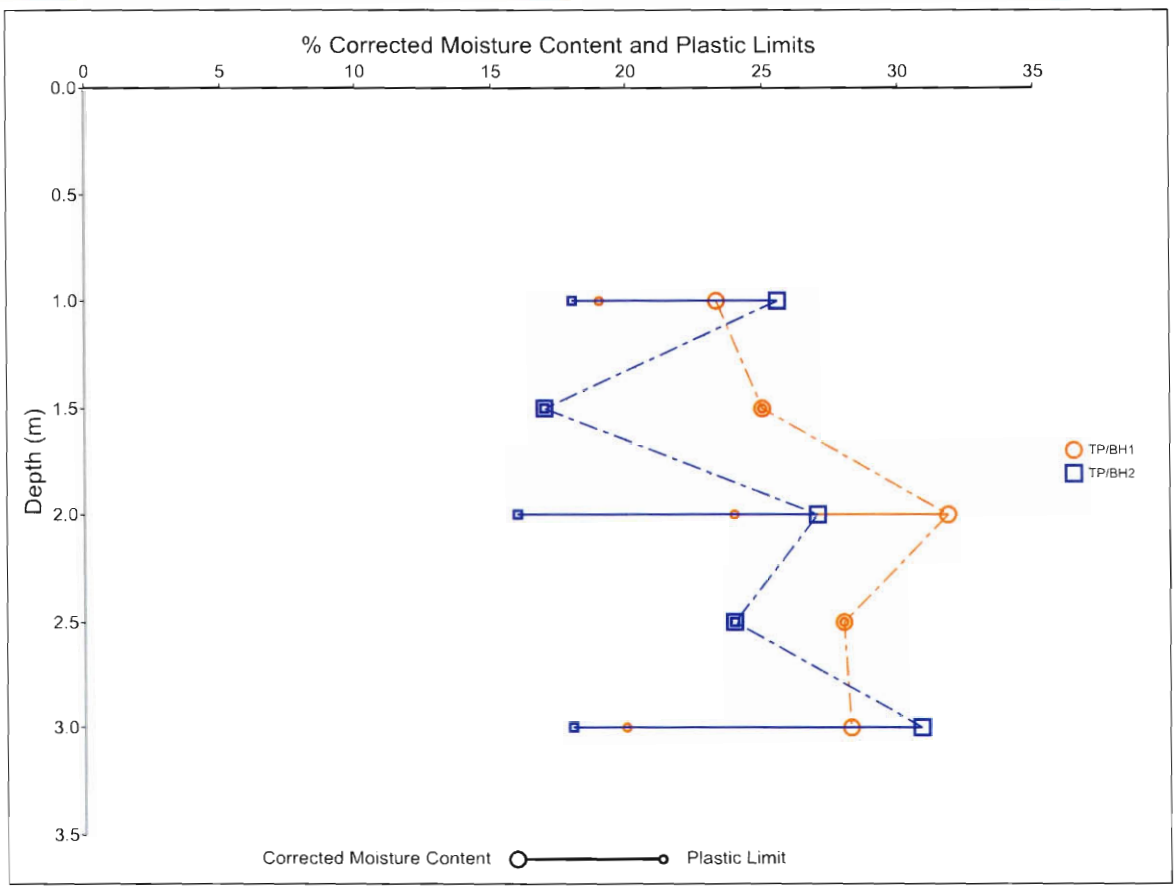
Where appropriate moisture contents have been corrected to demonstrate the equivalent moisture content following the sample being passed through a .425 mm sieve for comparison with the Liquid & Plastic Limit. Where this is not available, uncorrected moisture contents have been used in the graph on the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

Deviations to testing schedule:

