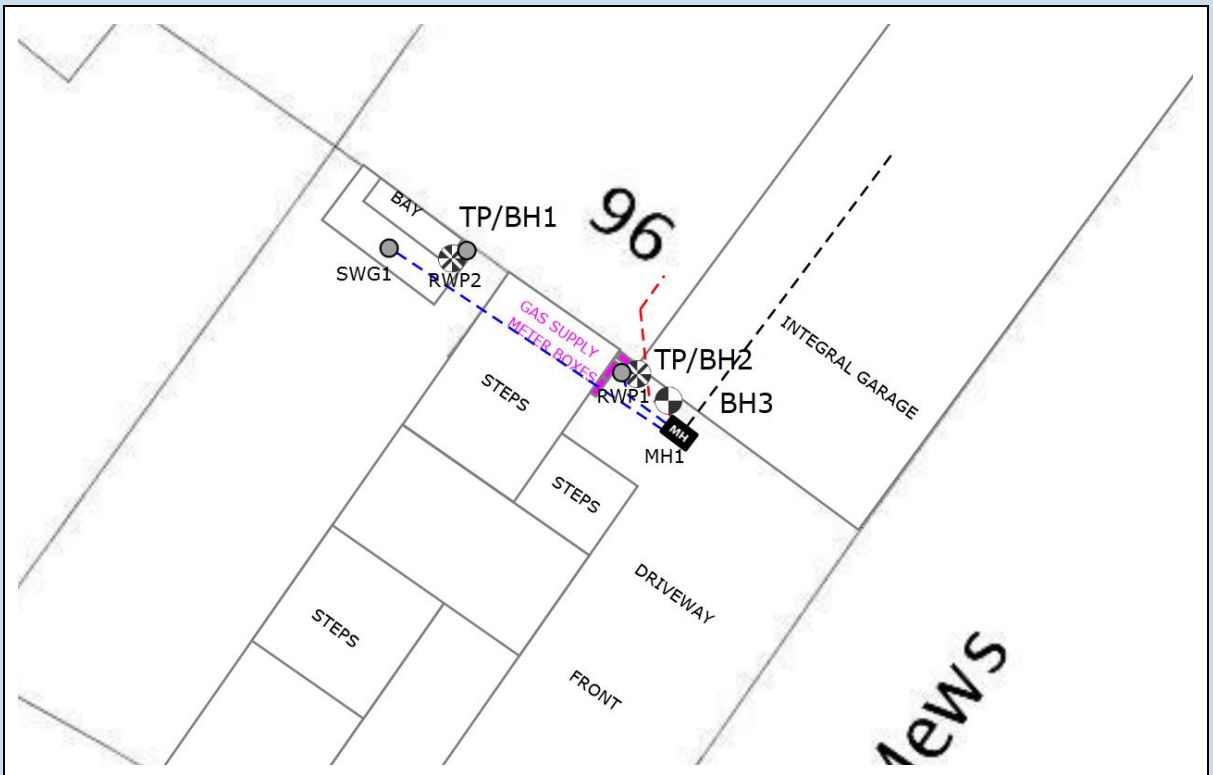
GEOTECHNICAL
for Subsidence Management Services

96 Haverstock Hill, Lower Belsize Park, London, NW3 2BD

Client:	Subsidence Management Services
Client Contact:	Raymond Borrow
Client Ref:	IFS-AVI-SUB-14-0052426
Policy Holder:	Haverstock Hill Limited
Report Date:	27 March 2015
Our Ref:	C18151G9987

