[redacted]

Site Investigation Report

Auger Ref:

[redacted]

Job Information	
Client	Crawford & Co - Allianz (Subsidence)
Client ref	[redacted]
Visit date	14/02/2020
Report date	16/03/2020

Job Summary

✔ 2 trial holes undertaken. Read more.

[redacted]

Job Information

Overview	
Brief	Auger were commissioned by Crawford & Co - Allianz (Subsidence) to undertake a site investigation within the area of concern at the property.
Trial Hole Findings	We were unable to complete the trial hole to the front right hand side of the property due to there being a mote/retaining wall in the requested location meaning we could not excavate there. Soil suctions were not completed for samples taken from TH2. The sample contained too much gravel and had no cohesion.

Photographs

Trial Hole 1

Fig 1.1: Trial Hole 1 Location

Fig 1.2: Trial Hole 1 Footing

Trial Hole 2

Fig 2.1: Trial Hole 2 Location

Fig 2.2: Trial Hole 2 Footing

Trial Hole 3

Fig 7.1: Trial Hole 3 Location

Fig 7.2: Trial Hole 3 Footing

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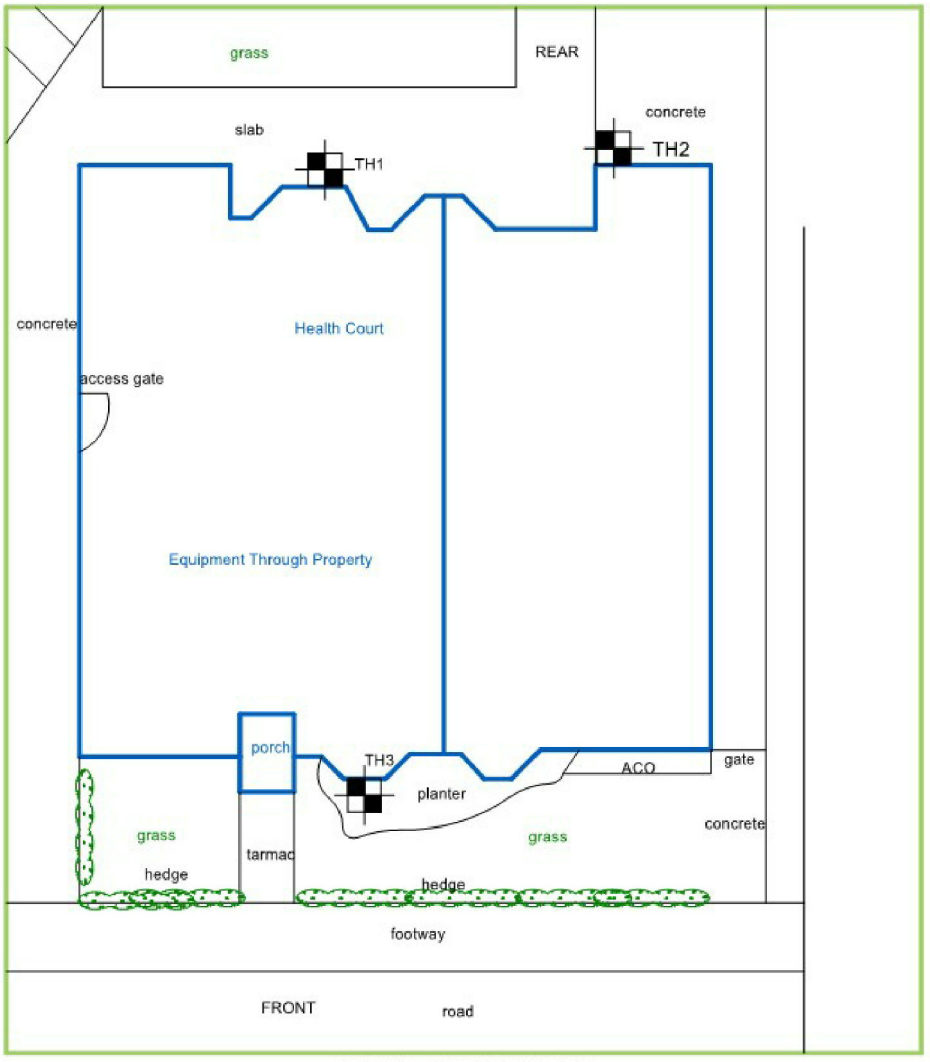
Existing Layout

Job Ref: [redacted]

Date: 15/01/2020



FRONT OF PROPERTY

This drawing should be used for diagrammatic purposes only. Auger are not responsible or liable for any 3rd party works undertaken using the details outlined in this drawing. Confirmation of the drainage configuration can only be confirmed by excavation or detailed technical survey.

