geotechnical and environmental consultants

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Ground Investigation Report

Summer Lane (NORTH and SOUTH), Pagham, West Sussex, PO21 4FD

On behalf of Foreman Homes Limited

Report Reference: GWPR5982/GIR/September 2024 V1.02			Status: Final
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Geotechnical Report	
REPORT REFERENCE	GWPR5982/GIR/September 2024. The conditions and limitations of this geotechnical report can be viewed within Appendix A, with the aims of the investigation provided within Appendix B. A technical glossary has also been provided within Appendix C.
SITE DETAILS	The site comprised a ~150,000m^2 irregular -shaped plot of land, south of Summer Lane. The site was located within Bognor Regis, West Sussex. A site location plan is given within Figure 1 and a development area plan can be viewed in Figure 2. At the time of the site walkover, the site was an undeveloped field with crops covering the majority of the area.
PROPOSED DEVELOPMENT	At the time of reporting, September 2024, the proposed development was understood to comprise the construction of a large number of residential houses, along with new access roads. The proposed development plan can be seen within figure 2.
HISTORICAL MAPPING	At the time of earliest historical mapping (1875), the site consisted of 2No. separate open/undeveloped fields, most likely agricultural. The sites environs also consisted of this, apart from a small residential village (Nyetimber) noted ~225m north-east of the site. In addition to this, 2No. small barns (possible associated with the agricultural fields) were noted ~130m west of the site. The 1909 maps show that some small houses have been constructed ~20m from the south-east boundary of the site. This development increases in the 1938 – 1957 maps, showing new roads and houses constructed from ~20m east to ~200m south-east of the site. The site itself remains unchanged. The 1976 maps show a large scale residential development, now taking up the majority of the eastern site environs within a ~250m radius. Apart from the agricultural field separating the northern and southern parts of the site. No other significant changes are noted up to the most recent historical mapping in 2024. Historical maps, obtained from GroundSure, can be viewed within Appendix D.
ANTICIPATED GEOLOGY AND HYDROGEOLOGY	The British Geological Survey Solid and Drift Geology Map for the area revealed that the site was underlain by superficial River Terrace Deposits and bedrock deposits of the London Clay Formation. No areas of Made Ground or Reworked Ground were noted within a 250m radius. A plan showing the geological setting can be seen in Figure 4 and 5. *River Terrace Deposits:* The deposits are variable in thickness, ranging from 1 to 5m, and generally consist of gravels, predominantly sub-angular to sub-rounded flints, with a considerable sand content. Poorly sorted clayey and sandy silts and silty clays overlie some of the terraces. *London Clay Formation – Local Area:*

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In the Hampshire Basin area, the London Clay Formation comprises blue, brown and grey clay with yellow and grey sands and silts interspersed with pebble beds. Localised developments of sandstone also occur. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of Gypsum (Selenite) are often found within the weathered part of the London Clay Formation, and precautions against sulphate attack to concrete are sometimes required. The basement beds of the London Clay Formation are sandy with rounded flints.

The River Terrace Deposits was noted to be a superficial A Aquifer, hereas the underlying bedrock London clay formation was classified as an unproductive aquifer.

SITE WORKS

Site works were undertaken between 10/06/2024 and 05/07/2024 and comprised the drilling of 7No. Cable Percussion Boreholes (BH1 – BH7) to 20.00m bgl. Standard Penetration Testing was undertaken at ~1.00m intervals to 5.00m bgl and then in 1.50m intervals thereafter.

Further site works took place from 19/08/2024 – 22/08/2024 which included the excavation of trial pits in order to collect samples for CBR and Atterberg testing.

GROUND CONDITIONS ENCOUNTERED

A summary of the ground conditions encountered has been summarised in the following table. The trial hole logs can be seen within Appendix E.

Summary of Strata Encountered (BH1 – BH7), (AT1 – AT86) and (SB1 – SB42)			
Strata	**Top Depth (m bgl)**	**Base Depth (m bgl)**	**Thickness (m)**
TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.	GL	0.20 – 0.30	0.20 – 0.30
RIVER TERRACE DEPOSITS (cohesive): Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint.	0.20 – 0.30	1.50 – 4.20	1.20 – 4.00
RIVER TERRACE DEPOSITS (granular): Light brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to coarse, angular to subrounded of flint. (BH1, BH2, BH5 and BH7)	1.50 – 4.00	2.50 – 5.90	0.80 – 1.90
LONDON CLAY FORMATION: Blue, grey, dark grey CLAY with occasional selenite crystals.	3.10 – 5.90	>20.00	>14.10 - >16.90

All trial pits (AT and SB) reached a maximum depth of 0.50m bgl, within the cohesive River Terrace Deposits.

GROUNDWATER

Groundwater in terms of representing a saturated aquifer was not considered to have been found within the boreholes, however perched water was found within BH1 and BH5. A summary can be seen in the following table.

Summary of Perched Water Strikes		
Trial Hole	**Depth of Strike (m bgl)**	**Depth after 20 minutes (m bgl)**
BH1	**2.10**	**1.60**
BH5	**2.10**	**1.90**

Changes in groundwater level occur for a number of reasons including seasonal effects and variations in drainage. The investigation was undertaken in June - July 2024 when groundwater levels are likely

to be approaching their annual minimum (lowest elevation). Exact groundwater levels may only be determined through long term measurements from monitoring wells installed on-site.

ROOTS

The depths of root penetration can be seen tabulated below.

Summary of Root Penetration	
Trial Hole	**Fresh Root Depth (m bgl)**
BH1	1.00
BH2	1.10
BH3	1.20
BH4	1.00
BH5	0.90
BH6	1.00
BH7	1.00

It should be noted that the accuracy of determining the depth of root penetration within narrow diameter boreholes is considered low. It should be noted that roots may be found to greater depths at other locations on the site, particularly close to trees and/or trees that have been removed both within the site and its close environs.

IN-SITU STRENGTH TESTING

A summary of the in-situ strength testing conducted has been summarised in the following table.

Interpretation of In-situ Geotechnical Testing Results					
Strata	**SPT "N" Blow Counts or Equivalent SPT "N Value from DP**	**Equivalent Undrained Shear Strength (Cu) (kPa)**	**Soil Type**		**Trial Hole/s**
			Granular (Density)	**Cohesive (Cu)**	
River Terrace Deposits (cohesive)	4 – 9	20 – 45	-	Very Low – Medium	BH1/1.20m bgl BH2/1.20 – 3.20m bgl BH3/1.20 – 3.20m bgl BH4/1.20 – 3.20m bgl BH5/1.20m bgl BH6/1.20 – 3.20m bgl BH7/1.20 and 3.20m bgl
River Terrace Deposits (granular)	6 – 26	-	Loose – Dense	-	BH1/2.20m bgl BH2/4.20 – 5.20m bgl BH5/2.20m bgl BH7/2.20m bgl
London Clay Formation (cohesive)	8 – 48	40 – 240	-	Low – Very High	BH1/3.20 – 20.00m bgl BH2/6.70 – 20.00m bgl BH3/4.20 – 20.00m bgl BH4/4.20 – 20.00m bgl BH5/3.20 – 19.50m bgl BH6/4.20 – 18.50m bgl BH7/5.20 – 20.00m bgl

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Multi Stage Unconsolidated-Undrained Triaxial Tests were undertaken on undisturbed samples taken throughout each of the boreholes, the results of these test along with Axial Strain graphs can be viewed within Appendix F.

VOLUME CHANGE POTENTIAL AND MOISTURE DEFICITS

Atterberg Testing

A précis of Atterberg limit testing undertaken can be seen in the following table. The test results are presented within Appendix F.

Atterberg Limit Tests Results Summary

Stratum	Moisture Content (%)	Passing 425 µm sieve (%)	Modified PI (%)	Soil Class	Consistency Index (Ic)	Volume Change Potential	
						BRE	NHBC
River Terrace Deposits (cohesive)	7.5 – 37	57 – 100	9.69 – 52.25	CL, CI, CH, CV	Stiff – Very Stiff	Low – High	Low – High
London Clay Formation (cohesive)	21 – 27	100	28 – 37	CI - CH	Stiff – Very Stiff	Medium	Medium

- **NP – Non-plastic**
- **BRE Volume Change Potential refers to BRE Digest 240 (based on Atterberg results)**
- **Soil Classification based on British Soil Classification System.**
- **Consistency Index (Ic) based on BS EN ISO 14688-2:2018.**

Moisture Deficits

The results of the Atterberg Limit tests were analysed to determine the Liquidity Index of the samples, to give an indication as to whether the samples recovered showed a moisture deficit as well assessing their degree of consolidation. Liquid Limit analyses were undertaken to assess whether there were any potentially significant moisture deficits within the samples tested.

A potential moisture deficit, caused by lithology, was noted within BH7 at 2.20mbgl; BH3 at 10.20m bgl; BH1 at 14.70m bgl and BH5 at 14.70m bgl.

Particle Size Distribution Testing

The results of particle size distribution (PSD) testing undertaken show that the granular River Terrace Deposits do not have volume change potential in accordance with BRE240 and NHBC Standards Chapter 4.2. The results of the PSD testing can be viewed within Appendix F.

Particle Size Distribution Tests Results Summary

Stratum	Range Passing 63µm Sieve (%)	Volume Change Potential	
		BRE	NHBC
River Terrace Deposits (granular)	2 – 12	No	No

- **Volume Change Potential refers to BRE Digest 240 (based on Grading test results).**
- **Shrinkability refers to NHBC Standards Chapter 4.2 (based on Grading test results).**
- **BRE 240 states that a soil has a volume change potential when the clay fraction exceeds 15%. Only the silt and clay combined fraction are determined by sieving therefore the volume change potential is estimated from the percentage passing the 63µm sieve.**
- **NHBC Standards Chapter 4.2 states that a soil is shrinkable if the percentage of silt and clay passing the 63µm sieve is greater than 35% and the Plasticity Index is greater than 10%.**

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FOUNDATION RECOMMENDATIONS	A summary of the findings from the site investigation, relevant to foundation recommendations, can be seen below: • Foundations should be taken through any Topsoil and constructed either into, or onto a suitable underlying natural stratum of adequate bearing characteristics. • Foundations should be designed in accordance with soils of high volume change potential, which was mainly found in the top 1.00m. Deeper samples predominantly had a maximum of medium volume change potential. • Given the presence of cohesive soils at shallow depth, special foundation precautions may be required to prevent possible future shrinkage/swelling of the soils affecting the integrity of the faces of foundations (underfloor void diameter/compressible material/void formers etc). A compressible layer must be provided to accommodate potential seasonal movement, based on NHBC guidance. • For piling, the design of each structural element (slab/piles/beams) should be designed in accordance with the appropriate volume change potential of the respective bearing stratum. • Due to the shallow soils having volume change potential, a suspended slab is required. • The loads of proposed foundations should not exceed the allowable bearing capacity of the soils they are founding upon. • Foundations must not be placed within fresh root penetrated and/or desiccated soils with volume change potential. It is recommended that foundations are taken at least 300mm into non-fresh root penetrated strata if the soils have volume change potential, or into soils of no volume change potential. • The influence of trees on or surrounding the site will need to be taken into account in final design (NHBC Standards Chapter 4. 2) (tree rings). • Any water ingress must be prevented from entering foundation trenches and excavations must be kept dry and either concreted or blinded as soon after excavation as possible. If water were allowed to accumulate within the excavation for even a short period of time, an increase in heave occur. The shear strength will also be reduced, resulting in lower bearing capacities, resulting in increased settlements. Instability issues may arise within the foundation trenches, in case of perched water being present.
SHALLOW FOUNDATIONS / DISCUSSION	Based on the results of the ground investigation, at this stage, a piled foundation scheme was deemed more suitable, at least for the majority of the site. However, allowable bearing pressures can be given for shallow footings/shallow soils, if required, which however will require more ground investigation, as the coverage of the site was quite limited and designed to focus on deeper boreholes / piles and not an actual zoning of the sites. It should be noted that BH1 and BH5 recorded a granular layer between 1.50 – 3.20m bgl, with high in-situ strength data. Further investigation within these areas is recommended, as shallow foundations may be an option if founding within the gravelly layer. Further investigation in the form of windowless sampler boreholes is suggested, in order to confirm gravel depth and strength in the wider area surrounding each of the 2No. boreholes. In that case, deep trenches should be equally avoided, in case

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of potential significant water management requirements. Groundwater monitoring might be implemented in order to comment further on groundwater/perched water conditions.

PILED FOUNDATIONS

The construction of a piled foundation is a specialist job, and the advice of a reputable contractor, familiar with the type of ground and groundwater conditions encountered on this site, should be sought prior to finalising the foundation design. The actual pile working load will depend on the particular type of pile and method of installation adopted.

The foundation would most likely comprise a piled foundation with reinforced ground beams or a piled slab. In general, for the cumulative pile capacity calculations, shaft friction over desiccated levels should be ignored and piles should not be terminated within desiccated soils where moisture recovery following tree removal could occur.

Indicative/guidance limit loads and settlements for a bored pile have been given within the table below have been based on BH1 & BH7. An allowance for no/low contribution to occur within the top 2.00m of the soil has been included within the calculations where it could pass through any Topsoil and any shallow problematic soils/roots etc. An adhesion factor of 0.45m has been applied to all natural cohesive units.

The bearing values may be limited by the maximum permissible stress allowable on a concrete pile. To achieve the full bearing value a pile should penetrate the bearing stratum by at least five times the pile diameter.

A factor of safety of 3 is being used in the calculation.

Bored Pile Limit Loads and Settlement Parameters (North Site)

Depth (m bgl)	Diameter (mm)	Limit States (kN)				Settlement (mm)
		Tip	Lateral	Total	Load (kN)	
10.00	300	20.15	87.51	107.66	100	1.50
	450	45.33	131.26	176.59	170	2.10
	600	80.58	175.02	255.6	250	2.70
12.00	300	32.87	122.85	155.72	150	2.00
	450	73.96	184.28	258.24	250	2.80
	600	131.48	245.70	377.18	370	3.70

Bored Pile Limit Loads and Settlement Parameters (South Site)

Depth (m bgl)	Diameter (mm)	Limit States (kN)				Settlement (mm)
		Tip	Lateral	Total	Load (kN)	
10.00	300	26.51	88.22	114.74	110	1.70
	450	59.64	132.32	191.96	185	2.30
	600	106.03	176.43	282.46	275	3.00
12.00	300	33.93	128.51	162.44	155	2.10
	450	76.34	192.76	269.10	265	3.00
	600	135.72	257.01	392.73	385	3.80

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	The loads above are indicative and the advice of a specialist piling contractor should be sought. The analysis was focused on the geotechnical aspects and the capacity of the soils. The actual pile loads permitted may be further limited for structural reasons (i.e. the concrete strength and the overall structural capacity of the pile, buckling, horizontal capacity, uplift etc). The structural engineer and the piling contractor are to perform the final design. The bearing values given in the table above are applicable to single piles. Where piles are to be constructed in groups the bearing value of each individual pile should be reduced by a factor of approximately 0.8 and a calculation made to check the factor of safety against block failure. The piles will need to be designed in accordance with the volume change potential of the soils encountered, depth of desiccation and root penetration. Temporary casing may be required where the upper portion of the pile passes through the Topsoil and River Terrace Deposits, particularly where perched water is encountered, to prevent necking of the concrete. **Piling Groundwater Risk Assessment** Given the geology at the site, piling is the preferred method for foundations. As these may extend into the aquifer beneath the site, the potential for pathways to be present needs to be considered. Review of the Wilson and Mortimer paper *Piled foundations and pathways for ground gas migration in the UK (ICE publishing – Environmental Geotechnics*), indicates that any preferential pathways for ground gases or contaminated water created by piles needs consideration for ground conditions and the nature of the pile utilised. An important consideration is the nature of the pile, whether it is a displacement or replacement pile. For there to be a preferential pathway for the movement of groundwater, a continuous open annulus is required around the piles installed. An open annulus will not form around piles during installation except for driven H and I piles. Cast in-situ piles are driven or bored and filled with wet concrete. The pressure exerted on the wet concrete will seal up any annulus around the pile, sealing any pathway. The Environment Agency recommend that CFA piling is undertaken on any site where contamination may be expected. Based on the above, the use of CFA piles or other cast in-situ piles should be adopted, which will not result in the downward migration of contamination within the groundwater.
EXCAVATIONS AND INSTABILITY	Shallow excavations in any Made Ground are likely to be marginally stable at best. Long, deep excavations, through these strata and into the underlying strata are likely to become unstable. Unsupported earth faces formed during excavation may be liable to collapse without warning and suitable safety precautions should therefore be taken to ensure that such earth faces are adequately supported before excavations are entered by personnel.
SUB-SURFACE CONCRETE DESIGN	Concrete to be placed in contact with soil or groundwater must be designed in accordance with the recommendations of Building Research Establishment Special Digest 1, 2005, 'Concrete in Aggressive

	Ground' considering the pH of the soils. For the classification given below, the "mobile" and "natural" case was adopted given the geology encountered and the previous use of the site. This assessment was based on the results of chemical laboratory testing displayed within Appendix G, specifically relating to sulphates, pH and other water soluble chemicals. **River Terrace Deposits** According to Box C6 of BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground' the River Terrace Deposits did not fall within a list of UK geological formations known to contain pyrite. Consequently, it was not required to consider the levels of total potential sulphate in the classification process. The water-soluble sulphates in the River Terrace Deposits was noted to be 33.2 – 37.2mg/l, with a pH of 8.2 – 8.3, from chemical and geotechnical laboratory testing. Therefore, sulphate concentrations measured in 2:1 water/soil extracts taken from the River Terrace Deposits, fell into Class **DS-1** of the BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground'. Table C1 of the Digest indicated an ACEC (Aggressive Chemical Environment for Concrete) classification of **AC-1**. **London Clay Formation** According to Box C6 of BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground' the London Clay Formation fell within a list of UK geological formations known to contain pyrite. It was therefore required to consider the levels of total potential sulphate in the classification process. The water-soluble sulphates in the London Clay Formation was noted to be 289 – 902mg/l, with a pH of 8.3 – 10, from chemical laboratory testing. The total potential sulphate (3x total sulphur) was 0.942 – 1.113%, from chemical laboratory testing. Therefore, sulphate concentrations measured in 2:1 water/soil extracts taken from the London Clay Formation and total potential sulphate concentrations, fell into Class **DS-3** of the BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground'. Table C1 of the Digest indicated an ACEC (Aggressive Chemical Environment for Concrete) classification of **AC-3**. It is prudent to note that pyrite nodules may be present within the London Clay Formation. Pyrite can oxidise to gypsum and this normally only occurs in the upper weathered layer, but excavation allows faster oxidation and water-soluble sulphate values can rapidly increase during construction. Therefore, rising sulphate values should be considered should ferruginous staining/pyrite nodules be encountered within the London Clay Formation.
ROADS AND HARDSTANDING	This section provides information relating to the construction of roads and hardstanding, for each strata encountered. An updated report will be issued with the testing results from specific soaked CBR tests along with Atterberg testing. **Topsoil** Roads and hardstanding should bypass Topsoil given the likely low strength, high compressibility and general variability.

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Soaked CBR testing was undertaken along the proposed roads on-site, these were supplemented by Atterberg tests, both within the cohesive River Terrace Deposits. The results are tabulated below. The locations of these tests can be seen within figure 3.4 – 3.7.

Summary CBR % Results	
Trial Hole	**CBR (%)**
AT3	6.7
AT6	9.7
AT9	13
AT12	56
AT15	9.1
AT18	11
AT21	8.5
AT24	8.4
AT27	22
AT30	6.4
AT33	8.3
AT36	11
AT39	11
AT42	6.8
AT45	17
AT48	13
AT51	18
AT54	13
AT57	11
AT60	8.9
AT63	3.6
AT66	2.7
AT69	5.2
AT72	10
AT75	7.9
AT78	2.9
SB1	8.8
SB2	8.8
SB3	8.4
SB4	4.7
SB5	2.6
SB6	1.4
SB7	4.8
SB8	4.2
SB9	1.8
SB10	5.5
SB11	1.1
SB12	0.58
SB13	5.1
SB14	0.88
SB15	1.0

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SB16	1.2
SB17	0.94
SB18	1.1
SB19	3.1
SB20	1.1
SB21	2.2
SB22	2.0
SB23	0.77
SB24	0.94
SB25	0.58
SB26	1.1
SB27	1.8
SB28	0.93
SB29	3.6
SB30	3.7
SB31	1.3
SB32	3.5
SB33	1.8
SB34	1.3
SB35	1.1
SB36	1.5
SB37	1.5
SB38	1.1
SB39	1.3
SB40	2.1
SB41	1.0
SB42	1.7

A worse case CBR value has been calculated for each site area, these areas can be seen within figure 6. The values for each area are tabulated below:

Summary CBR % Results	
Site Area (as per figure 6)	**Worse Case CBR (%)**
Section A	4.7
Section B	1.1
Section C	0.58
Section D	1.0
Section E	0.58
Section F	0.88
Section G	1.1

To note, this is the worst-case scenario for each section. An average can be calculated, depending on the conservatism required for the design.

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	The full test results from the CBR testing are presented within Appendix F.
WASTE CLASSIFICATION	The excavation of foundations and other soils is likely to produce waste which will require classification and then recycling or removal from site. Under the Landfill (England and Wales) Regulations 2002 (as amended), prior to disposal all waste must be classified as; • Inert; • Non-hazardous, or; • Hazardous. The Environment Agency's Hazardous Waste Technical Guidance (WM3) document outlines the methodology for classifying wastes. Once classified the waste can be removed to the appropriately licensed facilities, with some waste requiring pre-treatments prior to disposal. Hazardous waste requires pre-treatment prior to removal. The site may need to be registered as a Hazardous waste producer should such waste be removed from the site.
DUTY OF CARE	Groundworkers must maintain a good standard of personal hygiene including the wearing of overalls, boots, gloves and eye protectors and the use of dust masks during periods of dry weather. To prevent exposure to airborne dust by both the general public and construction personnel the site should be kept damp during dry weather and at other times when dust is generated as a result of construction activities. The site should be securely fenced at all times to prevent unauthorised access. Washing facilities should be provided and eating restricted to mess huts.

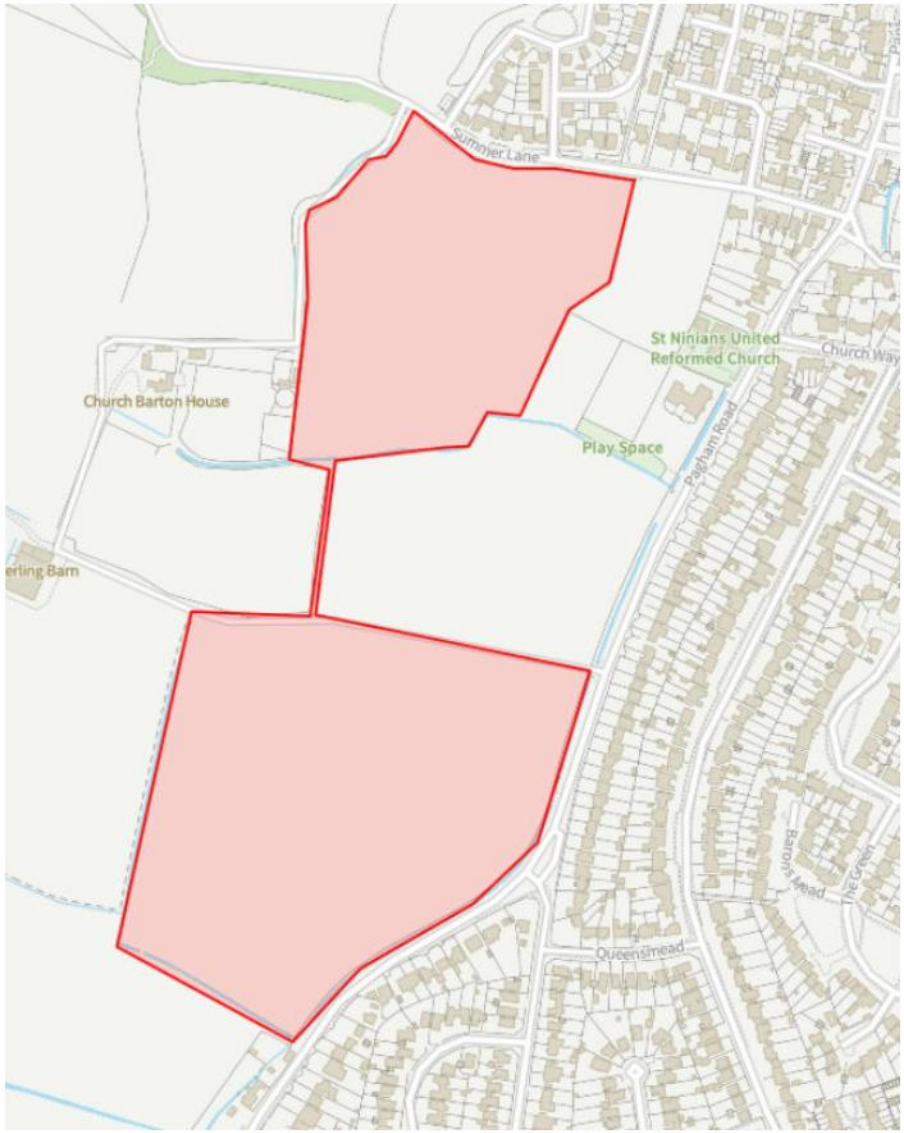
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FIGURES



Site Boundary

NOT TO SCALE

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Figure 1 – Site Location Plan	**GWPR5982**

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Site Boundary

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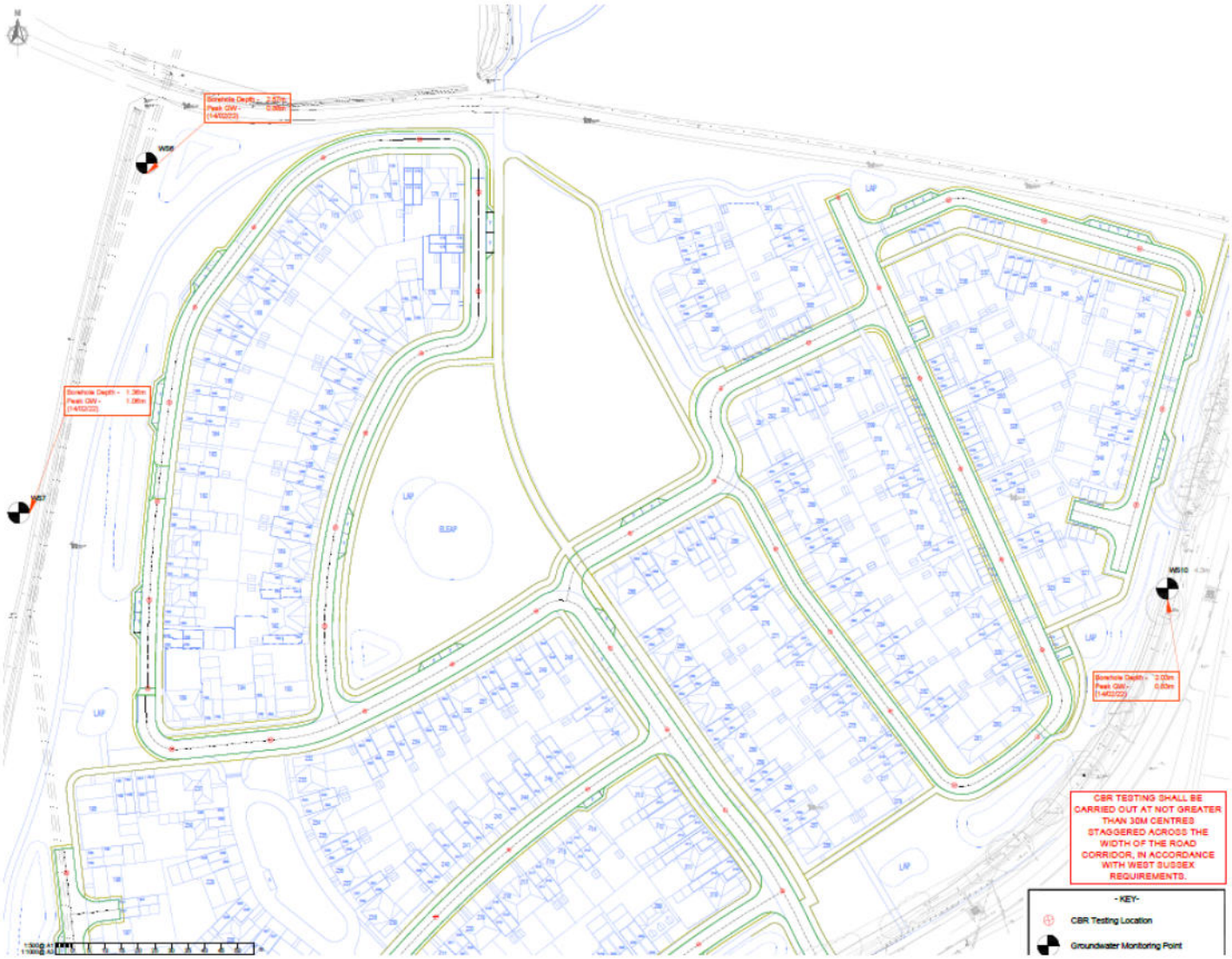
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Figure 2.1 – Site Development Area

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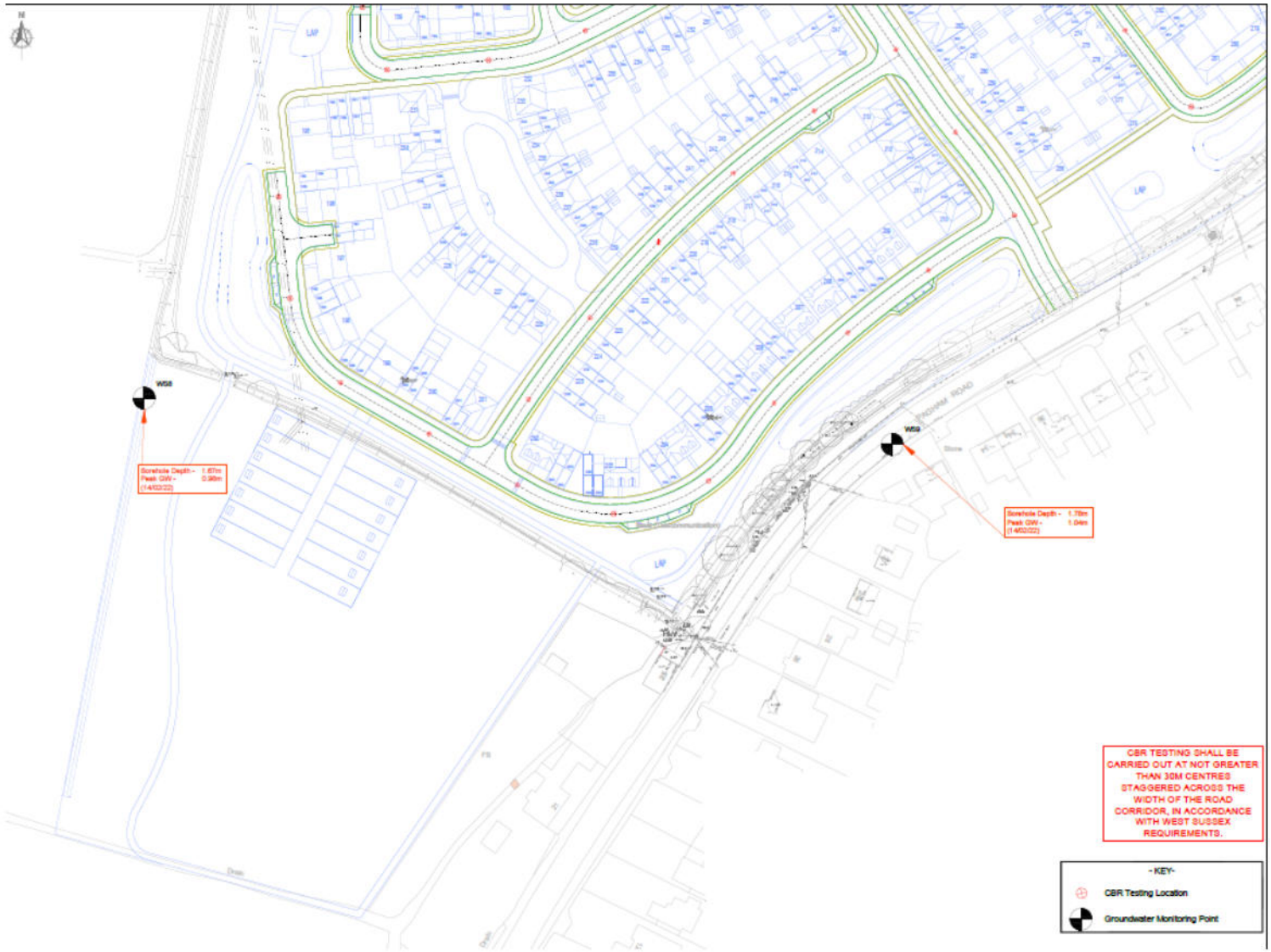
Site Boundary

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Figure 2.2 – Site Development Area	**GWPR5982**

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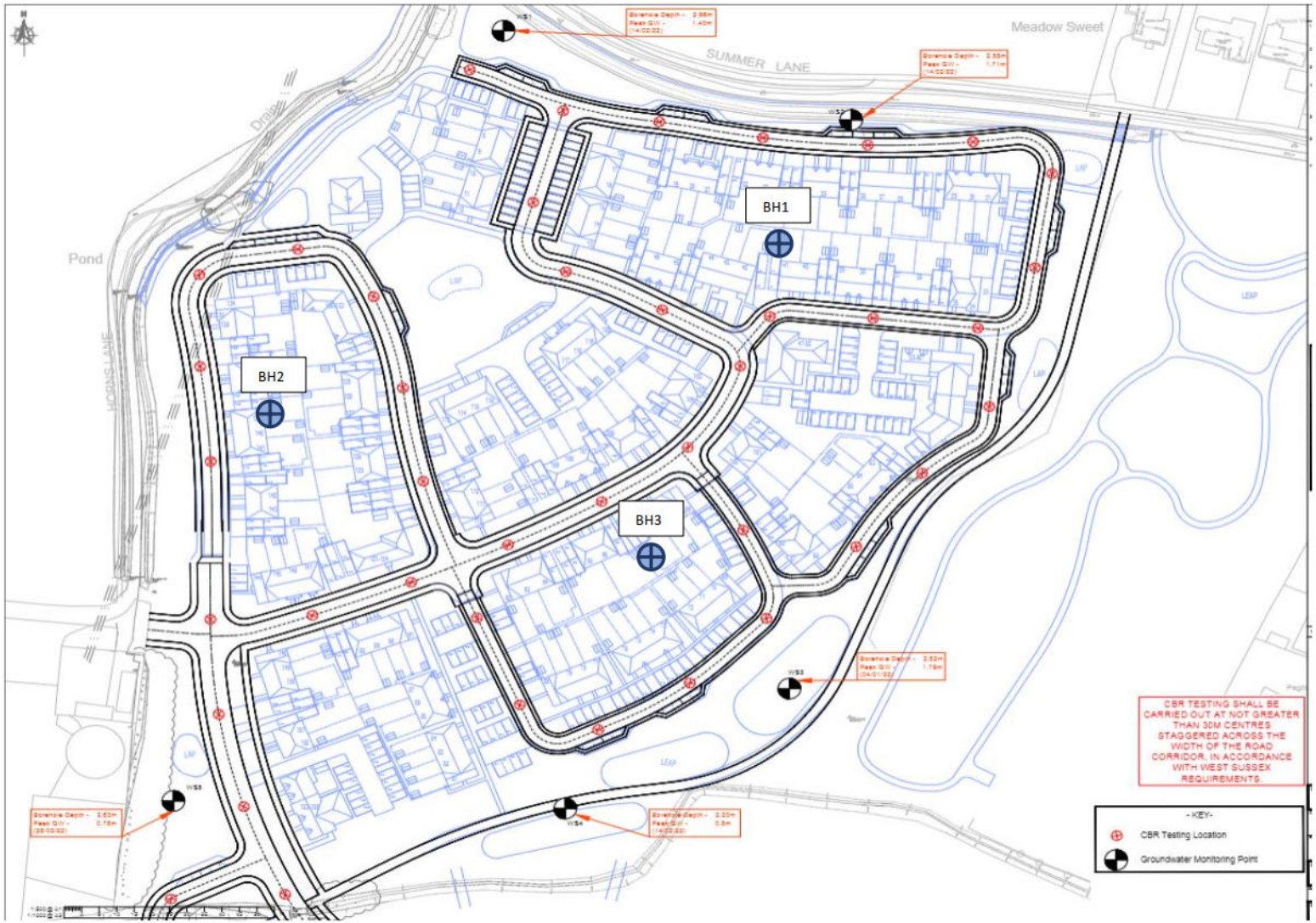
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Figure 2.3 – Site Development Area	**GWPR5982**

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Site boundary

Cable Percussion Borehole

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Figure 3.1 – Trial Hole Location Plan	**GWPR5982**

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Site boundary

Cable Percussion Borehole

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Figure 3.2 – Trial Hole Location Plan