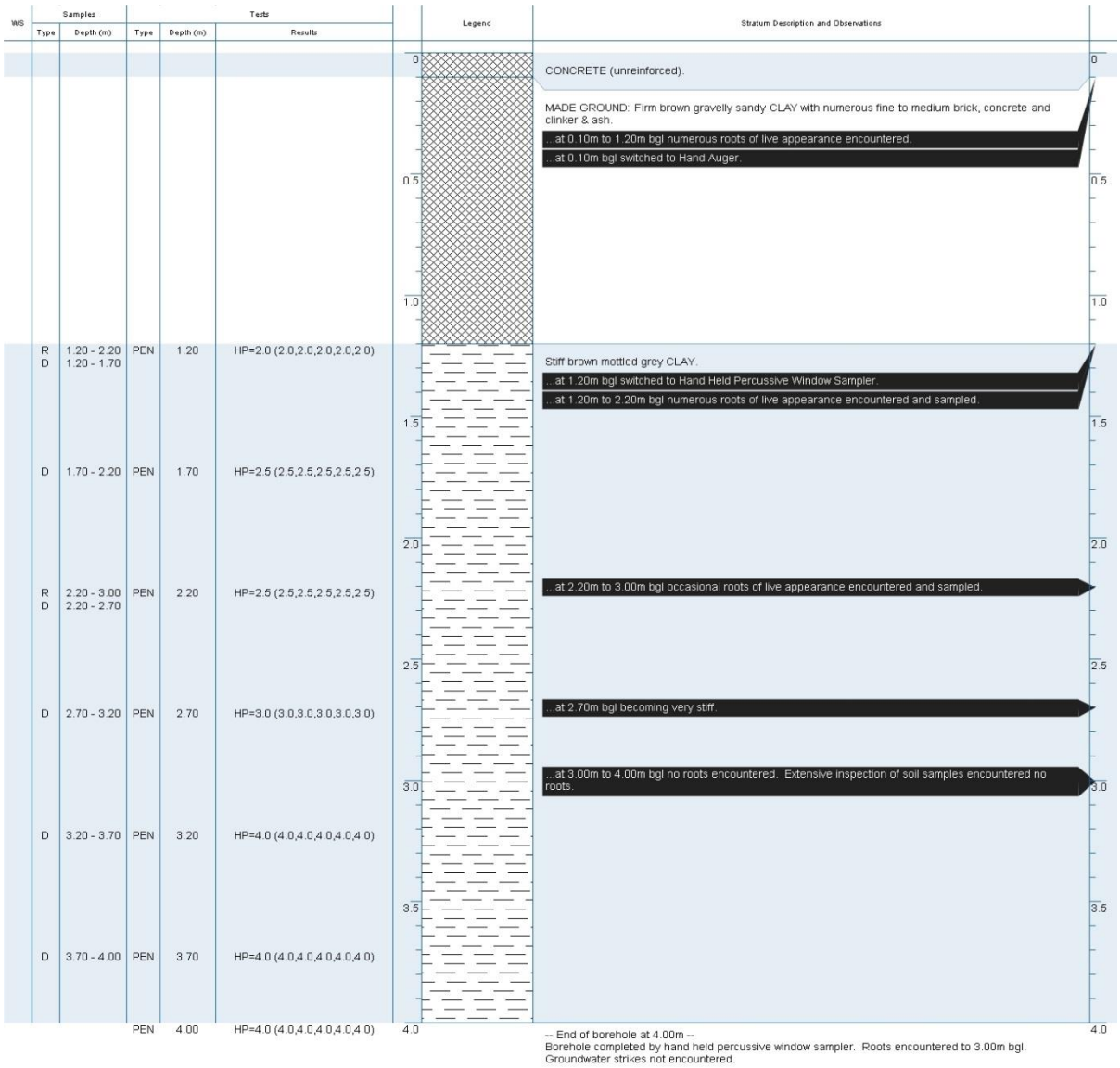
Site Plan



⊕	Borehole	▶	Foul Water Drain	FMH	Foul Manhole	○	Foul Rodding Point	●	Foul Vent Pipe
⊗	Trial Pit / Borehole	▶	Surface Water Drain	RMH	Rain Water Manhole	○	Surface Rodding Point	●	Rain Water Gully
⊗	Trial Pit	▶	Combined Drain	MH	Combined Manhole				

SubsNetUK

BH3 Borehole Log



SubsNetUK

Site Observations

GENERAL:
Site Investigation works undertaken on 25 March 2015 during dry weather (i.e. no rain).

