Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	Site High Peak, Barkway		Borehole Number **BH03**
Machine : Massenza MI3 **Flush :** Water **Core Dia:** 101 mm **Method :** Rotary	**Casing Diameter** 101mm cased to 5.00m	**Ground Level (mOD)** 126.60	**Client** Laurel Developments	**Job Number** CONT1-BARK-001
	Location See site plan	**Dates** 04/01/2018- 05/01/2018	**Project Contractor** -	**Sheet** 1/1

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						126.50	0.10 (0.20)	Black slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded fine of sandstones. Frequent rootlets (<2mm) (TOPSOIL)		
						126.30	0.30	Soft black slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is angular to sub-rounded fine to coarse of various lithologies including fragments of granites, concrete and brick. (MADEGROUND)		
1.20-1.65					2,2/2,4,4,4 SPT N=14			Firm to stiff brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of flints, granite and white Chalk fragments.		
2.00-2.45					2,1/2,1,4,7 SPT N=14					
							(4.70)			
3.00-3.45					1,2/2,2,3,4 SPT N=11					
4.00-4.45					4,5/6,6,6,7 SPT N=25					
5.00-5.45					2,5/6,6,7,10 SPT N=29	121.60	5.00	Complete at 5.00m		

Remarks
Area CAT scanned before any excavation to check for underground services
Inspection pit hand dug to 1.2mbgl before the use of Rotary rig

Scale (approx)	Logged By
1:50	MAO

Figure No.
B4

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Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	**Site** High Peak, Barkway		**Borehole Number** **BH04**
Machine : Massenza MI3 **Flush :** Water **Core Dia:** 101 mm **Method :** Rotary	**Casing Diameter** 101mm cased to 3.80m	**Ground Level (mOD)** 126.70	**Client** Laurel Developments	**Job Number** CON71-BARK-001
	Location See site plan	**Dates** 09/01/2018	**Project Contractor** -	**Sheet** 1/1

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						126.60	0.10	Black slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded fine of sandstones. Frequent rootlets (<2mm) (TOPSOIL)		
							(0.30)			
						126.30	0.40	Soft black slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is angular to sub-rounded fine to coarse of various lithologies including fragments of granites, concrete and brick. (MADEGROUND)		
1.20-1.65					1,2/4,4,4,5 SPT N=17			Firm to stiff brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of flints, granite and white Chalk fragments.		
2.00-2.45					2,4/4,6,5,6 SPT N=21		(3.40)			
3.00-3.45					2,4/4,5,6,10 SPT N=25					
3.80-4.25					6,4/3,4,5,5 SPT N=17	122.90	3.80	Complete at 3.80m		

Remarks
Inspection pit hand dug to 1.2mbgl before the use of Rotary rig
Area CAT scanned before any excavation to check for underground services

Scale (approx)	Logged By
1:50	MAO

Figure No.
B5

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Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	Site High Peak, Barkway		Borehole Number **BH05**
Machine : Massenza MI3 rig Flush : Water Core Dia : 101 mm Method : Rotary	Casing Diameter 101mm cased to 4.70m	Ground Level (mOD) 126.90	Client Laurel Developments	Job Number CONT1-BARK-001
	Location See site plan	Dates 10/01/2018- 11/01/2018	Project Contractor -	Sheet 1/1

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						126.80	0.10	Black slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded fine of sandstones. Frequent rootlets (<2mm) (TOPSOIL)		
						126.50	(0.30) 0.40	Soft black slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is angular to sub-rounded fine to coarse of various lithologies including fragments of granites, concrete and brick. (MADEGROUND)		
1.20-1.65					1,2/2,4,4,4 SPT N=14			Firm to stiff brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of flints, granite and white Chalk fragments.		
2.00-2.45					2,2/2,3,3,4 SPT N=12					
							(4.30)			
3.00-3.45					2,1/2,4,4,6 SPT N=16					
4.00-4.45					1,2/3,5,5,6 SPT N=19					
						122.20	4.70	Complete at 4.70m		

Remarks
Area CAT scanned before any excavation to check for underground services
Inspection pit hand dug to 1.2mbgl before the use of Rotary rig

Scale (approx)	Logged By
1:50	MAO

Figure No.
B6

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Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	**Site** High Peak, Barkway		**Borehole Number** **BH01**
Installation Type Standpipe	**Dimensions** Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 101 mm	**Client** Laurel Developments	**Job Number** CONTS-BARK-001
	Location See site plan	**Ground Level (mOD)** 126.60	**Project Contractor** -	**Sheet** 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
					Cement/Bentonite Grout
			125.60	1.00	
					Well Screen
			123.60	3.00	

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings 5 min	Readings 10 min	Readings 15 min	Readings 20 min	Depth Sealed (m)

Groundwater Observations During Drilling

Date	Start of Shift Time	Start of Shift Depth Hole (m)	Start of Shift Casing Depth (m)	Start of Shift Water Depth (m)	Start of Shift Water Level (mOD)	End of Shift Time	End of Shift Depth Hole (m)	End of Shift Casing Depth (m)	End of Shift Water Depth (m)	End of Shift Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type : Standpipe

Date	Instrument [A] Time	Instrument [A] Depth (m)	Instrument [A] Level (mOD)	Remarks

Remarks

Base of standpipe capped

Filter socks installed

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Stansted Environmental Services Limited
The Stansted Centre, Parsonage Road
Takeley,Essex,CM22 5PU

Site
High Peak, Barkway

Borehole Number
BH02

Installation Type
Standpipe

Dimensions
Internal Diameter of Tube [A] = 50 mm
Diameter of Filter Zone = 101 mm

Client
Laurel Developments

Job Number
CONT1-BARK-001

Location
See sit eplan

Ground Level (mOD)
126.60

Project Contractor
-

Sheet
1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
			125.60	1.00	Cement/Bentonite Grout
			121.60	5.00	Well Screen

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
					5 min	10 min	15 min	20 min	

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type : Standpipe

Date	Instrument [A]			Remarks
	Time	Depth (m)	Level (mOD)	