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Site boundary

Cable Percussion Borehole

NTS

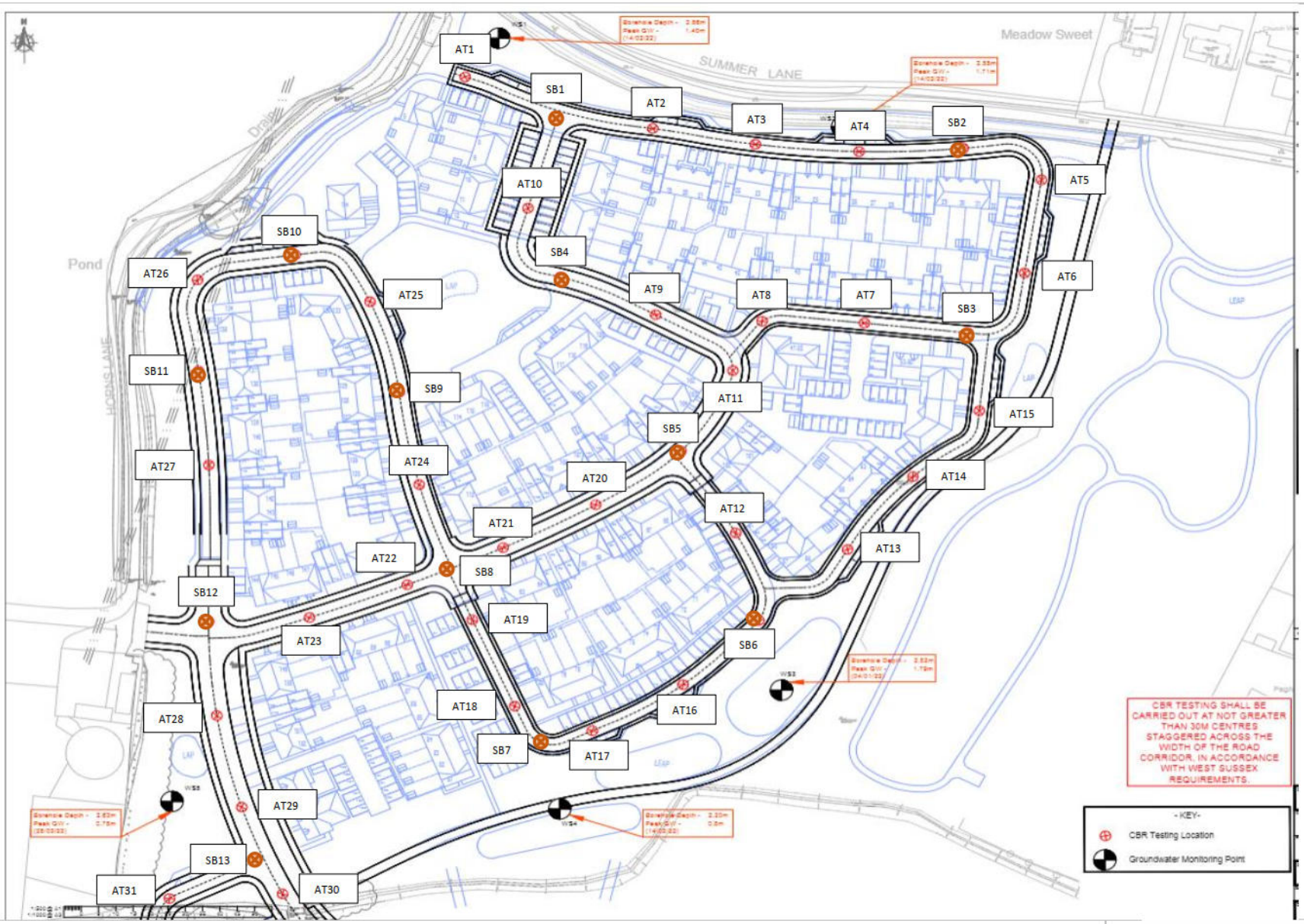
Summer Lane (SOUTH) Pagham West Sussex PO21 4FD

October 2024

Figure 3.3 – Trial Hole Location Plan

GWPR5982

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Site boundary

Trial Pit (Atterberg CBR)

Trial Pit (Soaked Bulk CBR)

Cable Percussion Borehole

NTS

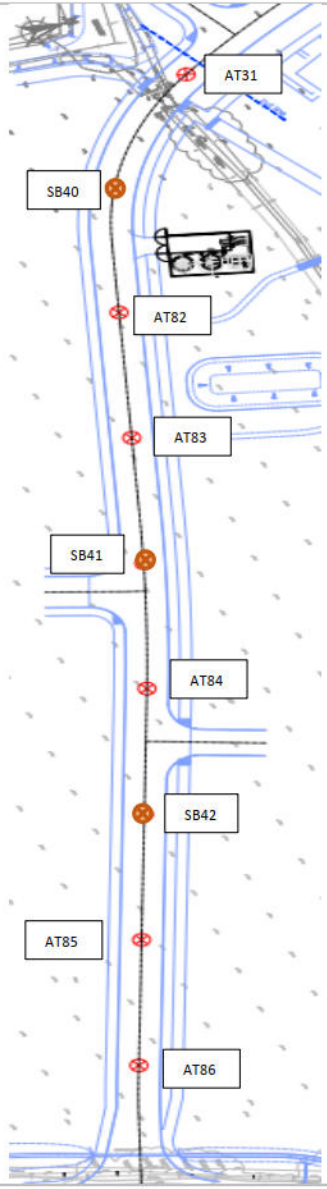
Summer Lane (NORTH) Pagham West Sussex PO21 4FD

October 2024

Figure 3.4 – Trial Hole Location Plan

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Site boundary

Trial Pit (Atterberg CBR)

Trial Pit (Soaked Bulk CBR)

NTS

Summer Lane (NORTH) Pagham West Sussex PO21 4FD	
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Figure 3.5 – Trial Hole Location Plan	**GWPR5982**

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Site boundary

Trial Pit (Atterberg CBR)

Trial Pit (Soaked Bulk CBR)

Cable Percussion Borehole

NTS

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Figure 3.6 – Trial Hole Location Plan

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Summer Lane (SOUTH) Pagham West Sussex PO21 4FD

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Figure 3.7 – Trial Hole Location Plan

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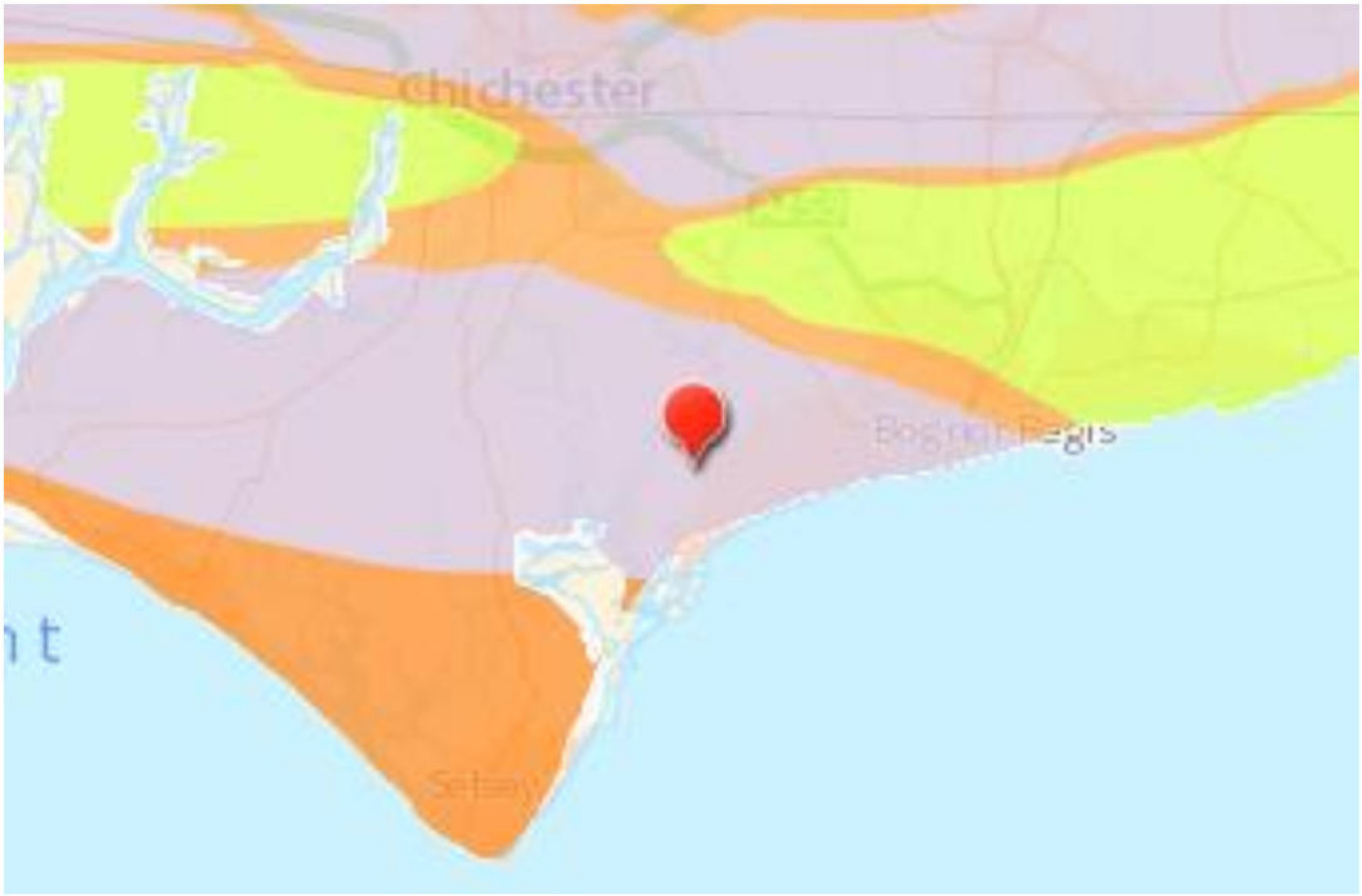
Site

Boreholes

NOT TO SCALE

Summer Lane (NORTH and SOUTH) Pagham West Sussex PO21 4FD	
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Figure 4 – Superficial Geological Setting	**GWPR5982**

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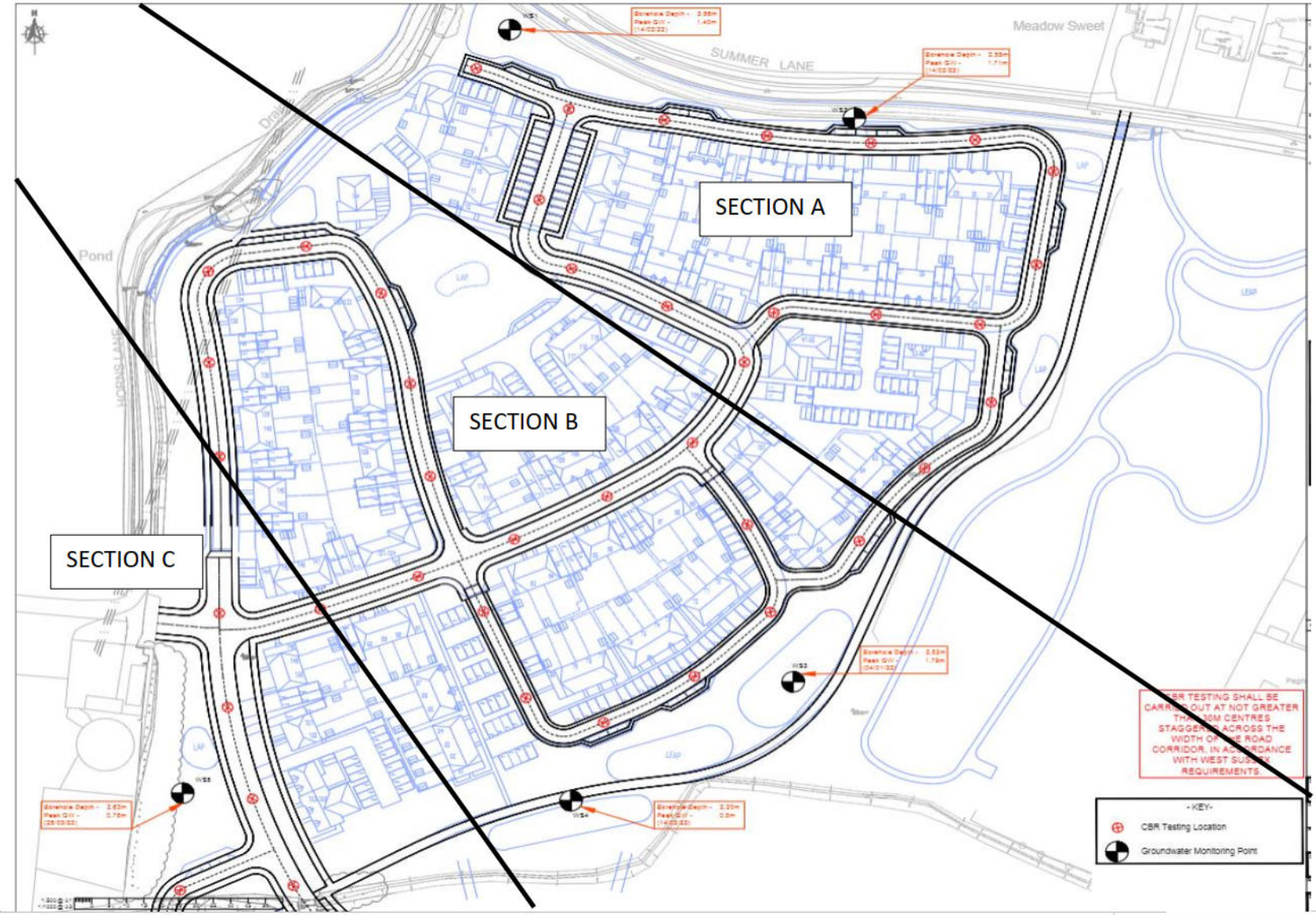


Site

NOT TO SCALE

Summer Lane (NORTH and SOUTH) Pagham West Sussex PO21 4FD	
	October 2024
Figure 5 – Bedrock Geological Setting	GWPR5982

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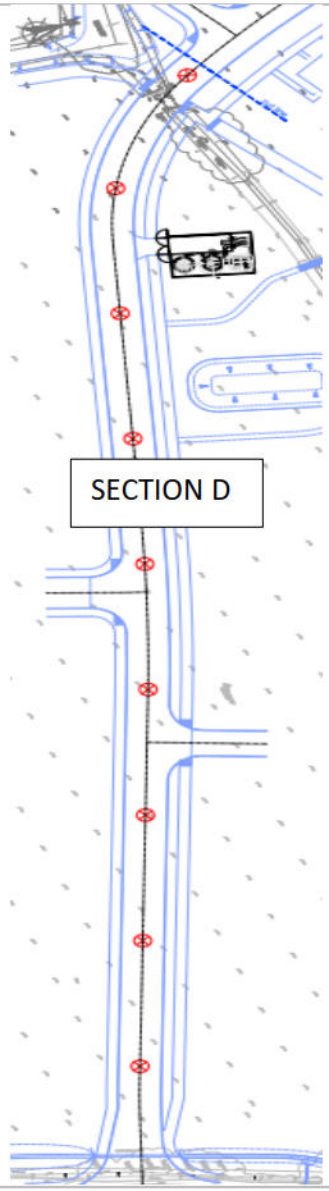
Summer Lane (NORTH and SOUTH) Pagham West Sussex PO21 4FD

October 2024

Figure 6.1 – Split Site Area (CBR)

GWPR5982

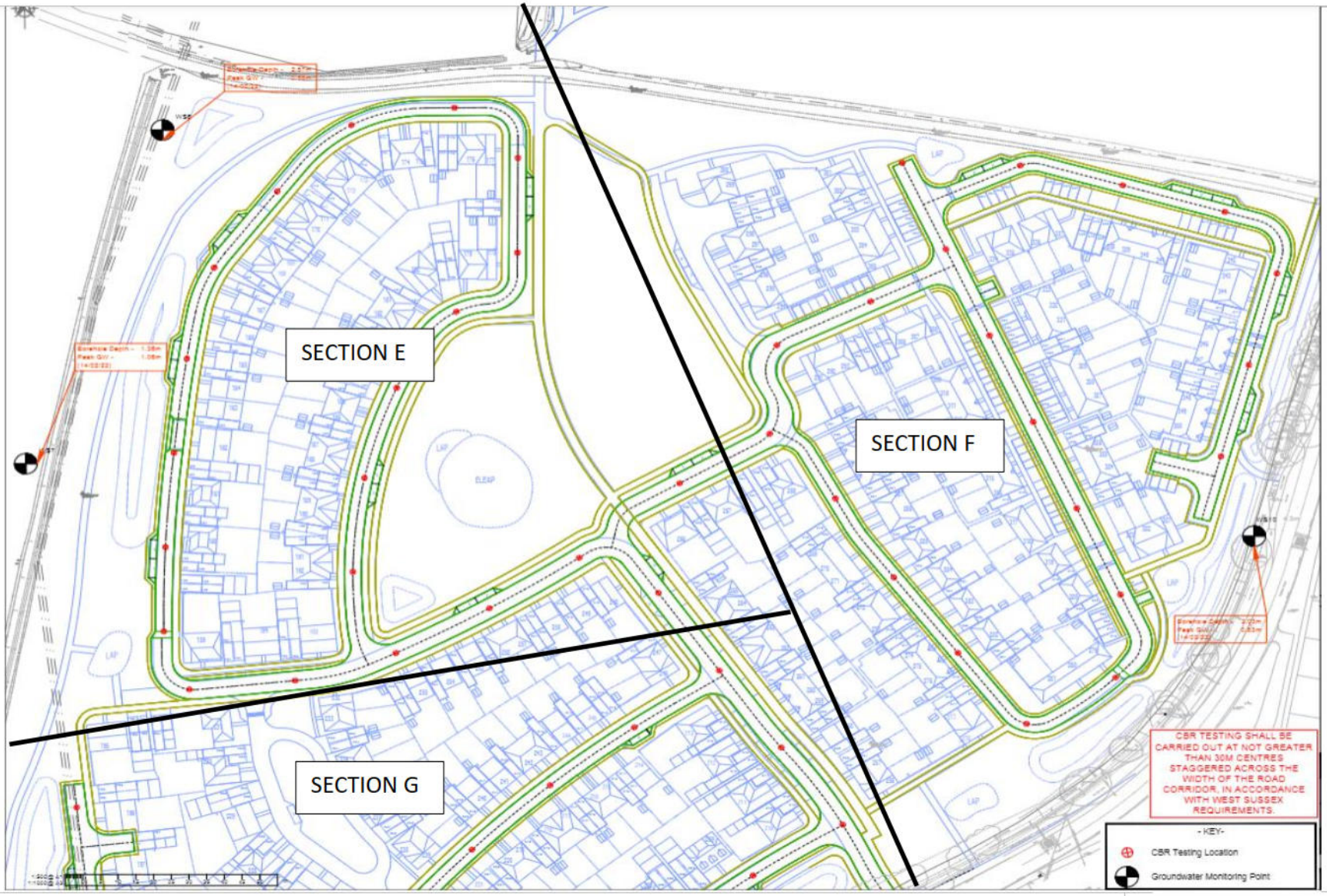
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Summer Lane (NORTH and SOUTH) Pagham West Sussex PO21 4FD	
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Figure 6.2 – Split Site Area (CBR)	GWPR5982

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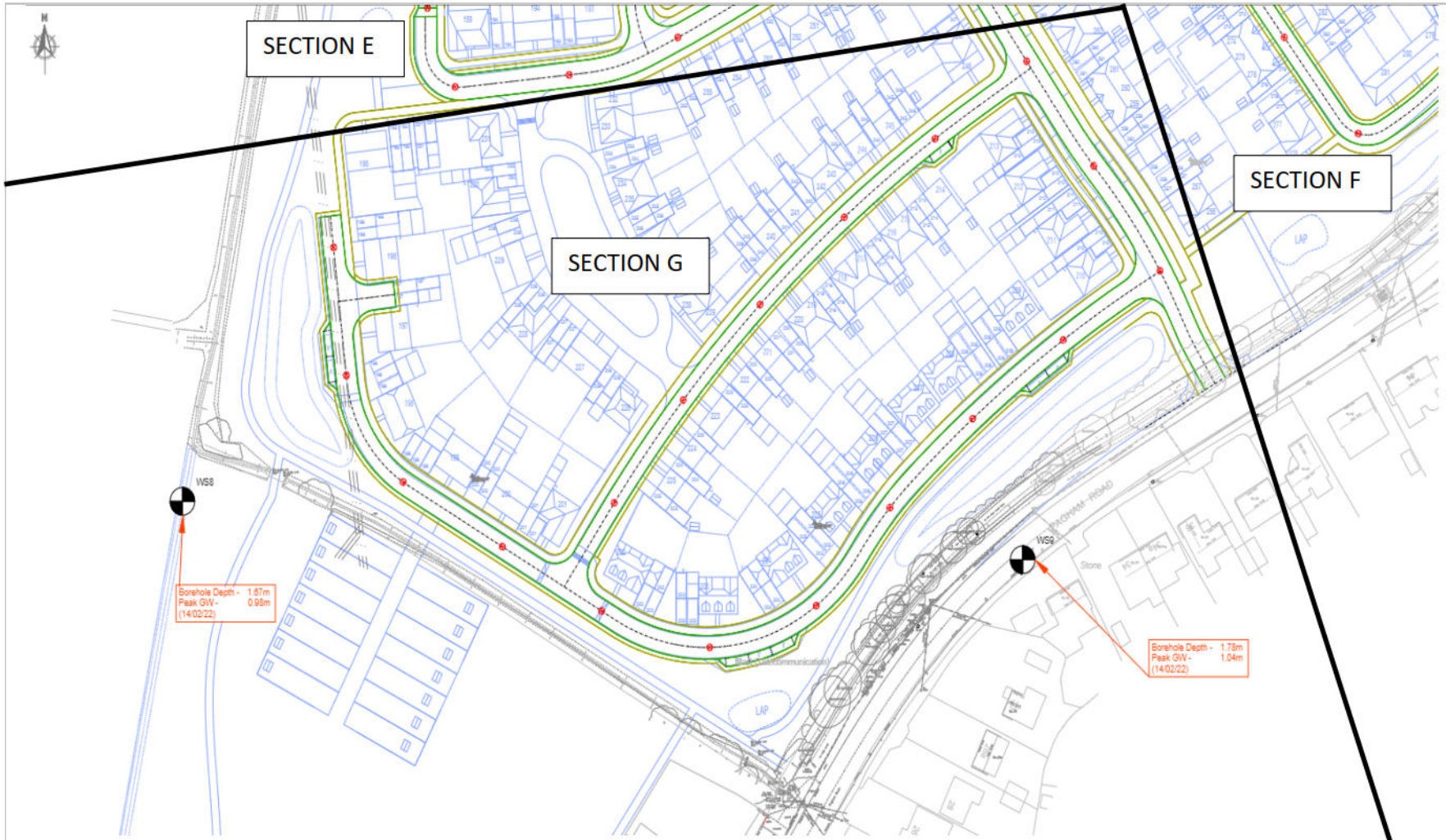
Summer Lane (NORTH and SOUTH) Pagham West Sussex PO21 4FD

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Figure 6.3 – Split Site Area (CBR)

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Figure 6.4 – Split Site Area (CBR)	**GWPR5982**

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APPENDIX A: Conditions and Limitations

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[redacted]

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The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report ("you" or "the Recipient") are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations relate to Summer Lane (NORTH and SOUTH), Pagham, West Sussex, PO21 4FD.

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

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The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

The aim of the investigation was understood to be to supply the client and their designers with information regarding the ground conditions underlying the site to assist them in preparing an appropriate scheme for development.

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APPENDIX B: Scope of the Investigation

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The investigation was to be undertaken to provide parameters for the design of foundations by means of in-situ and laboratory geotechnical testing undertaken on soil samples recovered from trial holes.

An Environmental Desk Study and Contamination Assessment including a soils, gas, vapour, radon or groundwater risk assessment were not part of the remit of this report.

The techniques adopted for the investigation were chosen considering the requirements of the client, anticipated ground conditions, and bearing in mind the nature of the site, limitations to site access and other logistical limitations.

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APPENDIX C: Technical Glossary

TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

HYDROGEOLOGY:

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary (A) Aquifers consist of deposits with permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Secondary (B) Aquifers consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Aquifers (Undifferentiated) are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

FLOOD ZONES:

Environment Agency Flood Zone 2, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Environment Agency Flood Zone 3 shows the extent of a river flood with a 1 in 100 (1%0 or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

Environment Agency Flood Zone 3 area that benefits from flood defences, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

GROUNDWATER SOURCE PROTECTION ZONES (SPZS):

Inner Zone (SPZ1): This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

Outer Zone (SPZ2): This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

Total Catchment (SPZ3): This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

Zone of Special Interest (SPZ4): This zone is where local conditions require additional protection.

IN-SITU STRENGTH GEOTECHNICAL TESTING:

Windowless Sample and/or Cable Percussion and/or Rotary Boreholes provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

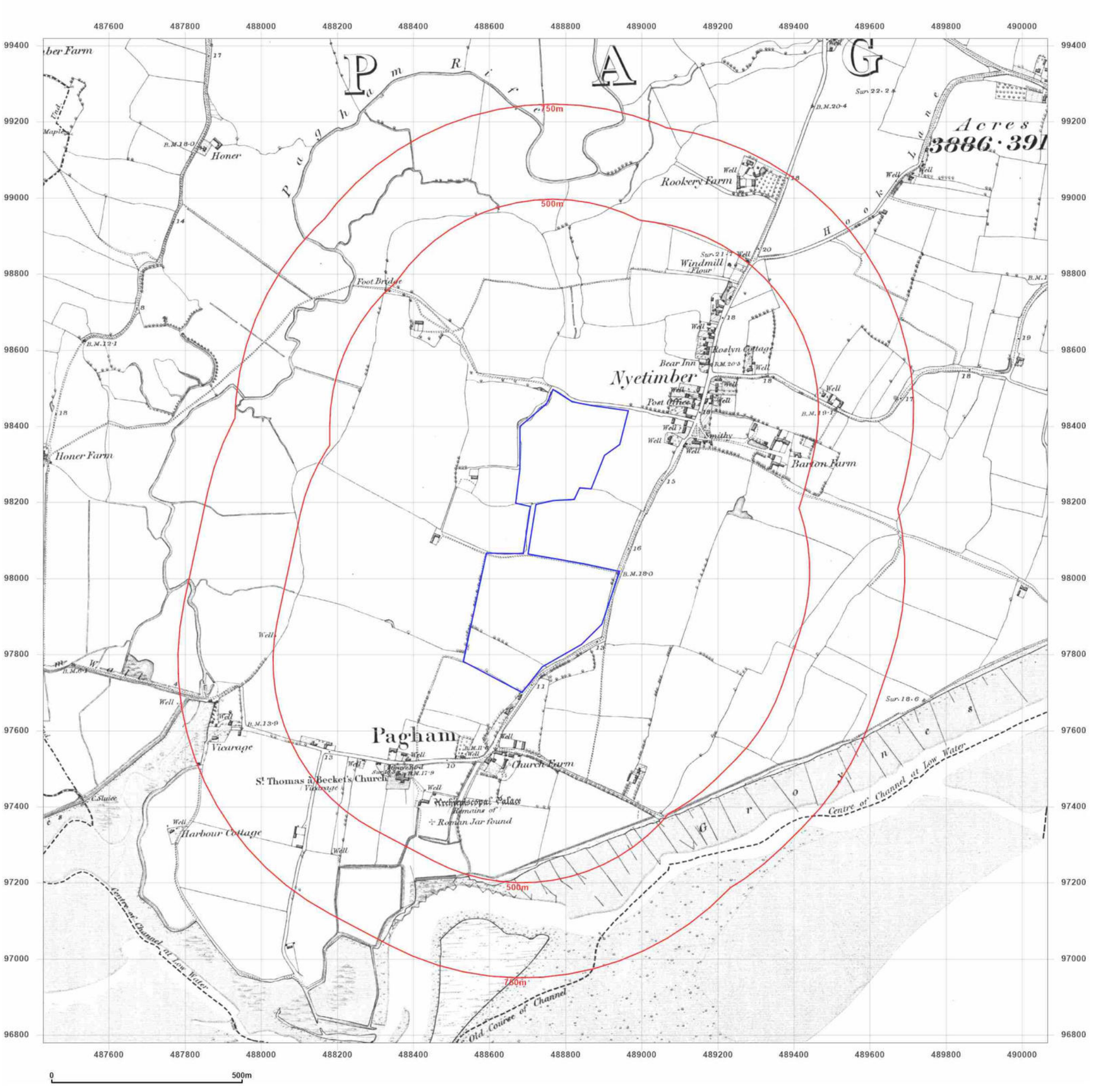
Dynamic Probing involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

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APPENDIX D: GroundSure Historical Mapping



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Client Ref: GWPR5982
Report Ref: GS-LXL-OJI-BGG-UMX
Grid Ref: 488746, 98098

Map Name: County Series
Map date: **1875**
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Printed at: 1:10,560

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Revised 1875
Edition N/A
Copyright N/A
Levelled N/A