TP/BH1 and TP/BH2 undertaken during a previous site investigation on 22 October 2014 with the results presented within the report dated 3 November 2014.

HEALTH AND SAFETY:
Negative signal obtained in Power and Radio mode on the Cable Avoidance Tool (CAT) at BH3.

RAINWATER DRAINAGE:
The rainwater downpipe (RWP2) was encountered not connected to the sub-surface drainage system and discharging to ground surface.

ROOTS:
Roots encountered to 3.00m bgl in BH3. Roots not encountered from 3.00m bgl to 4.00m bgl in BH3. Extensive inspection of soil samples encountered no roots.

INSITU TESTING:
Hand Penetrometer (PEN) undertaken at 1.20m bgl within the window sampler and thereafter in the window sampler at maximum 0.50m intervals in BH3.

WATER STRIKES:
No water strike/s (NWS) encountered in BH3.

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.

ROOT IDENTIFICATION
for Subsidence Management Services

96 Haverstock Hill, Lower Belsize Park, London, NW3 2BD

Client:	Subsidence Management Services
Client Contact:	Raymond Borrow
Claim Number:	14C600459
Client Reference:	IFS-AVI-SUB-14-0052426
Policy Holder:	Haverstock Hill Limited
Report Date:	27 March 2015
Our Ref:	R11135

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

Sub Sample	Species Identified		Root Diameter	Starch
BH3:				
1.2-2.2m	*Ulmus* spp.	1	1.5 mm	Moderate
1.2-2.2m	*Acer* spp.	2	1 mm	Moderate
2.2-3m	*Ulmus* spp.	3	1 mm	Absent
2.2-3m	too small and decayed for identification		<1 mm	Absent

Comments:

1 - Plus 2 others also identified as *Ulmus* spp.
2 - Plus 1 other also identified as *Acer* spp.
3 - Plus 2 others also identified as *Ulmus* spp. All in a state of decay.

Ulmus spp. are elms.
Acer spp. are maples, including sycamore, Norway maple, and Japanese maples.

Signed: M D Mitchell

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

SubsNetUK

SOIL ANALYSIS

for Subsidence Management Services

96 Haverstock Hill, Lower Belsize Park, London, NW3 2BD

Client:	Subsidence Management Services
Client Contact:	Raymond Borrow
Claim Number:	14C600459
Policy Holder:	Haverstock Hill Limited
Report Date:	7 April 2015
Our Ref:	C7392S18151
Compiled By:	
Checked By:	