LEGEND

- = Manhole
- = Inspection Chamber
- = Inspection Pot
- = Blockage
- = svp/w/c
- = wg/fwg
- = rwg
- = rwp
- = Lines not camera surveyed
- = Lines camera surveyed
- = Assumed water mains feed
- = Walls
- = Fences
- = Building Outline
- = Steps
- = gate / door
- = Trial hole
- = Borehole
- = Direction of flow
- = Shrubs/bush
- = Hedge
- = Tree

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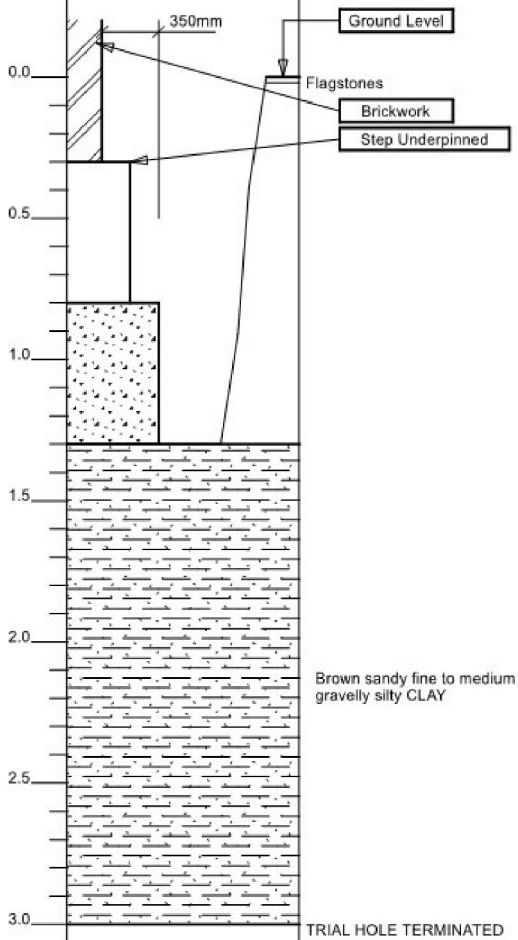
Trial Hole Log No.1

Location: Rear LH bay

Job Ref: [redacted]



Depth (m)	Symbolic Log	Strata Description	Insitu Tests SV(19)		Soil Sample	Root Sample
			80kpa		Soil @ 1.3m	Root @ 1.3m
			84kpa		Soil @ 1.8m	Root @ 1.8m
			88kpa		Soil @ 2.3m	Root @ 2.3m
			90kpa			
			96kpa			

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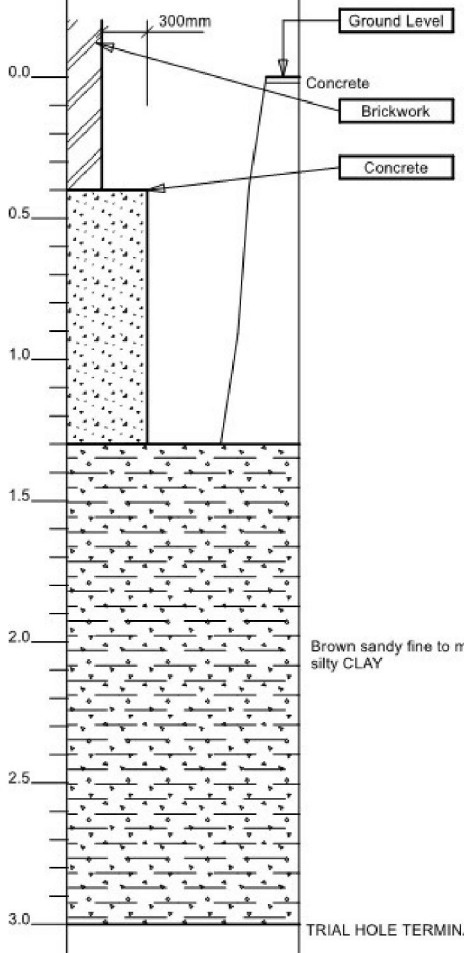
Trial Hole Log No.2