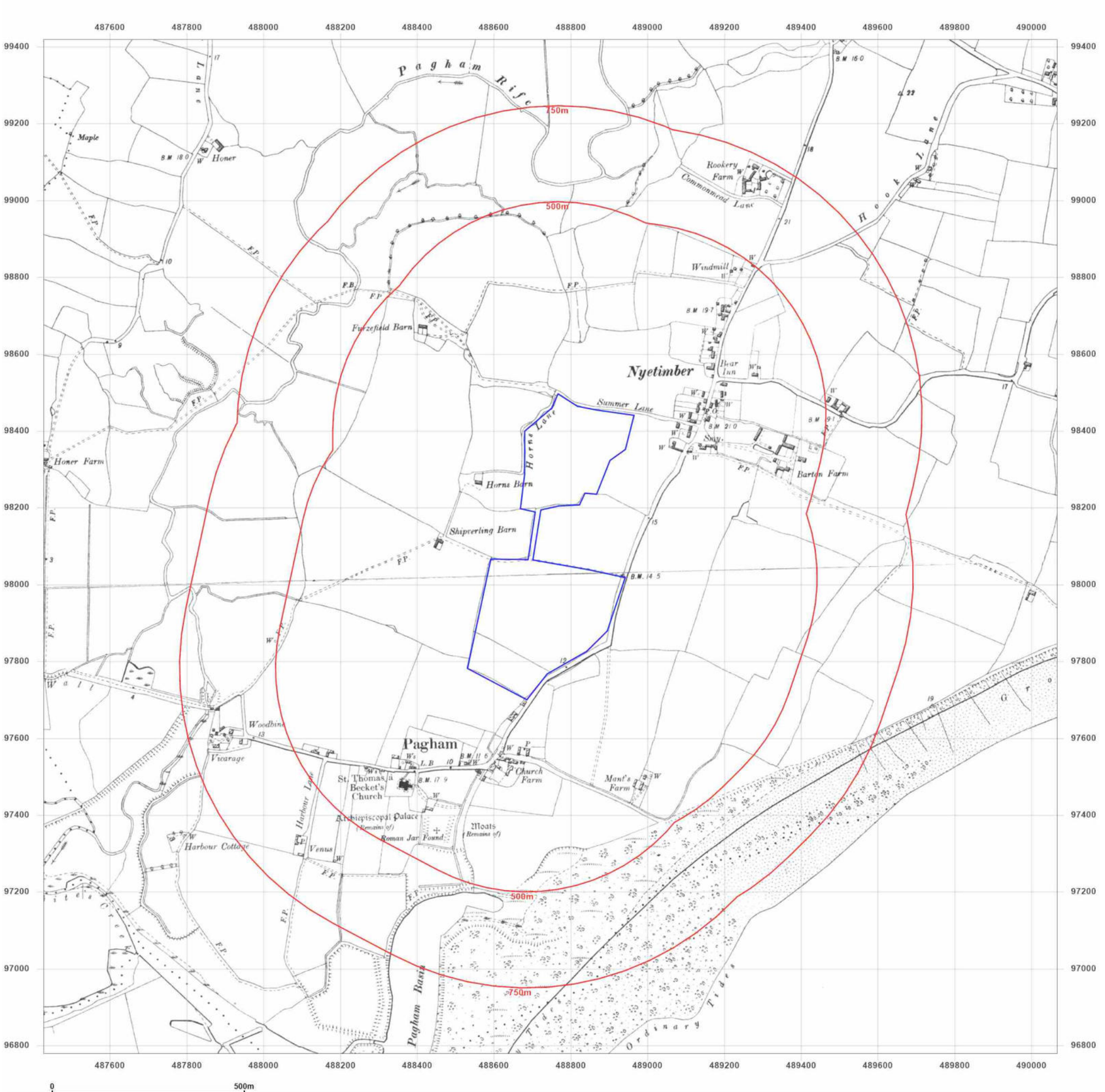
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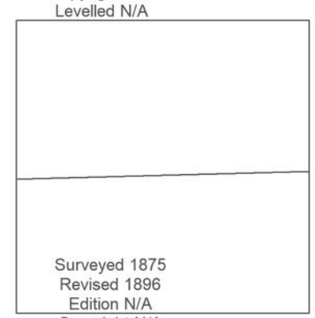
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Map Name: County Series
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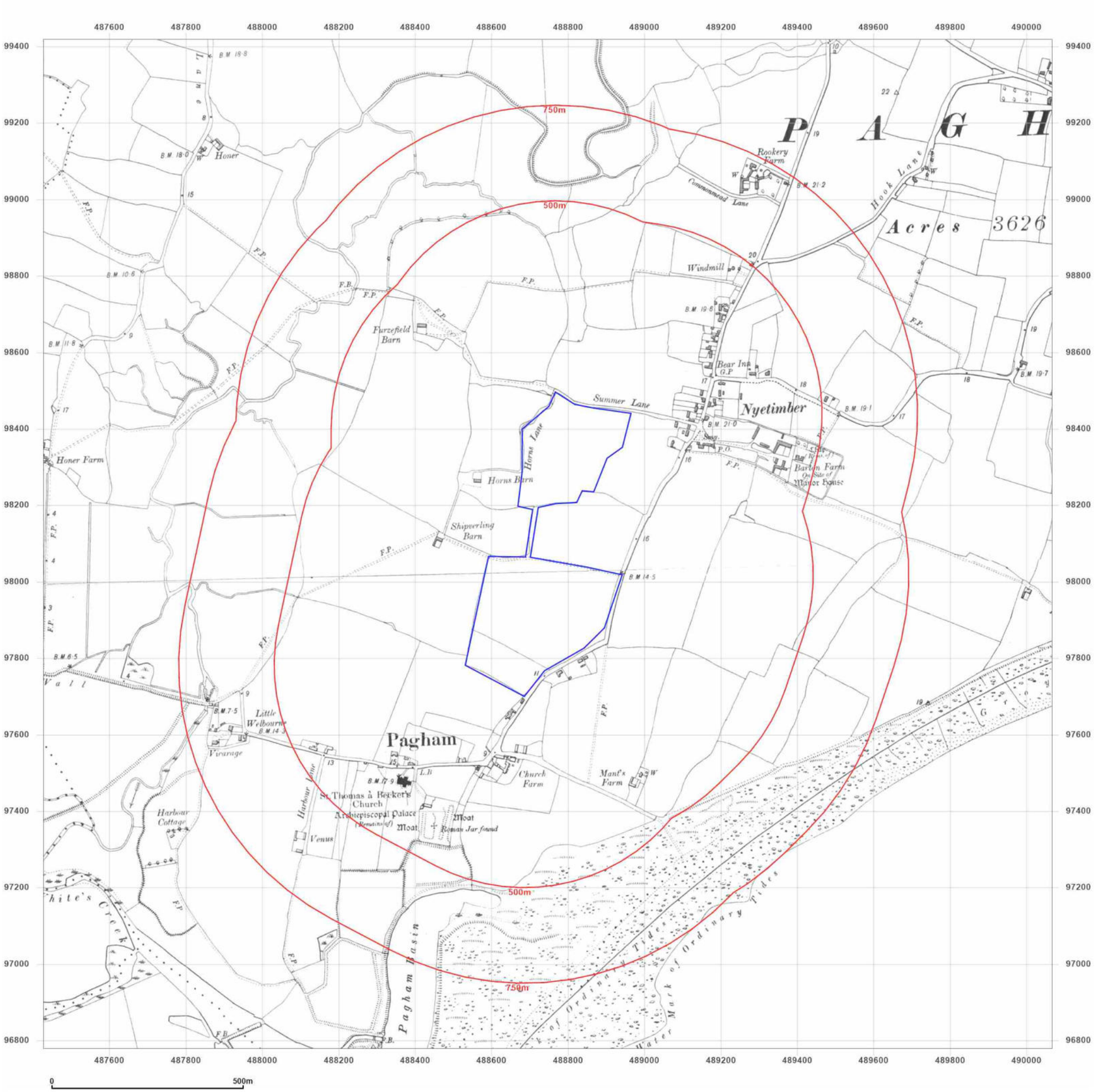
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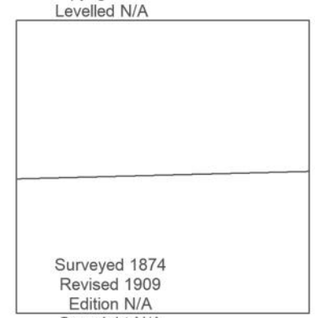
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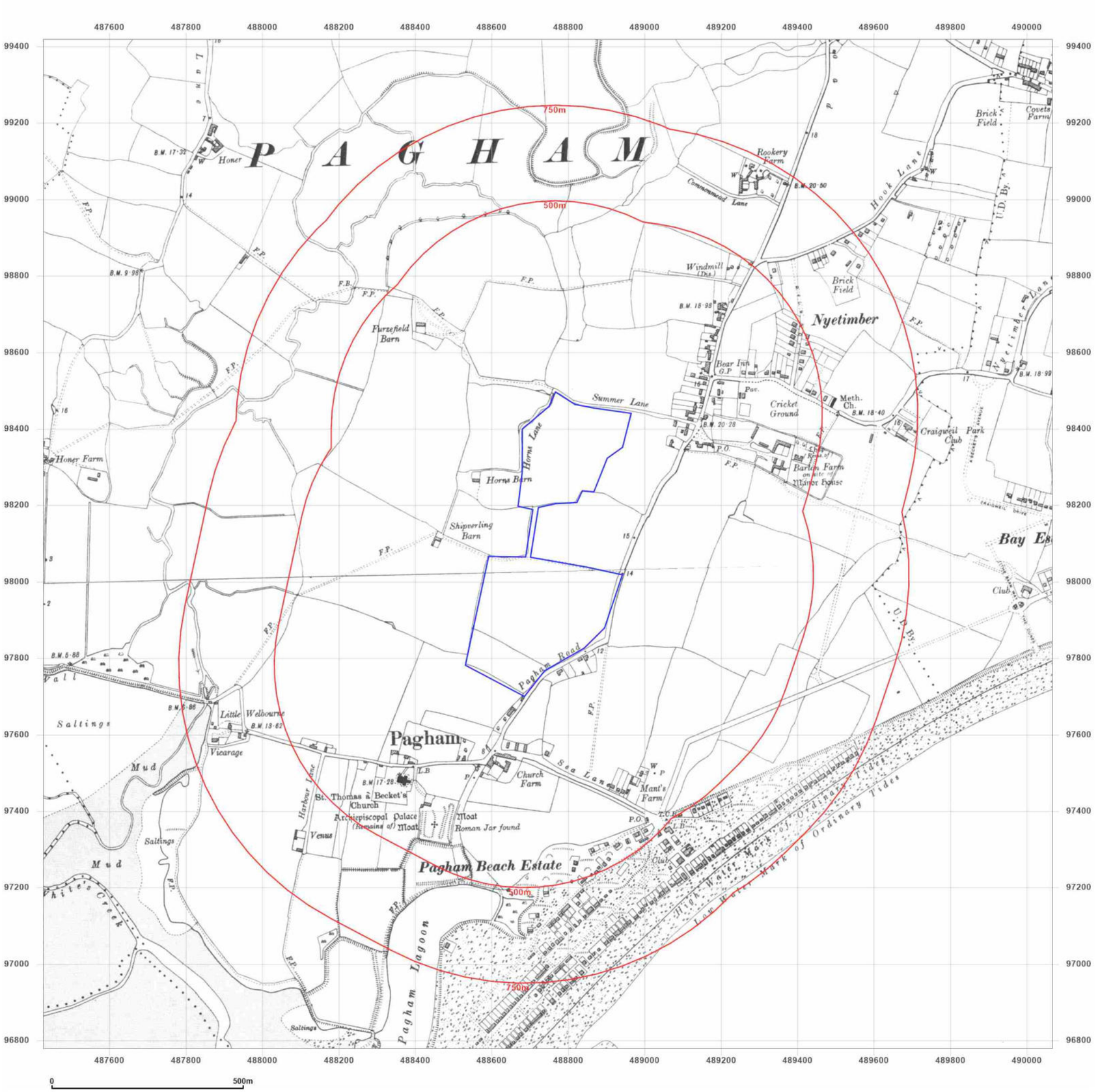
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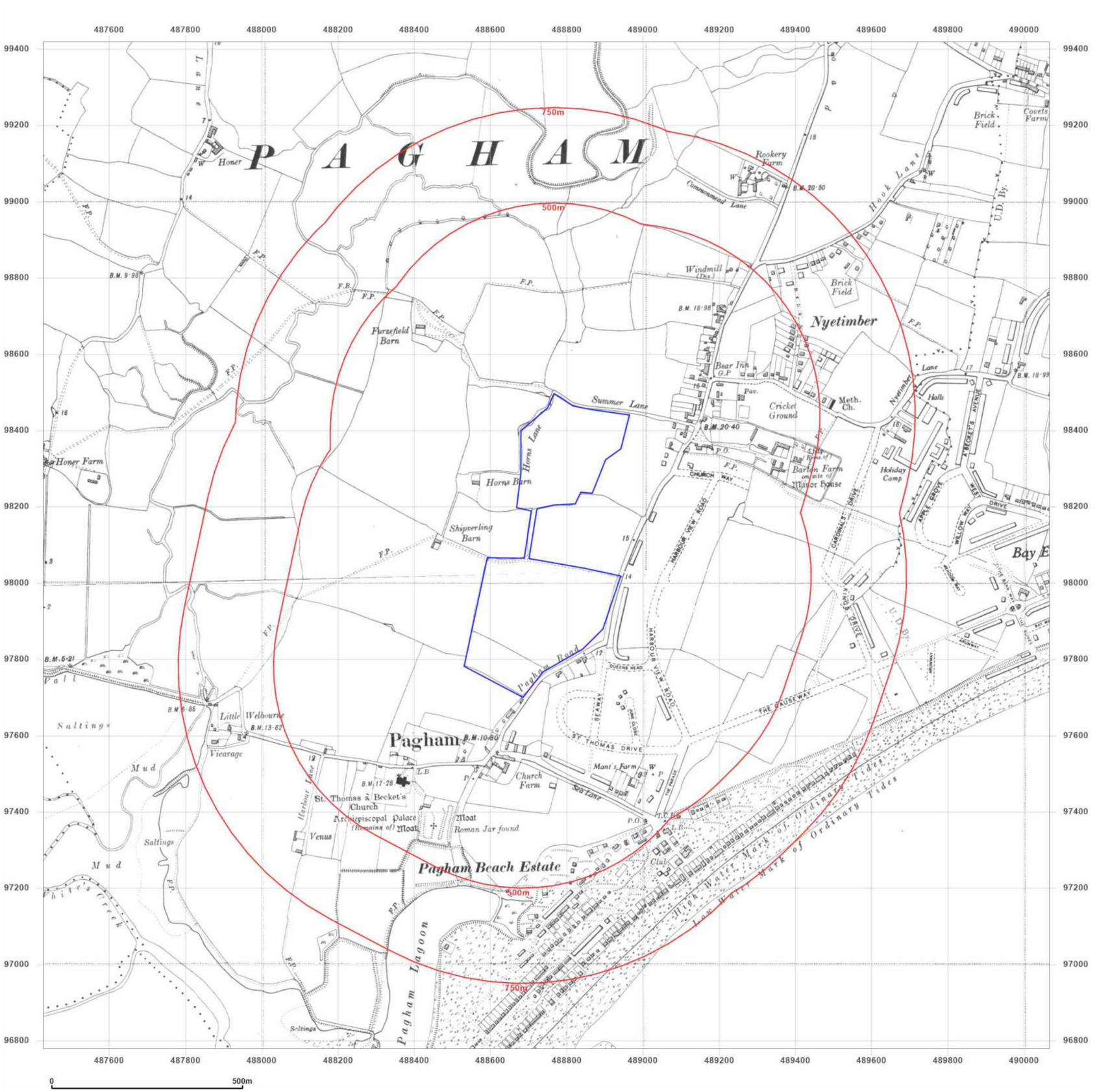
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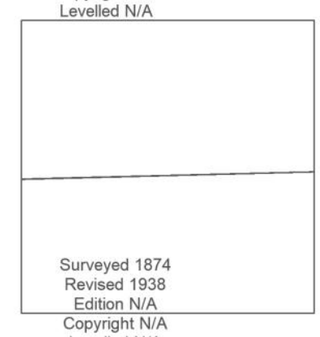
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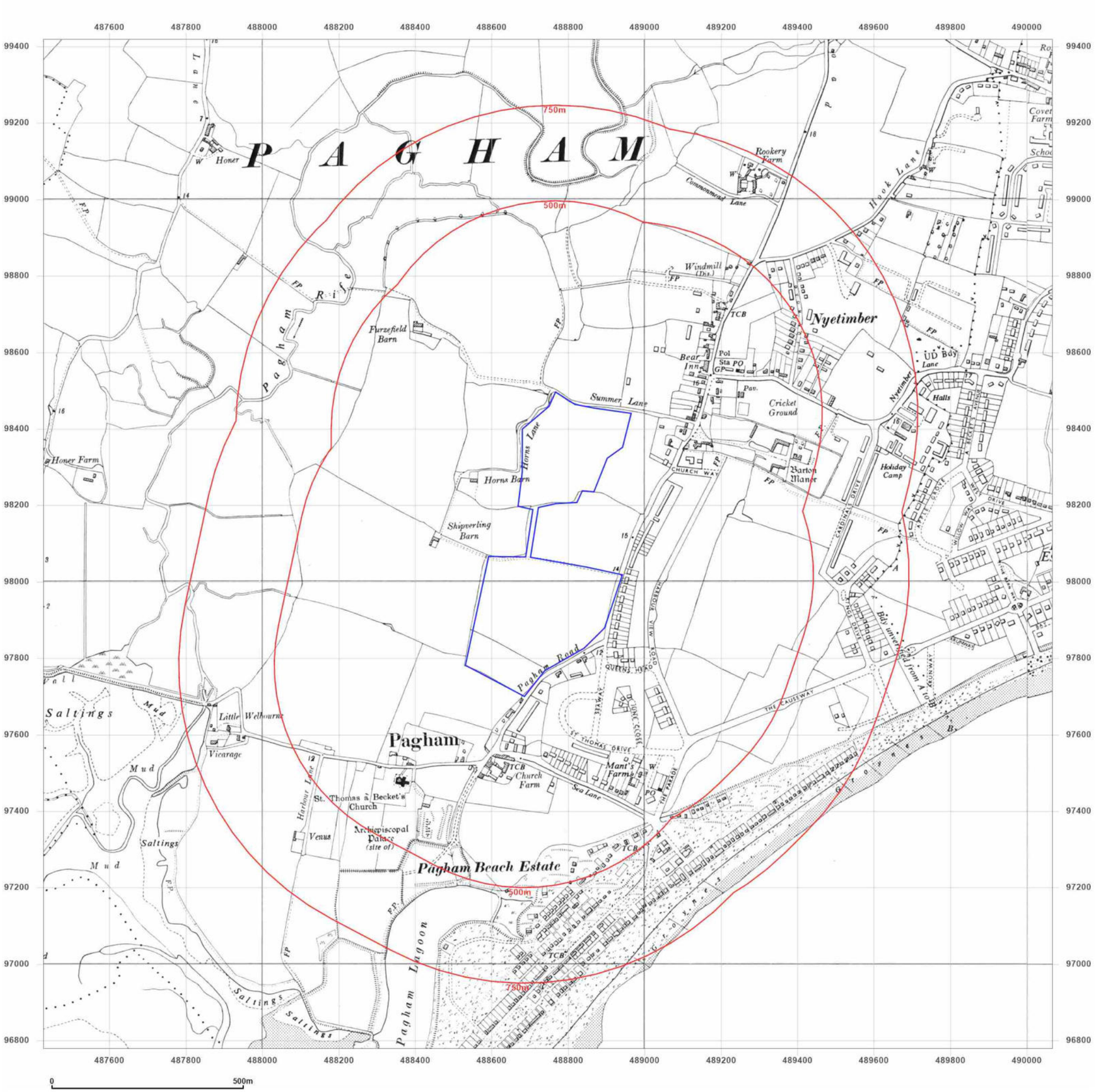
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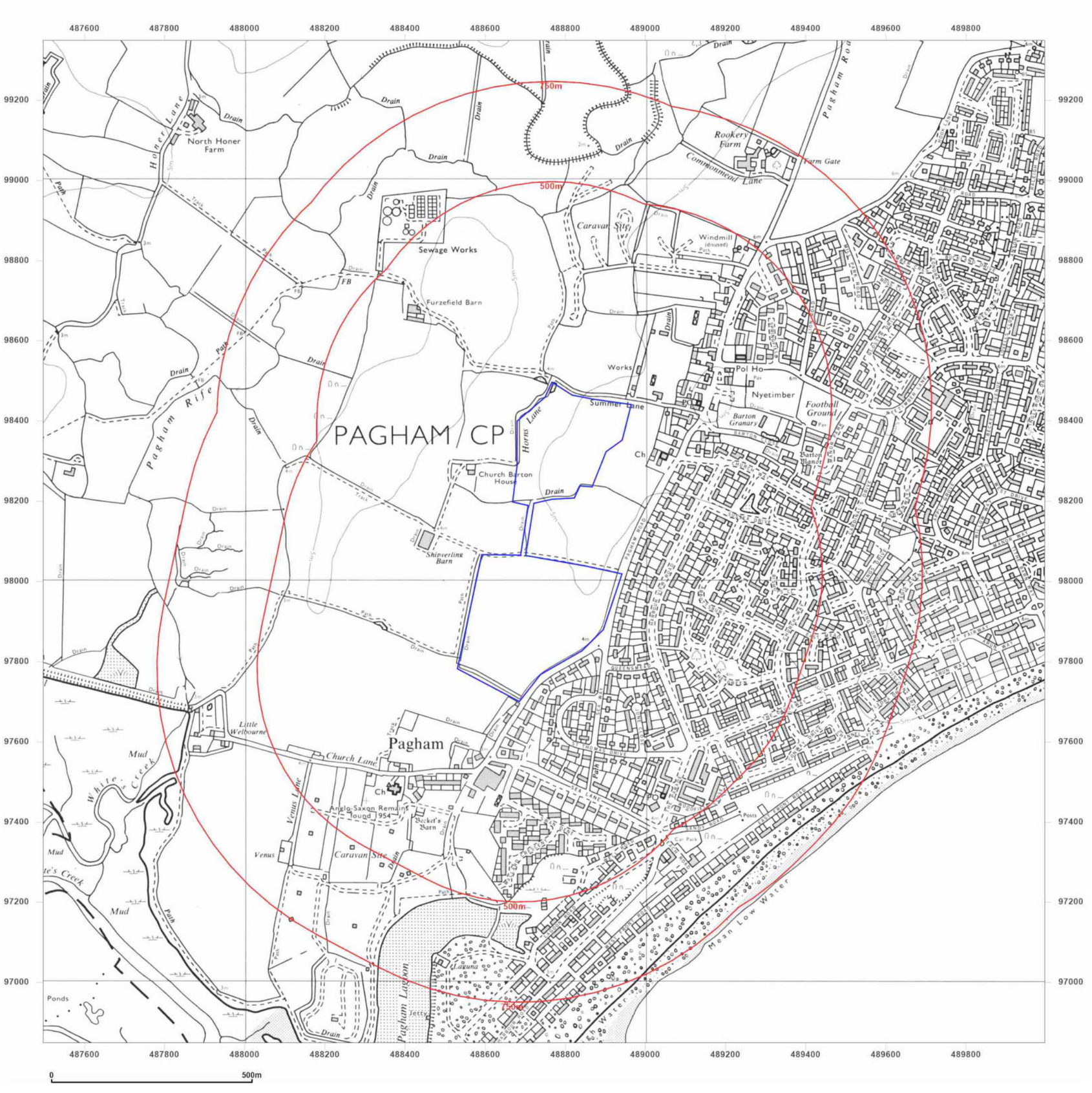
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Map Name: National Grid

Map date: **1976**

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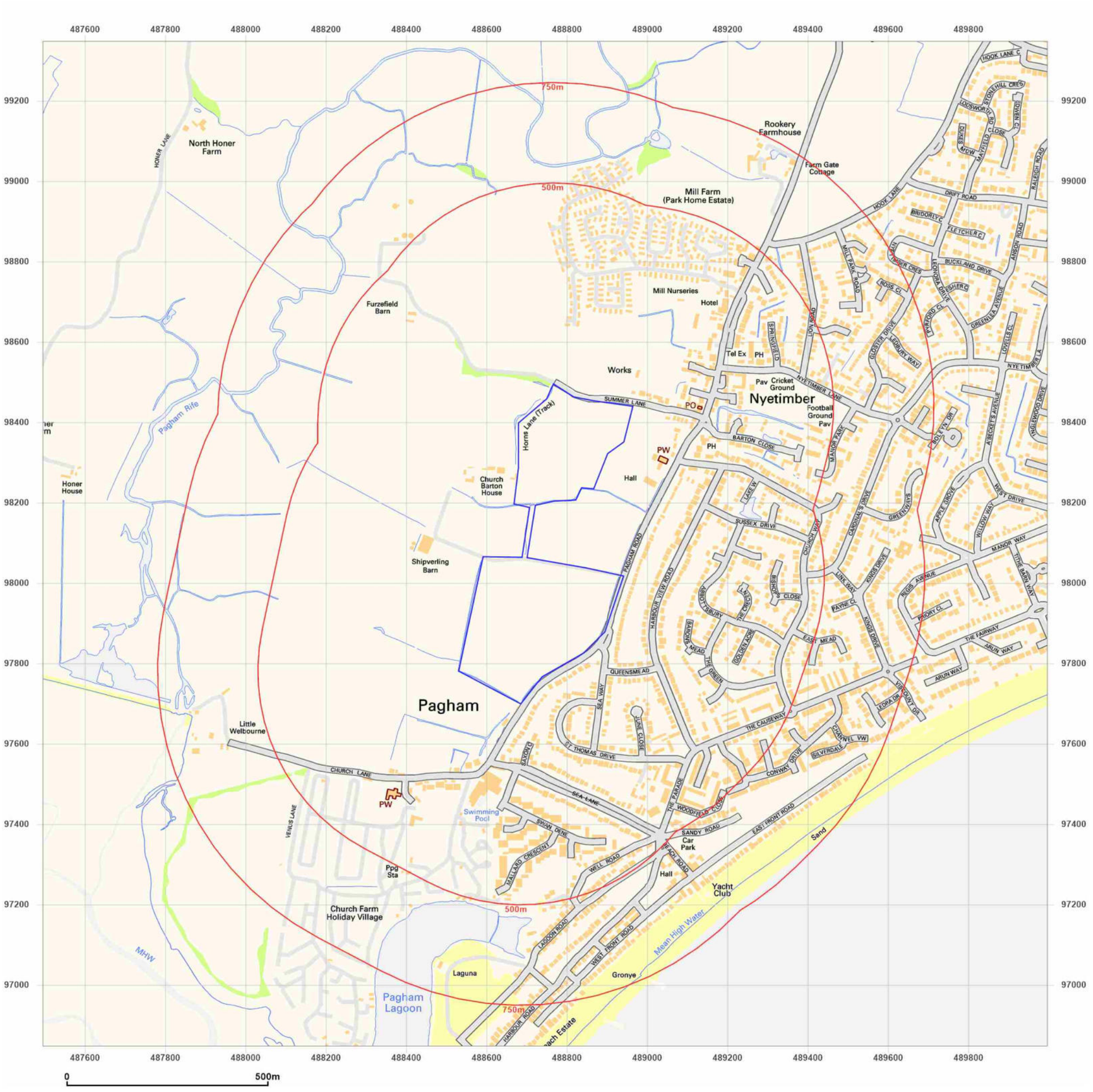
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2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB

[redacted]

groundandwater.co.uk

APPENDIX E: Trial Hole Logs

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.30			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint. Organic smell noted.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=5 (1,0/1,1,1,2)				
	▼				1.50			Light brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to coarse, angular to sub-rounded of flint. (RIVER TERRACE DEPOSITS).
		1.70	D					
	▽							
		2.20	D					
		2.20	SPT	N=26 (3,3/6,6,8,6)				
		2.70	D					
		3.20	D		3.20			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		3.20	SPT	N=17 (4,7/6,4,4,3)				
		3.70	D					
		4.20	D					
		4.20	SPT	N=9 (2,2/2,2,2,3)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=12 (2,2/2,3,3,4)				
		5.90	D					
		6.50	U					
		7.20	D					
		8.00	D					
		8.00	SPT	N=15 (3,2/4,3,4,4)				
		8.70	D					
		9.50	D					
		9.50	SPT	N=21 (4,4/5,5,5,6)				

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

Perched water noted at 2.10m bgl, rising to 1.60m bgl after 20 minutes.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP			1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.00	D					
		11.00	SPT	N=24 (4,6/5,6,6,7)				
		11.70	D					
		12.50	D					
		12.50	SPT	N=32 (6,6/7,8,8,9)				
		13.20	D					
		14.00	D					
		14.00	SPT	N=37 (5,7/8,9,9,11)				
		14.70	D					
		15.50	U					
		16.20	D					
		17.00	D					
		17.00	SPT	N=38 (8,8/9,9,10,10)				
		17.70	D					
		18.50	D					
		18.50	SPT	N=43 (7,6/8,11,11,13)				
		19.20	D					
		20.00	D		20.00			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

Perched water noted at 2.10m bgl, rising to 1.60m bgl after 20 minutes.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=43 (8,8/9,11,11,12)				End of Borehole at 20.000m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

Perched water noted at 2.10m bgl, rising to 1.60m bgl after 20 minutes.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=5 (1,1/1,1,1,2)				
		1.70	D					
		2.20	D					
		2.20	SPT	N=7 (1,2/1,2,2,2)				
		2.70	D					
		3.20	D					
		3.20	SPT	N=9 (1,2/2,2,2,3)				
		3.70	D					
					4.00			Light brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to coarse, angular to sub-rounded of flint. (RIVER TERRACE DEPOSITS).
		4.20	D					
		4.20	SPT	N=12 (2,2/2,3,3,4)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=17 (3,4/4,5,4,4)				
		5.90	D		5.90			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		6.70	D					
		6.70	SPT	N=19 (3,3/4,4,5,6)				
		7.40	D					
		8.20	U					
		8.90	D					
		9.70	D					
		9.70	SPT	N=26 (5,5/6,6,7,7)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.10m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP			1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.40	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.20	D					
		11.20	SPT	N=29 (6,6/7,7,7,8)				
		11.90	D					
		12.70	D					
		12.70	SPT	N=29 (5,5/6,7,7,9)				
		13.40	D					
		14.20	D					
		14.20	SPT	N=35 (4,6/7,8,9,11)				
		14.90	D					
		15.70	D					
		15.70	SPT	N=41 (6,8/9,10,10,12)				
		16.40	D					
		17.20	D					
		17.20	SPT	N=43 (6,9/9,9,12,13)				
		17.90	D					
		18.70	D					
		18.70	SPT	N=44 (8,8/10,10,11,13)				
		19.40	D					
		20.00	D		20.00			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.10m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=45 (6,9/9,11,11,14)				End of Borehole at 20.000m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.10m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=5 (1,1/1,1,1,2)				
		1.70	D					
		2.20	D					
		2.20	SPT	N=7 (1,1/2,1,2,2)				
		2.70	D					
		3.20	D					
		3.20	SPT	N=9 (2,2/2,2,2,3)				
		3.70	D					
		4.20	D		4.10			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		4.20	SPT	N=17 (3,3/4,5,4,4)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=13 (2,3/3,3,3,4)				
		5.90	D					
		6.50	D					
		6.50	SPT	N=20 (3,4/4,4,6,6)				
		7.20	D					
		8.00	D					
		8.00	SPT	N=22 (4,4/5,5,5,7)				
		8.70	D					
		9.50	U					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.20m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP			1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.00	D					
		11.00	SPT	N=31 (6,6/7,7,8,9)				
		11.70	D					
		12.50	D					
		12.50	SPT	N=27 (5,5/6,6,7,8)				
		13.20	D					
		14.00	D					
		14.00	SPT	N=35 (6,6/7,9,9,10)				
		14.70	D					
		15.50	D					
		15.50	SPT	N=38 (7,6/9,9,10,10)				
		16.20	D					
		17.00	D					
		17.00	SPT	N=40 (8,7/9,9,11,11)				
		17.70	D					
		18.50	D					
		18.50	SPT	N=40 (6,6/8,10,10,12)				
		19.20	D					
		20.00	D		20.00			

11 12 13 14 15 16 17 18 19 20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.20m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=42 (7,9/9,10,10,13)				End of Borehole at 20.000m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.20m bgl.

No groundwater noted.

AGS

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH4	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=6 (1,1/1,1,2,2)				
		1.70	D					
		2.20	D					
		2.20	SPT	N=8 (1,1/2,2,2,2)				
		2.70	D					
		3.20	D					
		3.20	SPT	N=9 (2,1/2,2,2,3)				
		3.70	D					
		4.20	D		4.20			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		4.20	SPT	N=16 (2,3/4,4,4,4)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=20 (3,4/4,5,5,6)				
		5.90	D					
		6.70	D					
		6.70	SPT	N=25 (6,5/6,5,7,7)				
		7.40	D					
		8.20	D					
		8.20	SPT	N=26 (4,6/6,6,7,7)				
		8.90	D					
		9.70	D					
		9.70	SPT	N=29 (6,6/7,7,7,8)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)		Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD		Contractor:	
Project No. : GWPR5982		Crew Name:	Drilling Equipment:
Borehole Number: BH4	Hole Type: CP	Level:	Logged By:
Scale: 1:50	Page Number: Sheet 2 of 3		

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.40	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.20	D					
		11.20	SPT	N=30 (5,6/7,7,7,9)				
		11.90	D					
		12.70	D					
		12.70	SPT	N=32 (5,7/7,8,8,9)				
		13.40	D					
		14.20	U					
		14.70	D					
		15.70	D					
		15.70	SPT	N=39 (7,7/9,9,10,11)				
		16.40	D					
		17.20	D					
		17.20	SPT	N=42 (6,7/9,10,11,12)				
		17.90	D					
		18.70	D					
		18.70	SPT	N=45 (8,8/9,10,12,14)				
		19.40	D					
		20.00	D		20.00			

11 12 13 14 15 16 17 18 19 20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH4	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=48 (6,9/11,11,13,13)				End of Borehole at 20.000m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH5	CP			1:50	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.30			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=4 (1,0/1,1,1,1)				
		1.70	D		1.70			Light brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to coarse, angular to sub-rounded of flint. (RIVER TERRACE DEPOSITS).
		2.20	D					
		2.20	SPT	N=26 (4,7/6,7,7,6)				
		2.70	D					
		3.20	D		3.10			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		3.20	SPT	N=8 (2,1/1,2,2,3)				
		3.70	D					
		4.20	D					
		4.20	SPT	N=10 (2,2/2,2,3,3)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=14 (4,3/3,3,4,4)				
		5.90	D					
		6.50	D					
		6.50	SPT	N=18 (3,3/4,4,4,6)				
		7.20	D					
		8.00	D					
		8.00	SPT	N=20 (4,4/4,5,5,6)				
		8.70	D					
		9.50	D					
		9.50	SPT	N=25 (5,5/6,6,6,7)				

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 0.90m bgl.

Perched water noted at 2.10m bgl, rising to 1.90m bgl after 20 minutes.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH5	CP			1:50	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.00	D					
		11.00	SPT	N=29 (4,4/7,7,7,8)				
		11.70	D					
		12.50	U					
		13.20	D					
		14.00	D					
		14.00	SPT	N=31 (6,6/7,7,8,9)				
		14.70	D					
		15.50	D					
		15.50	SPT	N=37 (7,8/8,9,9,11)				
		16.20	D					
		17.00	D					
		17.00	SPT	N=38 (6,6/9,9,10,10)				
		18.00	U					
		18.70	D					
		19.50	D					
		19.50	SPT	N=43 (9,9/9,11,11,12)				
					20.00			End of Borehole at 20.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 0.90m bgl.

Perched water noted at 2.10m bgl, rising to 1.90m bgl after 20 minutes.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH6	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=4 (1,0/1,1,1,1)				
		1.70	D					
		2.20	D					
		2.20	SPT	N=6 (1,1/1,1,2,2)				
		2.70	D					
		3.20	D					
		3.20	SPT	N=8 (2,1/2,2,2,2)				
		3.70	D					
		4.20	D		4.20			Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		4.20	SPT	N=12 (2,2/3,3,3,3)				
		4.70	D					
		5.20	D					
		5.20	SPT	N=17 (3,3/4,4,4,5)				
		5.90	D					
		6.50	D					
		6.50	SPT	N=22 (4,4/5,5,6,6)				
		7.20	D					
		8.00	U					
		8.45	D					
		9.50	D					
		9.50	SPT	N=25 (4,4/6,6,6,7)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH6	CP			1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.00	D					
		11.00	SPT	N=32 (6,7/7,8,8,9)				
		11.70	D					
		12.50	D					
		12.50	SPT	N=32 (4,7/8,7,8,9)				
		13.20	D					
		14.00	D					
		14.00	SPT	N=33 (6,6/7,8,9,9)				
		14.70	D					
		15.50	D					
		15.50	SPT	N=37 (5,8/8,9,9,11)				
		16.20	D					
		17.00	D					
		17.00	SPT	N=36 (6,6/7,8,9,12)				
		17.70	D					
		18.50	D					
		18.50	SPT	N=41 (8,8/8,9,11,13)				
		19.20	D					
		20.00	D		20.00			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH6	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=46 (6,9/9,11,11,15)				End of Borehole at 20.000m

21
22
23
24
25
26
27
28
29
30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH7	CP			1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Crops over brownish grey sandy gravelly CLAY. Sand is fine. Gravel is fine to coarse, angular to sub-rounded of flint.
		0.40	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		0.80	D					
		1.00	D					
		1.20	D					
		1.20	SPT	N=4 (1,1/1,1,1,1)				
		1.70	D		1.70			Light brown sandy clayey GRAVEL. Sand is fine to medium. Gravel is fine to coarse, angular to sub-rounded of flint. (RIVER TERRACE DEPOSITS).
		2.20	D					
		2.20	SPT	N=6 (1,2/1,2,1,2)	2.50			
		2.70	D					Brown, light brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse, angular to rounded of flint. (RIVER TERRACE DEPOSITS).
		3.20	D					
		3.20	SPT	N=9 (2,2/2,2,2,3)				
		3.70	D		3.90			
		4.20	U					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		4.70	D					
		5.20	D					
		5.20	SPT	N=14 (2,2/3,3,3,5)				
		5.90	D					
		6.50	D					
		6.50	SPT	N=16 (3,4/3,4,4,5)				
		7.20	D					
		8.00	D					
		8.00	SPT	N=27 (4,6/7,6,7,7)				
		8.70	D					
		9.50	D					
		9.50	SPT	N=29 (6,6/7,7,7,8)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH7	CP			1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Blue, grey, dark grey CLAY with occasional selenite crystals. (LONDON CLAY FORMATION).
		11.00	D					
		11.00	SPT	N=33 (6,7/8,8,8,9)				
		11.70	D					
		12.50	D					
		12.50	SPT	N=32 (6,6/7,7,9,9)				
		13.20	D					
		14.00	D					
		14.00	SPT	N=34 (3,7/7,8,9,10)				
		14.70	D					
		15.50	D					
		15.50	SPT	N=36 (6,6/6,8,10,12)				
		16.20	D					
		17.00	D					
		17.70	D					
		18.50	D					
		18.50	SPT	N=47 (8,9/11,11,11,14)				
		19.20	D					
		20.00	D		20.00			

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

Percussion Drilling Log

Project Name: Summer Lane (NORTH SOUTH)	Client: Foreman Homes Limited	Date:
Location: Pagham, West Sussex, PO21 4FD	Contractor:	
Project No. : GWPR5982	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH7	CP			1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=47 (9,9/10,12,12,13)				End of Borehole at 20.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Roots noted to 1.00m bgl.

No groundwater noted.

2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB

[redacted]

groundandwater.co.uk

APPENDIX F: Geotechnical Laboratory Testing

Laboratory Report

UKAS TESTING 2788

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES
A PHENNA GROUP COMPANY

Contract Number: 73690

Client Ref: **GWPR5982.1**
Client PO: **GWPR5982.1**

Date Received: **12-07-2024**
Date Completed: **24-07-2024**
Report Date: **24-07-2024**

Client: **Ground and Water Limited**

This report has been checked and approved by:

Contract Title: **Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD**
For the attention of: **Adam Young**

[redacted]

Brendan Evans
Office Administrator

Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	13
1 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.4 & 5.3 - * UKAS	13
Particle Size Distribution BS EN ISO 17892-4 : 5.1 - * UKAS	2
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter) BS 1377:1990 - Part 7 : 9 - * UKAS	10
Disposal of samples for job	1

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:
Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
[redacted]

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES

NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	73690
Project Name	Summer Lane (North South) Pagham West Sussex PO21 4FD
Date Tested	23.07.2024

DESCRIPTIONS

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH1			14.70	-		Brown silty CLAY
BH2			13.40	-		Brown silty CLAY
BH3			10.20	-		Brown silty CLAY
BH4			7.40	-		Brown silty CLAY
BH5			5.90	-		Brown silty CLAY
BH6			3.70	-		Brown slightly sandy silty CLAY
BH7			2.20	-		Brown fine to coarse gravelly fine to coarse sandy silty CLAY
BH3			7.20	-		Brown silty CLAY
BH4			10.40	-		Brown silty CLAY
BH5			14.70	-		Brown silty CLAY
BH6			16.20	-		Brown silty CLAY
BH7			13.20	-		Brown silty CLAY
BH4			18.70	-		Brown silty CLAY
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		

Operator
Darren Bourne

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES

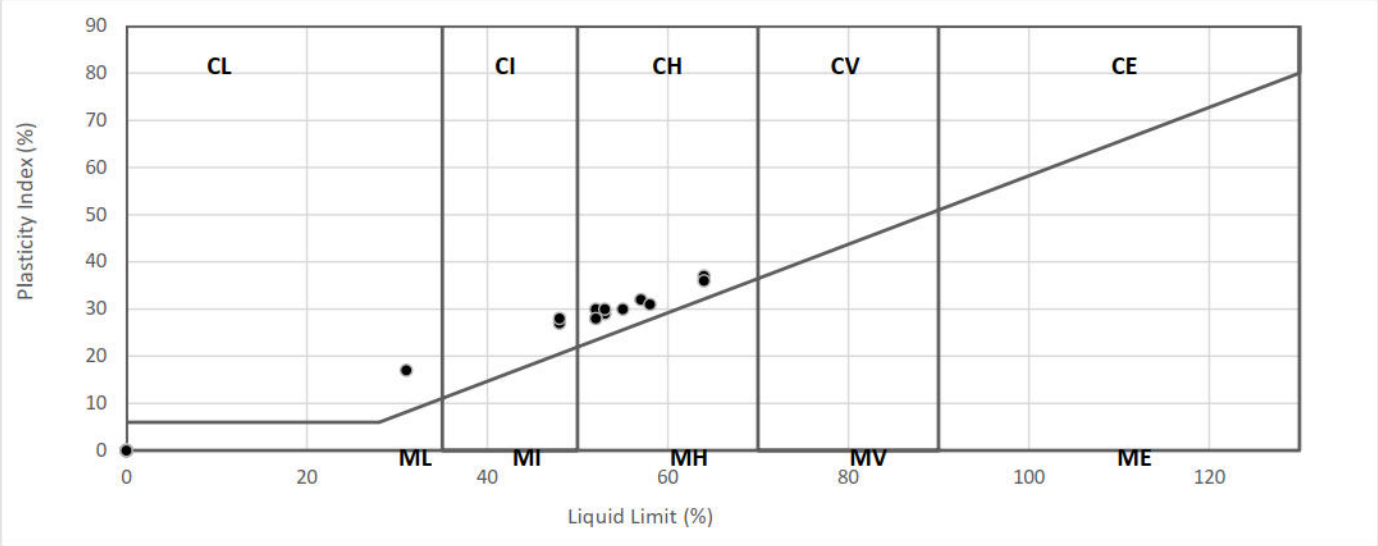
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	73690
Project Name	Summer Lane (North South) Pagham West Sussex PO21 4FD
Date Tested	23.07.2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BH1			14.70	-		25	64	27	37	100	CH High Plasticity
BH2			13.40	-		23	48	21	27	100	CI Intermediate Plasticity
BH3			10.20	-		26	64	28	36	100	CH High Plasticity
BH4			7.40	-		25	53	24	29	100	CH High Plasticity
BH5			5.90	-		26	52	24	28	100	CH High Plasticity
BH6			3.70	-		27	57	25	32	99	CH High Plasticity
BH7			2.20	-		11	31	14	17	57	CL Low Plasticity
BH3			7.20	-		27	55	25	30	100	CH High Plasticity
BH4			10.40	-		24	52	22	30	100	CH High Plasticity
BH5			14.70	-		25	58	27	31	100	CH High Plasticity
BH6			16.20	-		25	53	23	30	100	CH High Plasticity
BH7			13.20	-		27	52	24	28	100	CH High Plasticity
BH4			18.70	-		21	48	20	28	100	CI Intermediate Plasticity
				-							
				-							
				-							
				-							
				-							
				-							
				-							
				-							
				-							
				-							
				-							

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

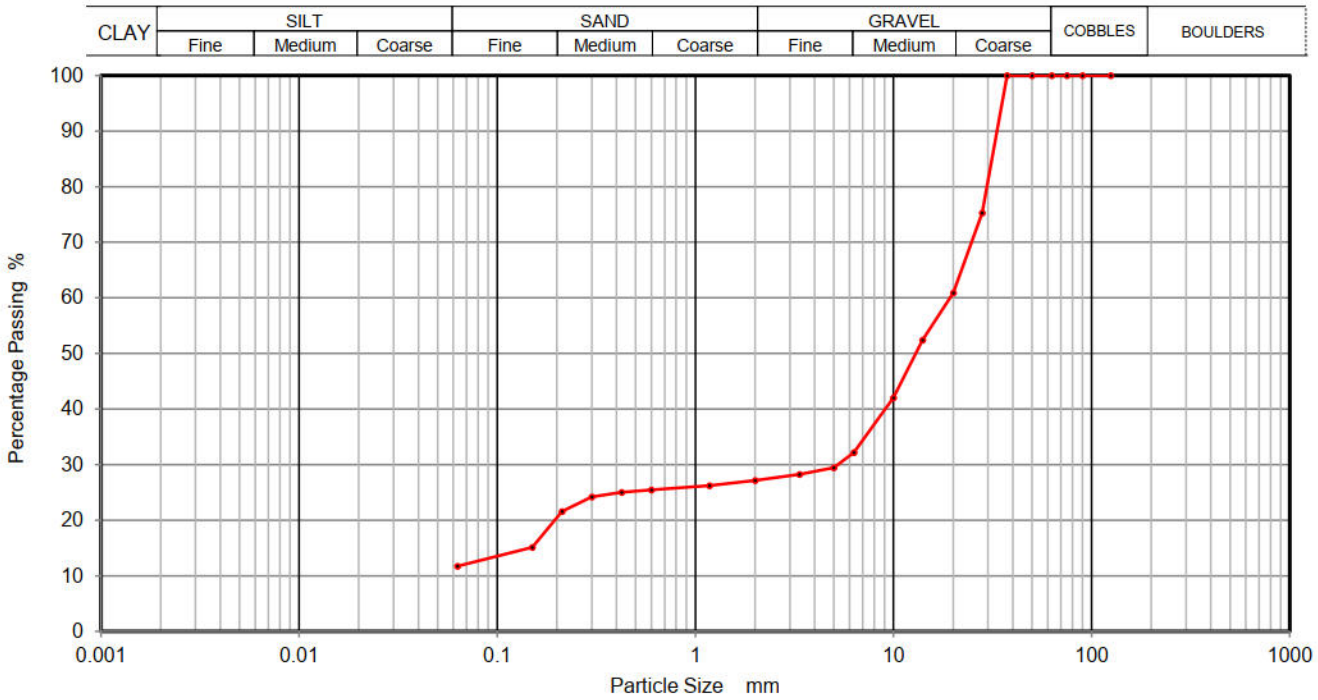
PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



Operator
Darren Bourne

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2**	Contract Number	**73690**
		Borehole/Pit No.	**BH1**
Project Name	**Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD**	Sample No.	
Sample Description	Brown silty/clay fine to coarse sandy fine to coarse GRAVEL	Depth Top	**2.70**
		Depth Base	
Date Tested	19/07/2024	Sample Type	**0**



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	75		
20	61		
14	52		
10	42		
6.3	32		
5	29		
3.35	28		
2	27		
1.18	26		
0.63	25		
0.425	25		
0.30	24		
0.20	22		
0.15	15		
0.063	12		