Remarks
Base of standpipe capped

Filter socks installed

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Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	Site High Peak, Barkway	Borehole Number **BH04**	
Installation Type Standpipe	**Dimensions** Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 101 mm	**Client** Laurel Developments	**Job Number** CON/1-BARK-001
	Location See site plan	**Ground Level (mOD)** 126.70	**Project Contractor** -	**Sheet** 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
					Cement/Bentonite Grout
			125.70	1.00	
					Well Screen
			122.90	3.80	

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
					5 min	10 min	15 min	20 min	

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type : Standpipe

Date	Instrument [A]			Remarks
	Time	Depth (m)	Level (mOD)	

Remarks

Base of standpipe capped

Filter socks installed

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Stansted Environmental Services Limited The Stansted Centre, Parsonage Road Takeley,Essex,CM22 5PU	Site High Peak, Barkway		Borehole Number **BH05**
Installation Type Standpipe	Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 101 mm	Client Laurel Developments	Job Number CON71-BARK-001
	Location See site plan	Ground Level (mOD) 126.90	Project Contractor -	Sheet 1/1

Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description
			125.90	1.00	Cement/Bentonite Grout
			122.20	4.70	Well Screen

Groundwater Strikes During Drilling

Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings 5 min	Readings 10 min	Readings 15 min	Readings 20 min	Depth Sealed (m)

Groundwater Observations During Drilling

Date	Start of Shift Time	Start of Shift Depth Hole (m)	Start of Shift Casing Depth (m)	Start of Shift Water Depth (m)	Start of Shift Water Level (mOD)	End of Shift Time	End of Shift Depth Hole (m)	End of Shift Casing Depth (m)	End of Shift Water Depth (m)	End of Shift Water Level (mOD)

Instrument Groundwater Observations

Inst. [A] Type : Standpipe

Date	Instrument [A] Time	Instrument [A] Depth (m)	Instrument [A] Level (mOD)	Remarks

Remarks
Base of standpipe capped

Filter socks installed

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D. LABORATORY TEST RESULTS

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TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

0998

Contract	**High Peak, Barkway**
Serial No.	**S32513**

Client:

Stansted Environmental Services

The Stansted Centre
Parsonage Road
Takeley
Essex
CM22 6PU

Soil Property Testing Ltd

15, 16, 18 Halcyon Court, St Margaret's Way,
Stukeley Meadows, Huntingdon,
Cambridgeshire, PE29 6DG

Tel: 01480 455579
Email: enquiries@soilpropertytesting.com
Website: www.soilpropertytesting.com

Samples Submitted By:

Stansted Environmental Services

Samples Labelled:

High Peak, Barkway

Approved Signatories:

- ☑ **J.C. Garner B.Eng (Hons) FGS** — Technical Director
- ☐ **S.P. Townend FGS** — Quality Manager
- ☐ **W. Johnstone** — Materials Lab Manager
- ☐ **D. Sabnis** — Operations Manager

Date Received: 26/01/2018

Samples Tested Between: 26/01/2018 **and** 08/02/2018

Remarks:

For the attention of Mr M Agbeze-Onuma
Your Reference No: CON71-BARK-001

Notes:

1. All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary.
2. (a) UKAS - United Kingdom Accreditation Service
   (b) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
3. Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory.
4. This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory.

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

0998

Contract	High Peak, Barkway		
Serial No.	S32513	Target Date	09/02/2018
Scheduled By	Stansted Environmental Services		

SCHEDULE OF LABORATORY TESTS

Schedule Remarks

Bore Hole No.	Type	Sample Ref.	Top Depth	Water Content BSEN	Liquid/Plastic Limits	Wet Sieve Preparation	Triaxial Test Multi Stage	PSD by Wet Sieve & Hydro	Sample Remarks
BH01	D	-	1.20	1	1	1			
BH01	U	-	1.20				1		
BH02	D	-	2.00	1	1	1			
BH03	D	-	5.00	1	1	1			
BH04	D	-	3.80	1	1	1			
BH05	B	-	0.30					1	
BH05	D	-	4.00	1	1	1			
Totals				5	5	5	1	1	End of Schedule

TEST REPORT

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DATE ISSUED: 08/02/2018

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Contract	High Peak, Barkway
Serial No.	S32513

SUMMARY OF WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasti-city Index (%)	Liquid-ity Index (%)	SAMPLE PREPARATION				Description	CLASS
									Method	Ret'd 0.425mm (%)	Corr'd W/C <0.425mm	Curing Time (hrs)		
BH01	1.20	D	-	20.3	46	17	29	0.11	Wet Sieved	9 (M)	22.3*	25	Firm light olive brown slightly gravelly slightly sandy silty CLAY with occasional yellowish brown and light bluish grey mottling and rare decayed roots. Gravel is fine and medium chalk	CI
BH02	2.00	D	-	18.8	41	16	25	0.11	Wet Sieved	34 (M)	28.5*	24	Firm light olive brown slightly gravelly slightly sandy silty CLAY. Gravel is fine and medium chalk	CI
BH03	5.00	D	-	11.0	22	16	6	-0.83	Wet Sieved	60 (M)	27.6*	24	Brown, black and white fine and medium angular to subrounded flint and chalk GRAVEL in a very soft brownish yellow sandy clay/silt matrix	CL/ML
BH04	3.80	D	-	11.6	27	16	11	-0.40	Wet Sieved	64 (M)	32.3*	24	Brown, black and white fine to coarse angular to subrounded flint and chalk GRAVEL in a very soft olive yellow sandy silty clay matrix	CL
BH05	4.00	D	-	15.7	25	17	8	-0.17	Wet Sieved	59 (M)	38.2*	24	Brown, black and white fine to coarse angular to subrounded flint and chalk GRAVEL in a very soft brownish yellow sandy silty clay matrix with rare orange staining	CL

Method Of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2:1990:4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377:Part 2:1990:3.2, 4.4
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	*Corrected water content assume material greater than 0.425mm is non-porous. See BS1377: Part 2: 1990: Clause 3 Note 1
Remarks to Include:	Sample disturbance, loss of water, variation from test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110C