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

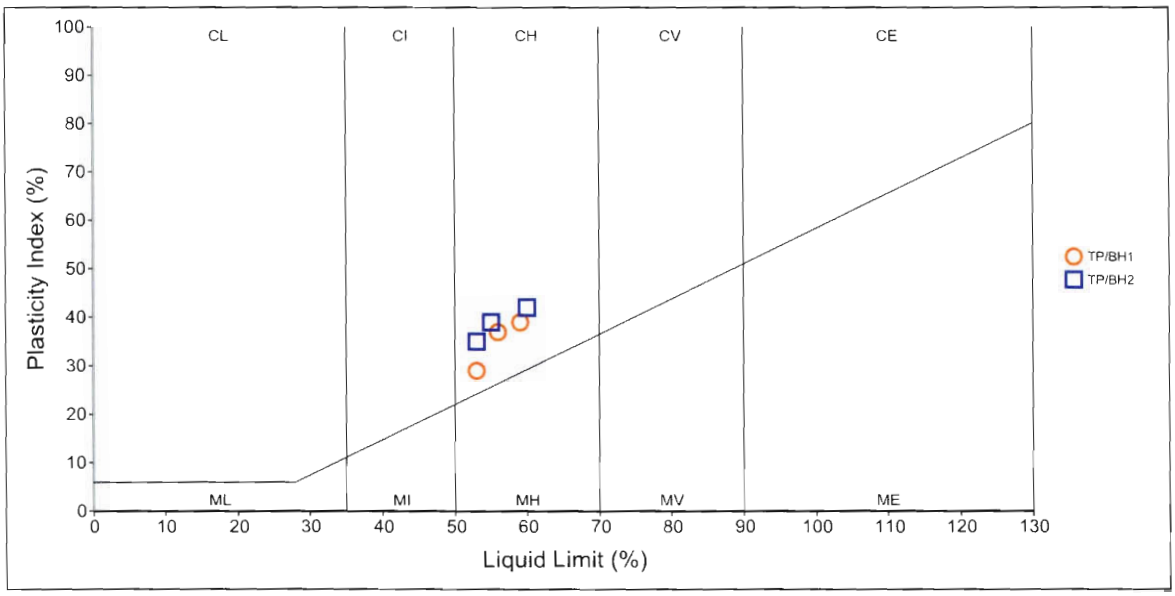
Lab Ref	Depth (m)	MC (%)	Corr MC (%)	LL (%)	PL (%)	PI (%)	% Passing .425mm
Samples from TP/BH1							
001	1.00	21	23	56	19 21	37	90
002	1.50	25		0.41			
003	2.00	29	32	53	24 24	29	91
004	2.50	28		0.60			
005	3.00	26	28	59	20 22	39	92
Samples from TP/BH2				0.47			
006	1.00	22	26	53	18 20	35	86
007	1.50	17		0.09	0.49		
008	2.00	23	27	55	16 18	39	85
009	2.50	24		0.09	0.49		
010	3.00	25	31	60	18 20	42	81
				0.51	0.57		

Corrected Moisture Content and Plastic Limits Graph



Lab Ref	Depth (m)	Description	BS:5930	NHBC Chapter 4.2
Samples from TP/BH1				
001	1.00	Firm light brown sandy CLAY with rare fine gravel	CH	Medium
002	1.50	Soft light brown sandy CLAY with rare fine gravel		
003	2.00	Soft light brown sandy CLAY with rare fine gravel	CH	Medium
004	2.50	Soft brown slightly sandy CLAY with rare fine gravel		
005	3.00	Soft brown slightly sandy CLAY with rare fine gravel	CH	Medium
Samples from TP/BH2				
006	1.00	Firm brown sandy CLAY with rare fine gravel	CH	Medium
007	1.50	Soft to firm brown sandy CLAY with rare fine gravel		
008	2.00	Soft to firm brown sandy CLAY with rare fine gravel	CH	Medium
009	2.50	Soft to firm brown sandy CLAY with rare fine gravel		
010	3.00	Soft brown sandy CLAY with rare fine gravel	CH	High