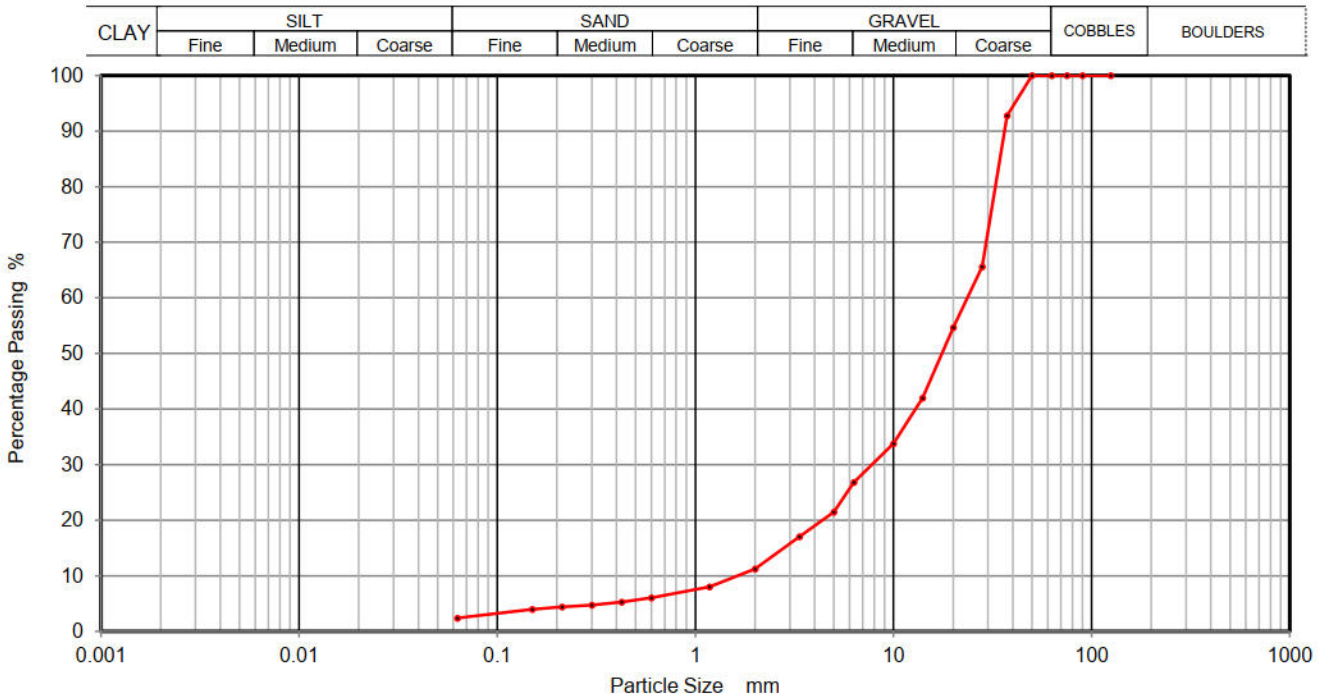
Sample Proportions	% dry mass
Cobbles	0
Gravel	73
Sand	15
Silt and Clay	12

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron Thomas

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2**	Contract Number	**73690**
		Borehole/Pit No.	**BH2**
Project Name	**Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD**	Sample No.	
Sample Description	Light brown slightly silty/clay slightly fine to coarse sandy fine to coarse GRAVEL	Depth Top	**4.70**
		Depth Base	
Date Tested	19/07/2024	Sample Type	**D**



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	93		
28	66		
20	55		
14	42		
10	34		
6.3	27		
5	21		
3.35	17		
2	11		
1.18	8		
0.63	6		
0.425	5		
0.30	5		
0.20	4		
0.15	4		
0.063	2		

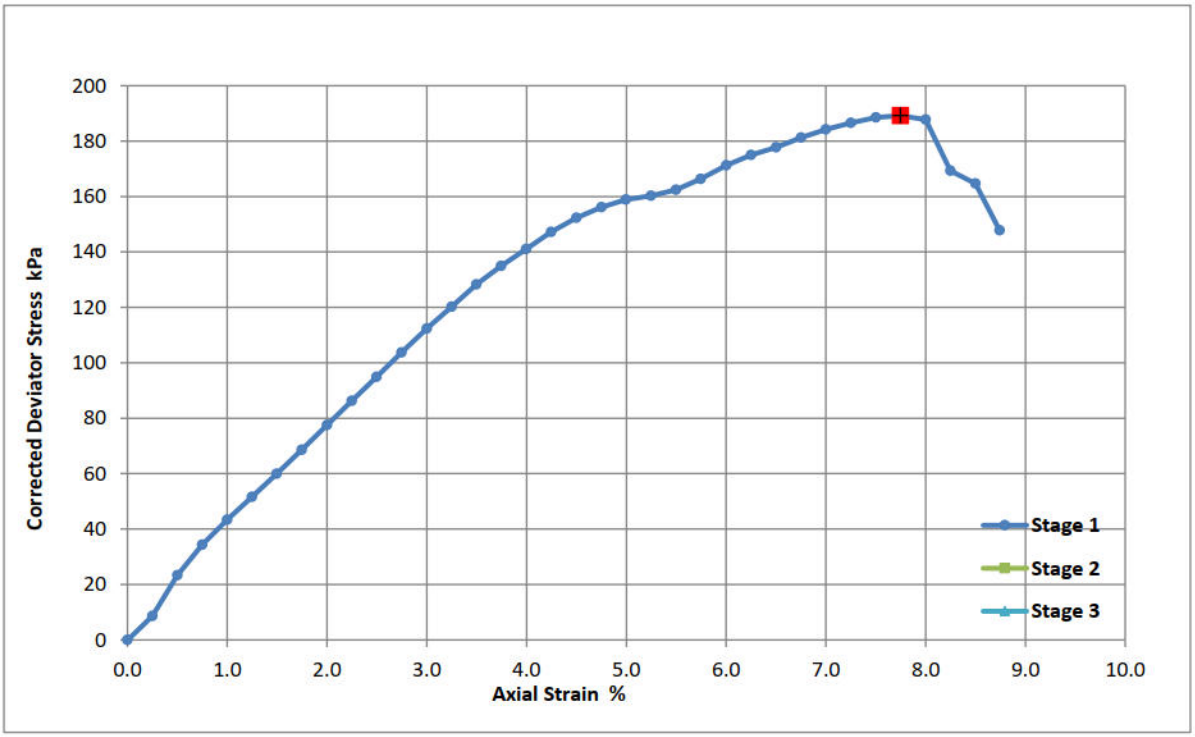
Sample Proportions	% dry mass
Cobbles	0
Gravel	89
Sand	9
Silt and Clay	2

Remarks

Preparation and testing in accordance with BS17892 unless noted below

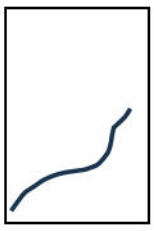
Operator
Cameron Thomas

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH1
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	15.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	2.01		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	208.5		
Specimen Diameter (mm)	102.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	189	0.0	0.0
Undrained Shear Strength (kPa)	95	0.0	0.0
Failure Strain (%)	7.7		
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.
Failed on second pressure

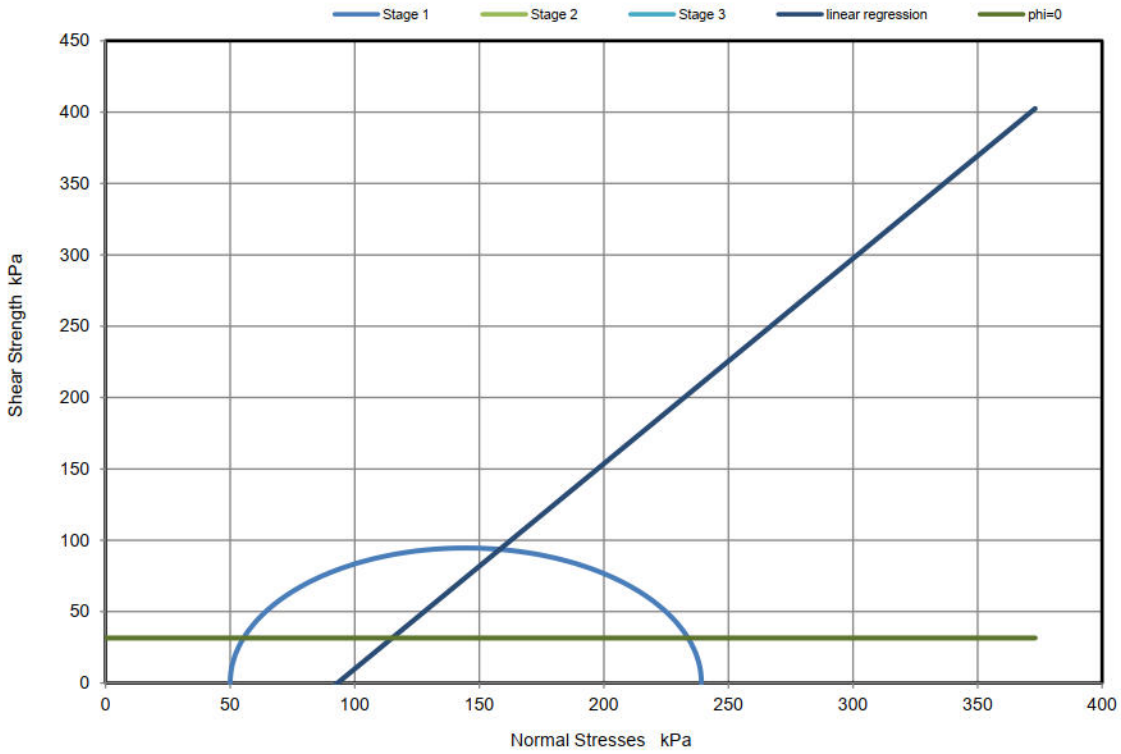


Failure Sketch.

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH1
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	15.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

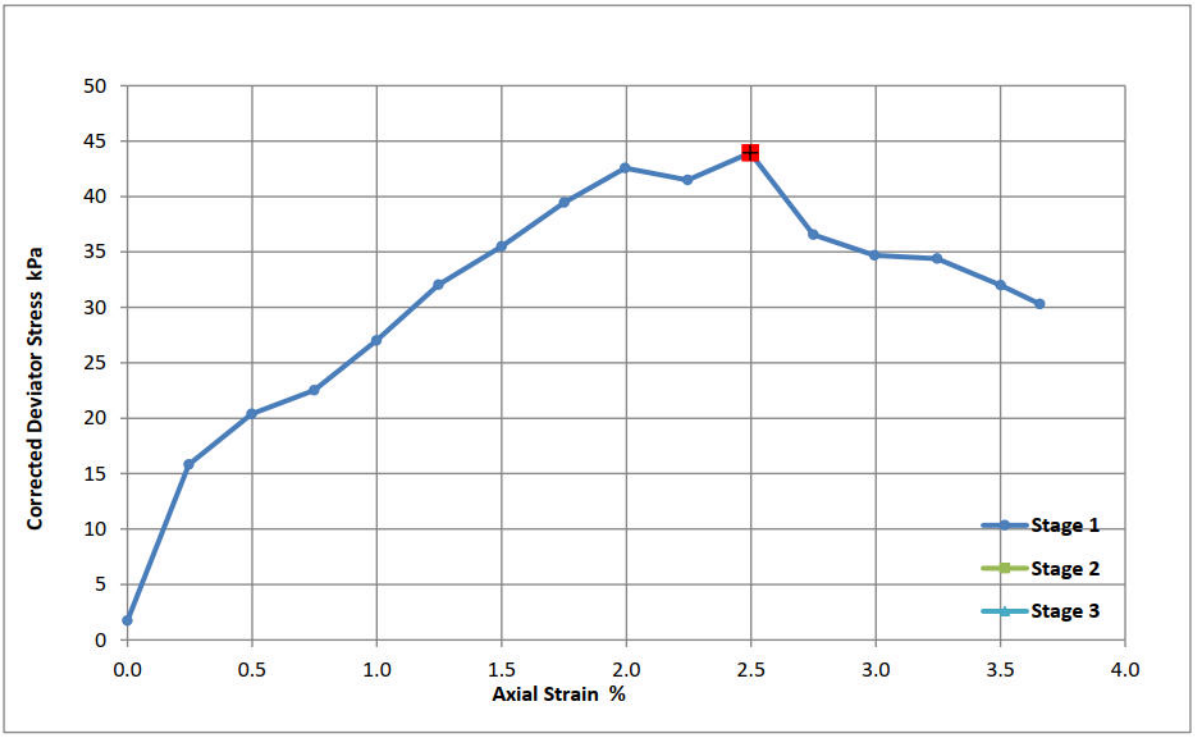
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	32	kPa	ϕ_u	55.2	°
			c_u	-134	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

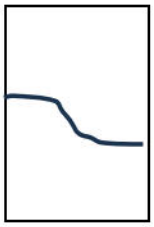
GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	18.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	2.00		
Dry Density (Mg/m^3)	1.62		
Specimen Length (mm)	201.3		
Specimen Diameter (mm)	100.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	44	0.0	0.0
Undrained Shear Strength (kPa)	22	0.0	0.0
Failure Strain (%)	2.5		
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

Failed on second Pressure

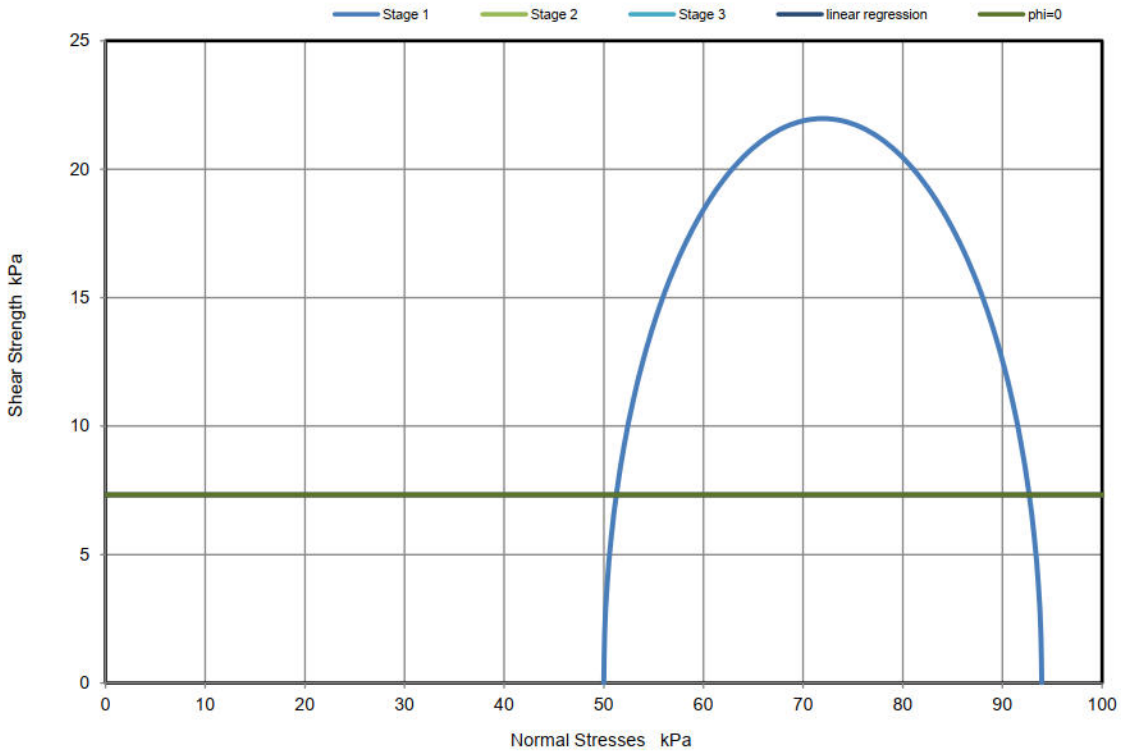


Failure Sketch.

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	18.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

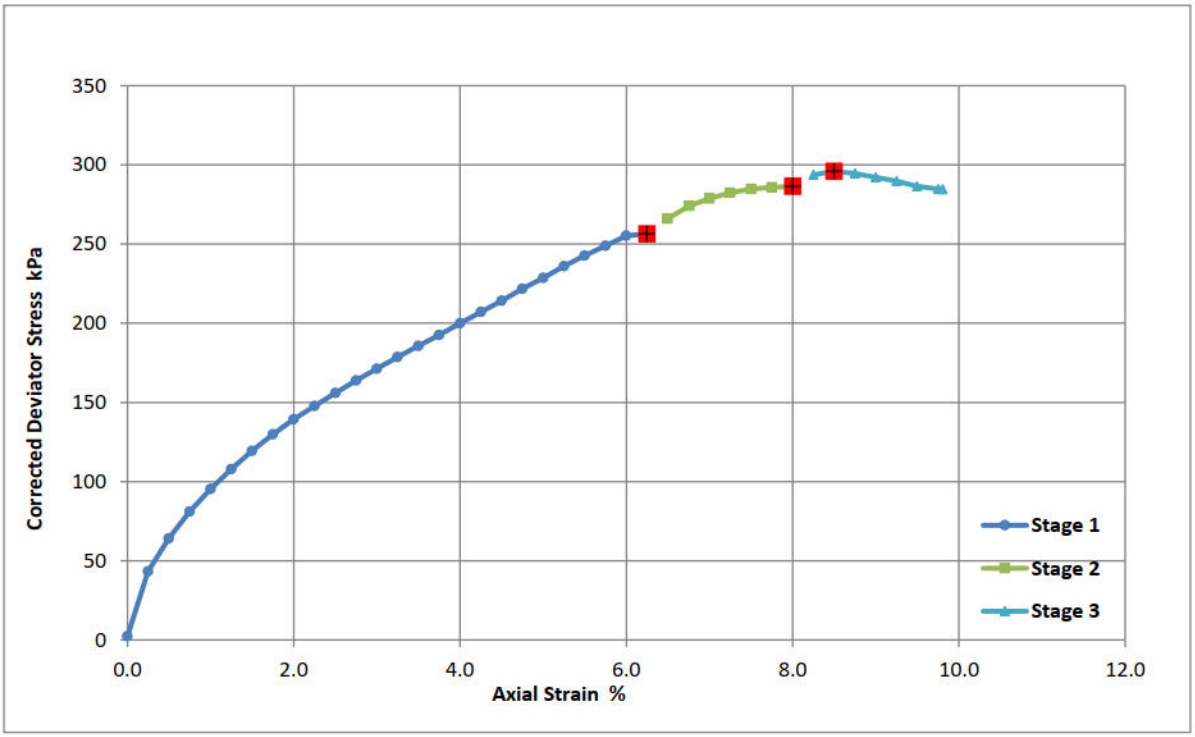
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	7	kPa	ϕ_u	0	°
			c_u	7	kPa

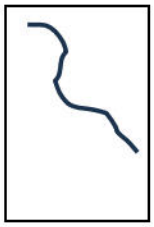
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH2
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Gravelly Silty CLAY	Depth Top	8.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	28		
Bulk Density (Mg/m^3)	1.97		
Dry Density (Mg/m^3)	1.54		
Specimen Length (mm)	208.3		
Specimen Diameter (mm)	104.1		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	256	286	296
Undrained Shear Strength (kPa)	128	143	148
Failure Strain (%)	6.2	8.0	8.5
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

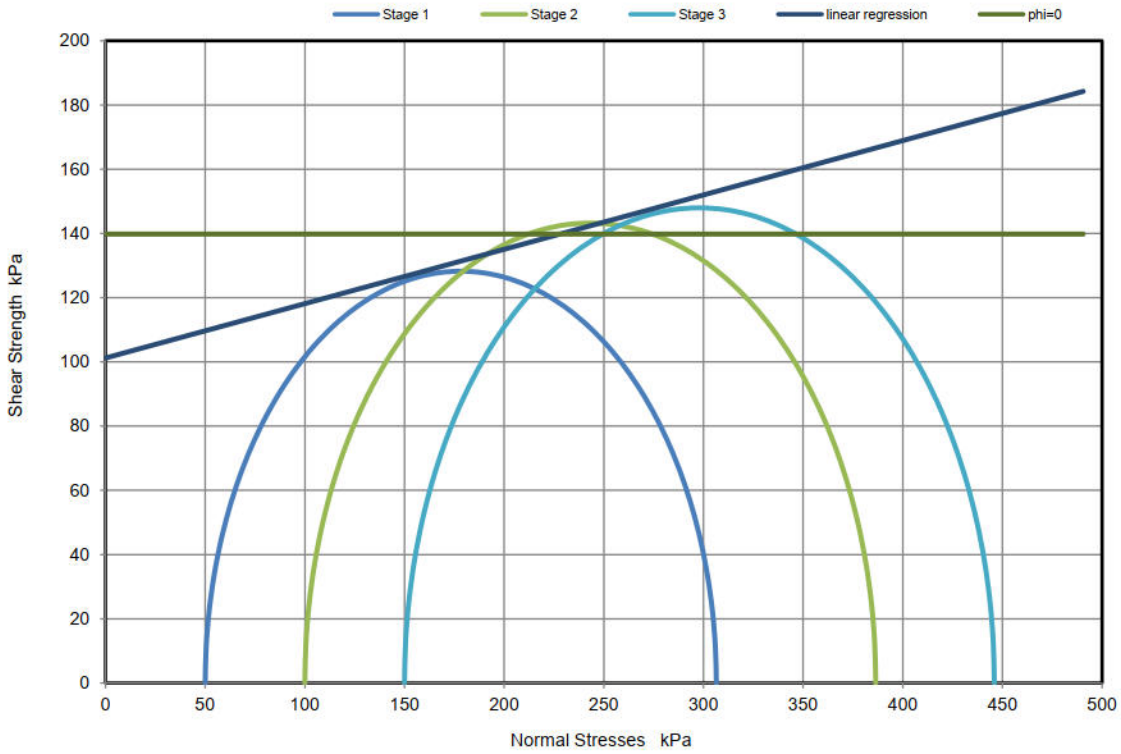


Failure Sketch.

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH2
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Gravelly Silty CLAY	Depth Top	8.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

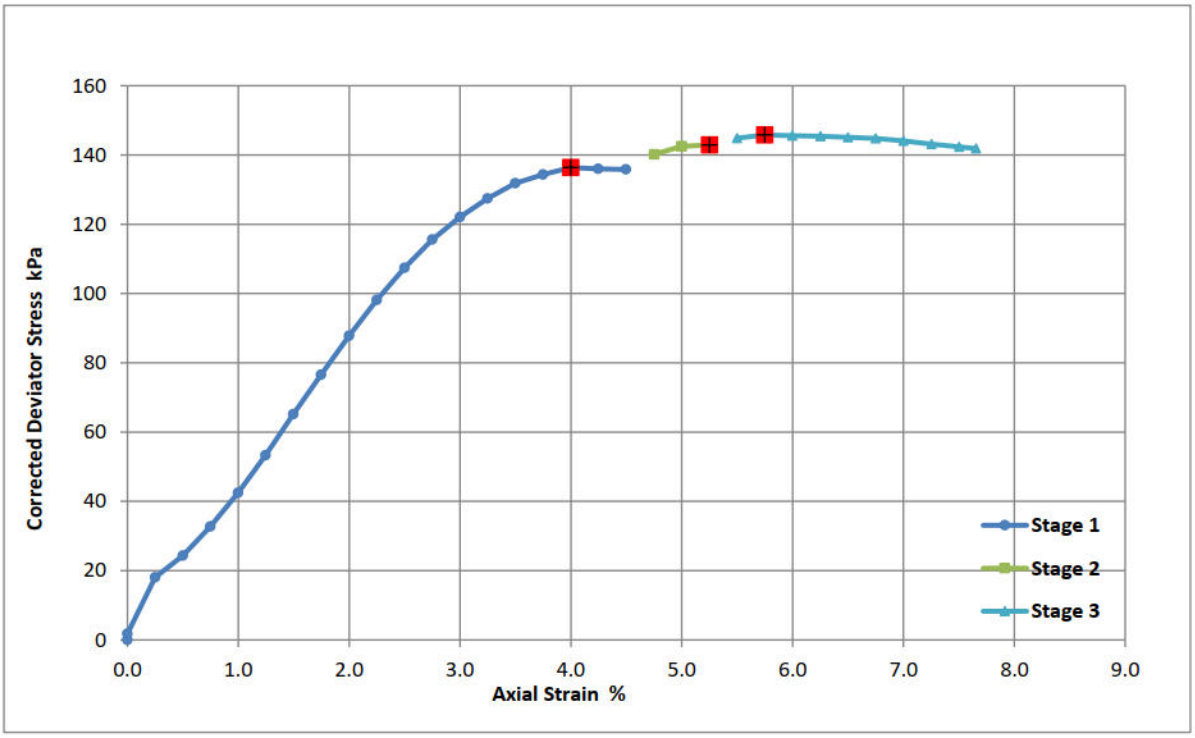
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	140	kPa	ϕ_u	9.6	°
			c_u	101	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH2
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	9.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	21		
Bulk Density (Mg/m^3)	2.01		
Dry Density (Mg/m^3)	1.65		
Specimen Length (mm)	208.4		
Specimen Diameter (mm)	103.7		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	136	143	146
Undrained Shear Strength (kPa)	68	71	73
Failure Strain (%)	4.0	5.2	5.7
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

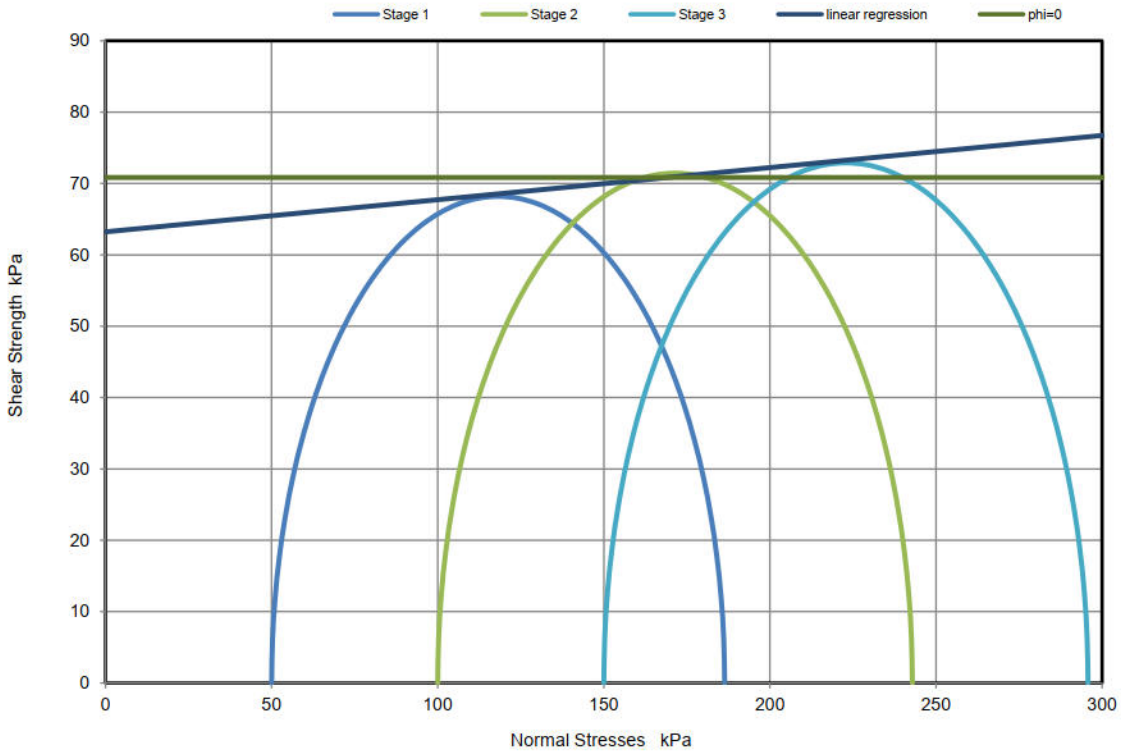


Failure Sketch.

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH2
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	9.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

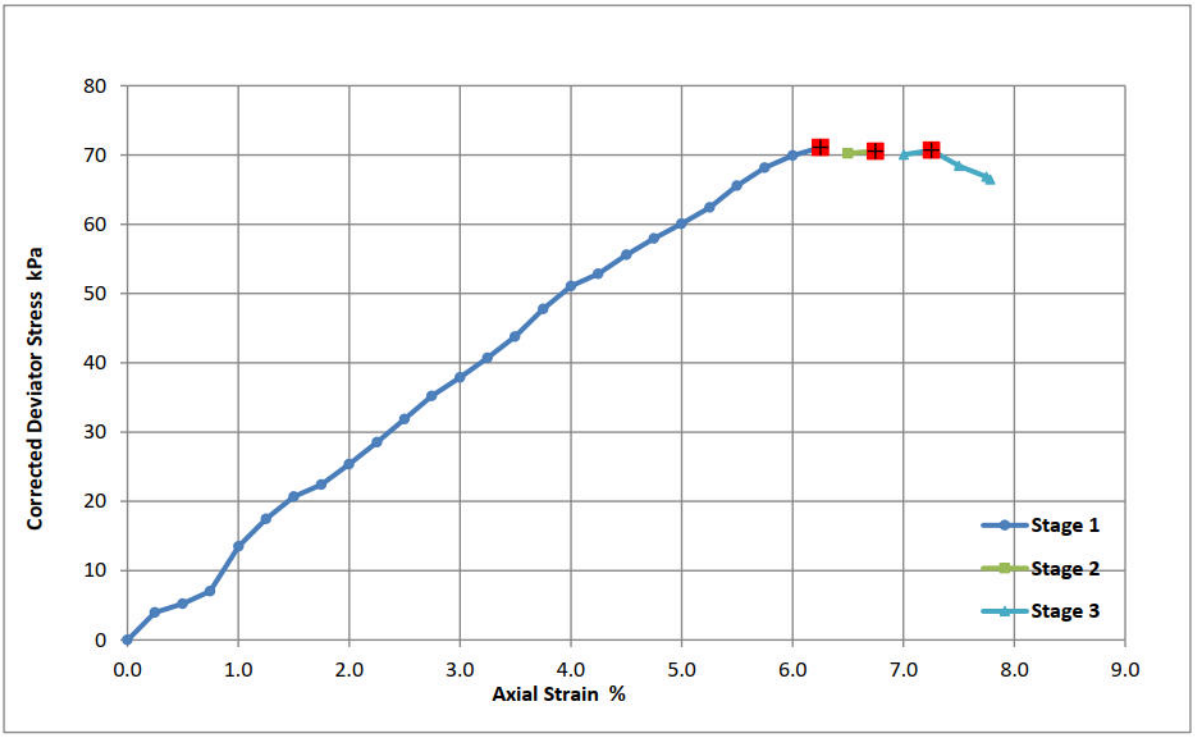
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	71	kPa	ϕ_u	2.6	°
			c_u	63	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH3
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty Sandy CLAY	Depth Top	20.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	2.09		
Dry Density (Mg/m^3)	1.70		
Specimen Length (mm)	208.4		
Specimen Diameter (mm)	100.4		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	71	71	71
Undrained Shear Strength (kPa)	36	35	35
Failure Strain (%)	6.2	6.7	7.3
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

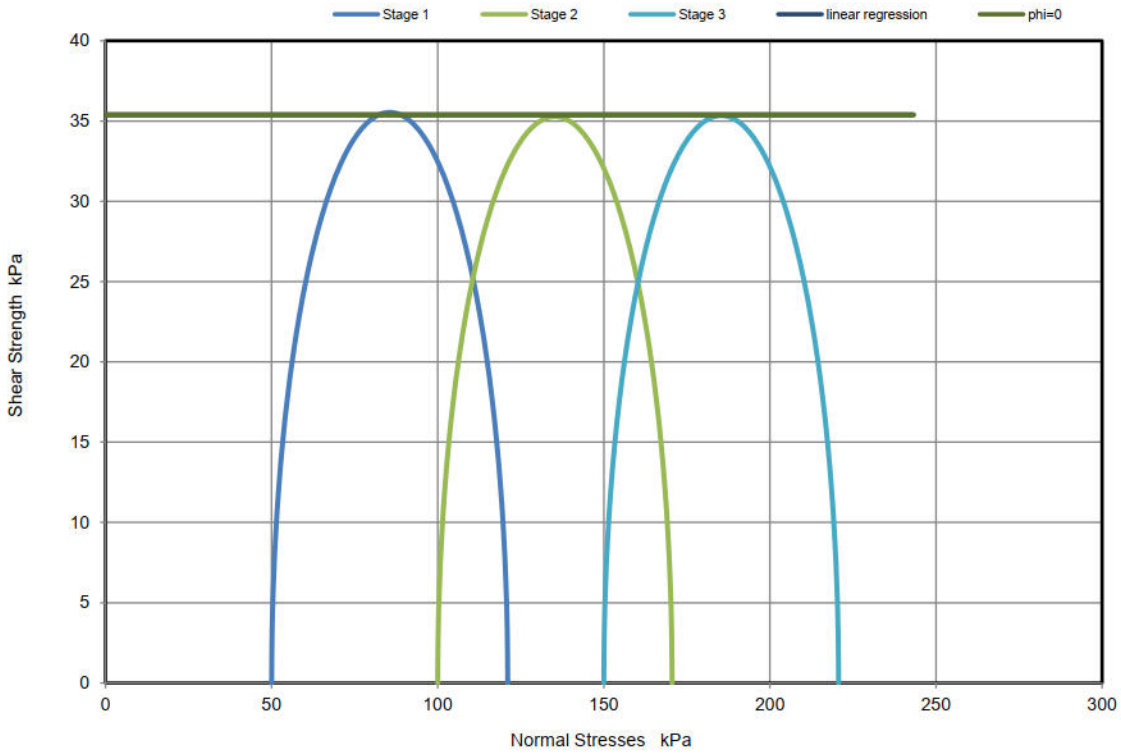


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH3
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty Sandy CLAY	Depth Top	20.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

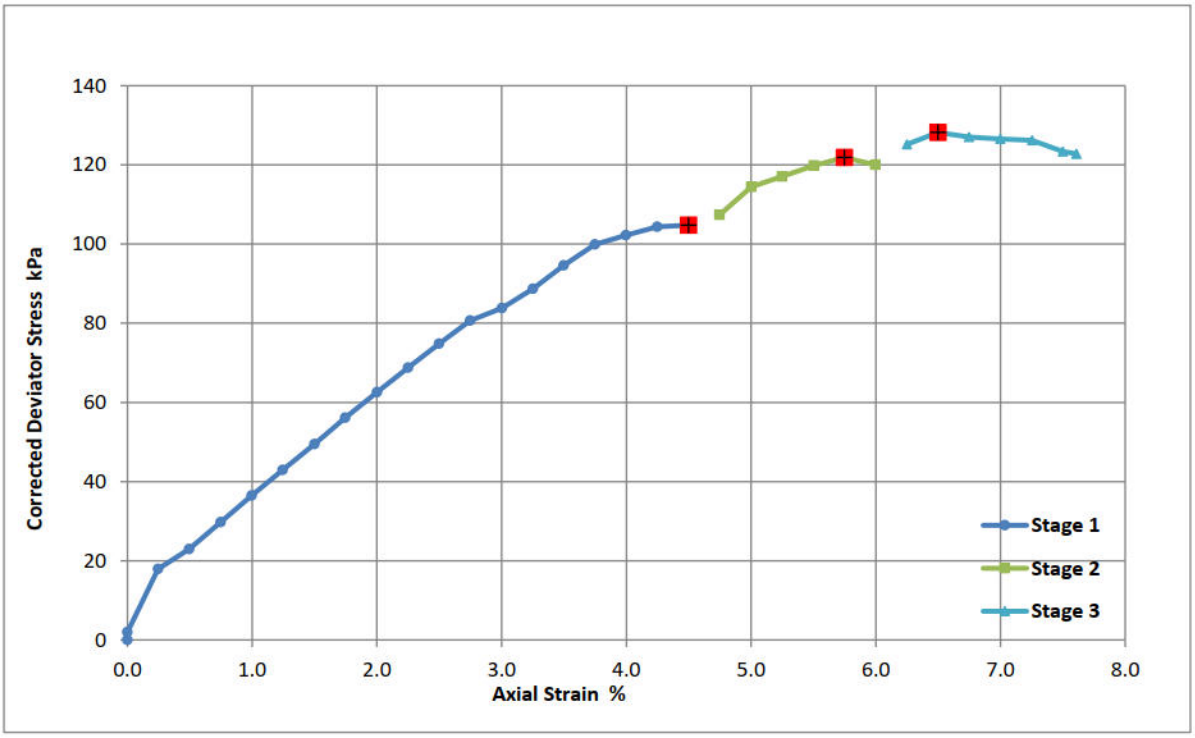
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	35	kPa	ϕ_u	0	°
			c_u	35	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH4
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty Sandy CLAY	Depth Top	14.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	28		
Bulk Density (Mg/m^3)	2.28		
Dry Density (Mg/m^3)	1.78		
Specimen Length (mm)	192.5		
Specimen Diameter (mm)	100.5		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	105	122	128
Undrained Shear Strength (kPa)	52	61	64
Failure Strain (%)	4.5	5.7	6.5
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

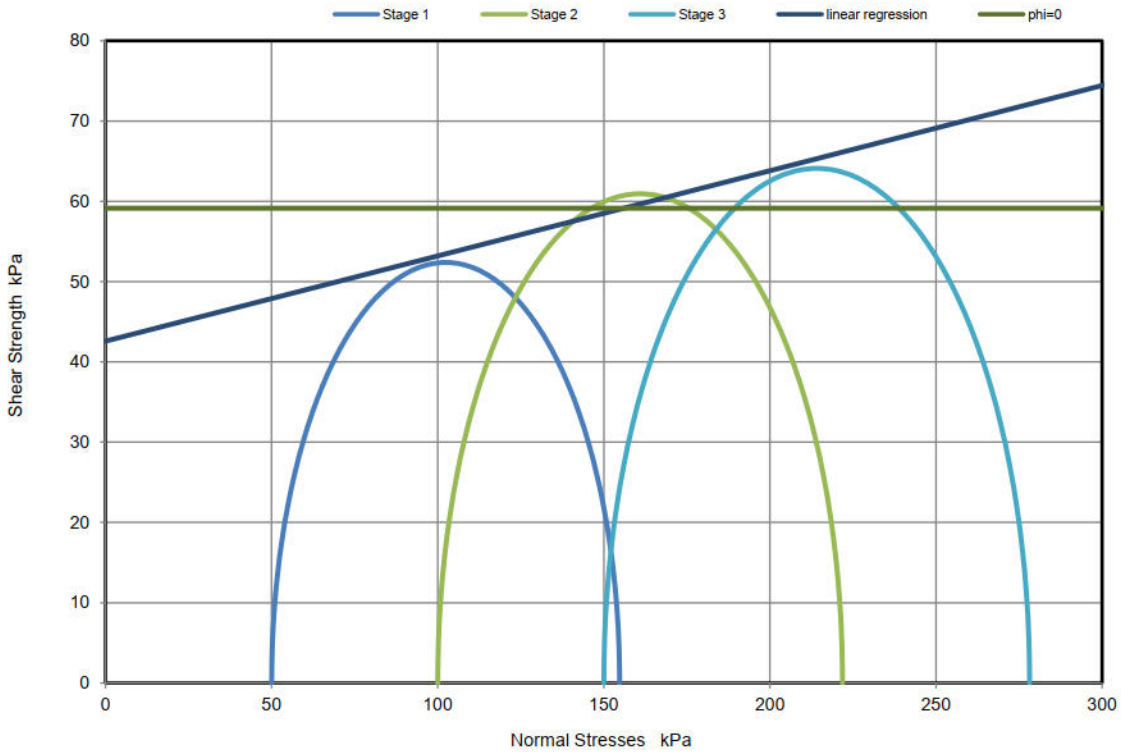


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH4
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty Sandy CLAY	Depth Top	14.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