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

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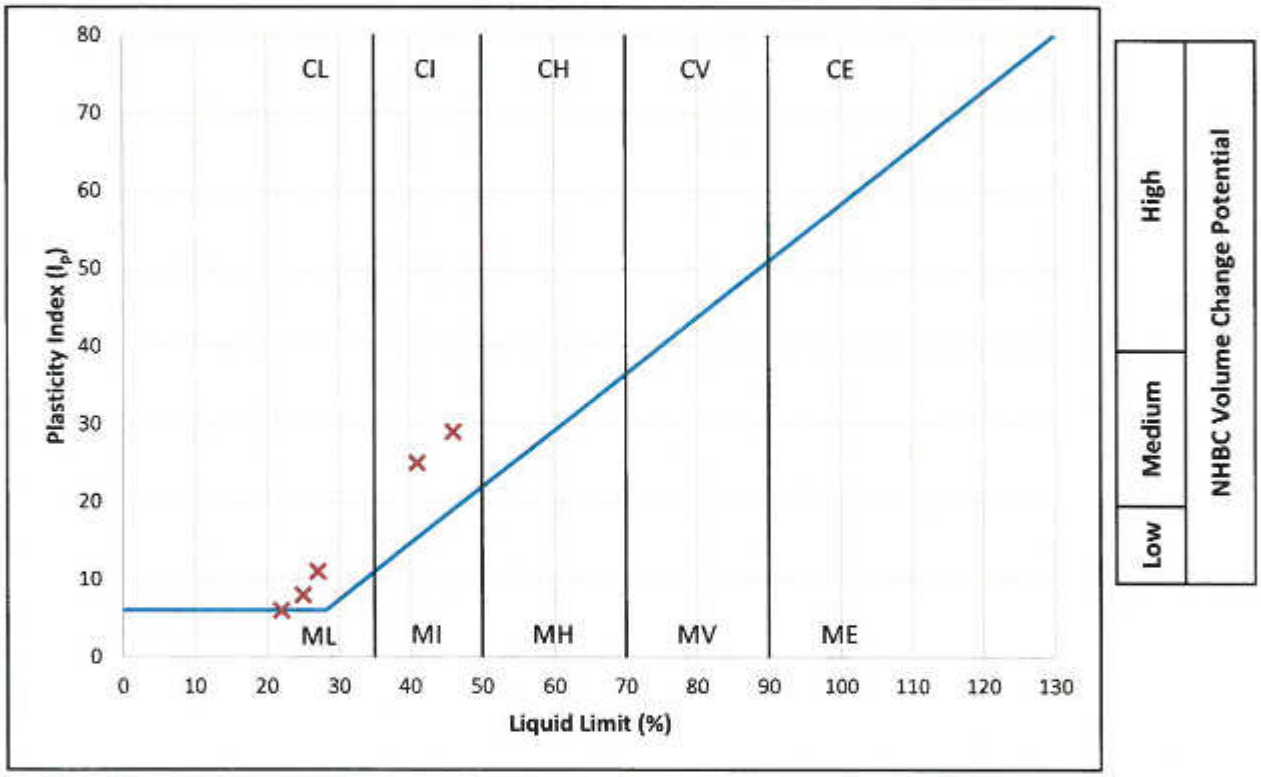
Contract	High Peak, Barkway
Serial No.	S32513

PLOT OF PLASTICITY INDEX AGAINST LIQUID LIMIT USING CASAGRANDE CLASSIFICATION CHART

Plasticity				
Low	Medium	High	Very High	Extremely High



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: Part 2: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

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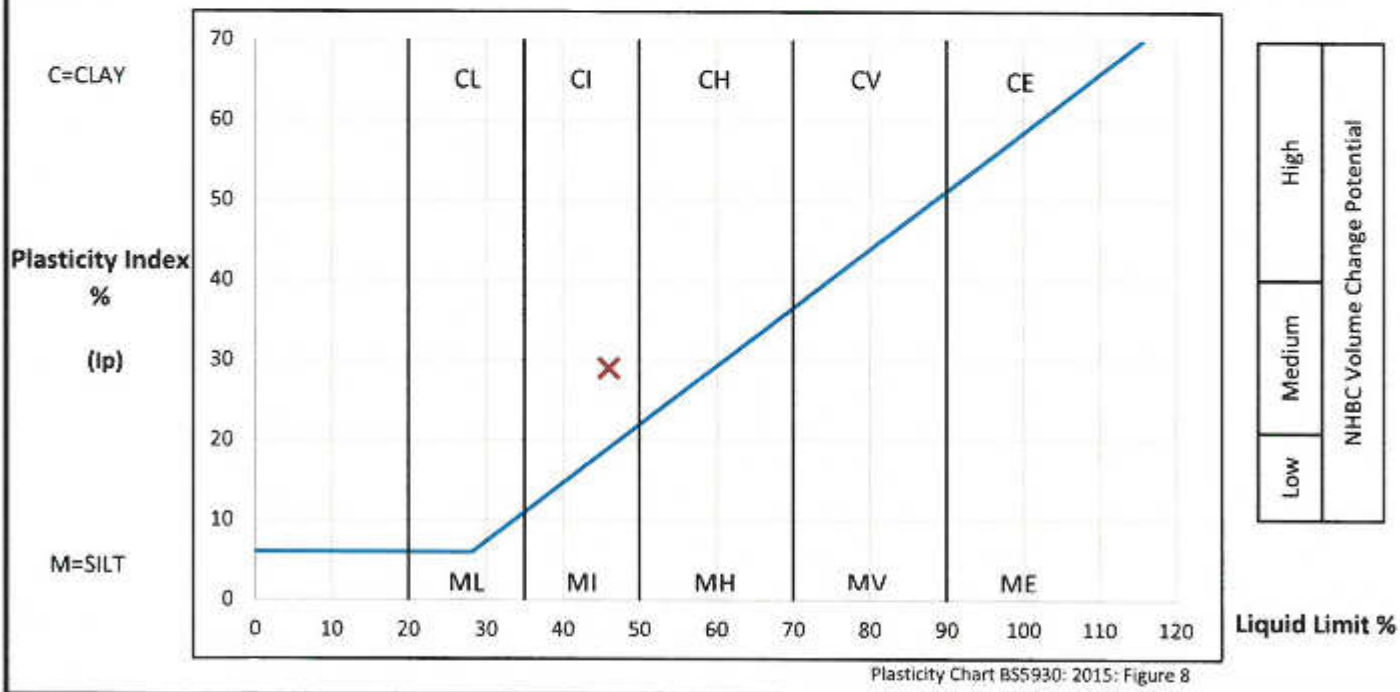
Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
BH01	1.20	D	-	20.3	Firm light olive brown slightly gravelly slightly sandy silty CLAY with occasional yellowish brown and light bluish grey mottling and rare decayed roots. Gravel is fine and medium chalk	