Plasticity Chart for Casagrande Classification



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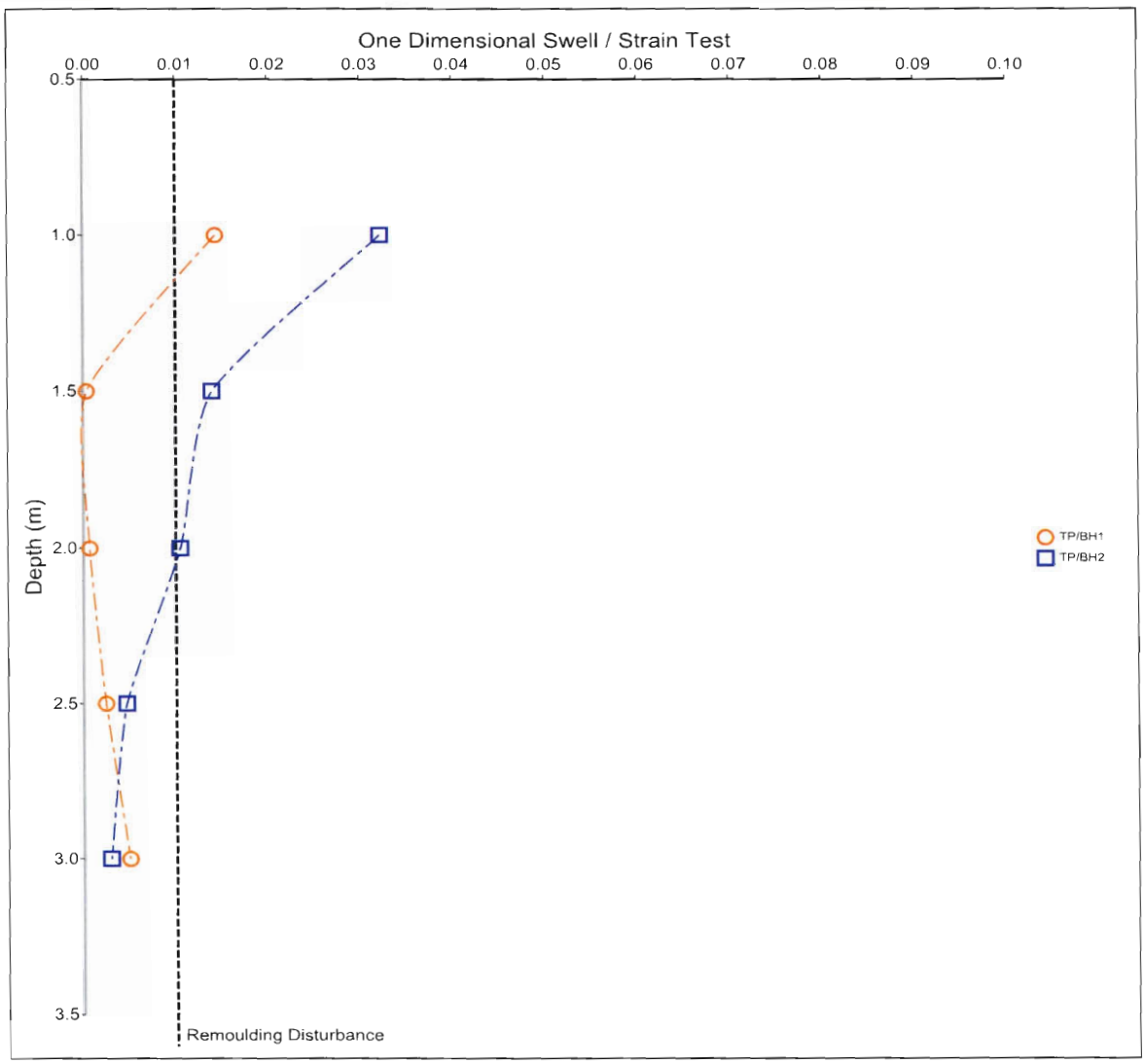
Summary of Oedometer Testing

Lab Ref	Depth (m)	Strain	Dd (mm)	Remarks
Samples from TP/BH1				
001	1.00	0.0144	7.2	
002	1.50	0.0005	0.1	
003	2.00	0.0008	0.2	
004	2.50	0.0025	0.6	
005	3.00	0.0051	1.3	
Samples from TP/BH2				
006	1.00	0.0323	16.1	
007	1.50	0.0141	3.5	
008	2.00	0.0106	2.6	
009	2.50	0.0047	1.2	
010	3.00	0.0031	0.8	

TP/BH1 Dd Total: 9.4mm
TP/BH2 Dd Total: 24.2mm

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.