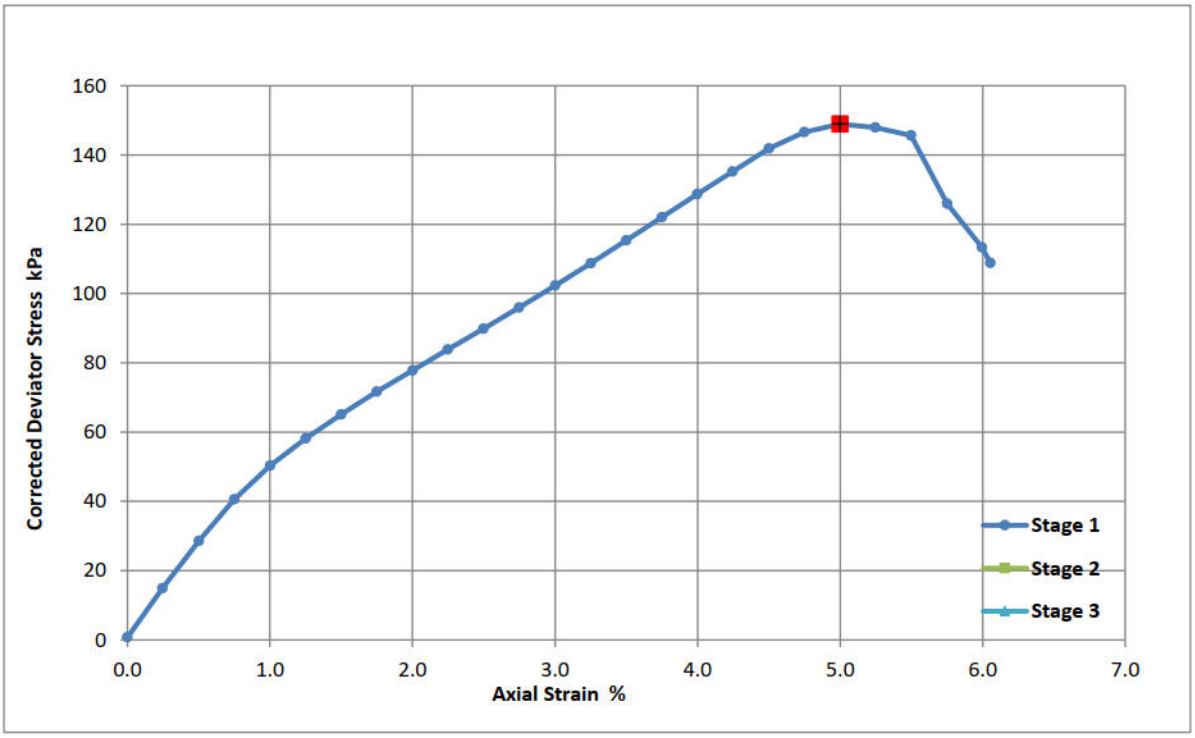
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	59	kPa	ϕ_u	6.1	°
			c_u	43	kPa

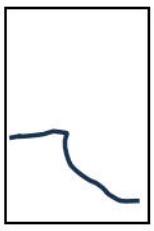
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	12.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	2.04		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	208.3		
Specimen Diameter (mm)	102.8		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	149	0.0	0.0
Undrained Shear Strength (kPa)	74	0.0	0.0
Failure Strain (%)	5.0		
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.
Failed on second pressure

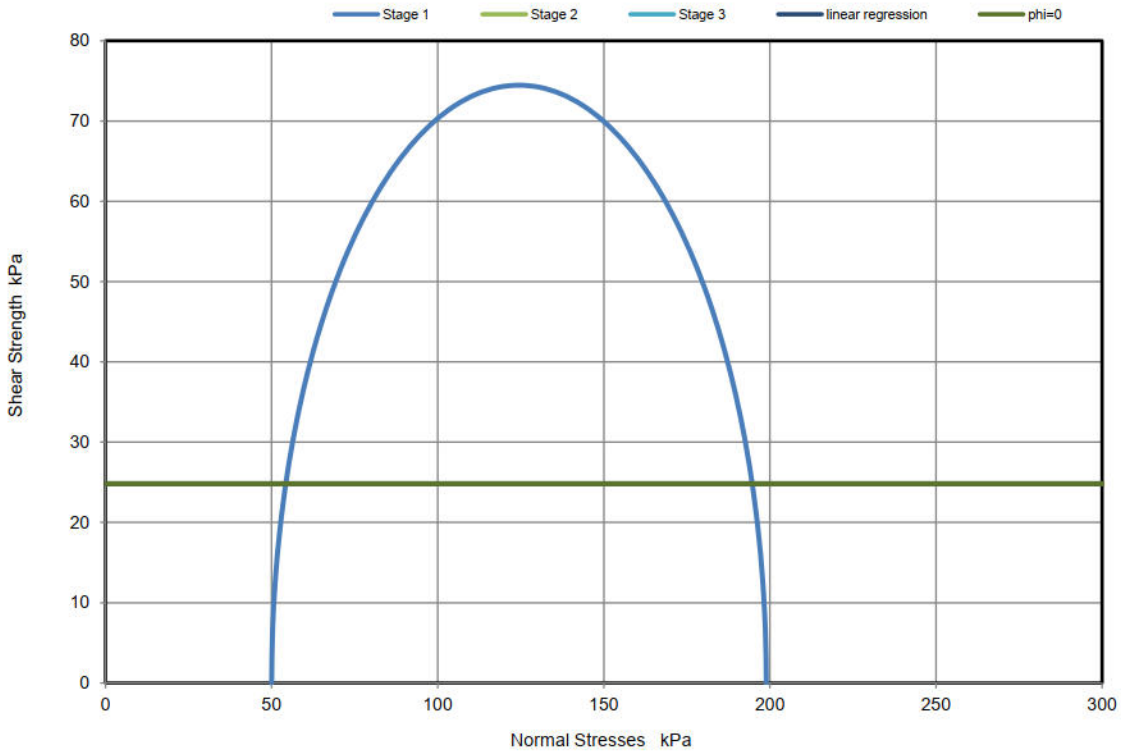


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	12.50
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

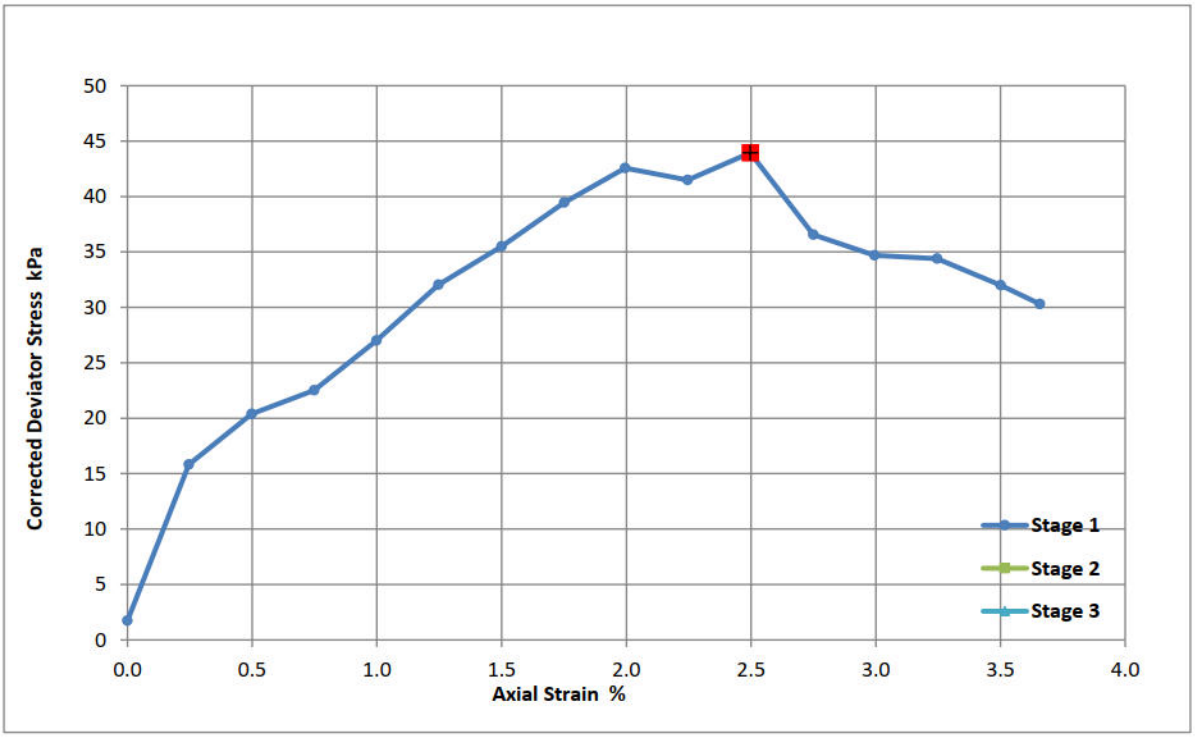
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	25	kPa	ϕ_u	0	°
			c_u	25	kPa

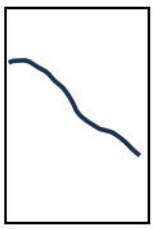
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	18.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	2.00		
Dry Density (Mg/m^3)	1.62		
Specimen Length (mm)	201.3		
Specimen Diameter (mm)	100.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	44	0.0	0.0
Undrained Shear Strength (kPa)	22	0.0	0.0
Failure Strain (%)	2.5		
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.
Failed on second pressure

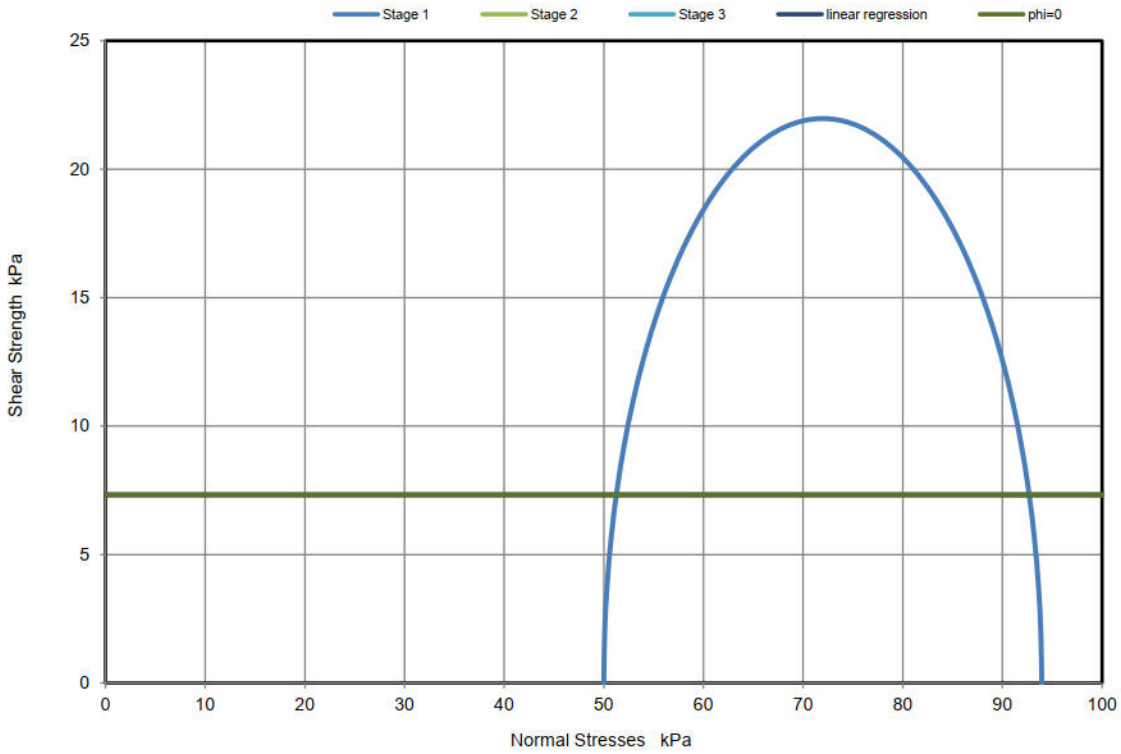


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	18.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

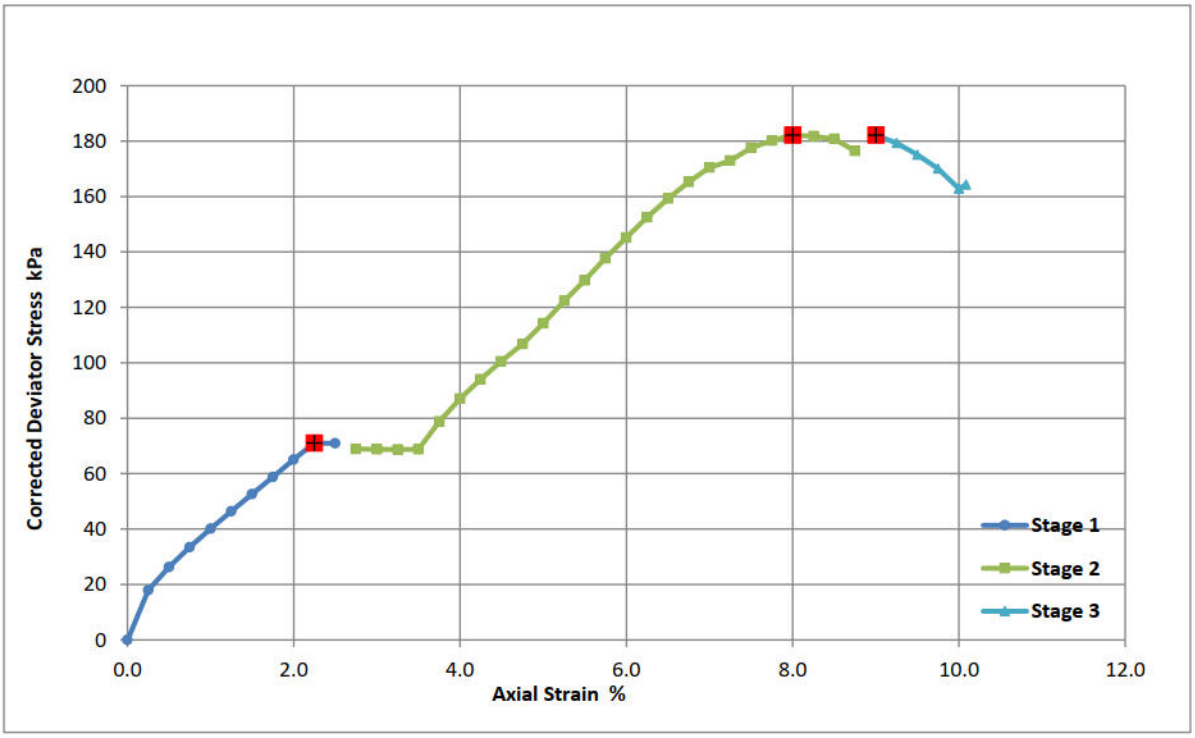
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	7	kPa	ϕ_u	0	°
			c_u	7	kPa

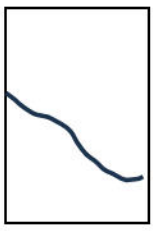
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH6
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	8.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	27		
Bulk Density (Mg/m^3)	2.06		
Dry Density (Mg/m^3)	1.62		
Specimen Length (mm)	208.5		
Specimen Diameter (mm)	102.8		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	71	182	182
Undrained Shear Strength (kPa)	36	91	91
Failure Strain (%)	2.2	8.0	9.0
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

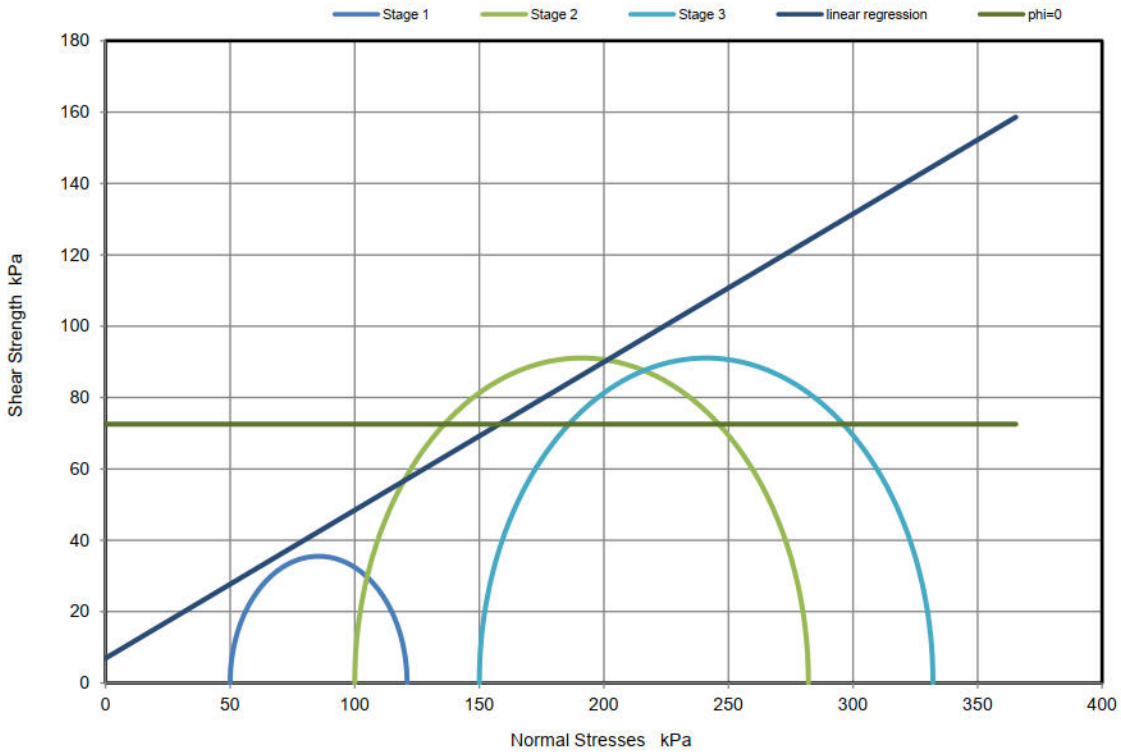


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH6
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown Silty CLAY	Depth Top	8.00
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

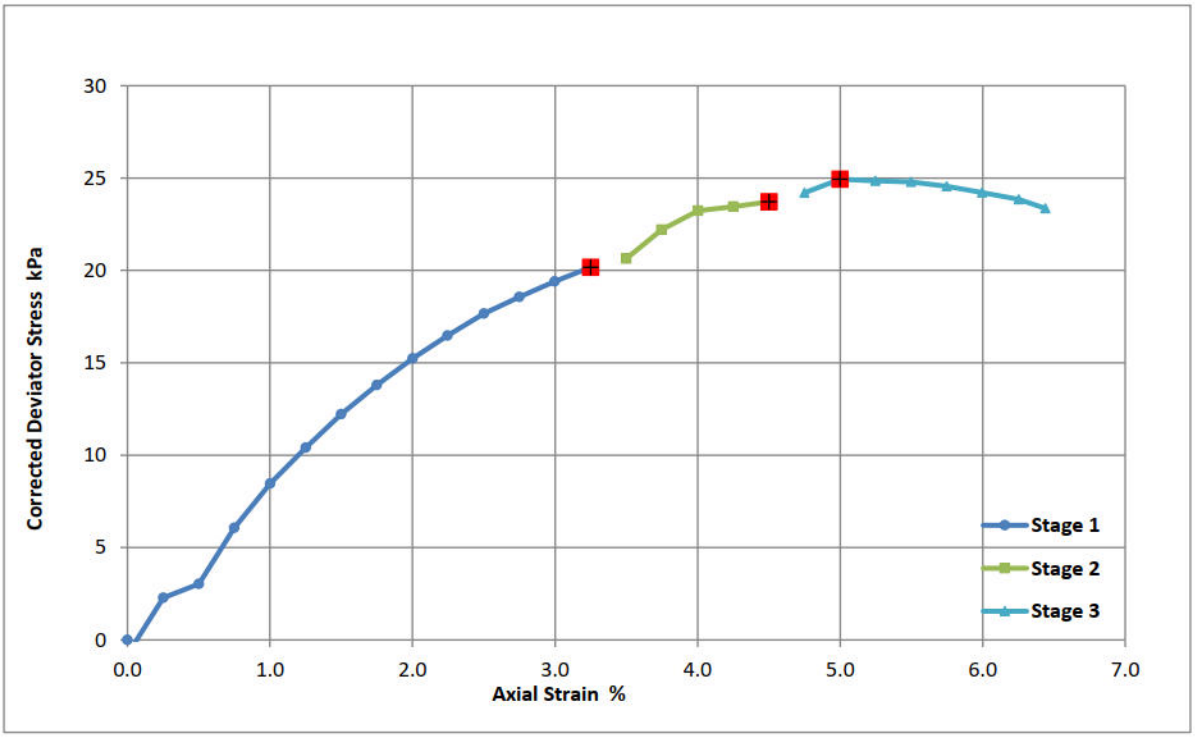
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	73	kPa	ϕ_u	22.5	°
			c_u	7	kPa

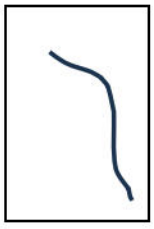
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH7
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Grey / Brown Gravelly Silty CLAY	Depth Top	4.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	28		
Bulk Density (Mg/m^3)	1.92		
Dry Density (Mg/m^3)	1.50		
Specimen Length (mm)	180.9		
Specimen Diameter (mm)	101.5		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	50	100	150
Deviator Stress (kPa)	20	24	25
Undrained Shear Strength (kPa)	10	12	12
Failure Strain (%)	3.2	4.5	5.0
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

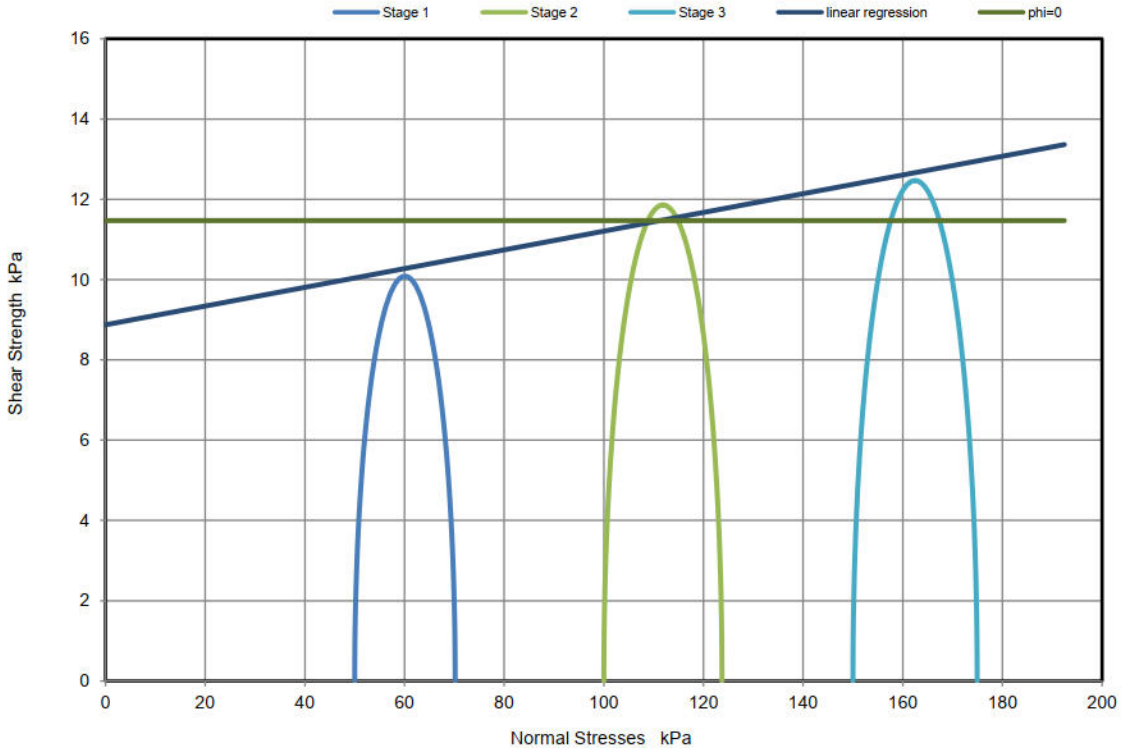


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	73690
		Borehole/Pit No.	BH7
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Grey / Brown Gravelly Silty CLAY	Depth Top	4.20
		Depth Base	
Date Tested	24/07/2024	Sample Type	U
		Technician	David E

Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	11	kPa	ϕ_u	1.3	°
			c_u	9	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Laboratory Report

UKAS TESTING 2788

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES
A PHENNA GROUP COMPANY

Contract Number: 74403

Client Ref: **GWPR5982.2**
Client PO: **GWPR5982.2**

Date Received: **27-08-2024**
Date Completed: **25-09-2024**
Report Date: **25-09-2024**

Client: **Ground and Water Limited**

This report has been checked and approved by:

Contract Title: **Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD**
For the attention of: **Adam Young**

[redacted]

Brendan Evans
Office Administrator

Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	86
1 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.4 & 5.3 - * UKAS	86
CBR: Remoulded Specimen and tested at top only BS 1377:1990 - Part 4 : 7 - * UKAS	68
Soaking or Curing CBR specimens BS 1377:1990 - Part 4 : 7.3	272
Disposal of samples for job	1

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
- denotes test carried out by approved contractor
@ - denotes non accredited tests

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Approved Signatories:
Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
[redacted]uk

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.4 & 5.3)	
Contract Number	74403	
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	
Date Tested	17/09/2024	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
AT1		B	0.30	-		Brown CLAY
AT2		B	0.30	-		Brown fine to medium gravelly silty CLAY
AT3/SB		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT4		B	0.40	-		Brown fine to medium gravelly CLAY
AT5		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT6/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT7		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT8		B	0.40	-		Brown fine to medium gravelly CLAY
AT9/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT10		B	0.50	-		Brown CLAY
AT11		B	0.40	-		Brown CLAY
AT12/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT13		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT14		B	0.50	-		Brown silty CLAY
AT15/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT16		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT17		B	0.40	-		Brown CLAY
AT18/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT19		B	0.40	-		Brown CLAY
AT20		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT21/SB		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT22		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT23		B	0.40	-		Brown silty CLAY
AT24		B	0.40	-		Brown fine to medium gravelly silty CLAY

Operator
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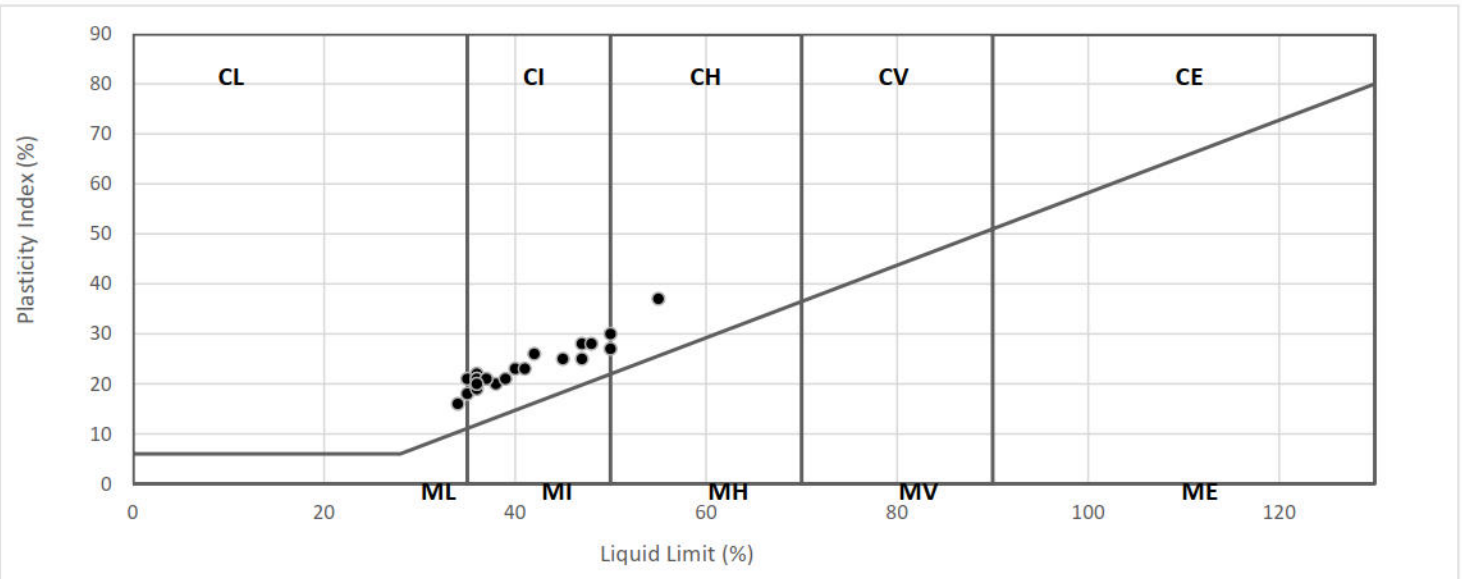
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
AT1		B	0.30	-		16	35	14	21	100	CL/I Low/Inter. Plasticity
AT2		B	0.30	-		15	35	17	18	99	CL/I Low/Inter. Plasticity
AT3/SB		B	0.40	-		13	36	14	22	95	CI Intermediate Plasticity
AT4		B	0.40	-		21	47	19	28	97	CI Intermediate Plasticity
AT5		B	0.40	-		13	36	17	19	95	CI Intermediate Plasticity
AT6/SB		B	0.50	-		14	40	17	23	94	CI Intermediate Plasticity
AT7		B	0.40	-		18	47	22	25	99	CI Intermediate Plasticity
AT8		B	0.40	-		15	41	18	23	90	CI Intermediate Plasticity
AT9/SB		B	0.50	-		12	36	15	21	96	CI Intermediate Plasticity
AT10		B	0.50	-		20	55	18	37	100	CH High Plasticity
AT11		B	0.40	-		12	42	16	26	100	CI Intermediate Plasticity
AT12/SB		B	0.50	-		13	36	15	21	97	CI Intermediate Plasticity
AT13		B	0.40	-		14	38	18	20	99	CI Intermediate Plasticity
AT14		B	0.50	-		10	36	15	21	100	CI Intermediate Plasticity
AT15/SB		B	0.50	-		14	37	16	21	98	CI Intermediate Plasticity
AT16		B	0.50	-		15	45	20	25	97	CI Intermediate Plasticity
AT17		B	0.40	-		26	50	23	27	100	CI/H Inter/High Plasticity
AT18/SB		B	0.50	-		21	50	20	30	97	CI/H Inter/High Plasticity
AT19		B	0.40	-		20	39	18	21	100	CI Intermediate Plasticity
AT20		B	0.50	-		15	34	18	16	100	CL Low Plasticity
AT21/SB		B	0.50	-		14	37	16	21	93	CI Intermediate Plasticity
AT22		B	0.40	-		15	36	16	20	98	CI Intermediate Plasticity
AT23		B	0.40	-		12	48	20	28	100	CI Intermediate Plasticity
AT24		B	0.40	-		14	36	16	20	98	CI Intermediate Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



Operator
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.4 & 5.3)	
Contract Number	74403	
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	
Date Tested	17/09/2024	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
AT25		B	0.50	-		Brown CLAY
AT26		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT27		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT28		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT29		B	0.50	-		Brown CLAY
AT30		B	0.40	-		Brown silty CLAY
AT31		B	0.50	-		Brown CLAY
AT32		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT33		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT34		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT35		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT36		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT37		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT38		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT39		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT40		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT41		B	0.40	-		Brown fine to medium gravelly CLAY
AT42		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT43		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT44		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT45		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT46		B	0.50	-		Brown fine to medium gravelly CLAY
AT47		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT48		B	0.40	-		Brown fine to medium gravelly silty CLAY

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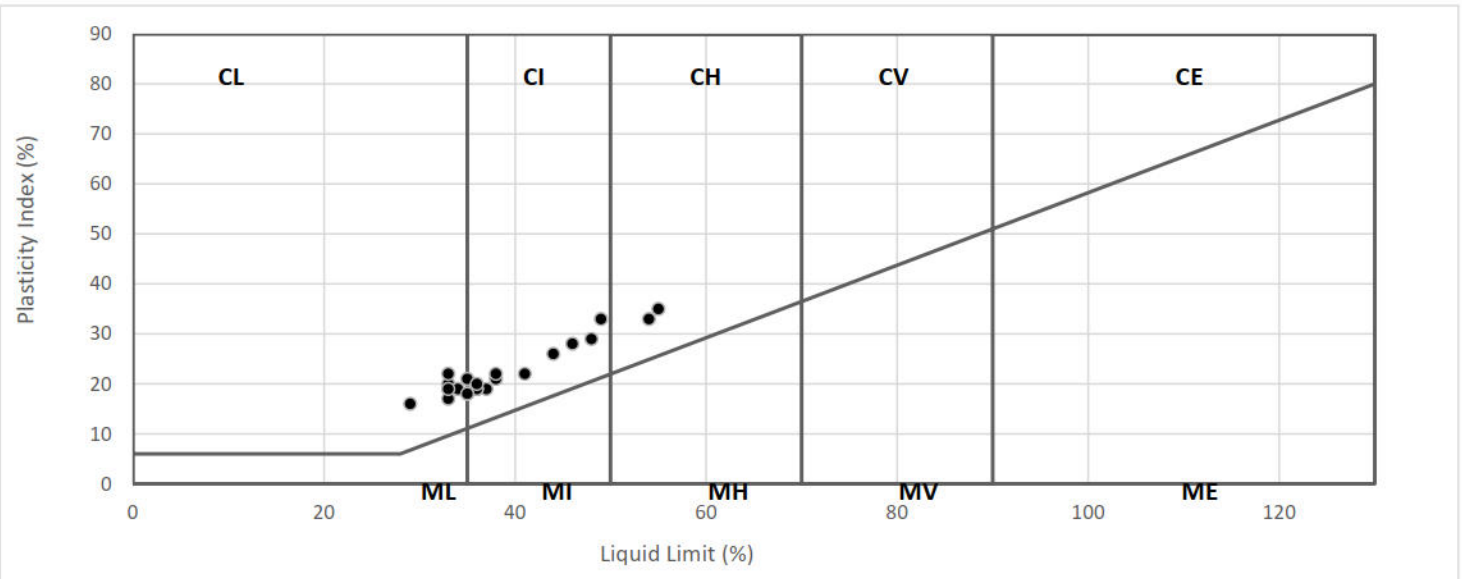
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
AT25		B	0.50	-		18	49	16	33	100	CI Intermediate Plasticity
AT26		B	0.50	-		14	36	17	19	96	CI Intermediate Plasticity
AT27		B	0.40	-		14	35	14	21	96	CL/I Low/Inter. Plasticity
AT28		B	0.50	-		16	41	19	22	95	CI Intermediate Plasticity
AT29		B	0.50	-		22	54	21	33	100	CH High Plasticity
AT30		B	0.40	-		14	37	18	19	100	CI Intermediate Plasticity
AT31		B	0.50	-		22	55	20	35	100	CH High Plasticity
AT32		B	0.40	-		11	33	14	19	98	CL Low Plasticity
AT33		B	0.50	-		9.4	33	13	20	99	CL Low Plasticity
AT34		B	0.50	-		14	48	19	29	98	CI Intermediate Plasticity
AT35		B	0.40	-		11	36	17	19	98	CI Intermediate Plasticity
AT36		B	0.40	-		16	38	17	21	99	CI Intermediate Plasticity
AT37		B	0.40	-		13	36	17	19	89	CI Intermediate Plasticity
AT38		B	0.50	-		15	38	16	22	98	CI Intermediate Plasticity
AT39		B	0.40	-		9.6	33	11	22	99	CL Low Plasticity
AT40		B	0.40	-		12	35	17	18	98	CL/I Low/Inter. Plasticity
AT41		B	0.40	-		20	44	18	26	98	CI Intermediate Plasticity
AT42		B	0.40	-		14	36	16	20	98	CI Intermediate Plasticity
AT43		B	0.50	-		12	33	16	17	98	CL Low Plasticity
AT44		B	0.40	-		13	34	15	19	98	CL Low Plasticity
AT45		B	0.40	-		13	35	17	18	98	CL/I Low/Inter. Plasticity
AT46		B	0.50	-		20	46	18	28	92	CI Intermediate Plasticity
AT47		B	0.40	-		11	29	13	16	90	CL Low Plasticity
AT48		B	0.40	-		14	33	14	19	95	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



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NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

DESCRIPTIONS

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
AT49		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT50		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT51		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT52		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT53		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT54		B	0.40	-		Brown CLAY
AT55		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT56		B	0.50	-		Brown fine to medium gravelly CLAY
AT57		B	0.50	-		Brown fine to medium gravelly CLAY
AT58		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT59		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT60		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT61		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT62		B	0.40	-		Brown silty CLAY
AT63		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT64		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT65		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT66		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT67		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT68		B	0.40	-		Brown silty CLAY
AT69		B	0.40	-		Brown silty CLAY
AT70		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT71		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT72		B	0.40	-		Brown silty CLAY