Location: Rh outrigger

Job Ref: [redacted]



Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
				MP (300mm)		
0.0		Ground Level				
		300mm				
		Concrete				
		Brickwork				
		Concrete				
0.5						
1.0						
				22blows	Soil @ 1.3m	Root @ 1.3m
1.5						
				25blows	Soil @ 1.8m	
2.0		Brown sandy fine to medium gravelly silty CLAY				
				32blows	Soil @ 2.3m	
2.5						
				36blows		
3.0		TRIAL HOLE TERMINATED		36blows		

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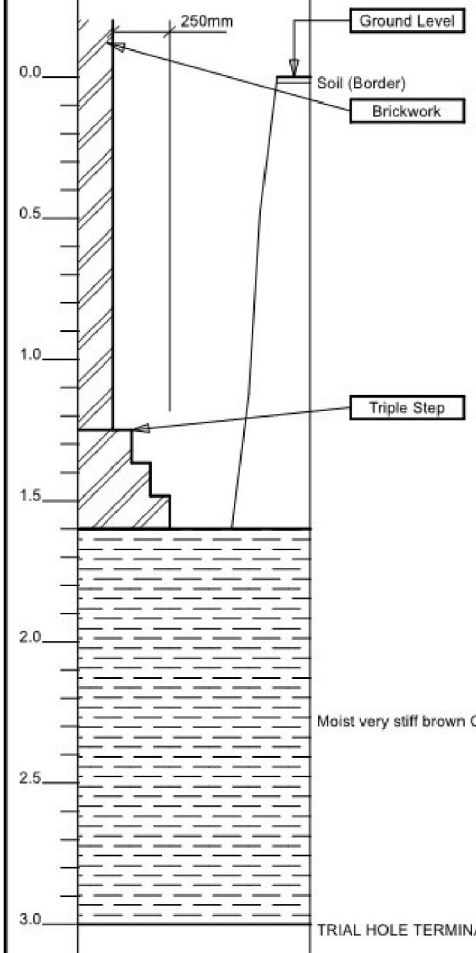
Trial Hole Log No.3

Location: Front of bay at front of property

Job Ref: [redacted]



Depth (m)	Symbolic Log	Strata Description	Insitu Tests SV(19)		Soil Sample	Root Sample
0.0		Ground Level / Soil (Border) / Brickwork				
0.5						
1.0		Triple Step				
1.5			76kpa		Soil @ 1.6m	Root @ 1.65m
2.0		Moist very stiff brown CLAY	92kpa		Soil @ 2.1m	
2.5			98kpa		Soil @ 2.6m	
3.0		TRIAL HOLE TERMINATED	94kpa			

Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS
James Richardson
BSc (Hons. Biology)

Auger Solutions

[redacted]

[redacted]

09/03/2020

Dear Sirs

Root ID

The samples you sent in relation to the above have been examined. Their structures were referable as follows:

TH1, 1.3m		
1 no.	Examined root: either ACER (Maples, Sycamores) - or - CARPINUS (Hornbeam). Less than 0.1mm in diameter.	Dead*.
1 no.	Microscopic examination showed insufficient cells for recognition.	
TH1, 1.8m		
1 no.	Examined root: again, most like either ACER (Maples, Sycamores) - or - CARPINUS (Hornbeam). Also not more than 0.1mm in diameter.	Dead*.
2 no.	Both samples revealed too few cells for microscopic identification.	
TH1, 2.3m		
1 no.	Examined root: could be either ACER (Maples, Sycamores), CARPINUS (Hornbeam) - or - the family SALICACEAE (Salix (Willows) and Populus (Poplars)). As above, a very THIN sample - not more than 0.05mm in diameter.	Dead*.
TH2, 1.3m		
5 no.	Examined root: the family SALICACEAE (Salix (Willows) and Populus (Poplars)). Another THIN and immature root.	Dead*.
2 no.	Both pieces of BARK only - insufficient material for recognition.	