SubsNetUK

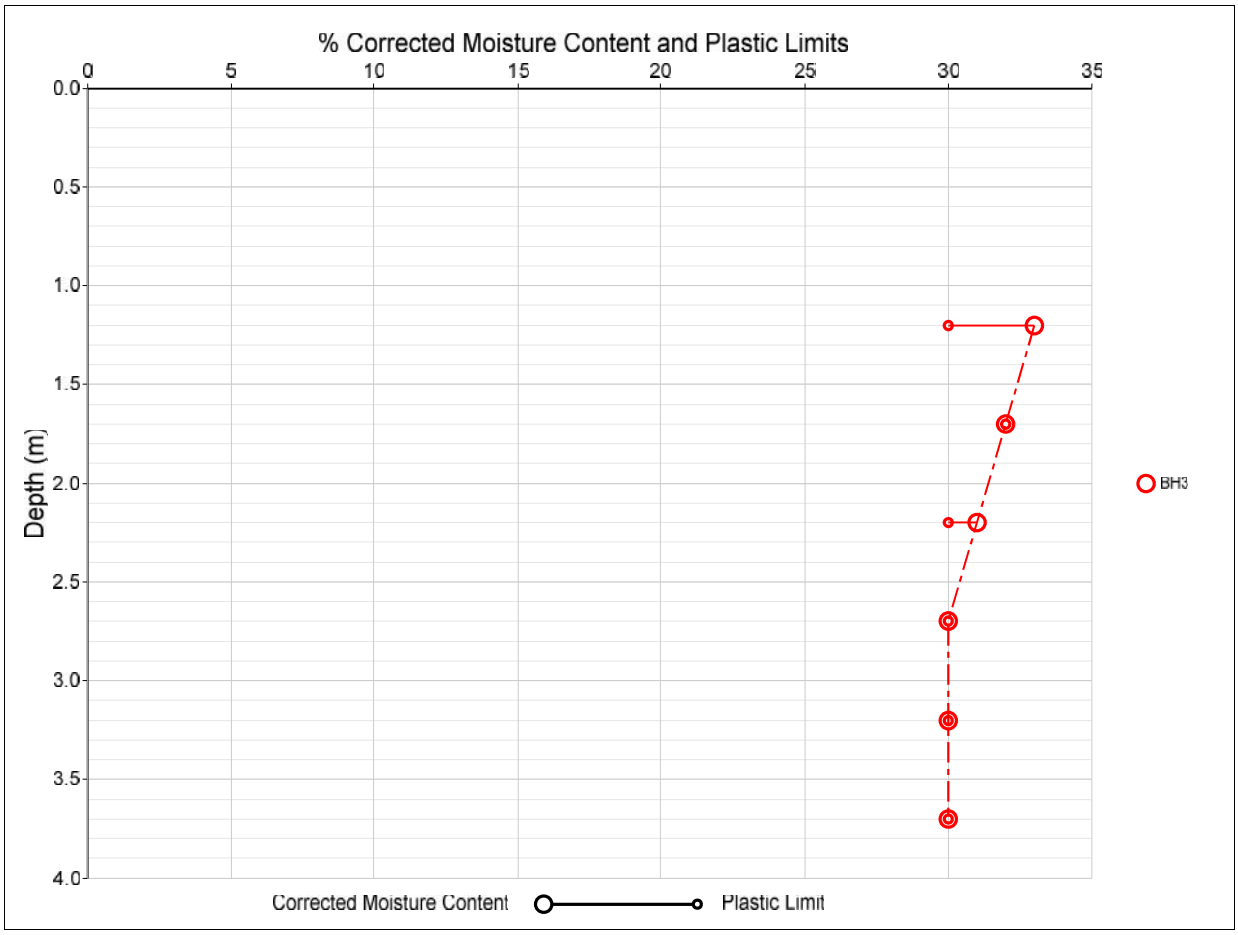
UKAS TESTING 4043 PSL

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.

Lab Ref	Depth (m)	MC (%)	Corr MC (%)	LL (%)	PL (%)	PI (%)	% Passing .425mm
Samples from BH3							
001	1.20	33	33	71	30	41	100
002	1.70	32					
003	2.20	31	31	68	30	38	100
004	2.70	30					
005	3.20	30	30	68	30	38	100
006	3.70	30					