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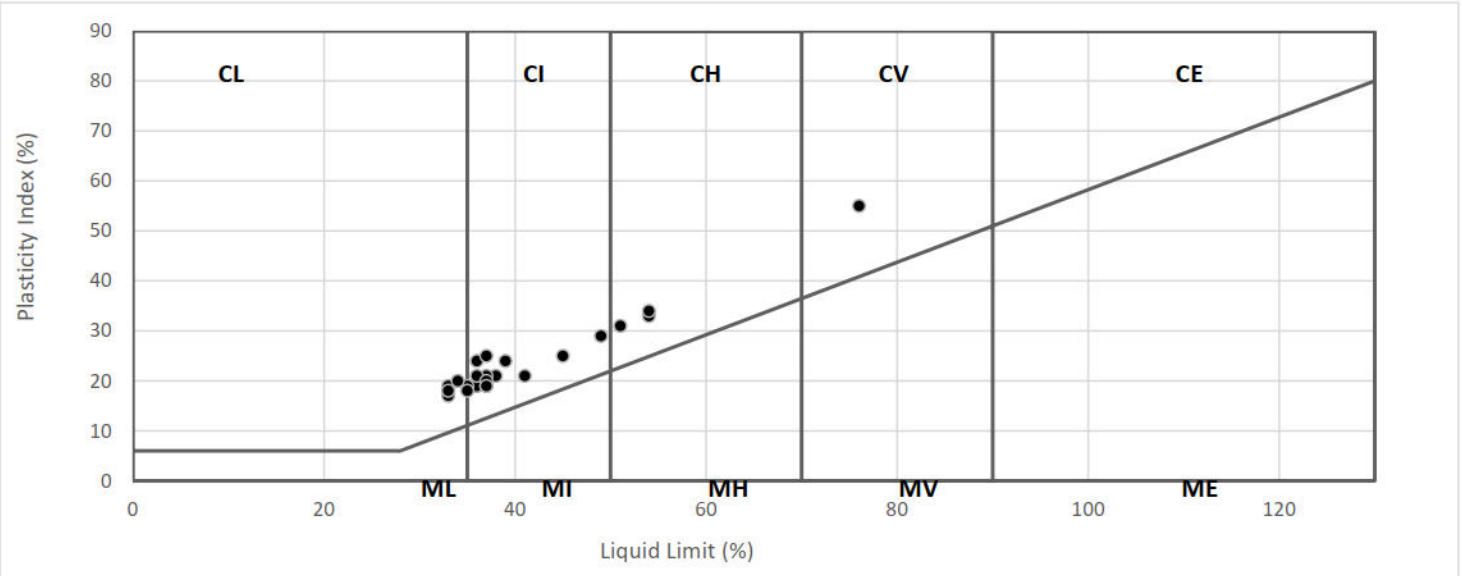
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
AT49		B	0.40	-		12	33	14	19	93	CL Low Plasticity
AT50		B	0.40	-		13	38	17	21	90	CI Intermediate Plasticity
AT51		B	0.40	-		11	36	17	19	95	CI Intermediate Plasticity
AT52		B	0.40	-		12	54	21	33	97	CH High Plasticity
AT53		B	0.50	-		12	36	17	19	98	CI Intermediate Plasticity
AT54		B	0.40	-		23	49	20	29	100	CI Intermediate Plasticity
AT55		B	0.50	-		13	35	16	19	97	CL/I Low/Inter. Plasticity
AT56		B	0.50	-		29	54	20	34	90	CH High Plasticity
AT57		B	0.50	-		37	76	21	55	95	CV Very High Plasticity
AT58		B	0.40	-		18	45	20	25	96	CI Intermediate Plasticity
AT59		B	0.40	-		9.4	36	12	24	98	CI Intermediate Plasticity
AT60		B	0.40	-		11	37	18	19	95	CI Intermediate Plasticity
AT61		B	0.40	-		12	37	16	21	99	CI Intermediate Plasticity
AT62		B	0.40	-		12	39	15	24	100	CI Intermediate Plasticity
AT63		B	0.50	-		11	34	14	20	93	CL Low Plasticity
AT64		B	0.50	-		12	37	12	25	98	CI Intermediate Plasticity
AT65		B	0.50	-		11	36	15	21	98	CI Intermediate Plasticity
AT66		B	0.40	-		13	35	17	18	99	CL/I Low/Inter. Plasticity
AT67		B	0.40	-		13	37	17	20	96	CI Intermediate Plasticity
AT68		B	0.40	-		15	41	20	21	100	CI Intermediate Plasticity
AT69		B	0.40	-		14	37	18	19	100	CI Intermediate Plasticity
AT70		B	0.50	-		13	51	20	31	99	CH High Plasticity
AT71		B	0.40	-		11	33	16	17	97	CL Low Plasticity
AT72		B	0.40	-		11	33	15	18	100	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



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GEOTECHNICAL SITE & TESTING LABORATORIES

NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

DESCRIPTIONS

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
AT73		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT74		B	0.50	-		Brown silty CLAY
AT75		B	0.40	-		Brown silty CLAY
AT76		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT77		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT78		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT79		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT80		B	0.50	-		Brown silty CLAY
AT81		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT82		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT83		B	0.50	-		Brown fine to medium gravelly silty CLAY
AT84		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT85		B	0.40	-		Brown fine to medium gravelly silty CLAY
AT86		B	0.40	-		Brown fine to medium gravelly silty CLAY
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		
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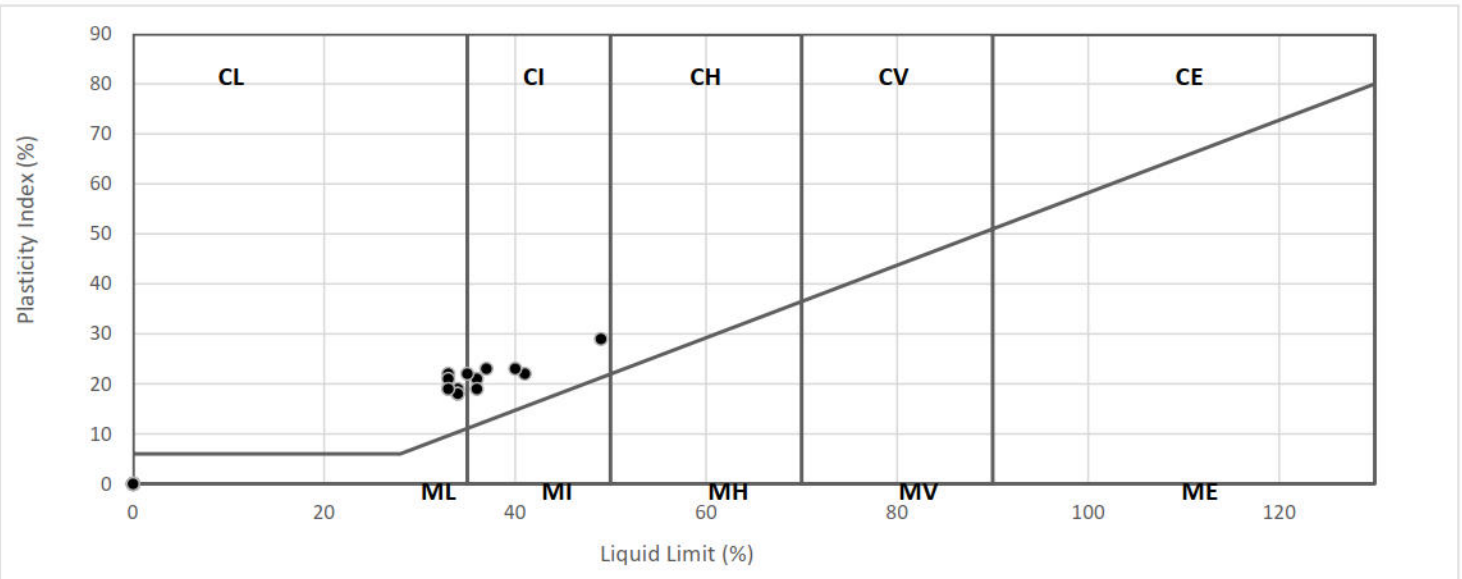
NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.4 & 5.3)

Contract Number	74403
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD
Date Tested	17/09/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
AT73		B	0.50	-		15	41	19	22	91	CI Intermediate Plasticity
AT74		B	0.50	-		9.5	40	17	23	100	CI Intermediate Plasticity
AT75		B	0.40	-		16	49	20	29	100	CI Intermediate Plasticity
AT76		B	0.40	-		11	36	15	21	99	CI Intermediate Plasticity
AT77		B	0.40	-		11	33	11	22	99	CL Low Plasticity
AT78		B	0.50	-		13	34	15	19	98	CL Low Plasticity
AT79		B	0.40	-		11	37	14	23	98	CI Intermediate Plasticity
AT80		B	0.50	-		11	34	16	18	100	CL Low Plasticity
AT81		B	0.40	-		7.5	33	14	19	93	CL Low Plasticity
AT82		B	0.40	-		12	34	16	18	98	CL Low Plasticity
AT83		B	0.50	-		19	36	17	19	97	CI Intermediate Plasticity
AT84		B	0.40	-		11	33	12	21	97	CL Low Plasticity
AT85		B	0.40	-		11	35	13	22	97	CL/I Low/Inter. Plasticity
AT86		B	0.40	-		9.7	33	14	19	98	CL Low Plasticity
				-							
				-							
				-							
				-							
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				-							
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Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

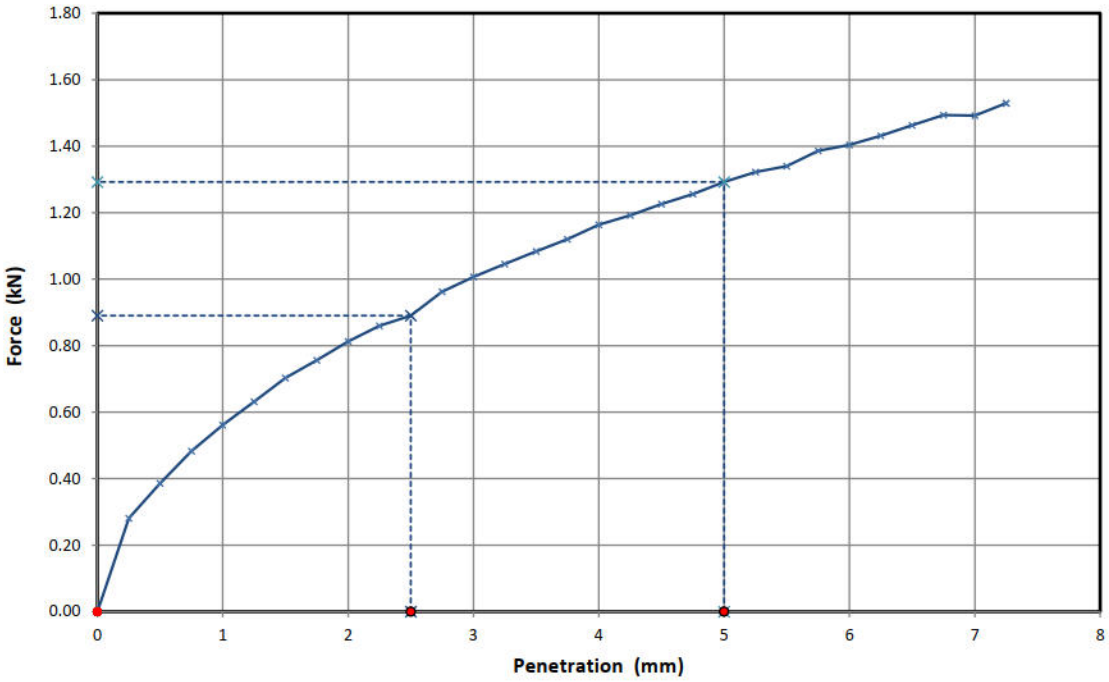
PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT3/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	1	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.71

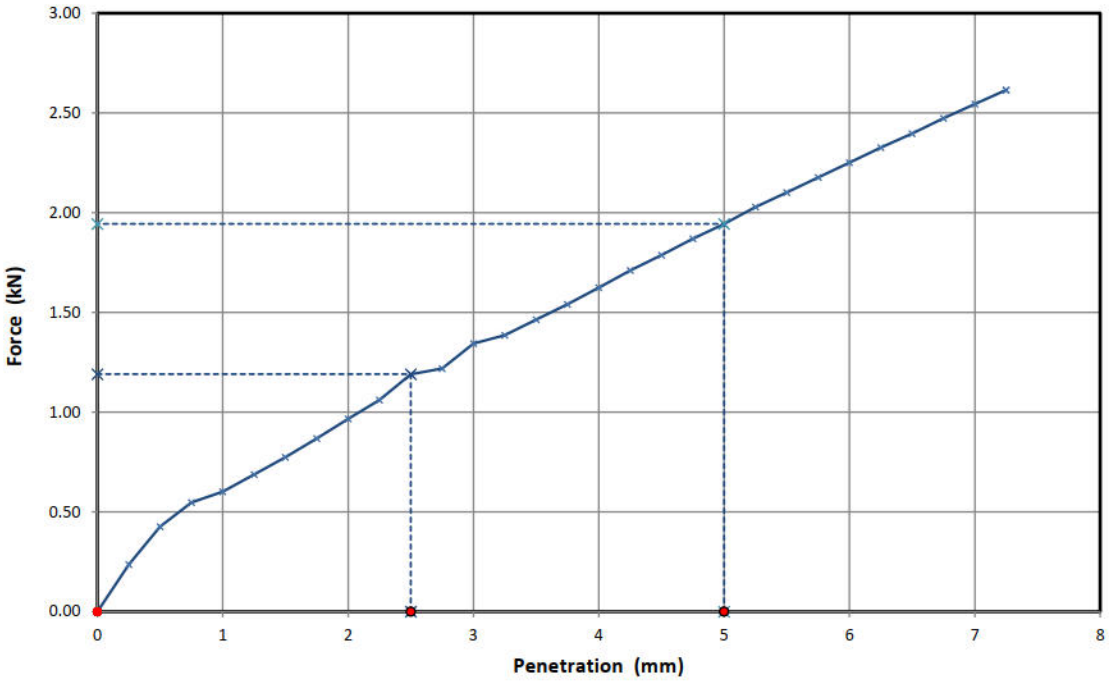
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.35
Remarks	

CBR Test Values			
2.5mm Top	6.7	2.5mm Bottom	
5mm Top	6.5	5mm Bottom	
CBR Value %	**6.7**	**CBR Value %**	

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT6/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.93
Dry Density (Mg/m3)	1.68

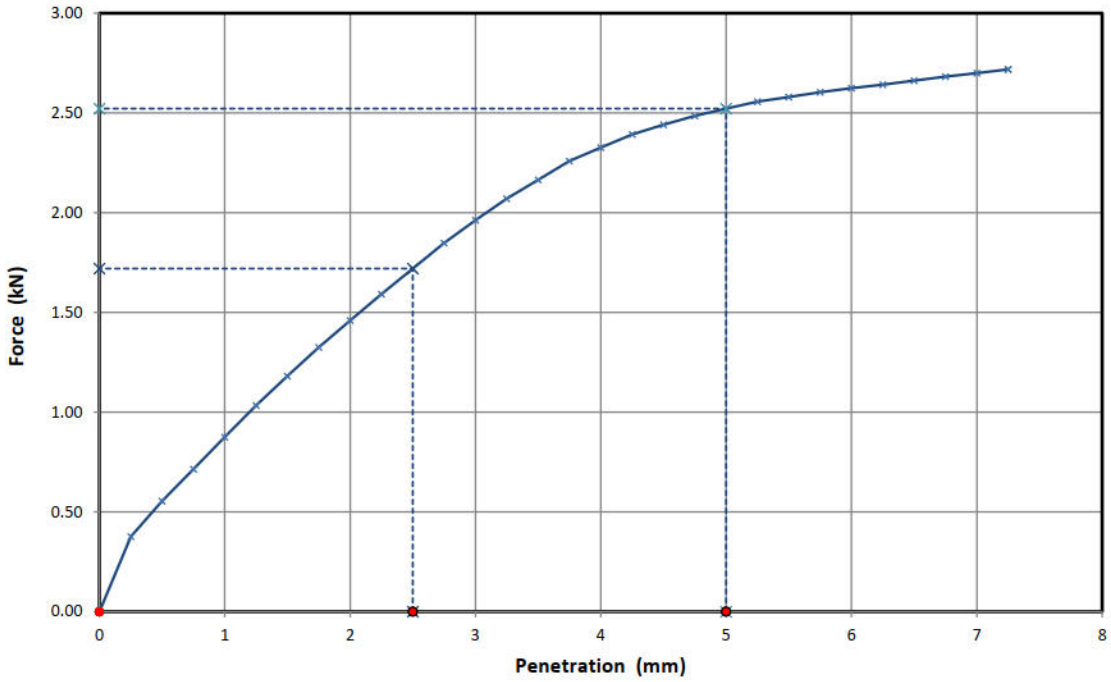
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.71
Remarks	

CBR Test Values			
2.5mm Top	9	2.5mm Bottom	
5mm Top	9.7	5mm Bottom	
CBR Value %	**9.7**	**CBR Value %**	

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT9/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.71

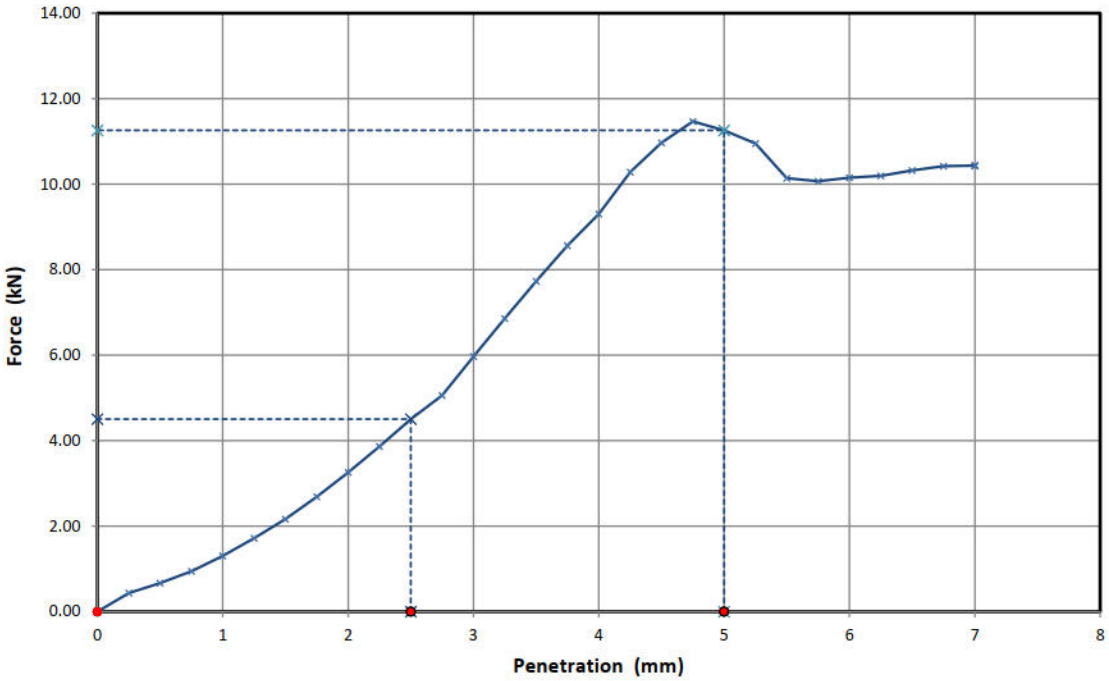
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.42
Remarks	

CBR Test Values			
2.5mm Top	13	2.5mm Bottom	
5mm Top	13	5mm Bottom	
CBR Value %	**13**	**CBR Value %**	

Operator
Conor D

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT12/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.75

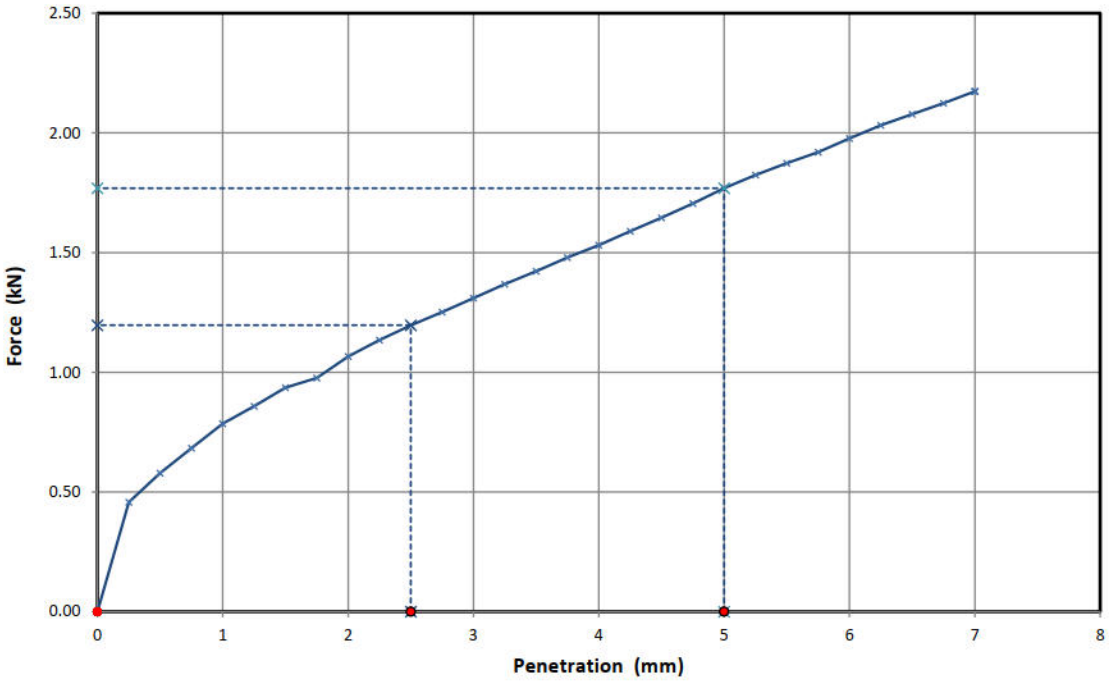
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.17
Remarks	

CBR Test Values			
2.5mm Top	34	2.5mm Bottom	
5mm Top	56	5mm Bottom	
CBR Value %	**56**	**CBR Value %**	

Operator
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT15/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	1	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.69

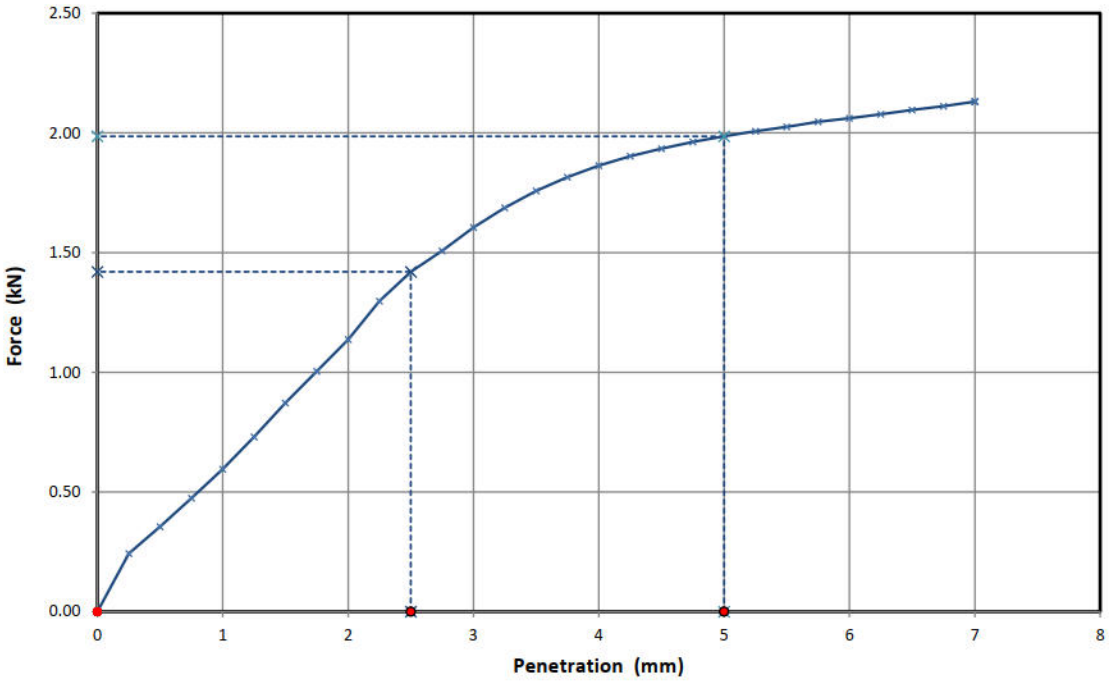
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.52
Remarks	

CBR Test Values			
2.5mm Top	9.1	2.5mm Bottom	
5mm Top	8.8	5mm Bottom	
CBR Value %	**9.1**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	AT18/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.71

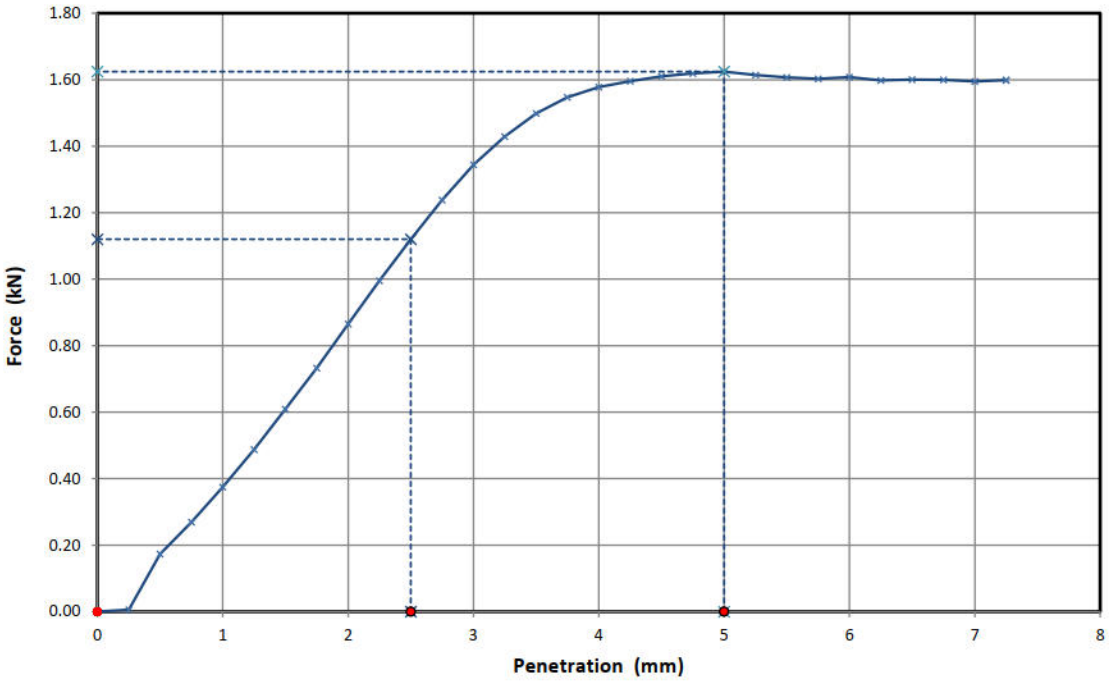
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.77
Remarks	

CBR Test Values			
2.5mm Top	11	2.5mm Bottom	
5mm Top	9.9	5mm Bottom	
CBR Value %	**11**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT21/SB
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.93
Dry Density (Mg/m3)	1.70

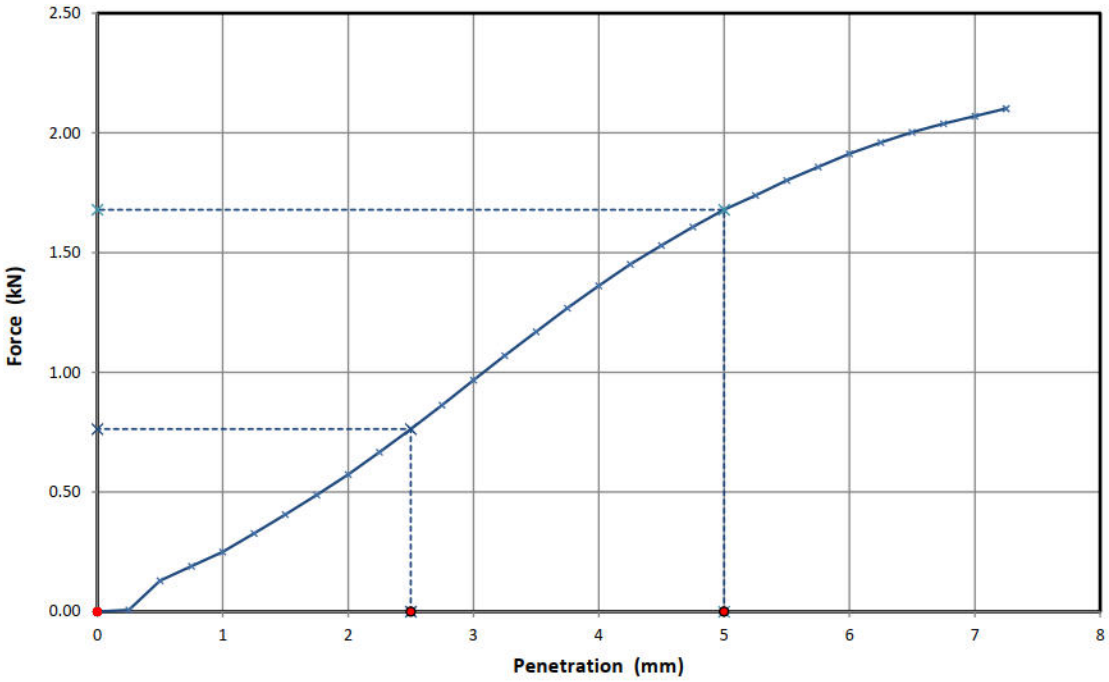
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.23
Remarks	

CBR Test Values			
2.5mm Top	8.5	2.5mm Bottom	
5mm Top	8.1	5mm Bottom	
CBR Value %	**8.5**	**CBR Value %**	

Operator
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT24
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.73

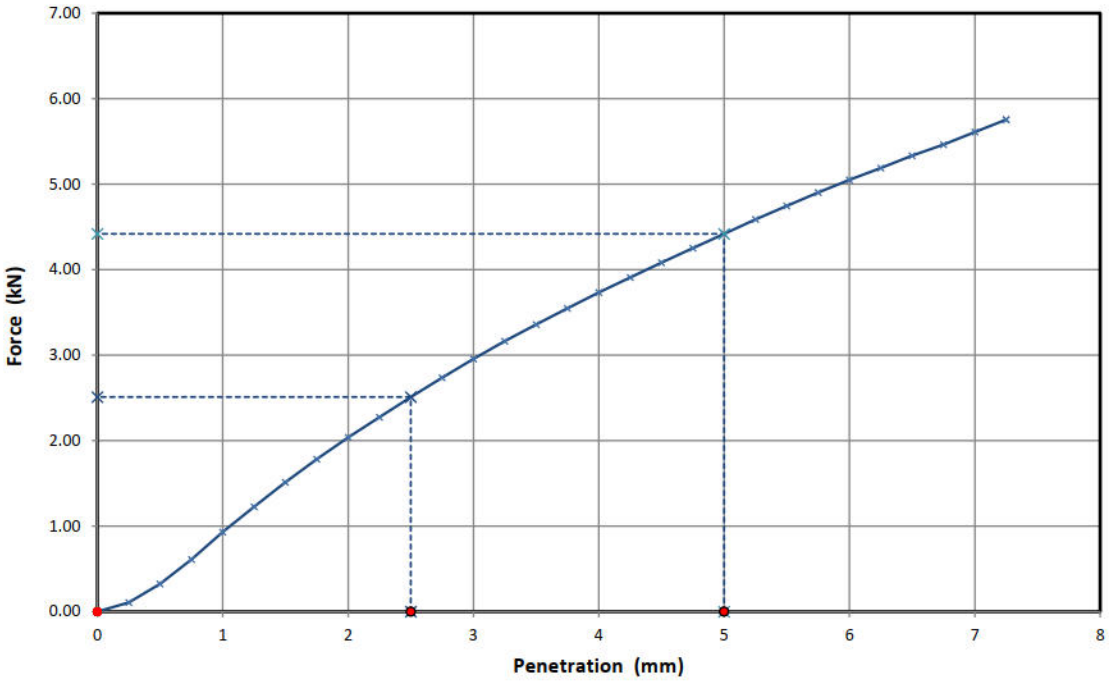
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.68
Remarks	

CBR Test Values			
2.5mm Top	5.8	2.5mm Bottom	
5mm Top	8.4	5mm Bottom	
CBR Value %	**8.4**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT27
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.79

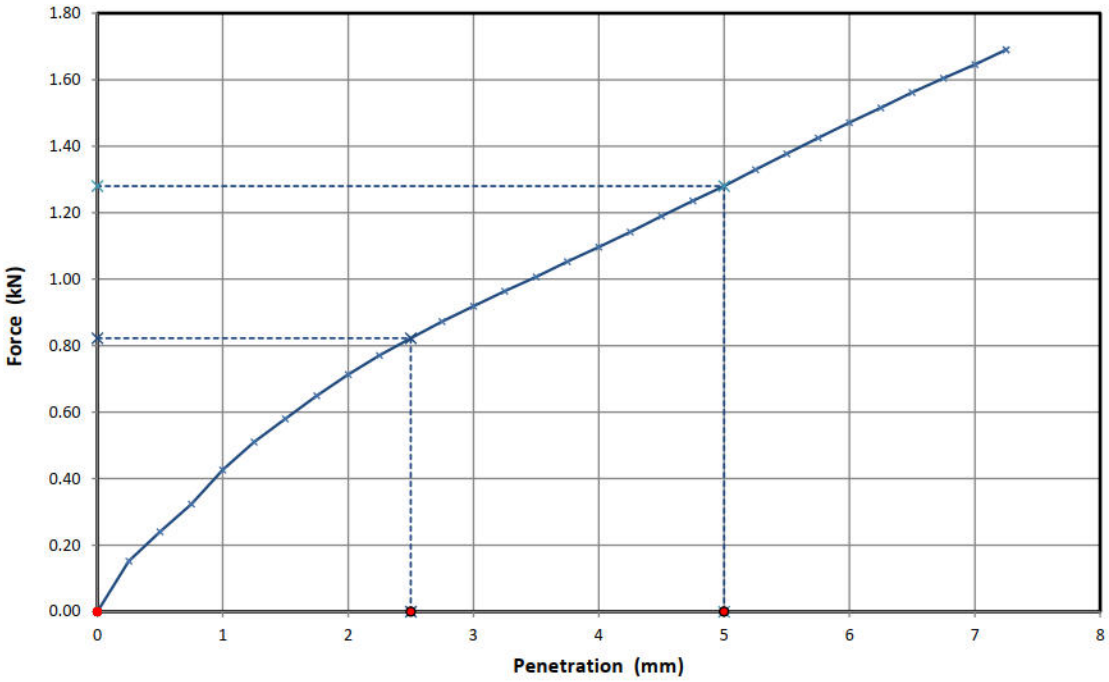
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.36
Remarks	

CBR Test Values			
2.5mm Top	19	2.5mm Bottom	
5mm Top	22	5mm Bottom	
CBR Value %	**22**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT30
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	6	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.74

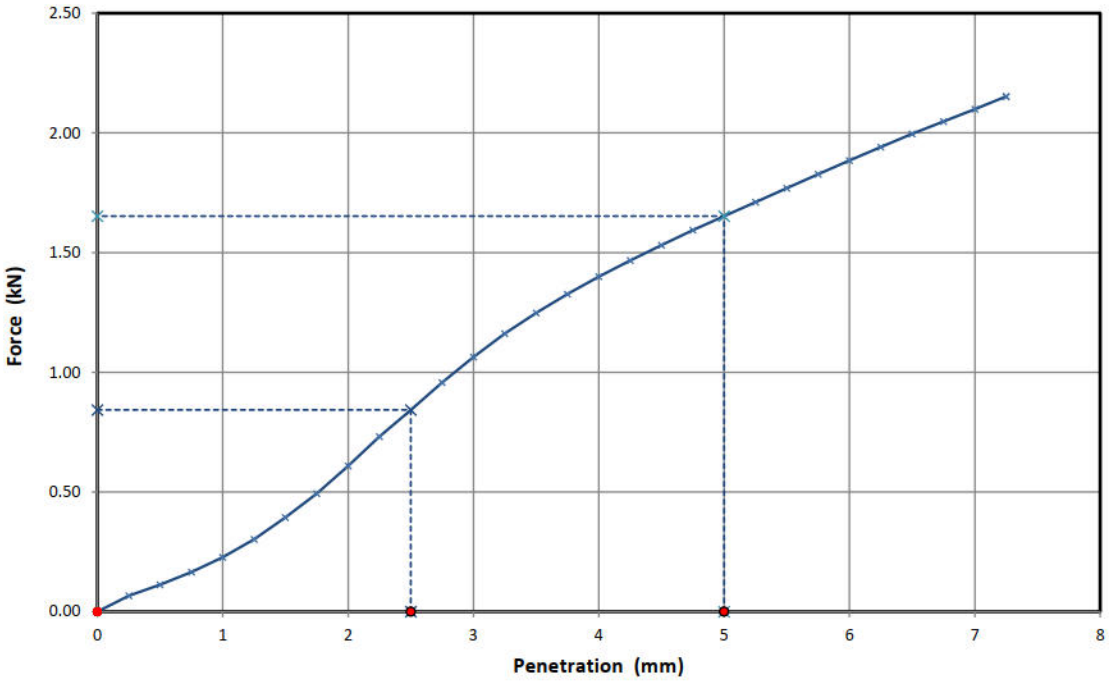
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.61
Remarks	

CBR Test Values			
2.5mm Top	6.2	2.5mm Bottom	
5mm Top	6.4	5mm Bottom	
CBR Value %	**6.4**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT33
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.74