PREPARATION				Liquid Limit	46 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	17 %
Sample retained 0.425mm sieve	(Measured)	9 %		Plasticity Index	29 %
Corrected water content for material passing 0.425mm		22.3 %		Liquidity Index	0.11
Sample retained 2mm sieve	(Measured)	6 %		NHBC Modified (I'p)	26 %
Curing time	25 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1337: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: PART 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

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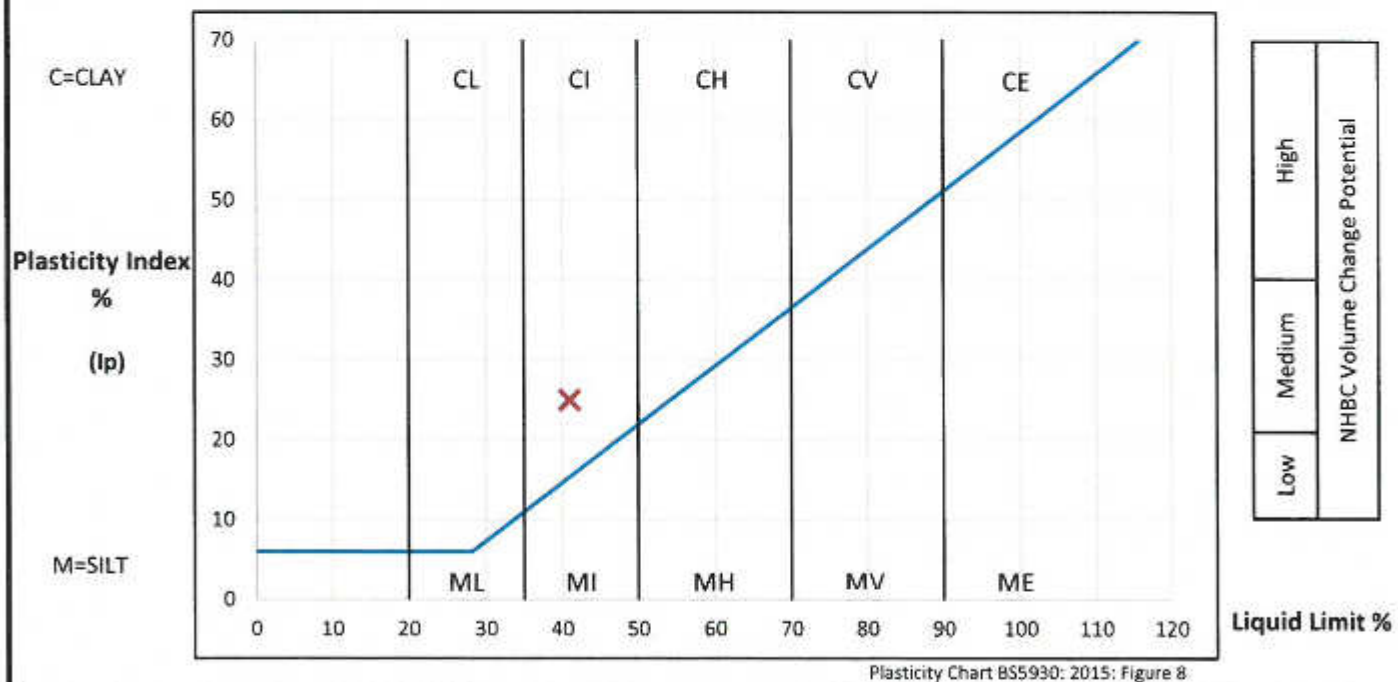
Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
BH02	2.00	D	-	18.8	Firm light olive brown slightly gravelly slightly sandy silty CLAY. Gravel is fine and medium chalk	

PREPARATION				Liquid Limit	41 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	16 %
Sample retained 0.425mm sieve	(Measured)	34 %		Plasticity Index	25 %
Corrected water content for material passing 0.425mm		28.5 %		Liquidity Index	0.11
Sample retained 2mm sieve	(Measured)	6 %		NHBC Modified (I'p)	17 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1337: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: PART 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