All of the roots described above were very immature - please note that the 'dead' results could well be unreliable.

Click here for more information: ACER CARPINUS SALICACEAE

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

[redacted]

Dr Ian B K Richardson

* Based mainly on the Iodine test for starch. Starch is present in some cells of a living woody root, but is more or less rapidly broken down by soil micro-organisms on death of the root, sometimes before decay is evident. This result need not reflect the state of the parent tree.

Identified with no information on vegetation, on or off site.

Report commissioned by auger

Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS
James Richardson
BSc (Hons. Biology)

Auger Solutions

[redacted]

[redacted]

29/01/2020

Dear Sirs

Root ID

The samples you sent in relation to the above have been examined. Their structures were referable as follows:

TH1, 1.65m		
1 no.	Examined root: BETULA (Birch).	Alive, recently*.
2 no.	Examined root: PRUNUS species (Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portugal-laurel).	Alive, recently*.
1 no.	Examined root: too DECAYED for identification.	

Click here for more information: BETULA PRUNUS

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

[redacted]

Dr Ian B K Richardson

* Based mainly on the Iodine test for starch. Starch is present in some cells of a living woody root, but is more or less rapidly broken down by soil micro-organisms on death of the root, sometimes before decay is evident. This result need not reflect the state of the parent tree.

* * Try out our web site on www.botanical.net * *

Identified with no information on vegetation, on or off site.

Report commissioned by auger

GSTL	Geotechnical Testing Analysis Report	auger environmental + claims mgmt + subsidence + drainage +
[redacted]		[redacted]

Summary Of Claim Details

Policy Holder	Unknown
Risk Address	Unknown
SI Date	23/02/2020
Issue Date	23/02/2020
Report Date	12/03/2020
Auger Reference	[redacted]
Insurance Company	Allianz
LA Claim Reference	[redacted]
LA Co. Reference	Crawford & Co

	Checked	16/03/2020	Wayne Honey	[redacted]
	Approved	16/03/2020	Paul Evans	

UKAS TESTING 2788

GSTL	LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377 : Part 2 : 1990 Method 5) DESCRIPTIONS	auger environmental + claims mgmt + subsidence + drainage +
GSTL Contract Number	[redacted]	
Risk Address	**Unknown**	
Auger Reference	[redacted]	

TH Trial Hole	Sample Type	Depth (m)	Sample Description
TH1	D	1.30	Brown sandy fine to medium gravelly silty CLAY
TH1	D	1.80	Brown sandy fine to medium gravelly silty CLAY
TH1	D	2.30	Brown sandy fine to medium gravelly silty CLAY
TH2	D	1.30	Brown sandy fine to medium gravelly silty CLAY
TH2	D	1.80	Brown sandy fine to medium gravelly silty CLAY
TH2	D	2.30	Brown sandy fine to medium gravelly silty CLAY
TH3	D	1.60	Brown fine to medium gravelly silty CLAY
TH3	D	2.10	Brown fine gravelly silty CLAY
TH3	D	2.60	Brown fine to medium gravelly silty CLAY

Test Operator	Checked	16/03/2020	Wayne Honey	[redacted]
Luke Williams	Approved	16/03/2020	Paul Evans	

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GSTL

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377 : Part 2 : 1990 Method 5)

auger environmental + claims mgmt + subsidence + drainage +

GSTL Contract Number	[redacted]	
Risk Address	**Unknown**	
Auger Reference	[redacted]	
Remarks	NP - (Non-Plastic), # - (Liquid Limit and Plastic Limit Wet Sieved)	

TH Trial Hole	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing .425mm %	NHBC Chapter 4.2	Remarks
TH1	D	1.30	26	82	22	60	81	HIGH VCP	CV Very High Plasticity
TH1	D	1.80	30						
TH1	D	2.30	33	85	24	61	84	HIGH VCP	CV Very High Plasticity
TH2	D	1.30	15	71	16	55	78	HIGH VCP	CV Very High Plasticity
TH2	D	1.80	18						
TH2	D	2.30	14	66	15	51	73	HIGH VCP	CH High Plasticity
TH3	D	1.60	25	57	20	37	89	MEDIUM VCP	CH High Plasticity
TH3	D	2.10	31						
TH3	D	2.60	36	65	27	38	79	MEDIUM VCP	CH High Plasticity