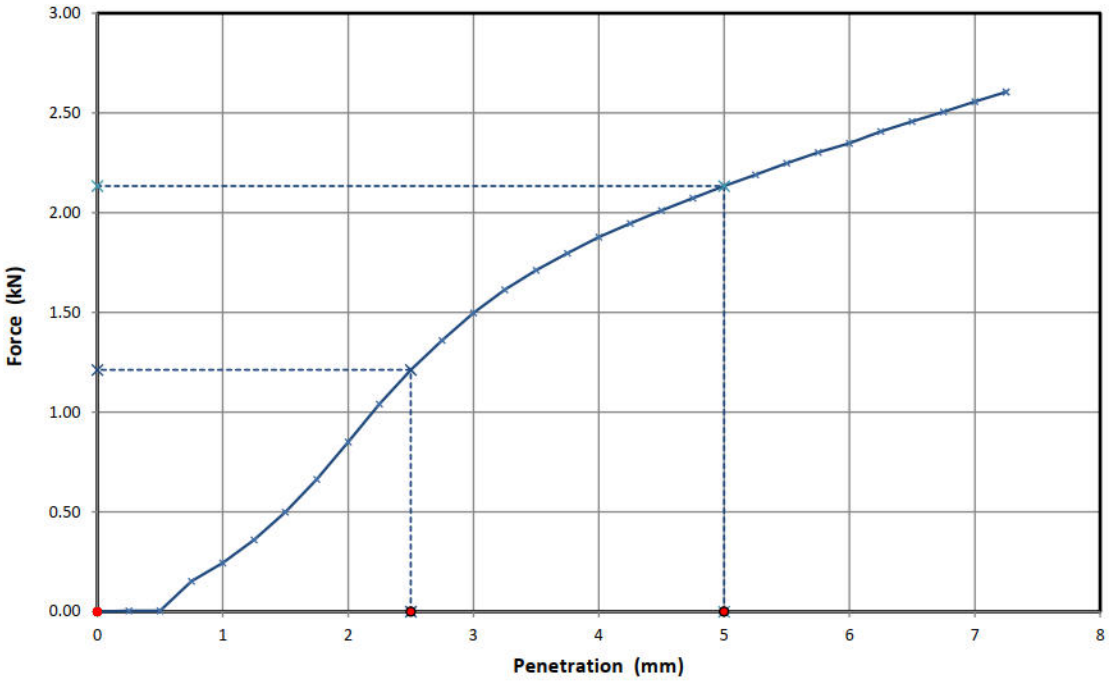
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.69
Remarks	

CBR Test Values			
2.5mm Top	6.4	2.5mm Bottom	
5mm Top	8.3	5mm Bottom	
CBR Value %	**8.3**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT36
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.73

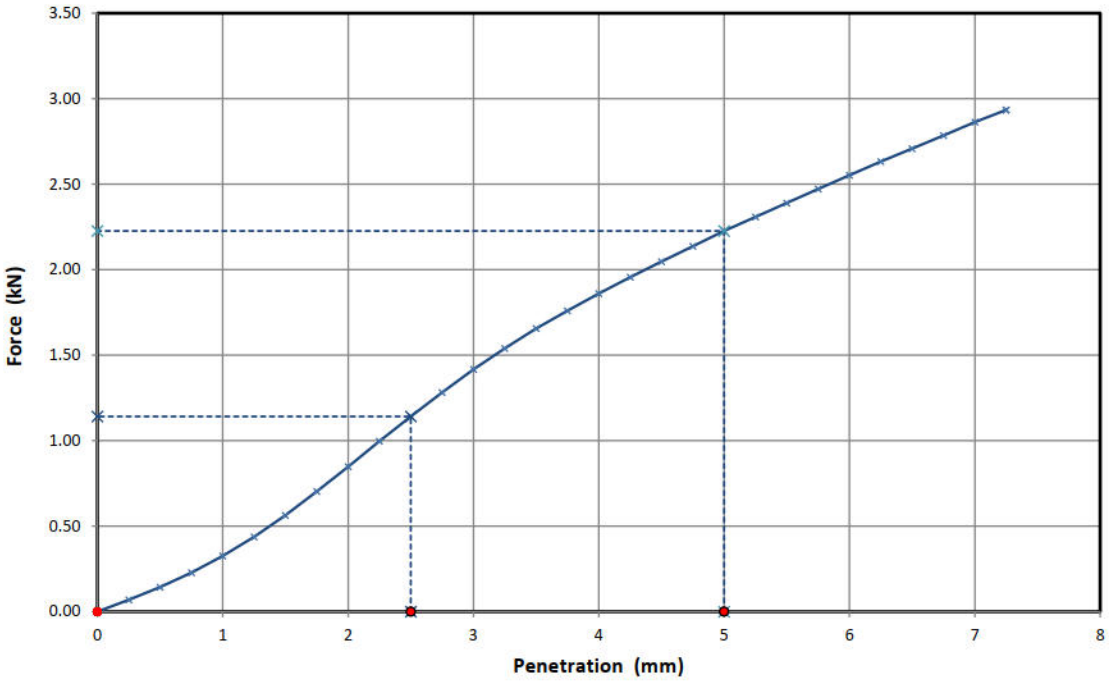
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.91
Remarks	

CBR Test Values			
2.5mm Top	9.2	2.5mm Bottom	
5mm Top	11	5mm Bottom	
CBR Value %	**11**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	AT39
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.96
Dry Density (Mg/m3)	1.74

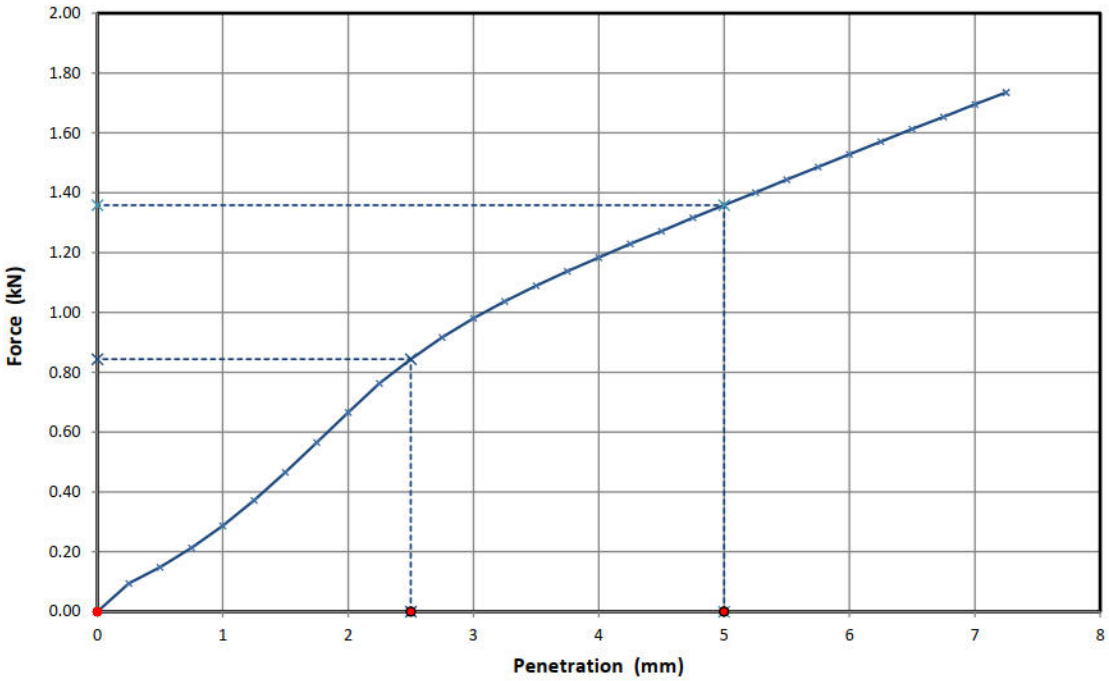
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.96
Remarks	

CBR Test Values			
2.5mm Top	8.6	2.5mm Bottom	
5mm Top	11	5mm Bottom	
CBR Value %	**11**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT42
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.89
Dry Density (Mg/m3)	1.67

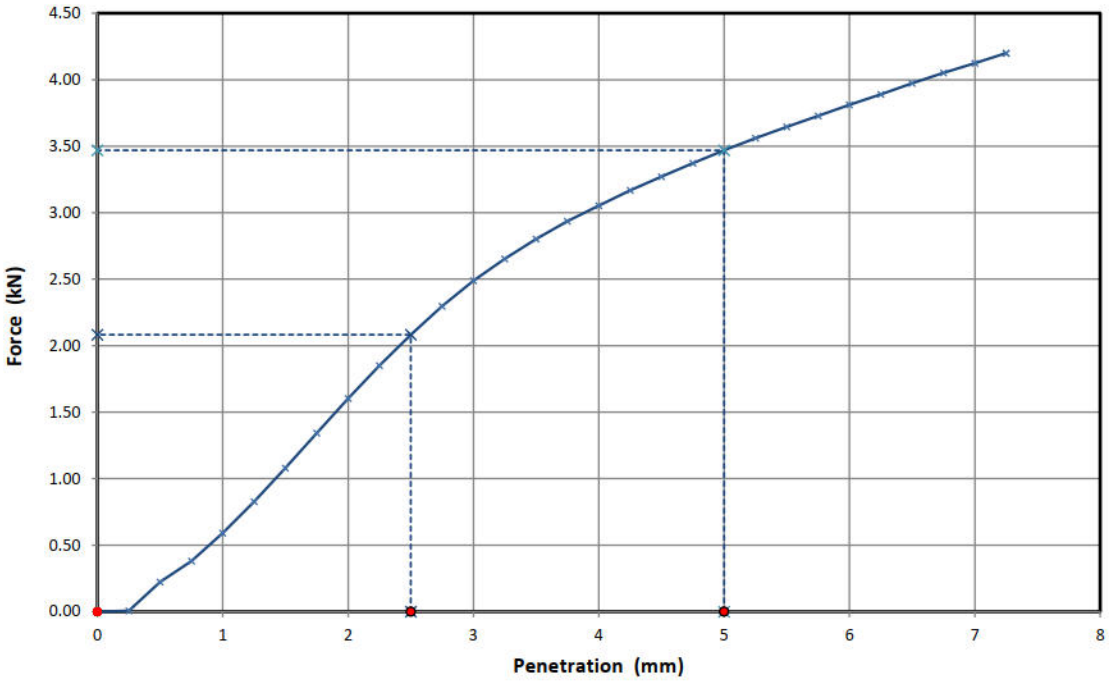
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.12
Remarks	

CBR Test Values			
2.5mm Top	6.4	2.5mm Bottom	
5mm Top	6.8	5mm Bottom	
CBR Value %	**6.8**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	AT45
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	16
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.70

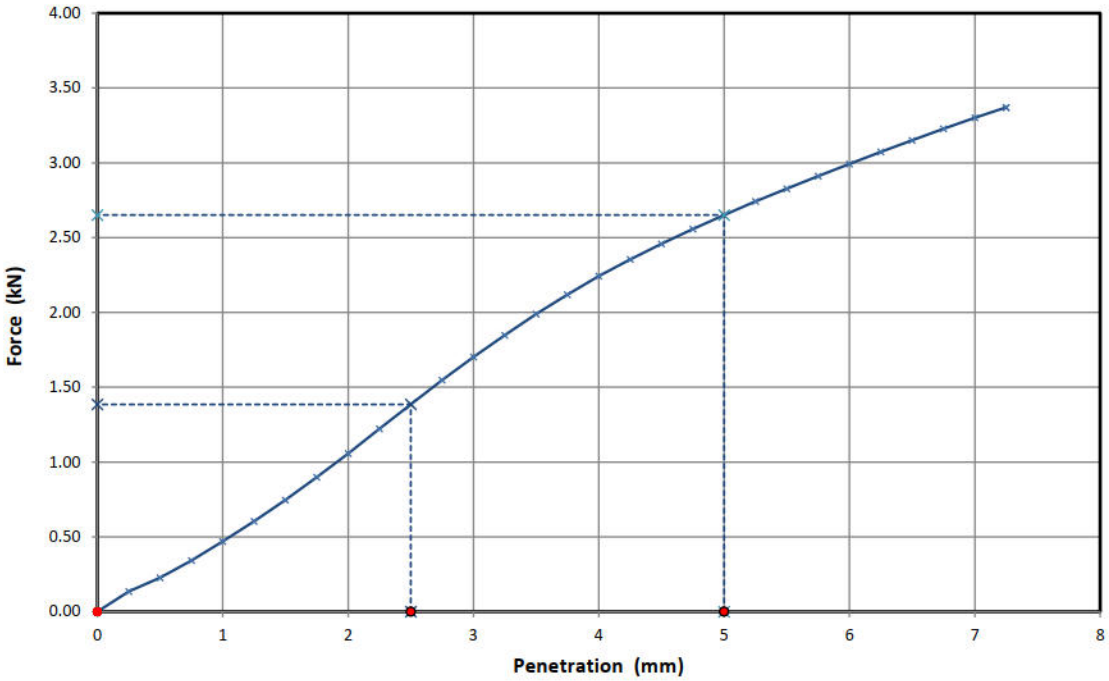
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.01
Remarks	

CBR Test Values			
2.5mm Top	16	2.5mm Bottom	
5mm Top	17	5mm Bottom	
CBR Value %	17	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT48
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.72

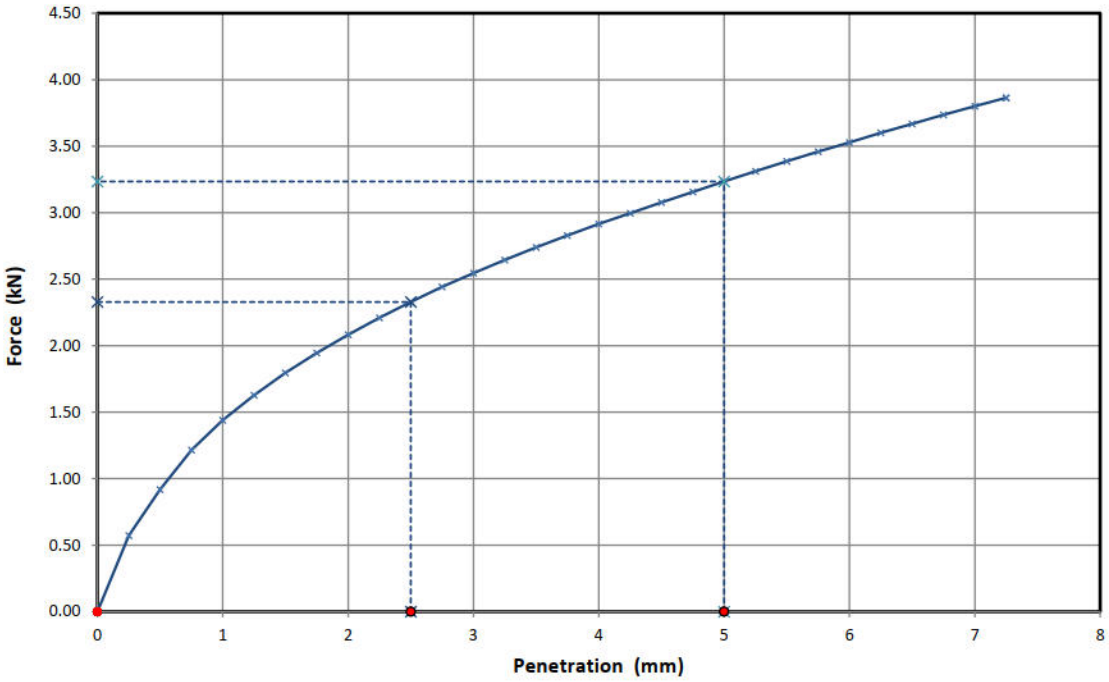
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.57
Remarks	

CBR Test Values			
2.5mm Top	10	2.5mm Bottom	
5mm Top	13	5mm Bottom	
CBR Value %	**13**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT51
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	5	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.93
Dry Density (Mg/m3)	1.70

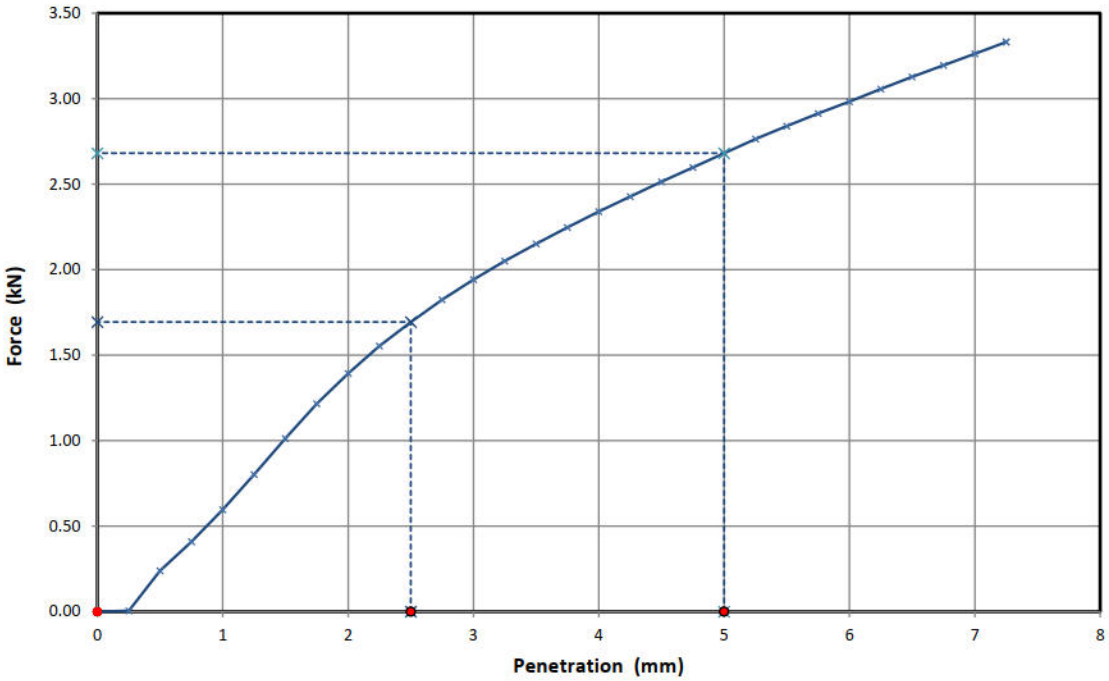
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.53
Remarks	

CBR Test Values			
2.5mm Top	18	2.5mm Bottom	
5mm Top	16	5mm Bottom	
CBR Value %	**18**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT54
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.72

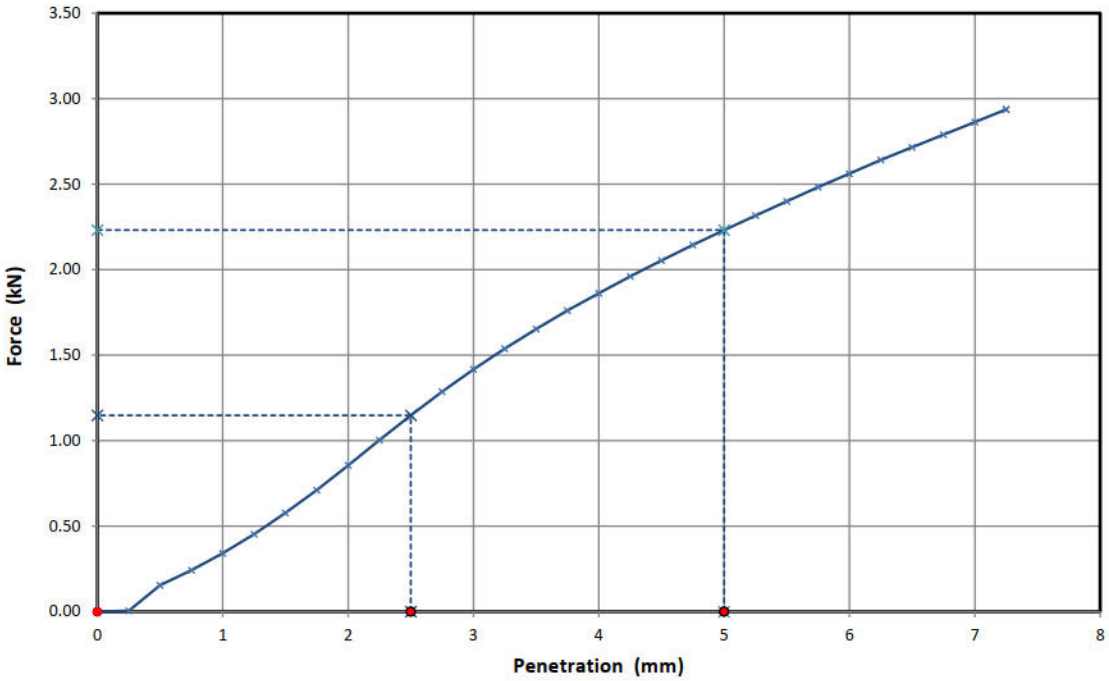
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.22
Remarks	

CBR Test Values			
2.5mm Top	13	2.5mm Bottom	
5mm Top	13	5mm Bottom	
CBR Value %	**13**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT57
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.93
Dry Density (Mg/m3)	1.69

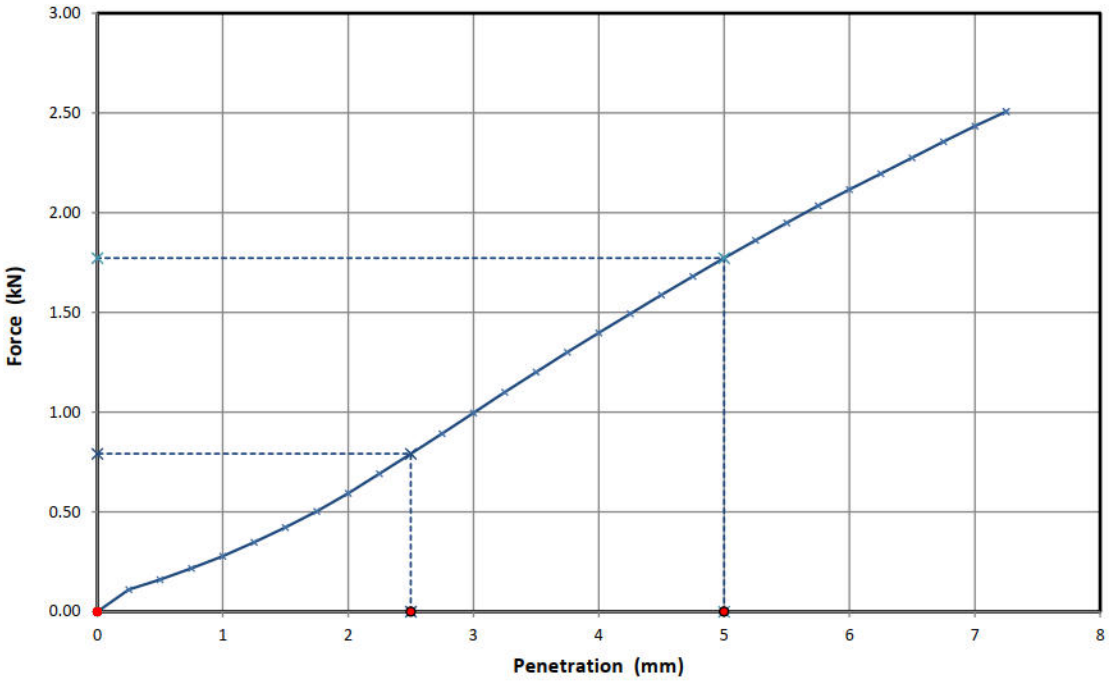
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.66
Remarks	

CBR Test Values			
2.5mm Top	8.7	2.5mm Bottom	
5mm Top	11	5mm Bottom	
CBR Value %	**11**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT60
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	5	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.77

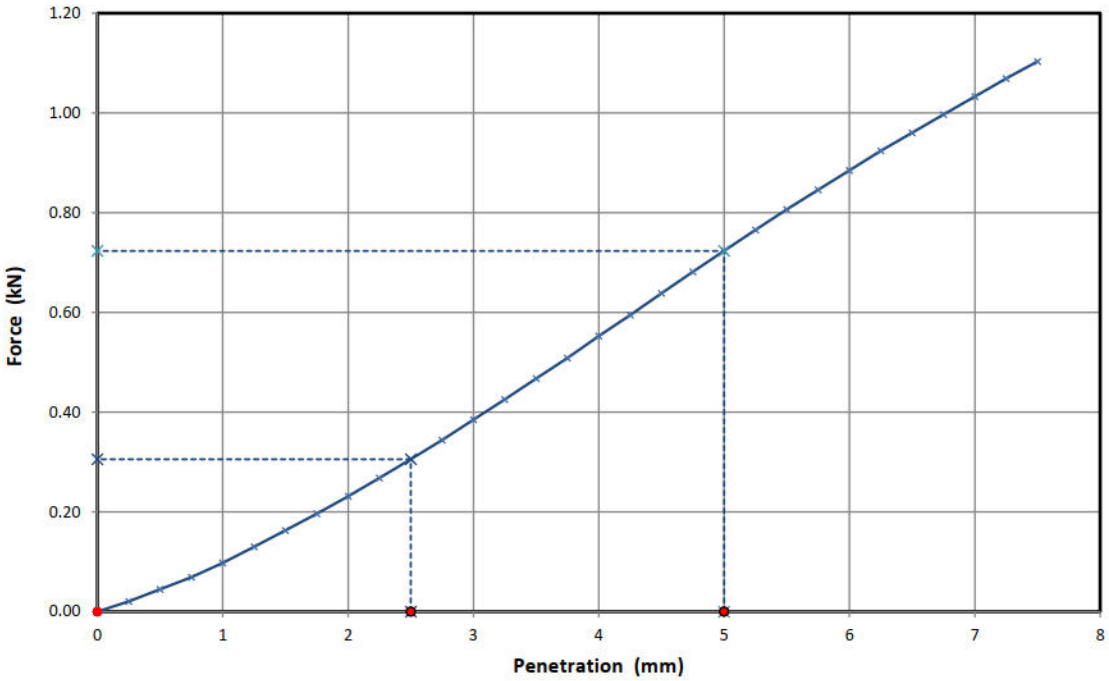
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.38
Remarks	

CBR Test Values			
2.5mm Top	6	2.5mm Bottom	
5mm Top	8.9	5mm Bottom	
CBR Value %	**8.9**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	AT63
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	18
Moisture Top (%)	22
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.72

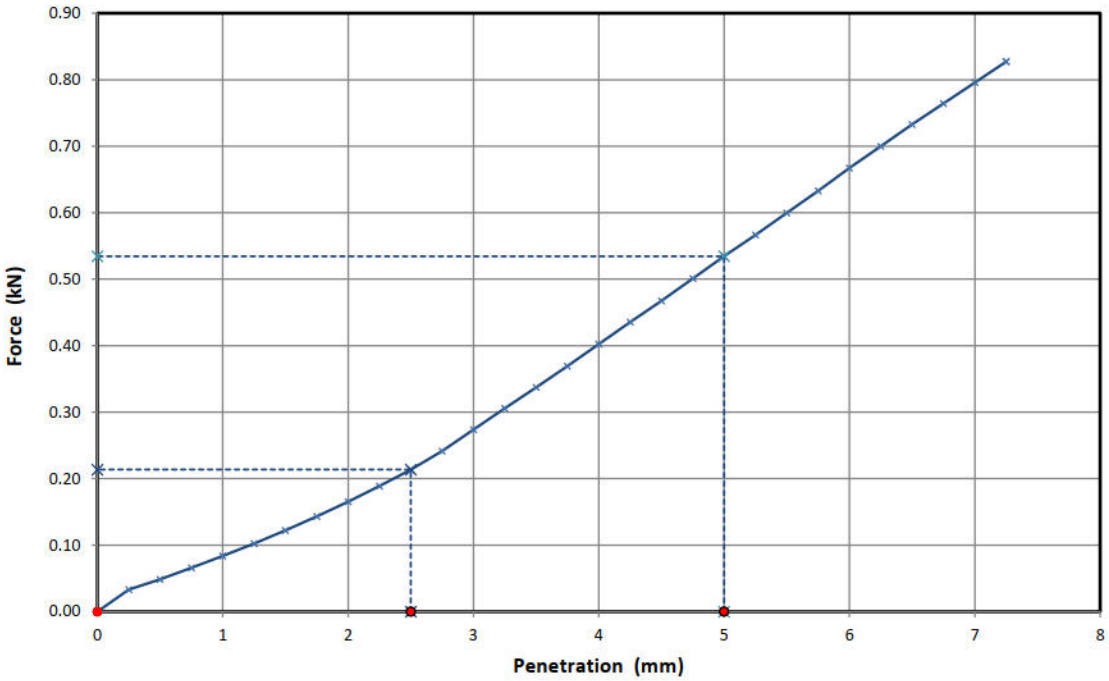
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.79
Remarks	

CBR Test Values			
2.5mm Top	2.3	2.5mm Bottom	
5mm Top	3.6	5mm Bottom	
CBR Value %	**3.6**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT66
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	1	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	23
Moisture Top (%)	25
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.00
Dry Density (Mg/m3)	1.63

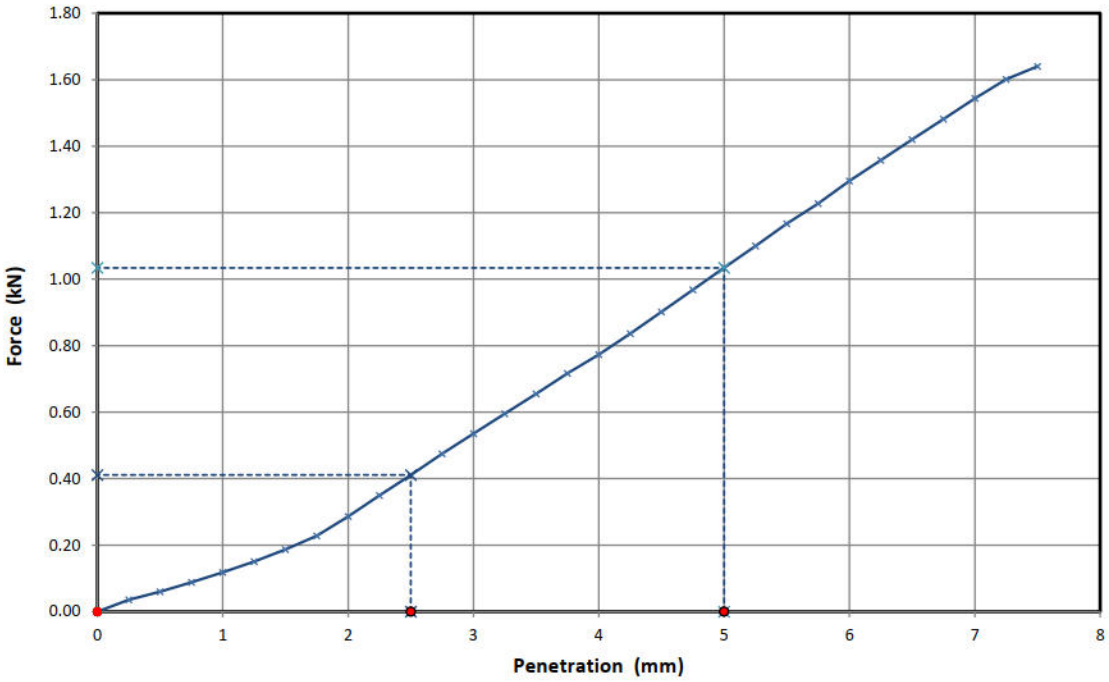
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.94
Remarks	

CBR Test Values			
2.5mm Top	1.6	2.5mm Bottom	
5mm Top	2.7	5mm Bottom	
CBR Value %	**2.7**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT69
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.08
Dry Density (Mg/m3)	1.83

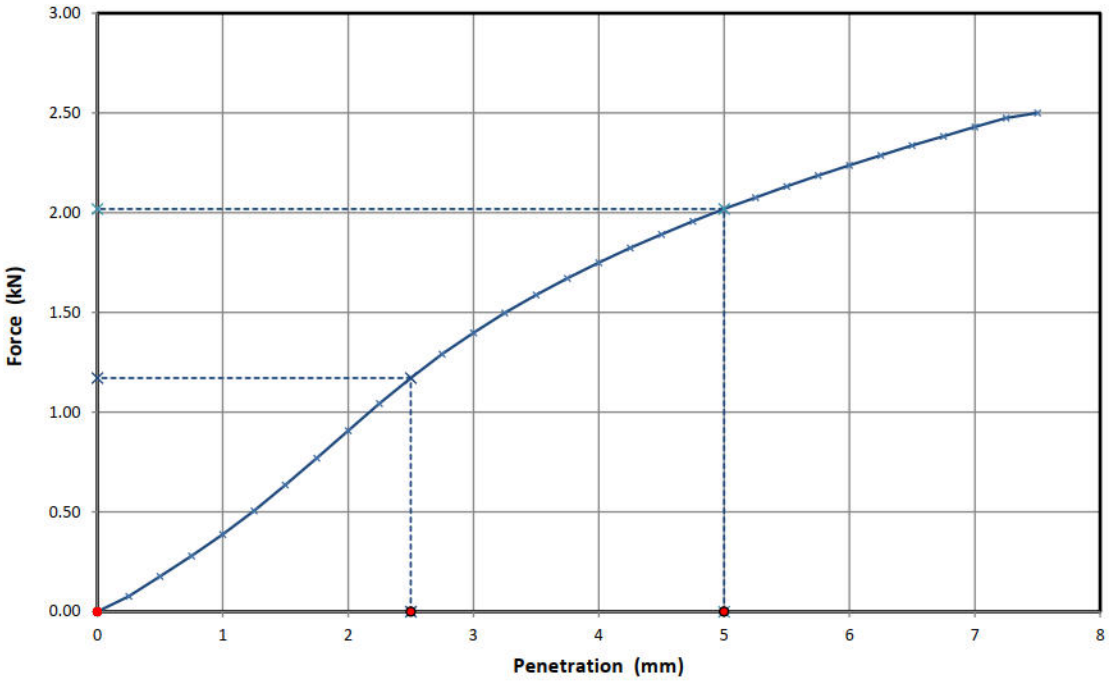
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	2.09
Remarks	

CBR Test Values			
2.5mm Top	3.1	2.5mm Bottom	
5mm Top	5.2	5mm Bottom	
CBR Value %	**5.2**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT72
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.01
Dry Density (Mg/m3)	1.79

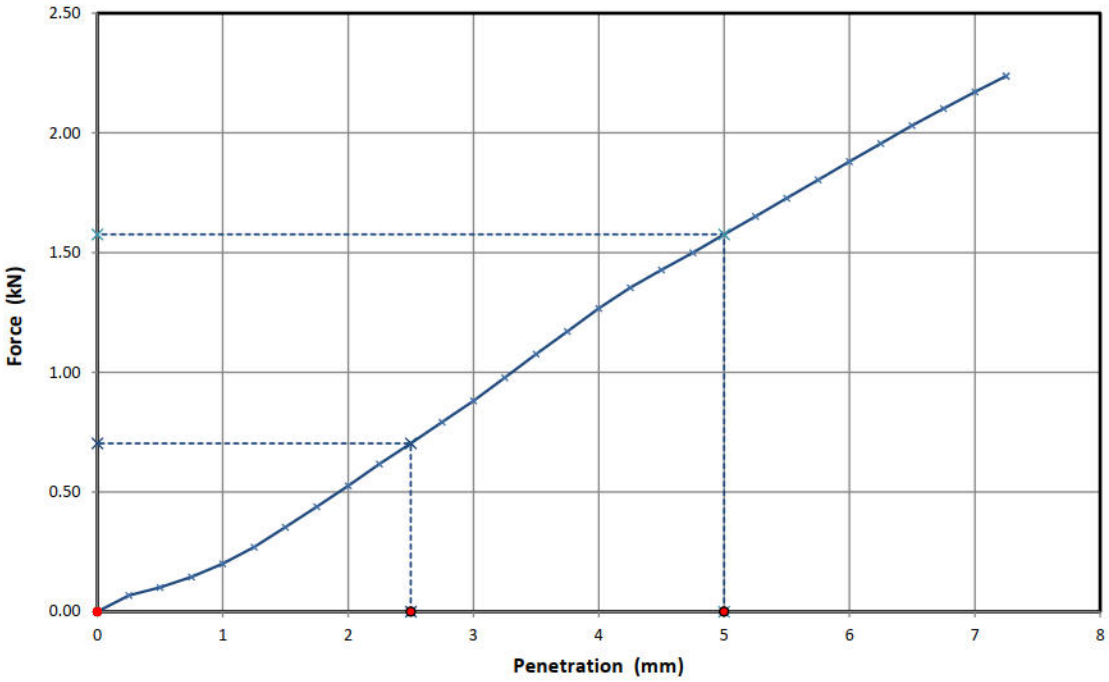
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.01
Remarks	

CBR Test Values			
2.5mm Top	8.9	2.5mm Bottom	
5mm Top	10	5mm Bottom	
CBR Value %	**10**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	AT75
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.02
Dry Density (Mg/m3)	1.77

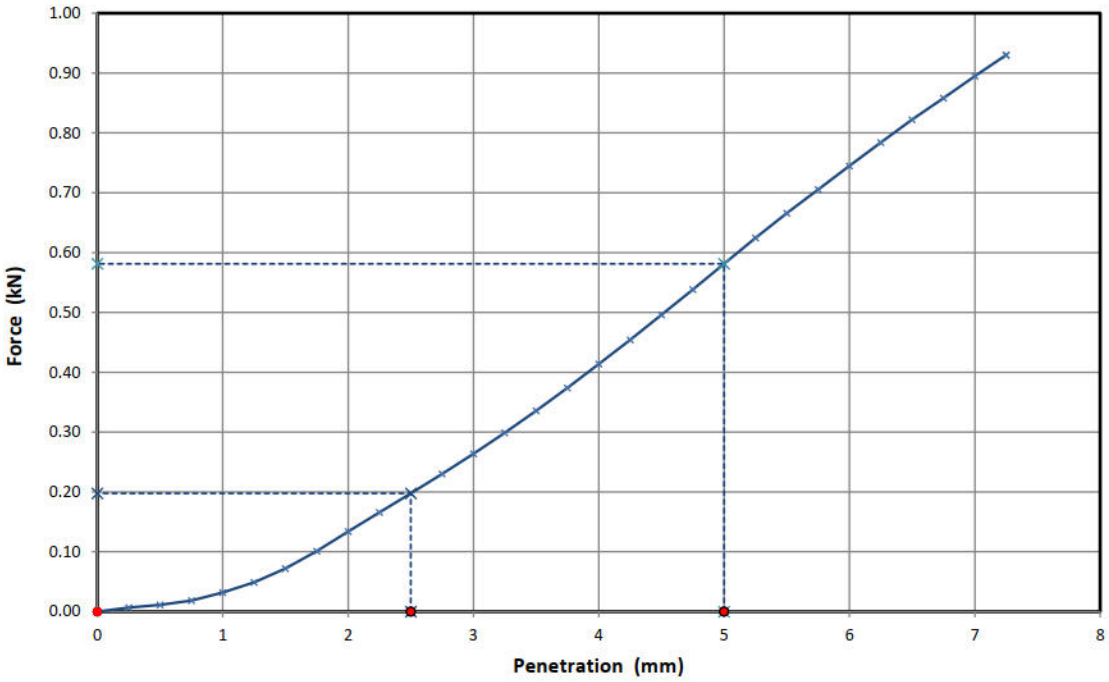
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.05
Remarks	