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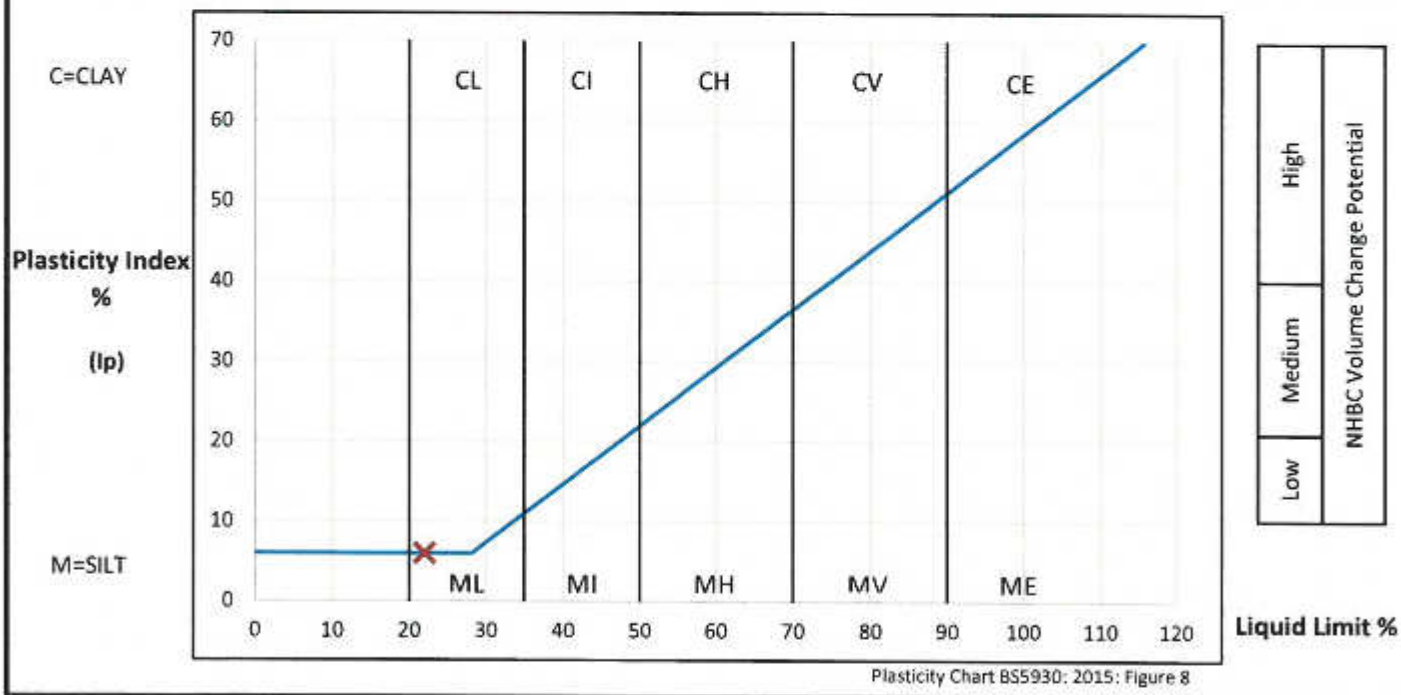
Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
BH03	5.00	D	-	11.0	Brown, black and white fine and medium angular to subrounded flint and chalk GRAVEL in a very soft brownish yellow sandy clay/silt matrix	

PREPARATION				Liquid Limit	22 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	16 %
Sample retained 0.425mm sieve	(Measured)	60 %		Plasticity Index	6 %
Corrected water content for material passing 0.425mm		27.6 %		Liquidity Index	-0.83
Sample retained 2mm sieve	(Measured)	43 %		NHBC Modified (I'p)	2 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1337: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: PART 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

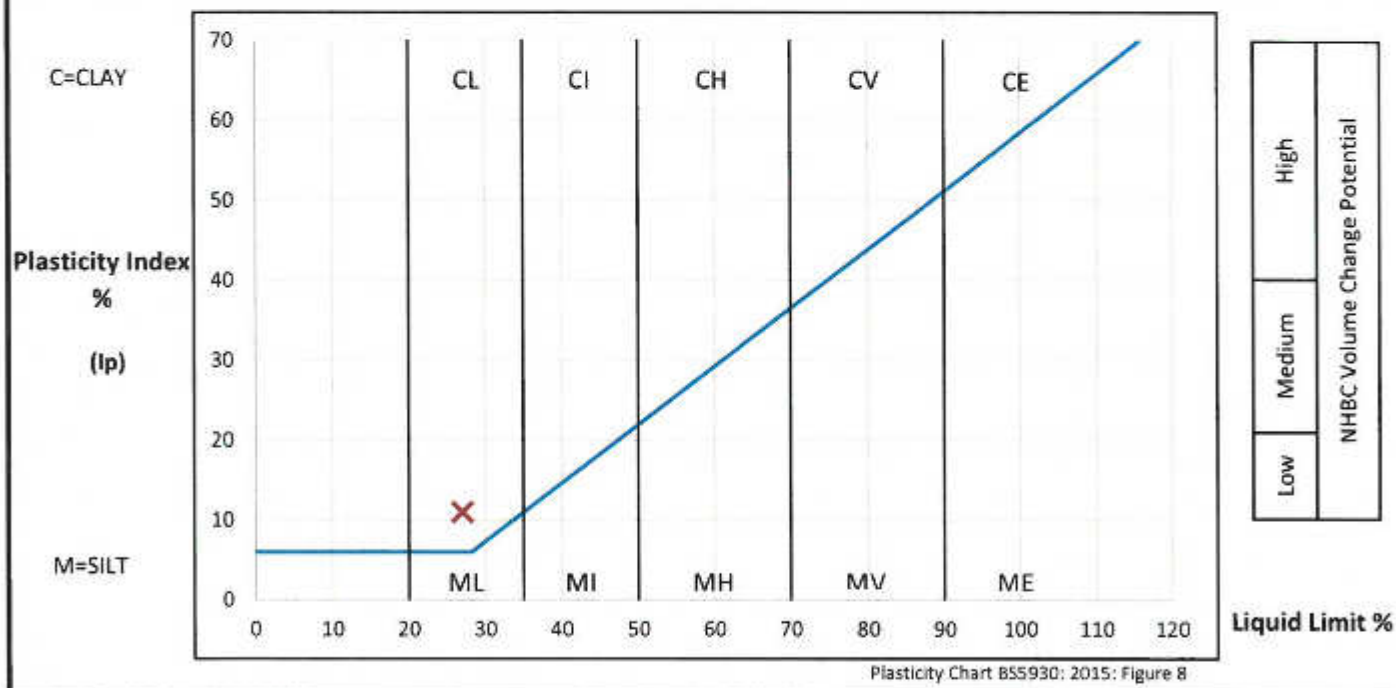
0998

Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
BH04	3.80	D	-	11.6	Brown, black and white fine to coarse angular to subrounded flint and chalk GRAVEL in a very soft olive yellow sandy silty clay matrix	

PREPARATION				Liquid Limit	27 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	16 %
Sample retained 0.425mm sieve	(Measured)	64 %		Plasticity Index	11 %
Corrected water content for material passing 0.425mm		32.3 %		Liquidity Index	-0.40
Sample retained 2mm sieve	(Measured)	48 %		NHBC Modified (I'p)	4 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1337: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: PART 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