Modified Plasticity Index (PI) <10	: Non Classified
Modified PI = 10 to <20	: Low volume change potential (LOW VCP)
Modified PI = 20 to <40	: Medium volume change potential (Med VCP)
Modified PI = 40 or greater	: High volume change potential (HIGH VCP)

The Atterberg Limits May also be used to classify the volume change potential of fine soils using the National House building system, as given in the NHBC's Standards Chapter 4.2 (2003) "Building Near Trees"

Test Operator	Checked	16/03/2020	Wayne Honey	[redacted]
Luke Williams	Approved	16/03/2020	Paul Evans	

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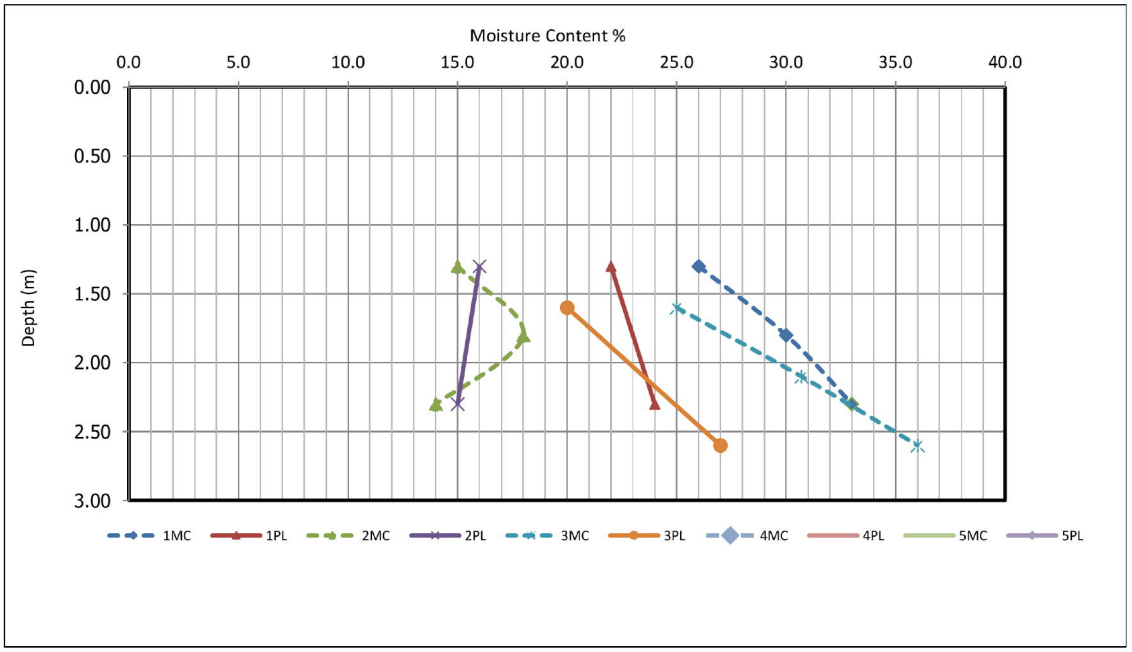
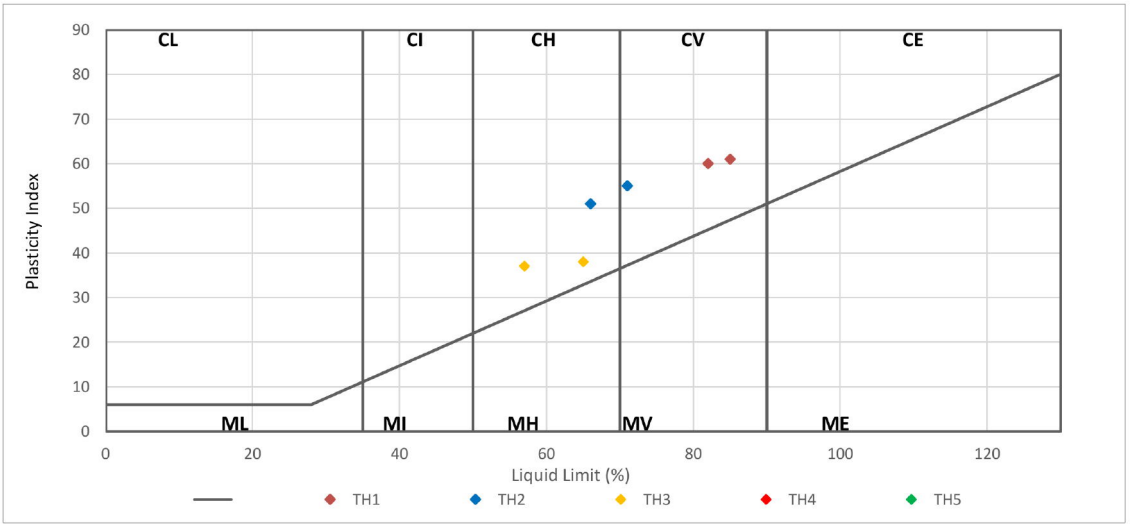


PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:1999+A2:2010



Modified Plasticity Index (PI) <10	: Non Classified
Modified PI = 10 to <20	: Low volume change potential (LOW VCP)
Modified PI = 20 to <40	: Medium volume change potential (Med VCP)
Modified PI = 40 or greater	: High volume change potential (HIGH VCP)

The Atterberg Limits May also be used to classify the volume change potential of fine soils using the National House building system, as given in the NHBC's Standards Chapter 4.2 (2003) "Building Near Trees"

Test Operator	Checked	16/03/2020	Wayne Honey	[redacted]
Luke Williams	Approved	16/03/2020	Paul Evans	

UKAS TESTING
2788

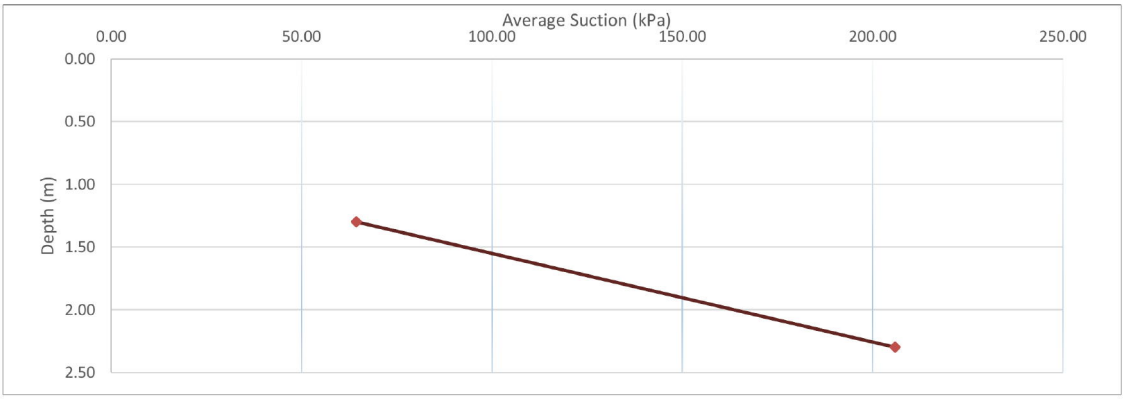
GSTL	SUMMARY OF SOIL CLASSIFICATION TESTS, BRE Information Paper IP 4/93 February 1993 (CI/SfB p1), BRE Information Paper Digest 412 ci/sFb (A3s) February 1996	auger environmental + claims mgmt + subsidence + drainage +
GSTL Contract Number	[redacted]	
Risk Address	**Unknown**	
Auger Reference	[redacted]	
Remarks	D - Disturbed (Recompacted 2.5kg Rammer), U - Undisturbed Sample	

TH Trial Hole	Depth (m)	Filter Paper Location	Filter Paper	Sample Prep Method	Test Duration (Days)	Water Content (%)	Soil Suction Pk (kPa)	Average Soil Suction Pk (kPa)	Cumalative Heave Potential (mm) from bottom of the hole
TH1	1.30	Top	I	D	5	51.8	63	64	2
TH1		Middle	II	D	5	52.2	62		
TH1		Bottom	III	D	5	50.0	69		
TH1	1.80								
TH1									
TH1									
TH1	2.30	Top	I	D	5	40.6	205	206	6
TH1		Middle	II	D	5	41.8	174		
TH1		Bottom	III	D	5	39.6	239		

Heave potential is calculated from the bottom of the hole and heaves above the bottom of the hole are reported as a cumalative value.