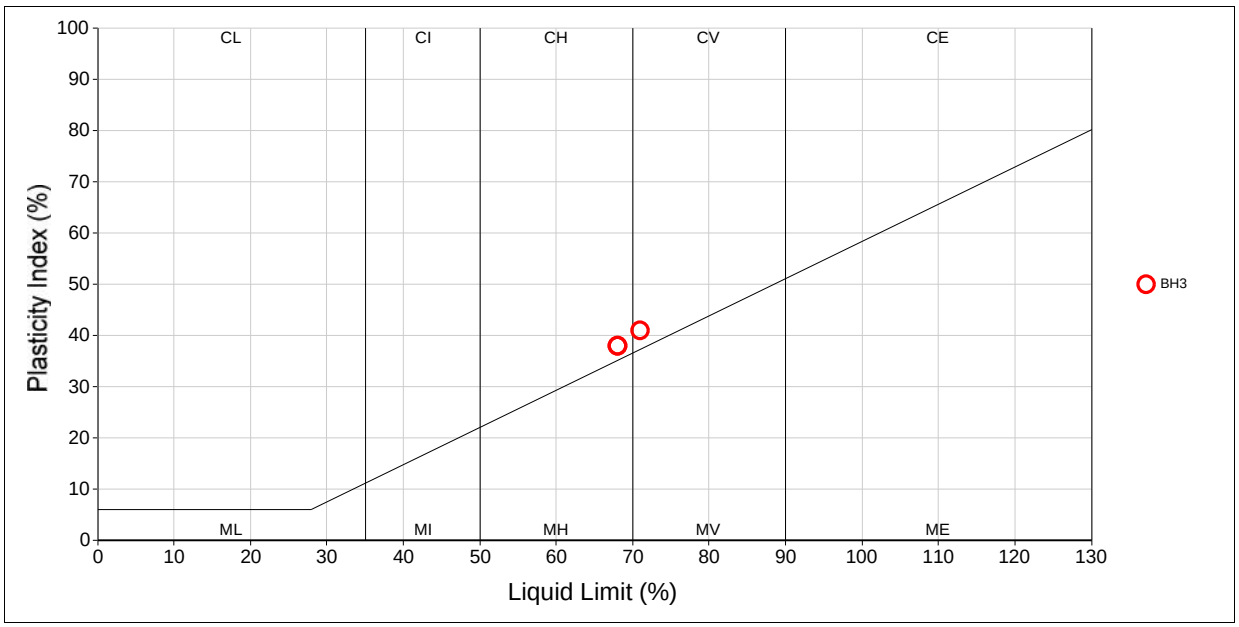
Corrected Moisture Content and Plastic Limits Graph



SubsNetUK

Lab Ref	Depth (m)	Description	BS:5930	NHBC Chapter 4.2
Samples from BH3				
001	1.20	Brown CLAY.	CV	High
002	1.70	Brown CLAY.		
003	2.20	Brown CLAY.	CH	Medium
004	2.70	Brown CLAY.		
005	3.20	Brown CLAY.	CH	Medium
006	3.70	Brown CLAY.		

Plasticity Chart for Casagrande Classification



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.

SUCTION TESTING

for Subsidence Management Services

96 Haverstock Hill, Lower Belsize Park, London, NW3 2BD

Client:	Subsidence Management Services
Client Contact:	Raymond Borrow
Claim Number:	14C600459
Policy Holder:	Haverstock Hill Limited
Report Date:	7 April 2015
Our Ref:	C7392S18151

Compiled By:

Checked By:

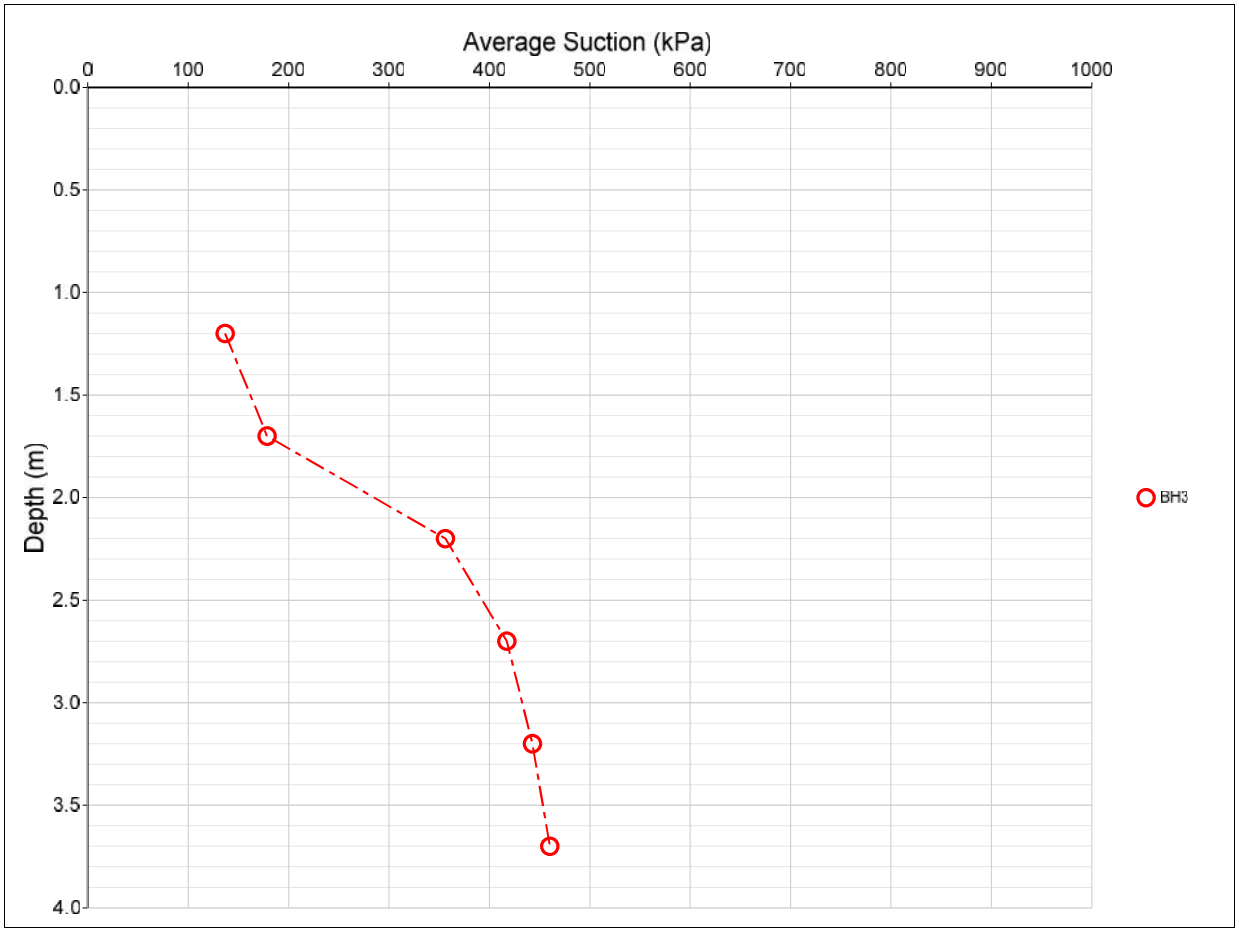
Test Commenced:	31 March 2015
Test Completed:	7 April 2015
Days in Contact:	7

SubsNetUK

UKAS TESTING 4043 PSL

Lab Ref	Depth (m)	Filter Paper	Bag Weight (g)	Bag + Wet Filter (g)	Bag + Dry Filter (g)	Oven Dry Filter (g)	Water Content (%)	Suction (kPa)	Average (kPa)
Samples from BH3									
001	1.20	Top	1.298	1.832	1.671	0.373	43.129	143.676	137.337
		Middle	1.294	1.838	1.673	0.380	43.478	136.663	
		Bottom	1.299	1.828	1.667	0.368	43.738	131.671	
002	1.70	Top	1.296	1.807	1.659	0.363	40.726	202.681	179.585
		Middle	1.294	1.791	1.645	0.351	41.548	180.181	
		Bottom	1.297	1.809	1.656	0.360	42.559	155.892	
003	2.20	Top	1.293	1.787	1.655	0.362	36.424	375.351	356.709
		Middle	1.294	1.796	1.661	0.367	36.775	356.954	
		Bottom	1.297	1.795	1.660	0.363	37.159	337.821	
004	2.70	Top	1.298	1.799	1.667	0.369	35.792	410.916	418.126
		Middle	1.294	1.786	1.657	0.363	35.518	427.370	
		Bottom	1.296	1.782	1.654	0.359	35.704	416.094	
005	3.20	Top	1.295	1.775	1.651	0.356	34.812	472.824	443.111
		Middle	1.296	1.794	1.664	0.368	35.336	438.652	
		Bottom	1.297	1.788	1.659	0.362	35.675	417.858	
006	3.70	Top	1.293	1.777	1.653	0.360	34.444	498.374	460.235
		Middle	1.297	1.791	1.663	0.366	34.982	461.429	
		Bottom	1.297	1.780	1.653	0.357	35.624	420.901	

Average Suction



SubsNetUK

Average Water Content