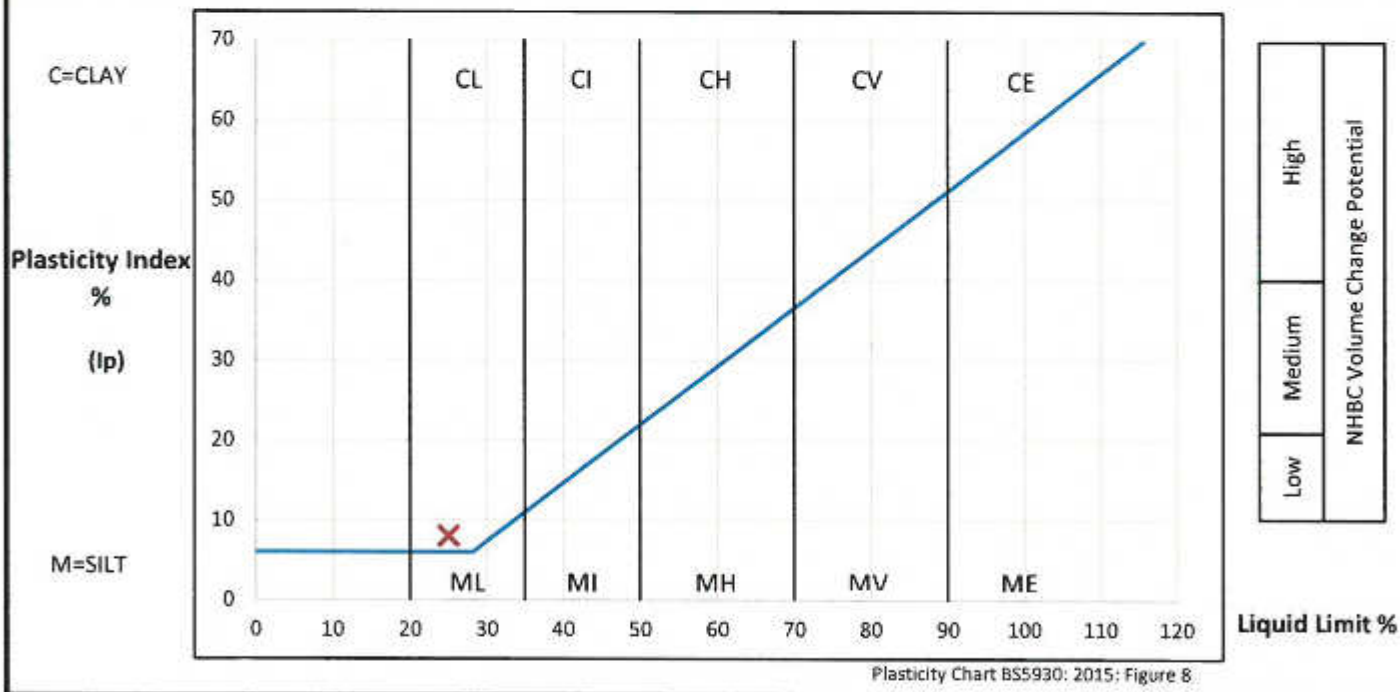
0998

Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
BH05	4.00	D	-	15.7	Brown, black and white fine to coarse angular to subrounded flint and chalk GRAVEL in a very soft brownish yellow sandy silty clay matrix with rare orange staining	

PREPARATION				Liquid Limit	25 %
Method of preparation		Wet sieved over 0.425mm sieve		Plastic Limit	17 %
Sample retained 0.425mm sieve	(Measured)	59 %		Plasticity Index	8 %
Corrected water content for material passing 0.425mm		38.2 %		Liquidity Index	-0.17
Sample retained 2mm sieve	(Measured)	43 %		NHBC Modified (I'p)	3 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1337: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS1377: PART 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

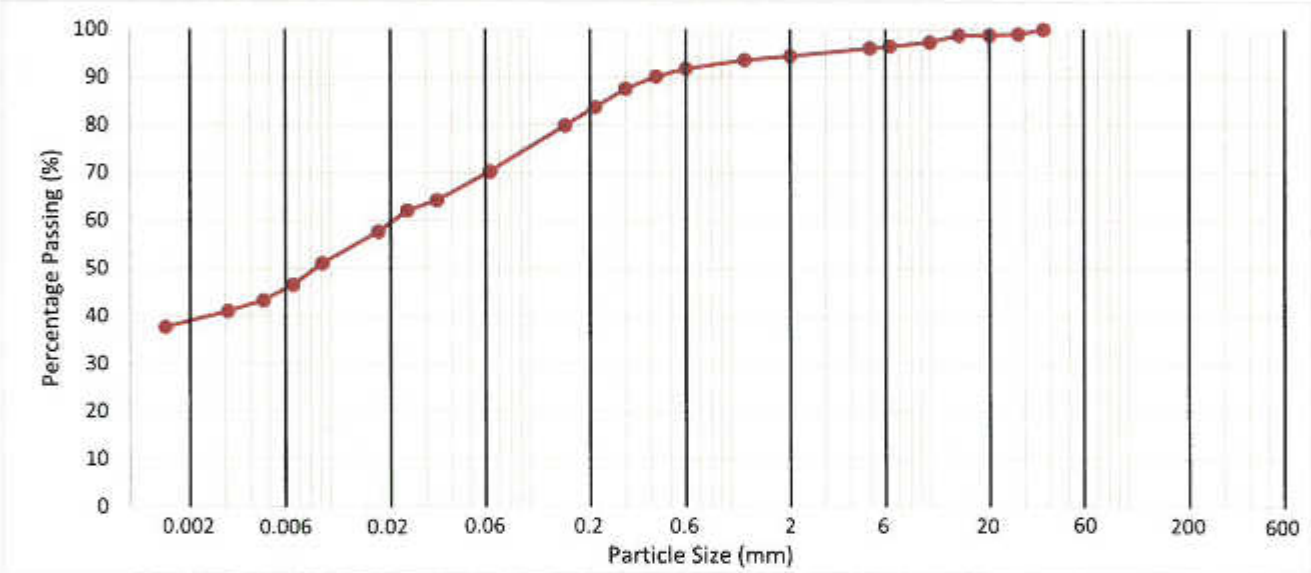
0998

Contract	High Peak, Barkway
Serial No.	S32513

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Pit No.	Depth (m)	Sample Type	Sample Reference	Description	Remarks
BH05	0.30	B	-	Soft brown slightly gravelly slightly sandy silty CLAY with dark brown slightly organic clay pockets and recently active roots. Gravel is brown and white subangular and subrounded flint	