The values reported for heave above only apply to the strata the suction and plasticity have been performed on. The shallowest depth reported is assumed to be a strata thickness to GL and Heave is calculated based on that layer thickness, if the next sample is in 0.5m increments the heave is calculated based on the layer thickness of 0.5m and depths 1m from the sample above will include heave over 1m.

Consideration should be made for other stratas where values are not reported and when working out the heave potential over the entire trial hole.



Test Operator	Checked	16/03/2020	Wayne Honey	[redacted]
Luke Williams	Approved	16/03/2020	Paul Evans	

UKAS TESTING 2788

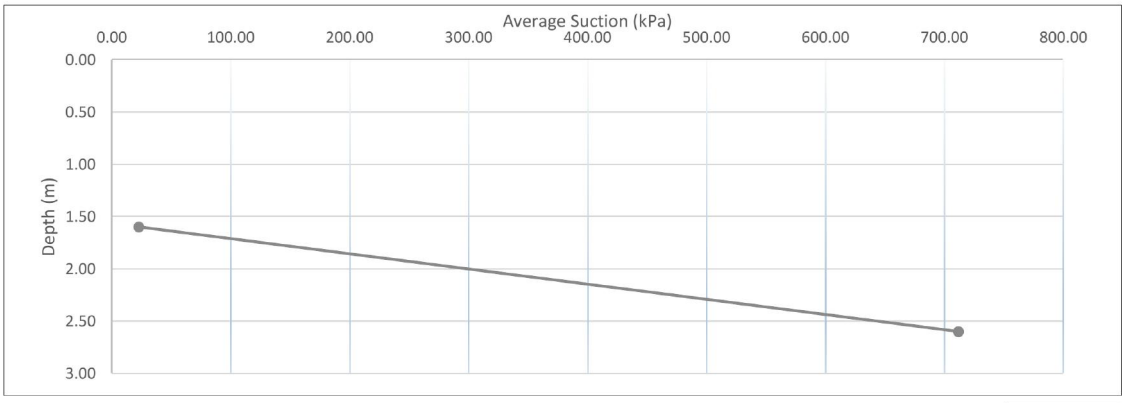
GSTL	SUMMARY OF SOIL CLASSIFICATION TESTS, BRE Information Paper IP 4/93 February 1993 (CI/SfB p1), BRE Information Paper Digest 412 ci/sFb (A3s) February 1996	auger environmental + claims mgmt + subsidence + drainage +
GSTL Contract Number	[redacted]	
Risk Address	**Unknown**	
Auger Reference	[redacted]	
Remarks	D - Disturbed (Recompacted 2.5kg Rammer), U - Undisturbed Sample	

TH Trial Hole	Depth (m)	Filter Paper Location	Filter Paper	Sample Prep Method	Test Duration (Days)	Water Content (%)	Soil Suction Pk (kPa)	Average Soil Suction Pk (kPa)	Cumalative Heave Potential (mm) from bottom of the hole
TH3	1.60	Top	I	D	5	79.0	22	22.9	7
TH3	1.60	Middle	II	D	5	78.8	22		
TH3	1.60	Bottom	III	D	5	75.9	24		
TH3	2.10								
TH3	2.10								
TH3	2.10								
TH3	2.60	Top	I	D	5	32.5	662	712	7
TH3	2.60	Middle	II	D	5	33.7	553		
TH3	2.60	Bottom	III	D	5	30.2	921		

Heave potential is calculated from the bottom of the hole and heaves above the bottom of the hole are reported as a cumalative value.

The values reported for heave above only apply to the strata the suction and plasticity have been performed on. The shallowest depth reported is assumed to be a strata thickness to GL and Heave is calculated based on that layer thickness, if the next sample is in 0.5m increments the heave is calculated based on the layer thickness of 0.5m and depths 1m from the sample above will include heave over 1m.

Consideration should be made for other stratas where values are not reported and when working out the heave potential over the entire trial hole.



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