Method of Test: Wet Sieve + Hydrometer **Method of Pretreatment:** Tested from natural - pretreatment for organics not carried out



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Hydrometer	Particle Size (mm)	Passing (%)	Silt by Dry Mass (%)
	0.0340	64	31
	0.0242	62	
	0.0174	58	
	0.0091	51	Clay by Dry Mass (%)
	0.0066	47	
	0.0047	43	
	0.0031	41	39
	0.0015	38	

Sieve Size (mm)	Passing (%)	Sand By Dry Mass (%)
2.00	94	24
1.18	94	
0.600	92	
0.425	90	
0.300	88	
0.212	84	
0.150	80	
0.063	70	

Fines By Dry Mass (%)	
<0.063mm	70

Sieve Size (mm)	Passing (%)	Gravel By Dry Mass (%)
150		6
125		
90		
63		
50		
37.5	100	
28	99	
20	99	
14	99	
10	97	
6.3	96	
5	96	

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
Method of test: BS1377: Part2: 1990: 9.2, 9.5
Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/02/2018

UKAS TESTING 0998

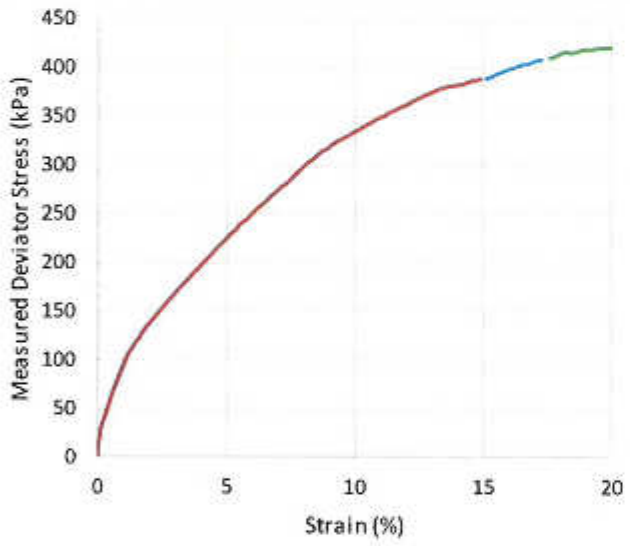
Contract	High Peak, Barkway
Serial No.	S32513

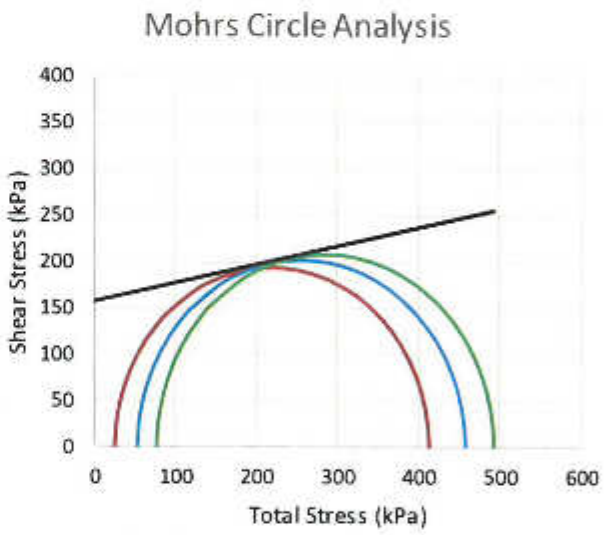
DETERMINATION OF UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

Borehole /Pit No.	Depth (m)	Type	Reference	Description	Remarks
BH01	1.20 - 2.00	U	-	Very stiff (Very high strength) slightly gravelly slightly sandy silty CLAY. Gravel is white fine and medium rounded to subangular chalk	

Initial Specimen	Height (mm)	Diameter (mm)	Weight (g)	Water Content (%)	Bulk Density (Mg/m³)	Dry Density (Mg/m³)
Depth of Top of Specimen (m) 1.20	139.5	71.8	1223	17.8	2.16	1.83

TEST INFORMATION	Rate of Strain	2.9	% per Min	Rubber Membrane Thickness	0.3	mm





Specimen at failure



Measured Cell Pressure, σ3 (kPa)	Strain at Failure (%)	Stress Corrections (kPa)		Corrected Max. Deviator Stress, (σ1-σ3)f (kPa)	Shear Stress Cu, ½(σ1-σ3)f (kPa)	Mohrs Circle Analysis	
		Rubber Membrane	Piston Friction			Cu (kPa)	PHI (degrees)
25	14.9	1.3	/	388	194		
54	17.3	1.4	3.9	404	202	157.00	11.22
78	20.1	1.6	5.1	416	208		

Method of Preparation:	BS 1377: Part 1: 1990
Method of Test:	BS1377: Part7: 1990:8 Definitive Method, 1990:9 Multi-stage loading
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	Tested in Vertical Condition UKAS Calibration - loads from 0.2 to 10kN
Remarks to Include:	Sample disturbance, loss of moisture, variation form test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110°C

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Concept Life Sciences

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 560120
Fax : 01376 552923

Report Number: 714507-1

Date of Report: 13-Feb-2018

Customer: Stansted Environmental Services Ltd
The Stansted Centre
Parsonage Road
Takeley
Essex
CM22 6PU

Customer Contact: Maduka Agbeze-Onuma

Customer Job Reference: CON71-BARK-001
Customer Site Reference: High Peak, Barkway
Date Job Received at Concept: 08-Feb-2018
Date Analysis Started: 09-Feb-2018
Date Analysis Completed: 13-Feb-2018

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept Life Sciences SOPs

All results have been reviewed in accordance with Section 25 of the Concept Life Sciences, Analytical Services Quality Manual

UKAS TESTING
1549

Report checked and authorised by :
Christopher Payne
Customer Service Advisor

Issued by :
Christopher Payne
Customer Service Advisor

This document has been printed from a digitally signed master copy

Concept Reference: 714507
Project Site: High Peak, Barkway
Customer Reference: CON71-BARK-001

Soil Analysed as Soil
Miscellaneous

Concept Reference	714507 001	714507 002	714507 003
Customer Sample Reference	BH3 @ 1.20m	BH2 @ 3.00m	BH5 @ 2.00m
Date Sampled	04-JAN-2018	08-JAN-2018	10-JAN-2018

Determinand	Method	Test Sample	LOD	Units			
pH	T7	A40			8.6	8.4	8.7
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	0.03	0.06	0.02

Index to symbols used in 714507-1

Value	Description
A40	Assisted dried < 40C
U	Analysis is UKAS accredited

Method Index

Value	Description
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T7	Probe

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	Concept References
pH	T7	A40			U	001-003
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	U	001-003

E. GENERAL PHOTOS

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Crack on lower external wall



Crack on upper external wall



Crack on lower external wall



Exposed foundation



Ground reinstatement over exposed foundation



Ground reinstatement over exposed foundation



Exposed foundation



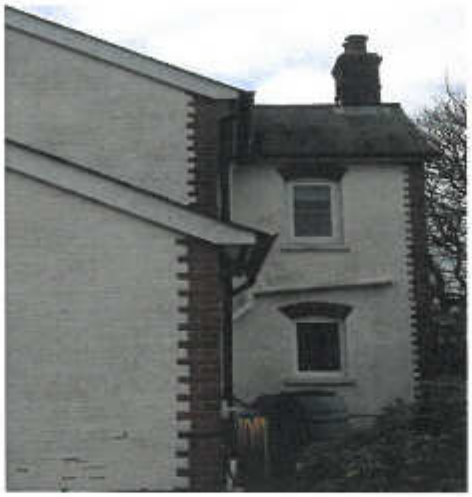
Exposed foundation



Depth of Exposed foundation



Mature garden with view towards the Garage



Facing London Road (West) image show right view of existing building



Facing London Road (West) image show left view of existing building



Facing London Road (West) image show mature garden and trees around South-west area of site



South-east view of showing existing garage and some plants



Existing garage



Cracks on lower part of external wall



Cracks below upper window lintel



Cracks under ground floor window lintel



Extension to the front of the original building

F. EXISTING BUILDING FOUNDATION

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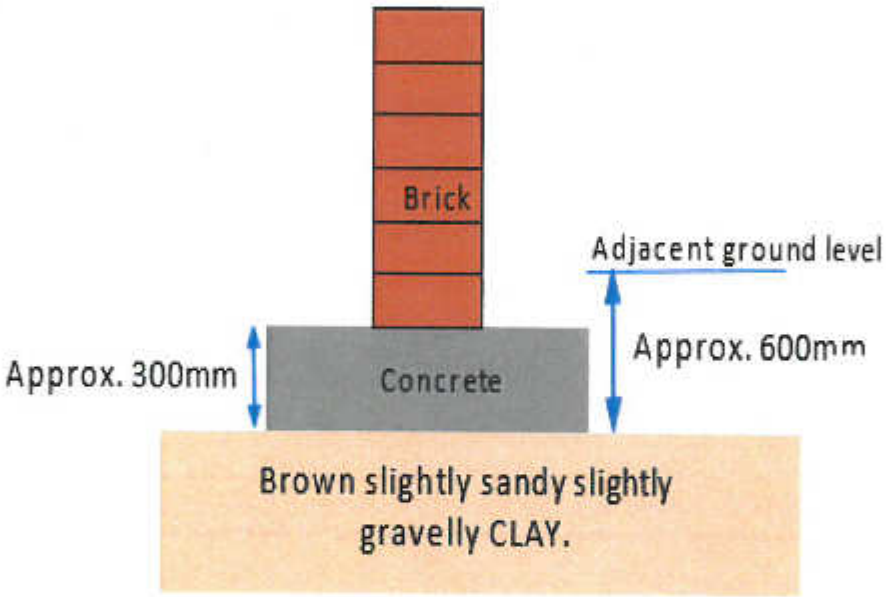
Sketch of Existing Building Foundation (Not to scale)



G. SUMMARY OF SPT RESULTS

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Stansted Environmental Services Limited
The Stansted Centre, Parsonage Road
Takeley,Essex,CM22 5PU

Standard Penetration Test Results

Site : High Peak, Barkway

Client : Laurel Developments

Project Contractor : -

Job Number CON71-BARK-001

Sheet 1 / 1

Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH01	1.20	1.35	1.65	SPT	1	2	2	4	4	5	N=15	
BH01	2.00	2.15	2.45	SPT	1	2	4	4	4	6	N=18	
BH01	3.00	3.15	3.45	SPT	1	3	3	5	5	7	N=20	
BH02	1.20	1.35	1.65	SPT	2	2	2	4	4	4	N=14	Added water before test
BH02	2.00	2.15	2.45	SPT	1	2	4	4	4	5	N=17	
BH02	3.00	3.15	3.45	SPT	2	2	4	4	5	5	N=18	
BH02	4.00	4.15	4.45	SPT	1	14	14	11	11	12	N=48	
BH02	5.00	5.15	5.45	SPT	2	6	6	6	6	6	N=24	
BH03	1.20	1.35	1.65	SPT	2	2	2	4	4	4	N=14	
BH03	2.00	2.15	2.45	SPT	2	1	2	1	4	7	N=14	Water added to aid drilling before test
BH03	3.00	3.15	3.45	SPT	1	2	2	2	3	4	N=11	
BH03	4.00	4.15	4.45	SPT	4	5	6	6	6	7	N=25	
BH03	5.00	5.15	5.45	SPT	2	5	6	6	7	10	N=29	
BH04	1.20	1.35	1.65	SPT	1	2	4	4	4	5	N=17	
BH04	2.00	2.15	2.45	SPT	2	4	4	6	5	6	N=21	
BH04	3.00	3.15	3.45	SPT	2	4	4	5	6	10	N=25	
BH04	3.80	3.95	4.25	SPT	6	4	3	4	5	5	N=17	
BH05	1.20	1.35	1.65	SPT	1	2	2	4	4	4	N=14	
BH05	2.00	2.15	2.45	SPT	2	2	2	3	3	4	N=12	
BH05	3.00	3.15	3.45	SPT	2	1	2	4	4	6	N=16	
BH05	4.00	4.15	4.45	SPT	1	2	3	5	5	6	N=19	

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