CBR Test Values			
2.5mm Top	5.3	2.5mm Bottom	
5mm Top	7.9	5mm Bottom	
CBR Value %	**7.9**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	AT78
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	1	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	22
Moisture Top (%)	25
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.04
Dry Density (Mg/m3)	1.67

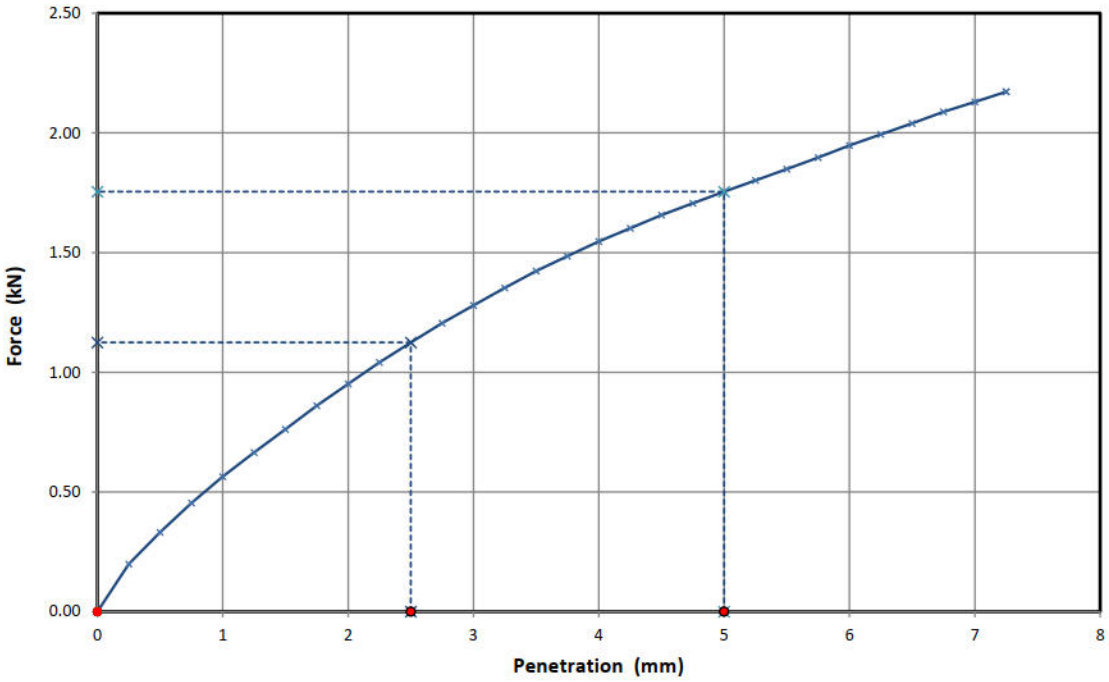
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	2.11
Remarks	

CBR Test Values			
2.5mm Top	1.5	2.5mm Bottom	
5mm Top	2.9	5mm Bottom	
CBR Value %	**2.9**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB1
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	3	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.77

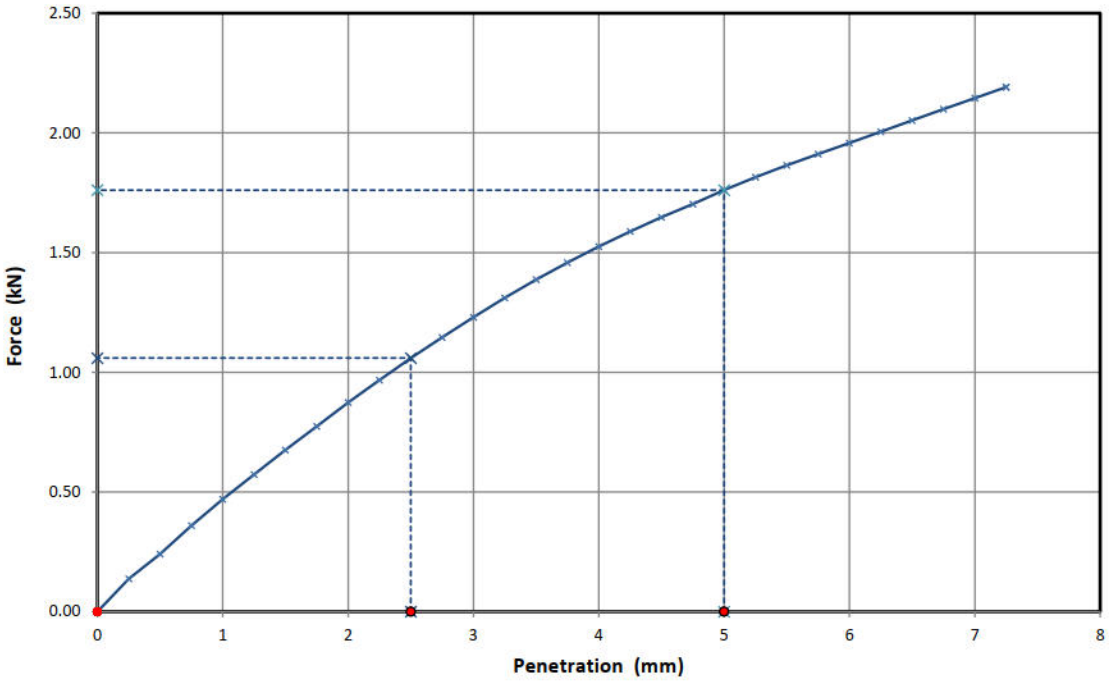
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.99
Remarks	

CBR Test Values			
2.5mm Top	8.5	2.5mm Bottom	
5mm Top	8.8	5mm Bottom	
CBR Value %	**8.8**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB2
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	4	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.97
Dry Density (Mg/m3)	1.71

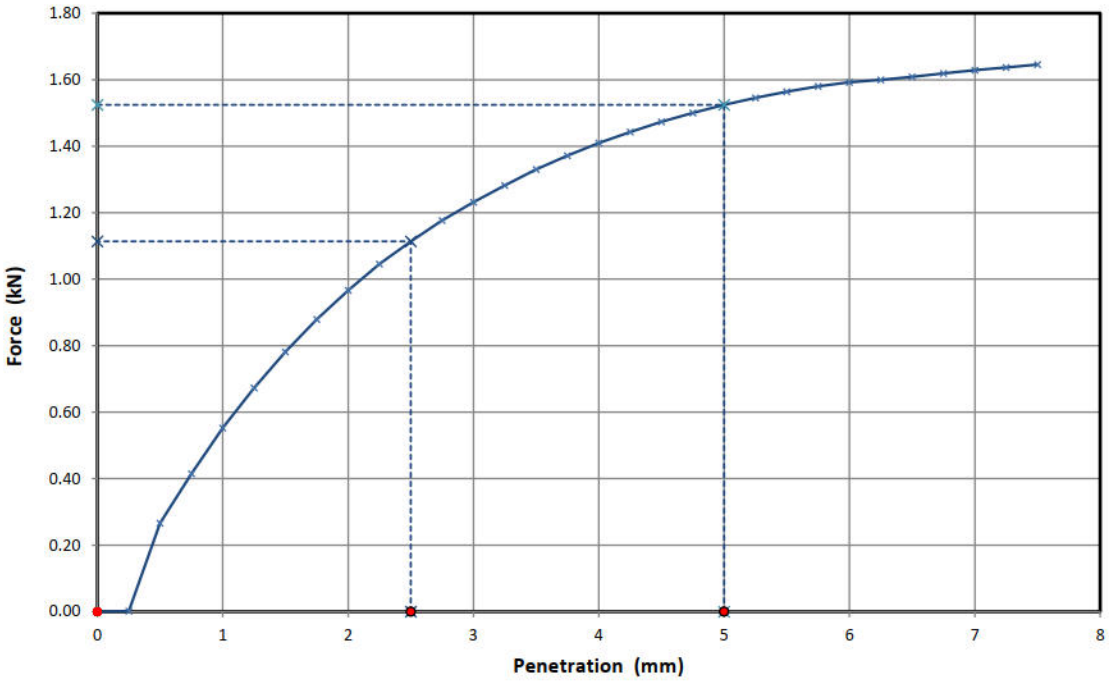
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.1
Remarks	

CBR Test Values			
2.5mm Top	8	2.5mm Bottom	
5mm Top	8.8	5mm Bottom	
CBR Value %	**8.8**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	California Bearing Ratio BS 1377: Part 4: 1990 Clause 7	Contract Number	74403
		Borehole/Pit No.	SB3
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	2	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.80

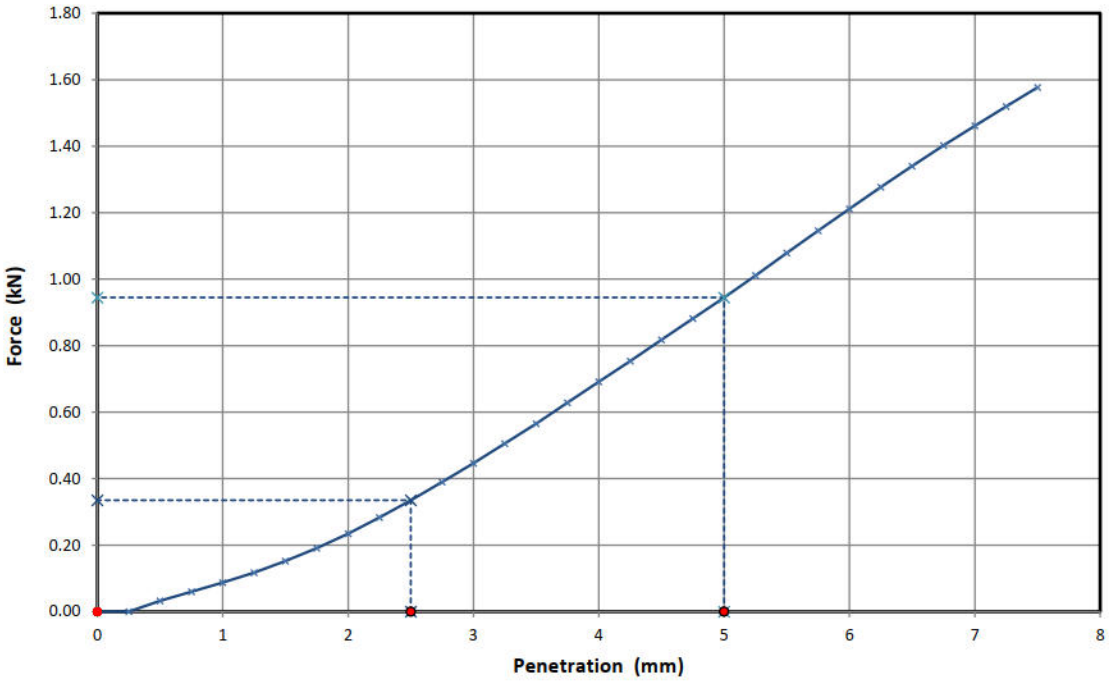
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	0.93
Remarks	

CBR Test Values			
2.5mm Top	8.4	2.5mm Bottom	
5mm Top	7.6	5mm Bottom	
CBR Value %	**8.4**	**CBR Value %**	

Operator
Conor D

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB4
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	1	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.01
Dry Density (Mg/m3)	1.78

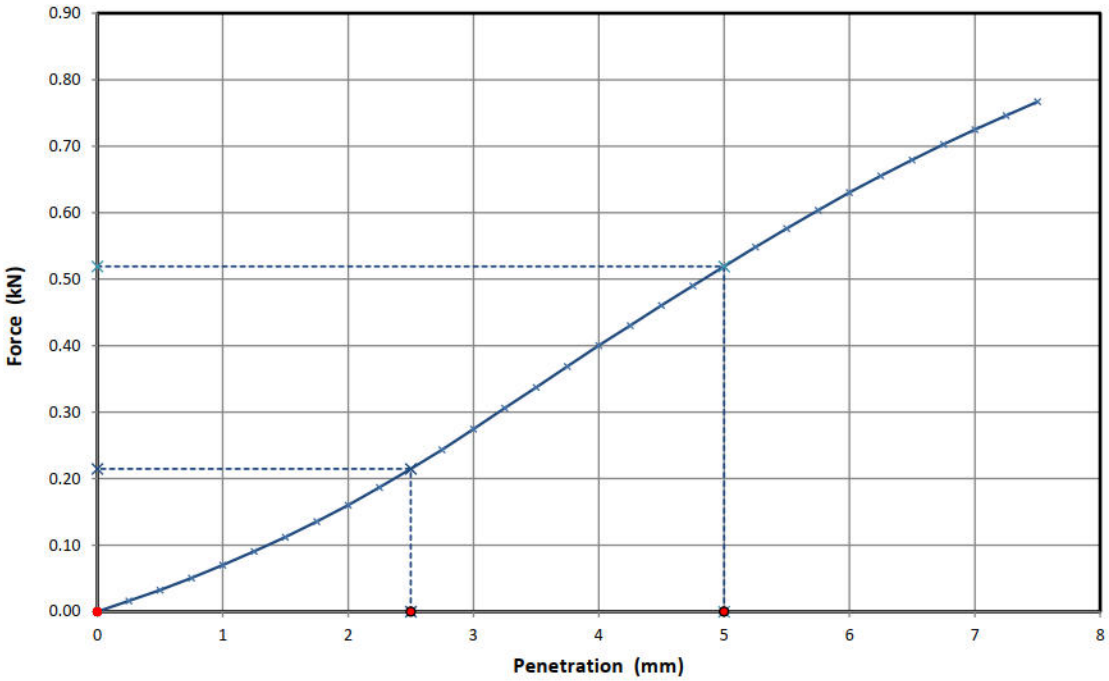
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.13
Remarks	

CBR Test Values			
2.5mm Top	2.5	2.5mm Bottom	
5mm Top	4.7	5mm Bottom	
CBR Value %	**4.7**	**CBR Value %**	

Operator
Conor D

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB5
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.73

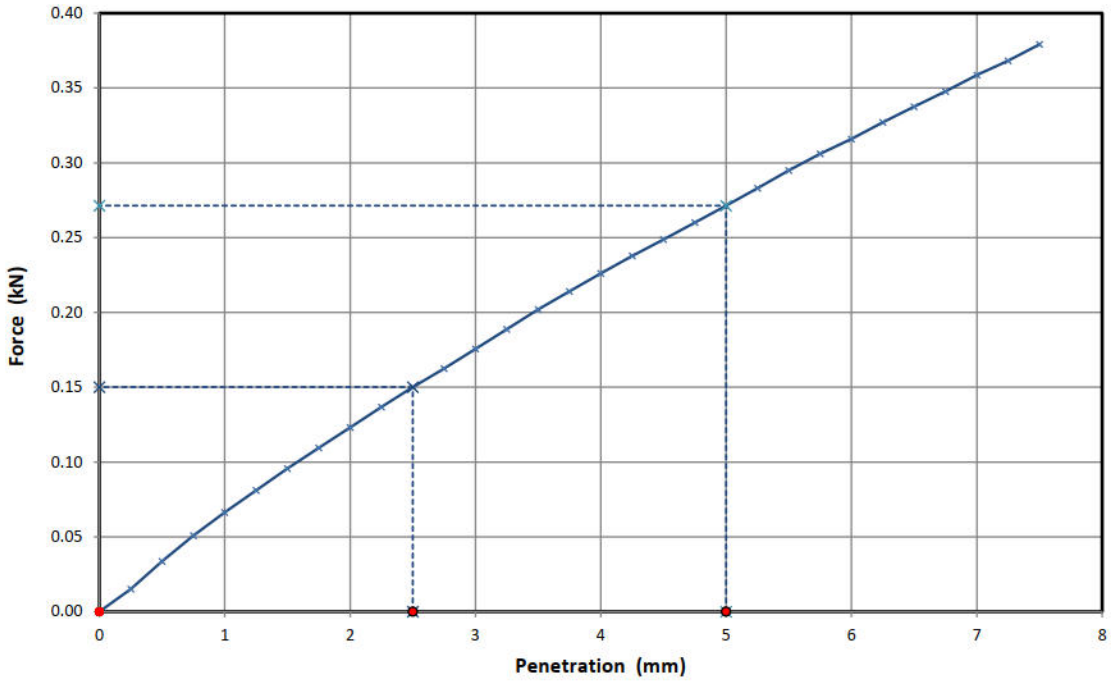
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	2.07
Remarks	

CBR Test Values			
2.5mm Top	1.6	2.5mm Bottom	
5mm Top	2.6	5mm Bottom	
CBR Value %	**2.6**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB6
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	8.3
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.89
Dry Density (Mg/m3)	1.74

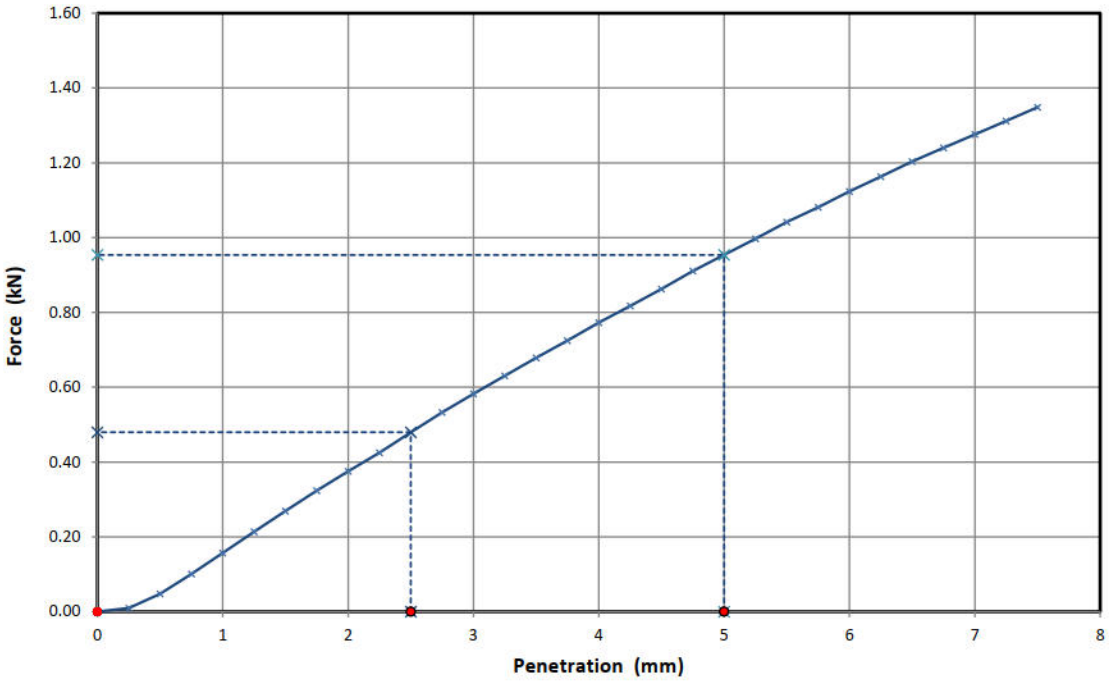
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.93
Remarks	

CBR Test Values			
2.5mm Top	1.1	2.5mm Bottom	
5mm Top	1.4	5mm Bottom	
CBR Value %	**1.4**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB7
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	8.3
Moisture Top (%)	10
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.80
Dry Density (Mg/m3)	1.66

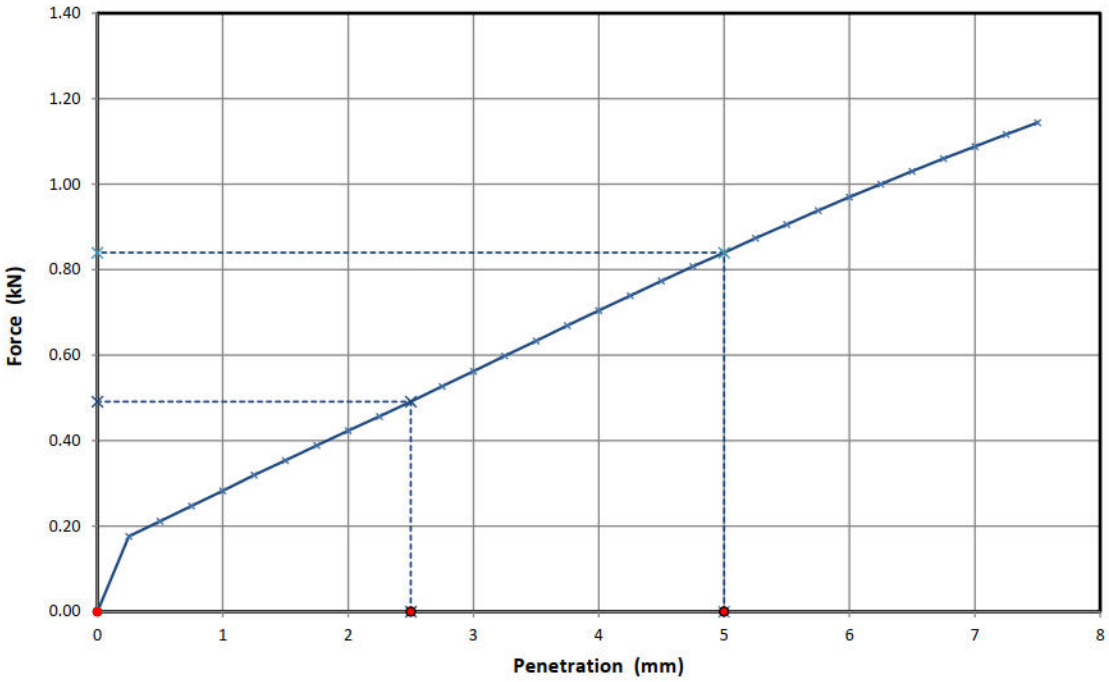
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.3
Remarks	

CBR Test Values			
2.5mm Top	3.6	2.5mm Bottom	
5mm Top	4.8	5mm Bottom	
CBR Value %	**4.8**	**CBR Value %**	

Operator
Conor D

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB8
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	9.7
Moisture Top (%)	12
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.83
Dry Density (Mg/m3)	1.67

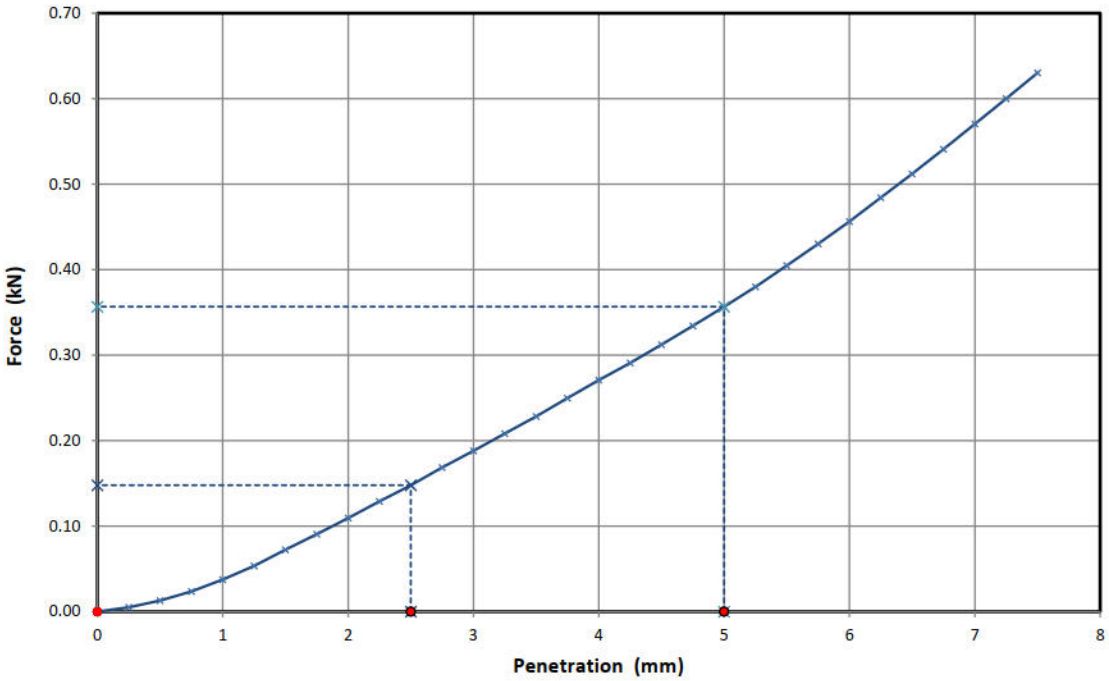
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.37
Remarks	

CBR Test Values			
2.5mm Top	3.7	2.5mm Bottom	
5mm Top	4.2	5mm Bottom	
CBR Value %	**4.2**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB9
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.70

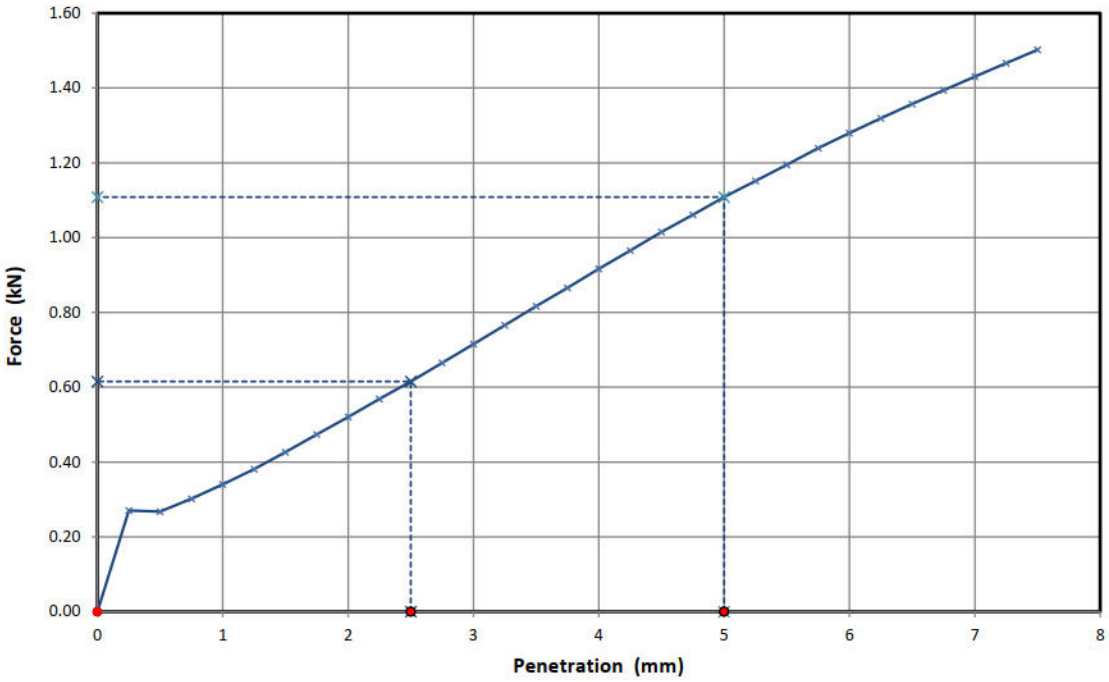
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.93
Remarks	

CBR Test Values			
2.5mm Top	1.1	2.5mm Bottom	
5mm Top	1.8	5mm Bottom	
CBR Value %	**1.8**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB10
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	7.0
Moisture Top (%)	13
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.79
Dry Density (Mg/m3)	1.67

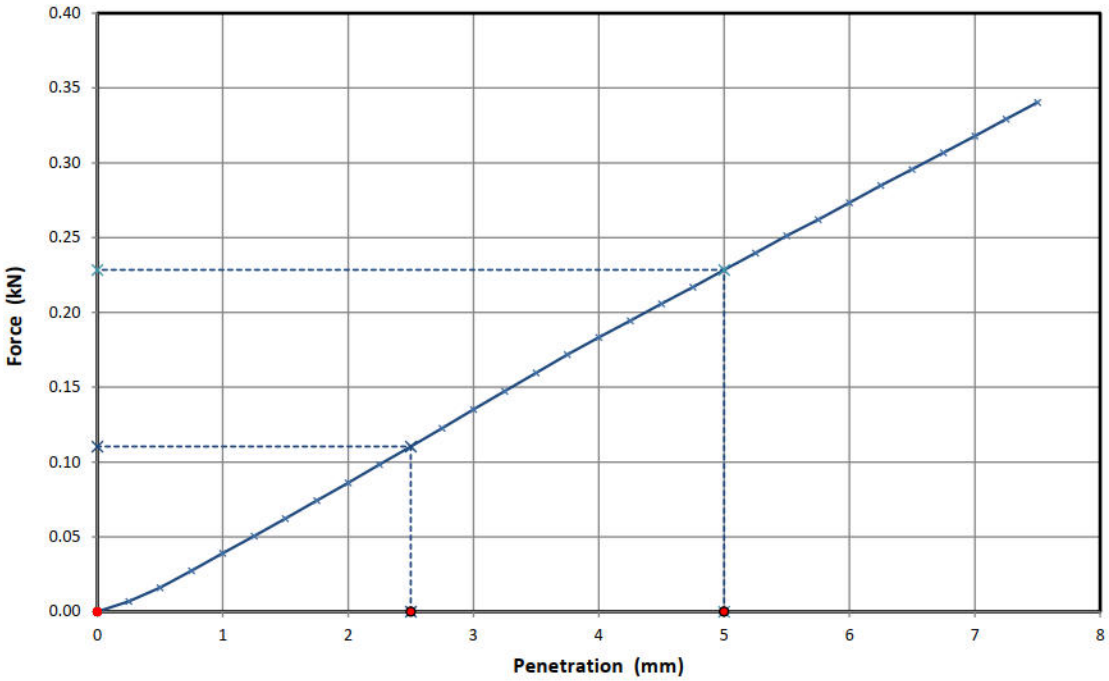
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.55
Remarks	

CBR Test Values			
2.5mm Top	4.7	2.5mm Bottom	
5mm Top	5.5	5mm Bottom	
CBR Value %	**5.5**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB11
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.95
Dry Density (Mg/m3)	1.69

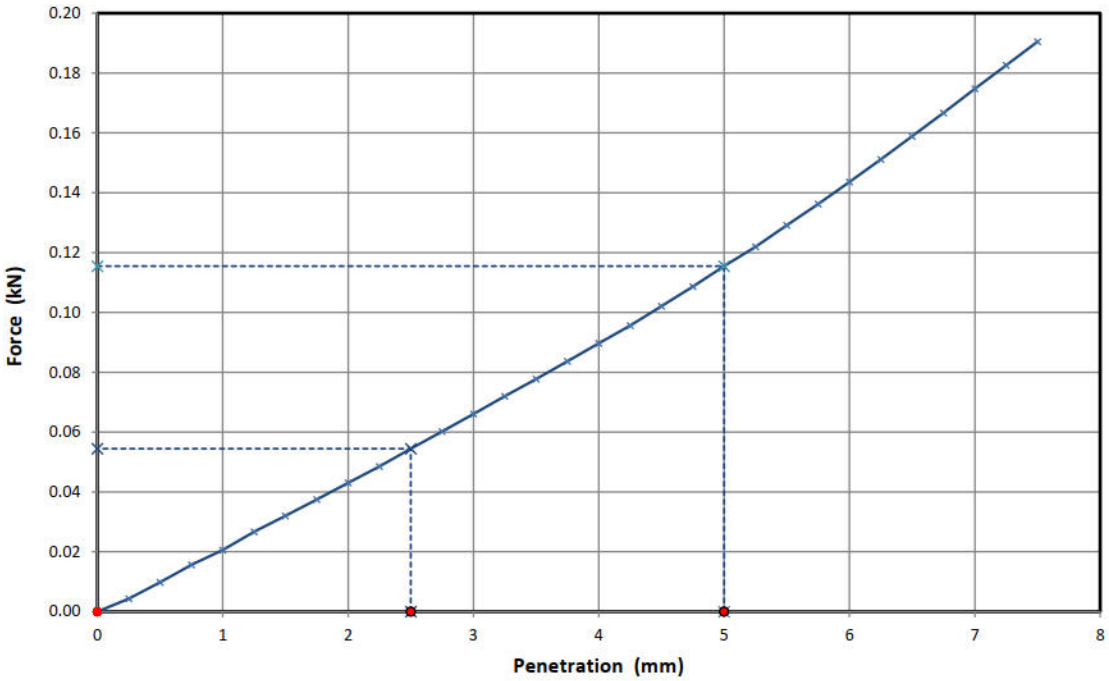
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.79
Remarks	

CBR Test Values			
2.5mm Top	0.84	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB12
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	16
Moisture Top (%)	21
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.68

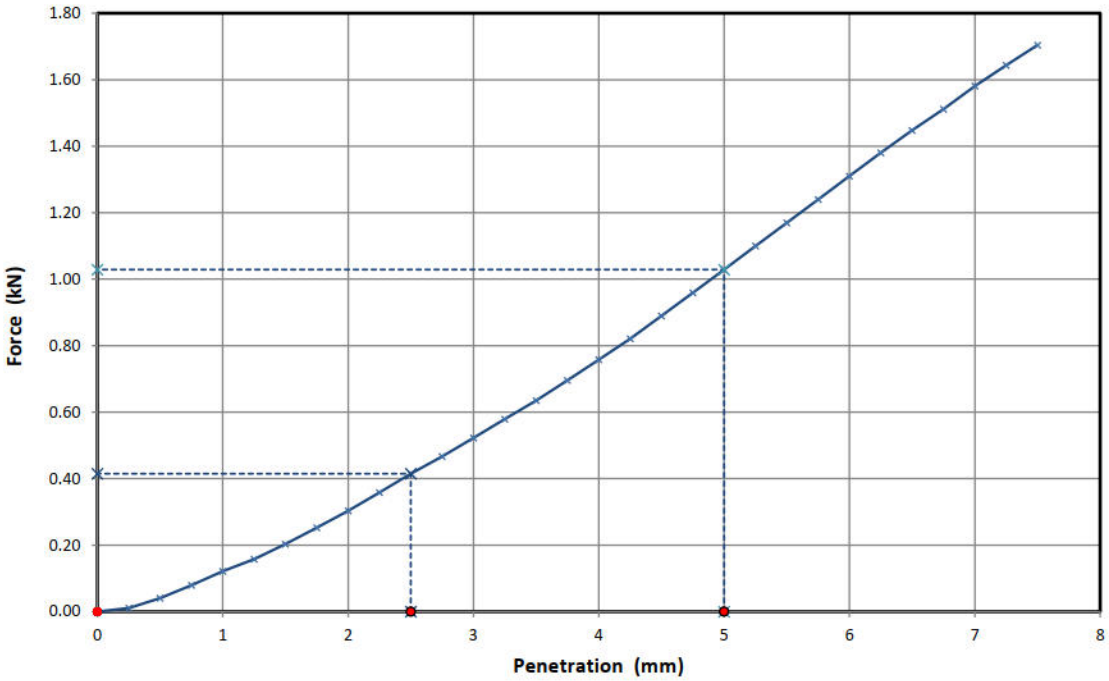
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.79
Remarks	

CBR Test Values			
2.5mm Top	0.41	2.5mm Bottom	
5mm Top	0.58	5mm Bottom	
CBR Value %	**0.58**	**CBR Value %**	

Operator
Darcy E

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB13
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	8.7
Moisture Top (%)	13
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.84
Dry Density (Mg/m3)	1.69

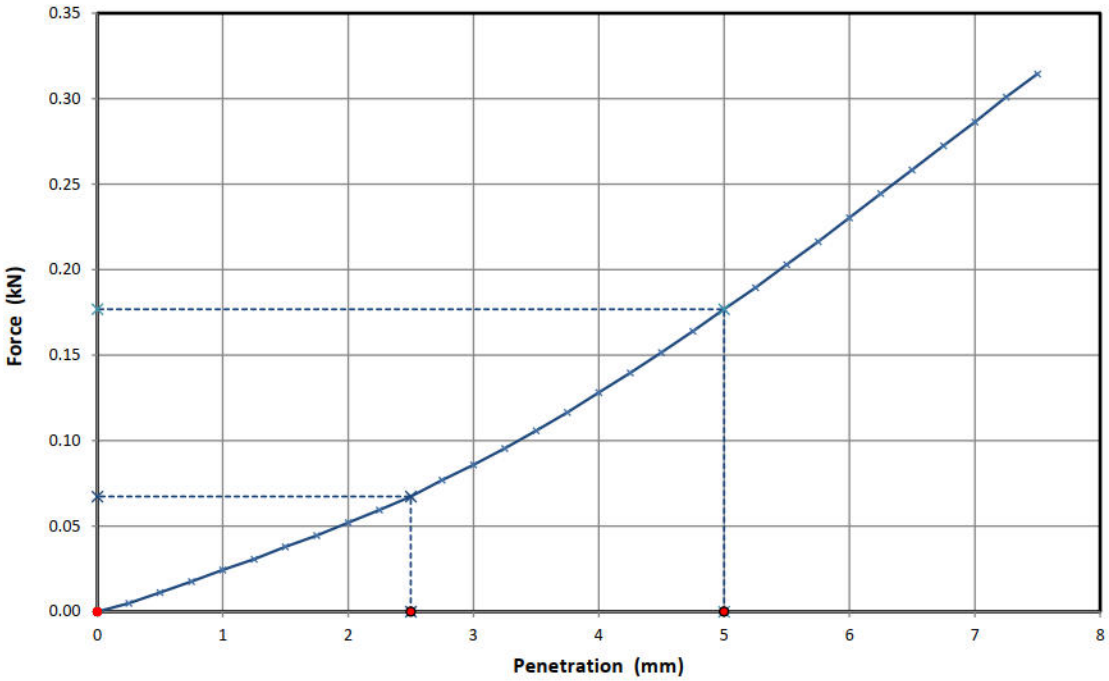
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.59
Remarks	

CBR Test Values			
2.5mm Top	3.1	2.5mm Bottom	
5mm Top	5.1	5mm Bottom	
CBR Value %	**5.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB14
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.02
Dry Density (Mg/m3)	1.77

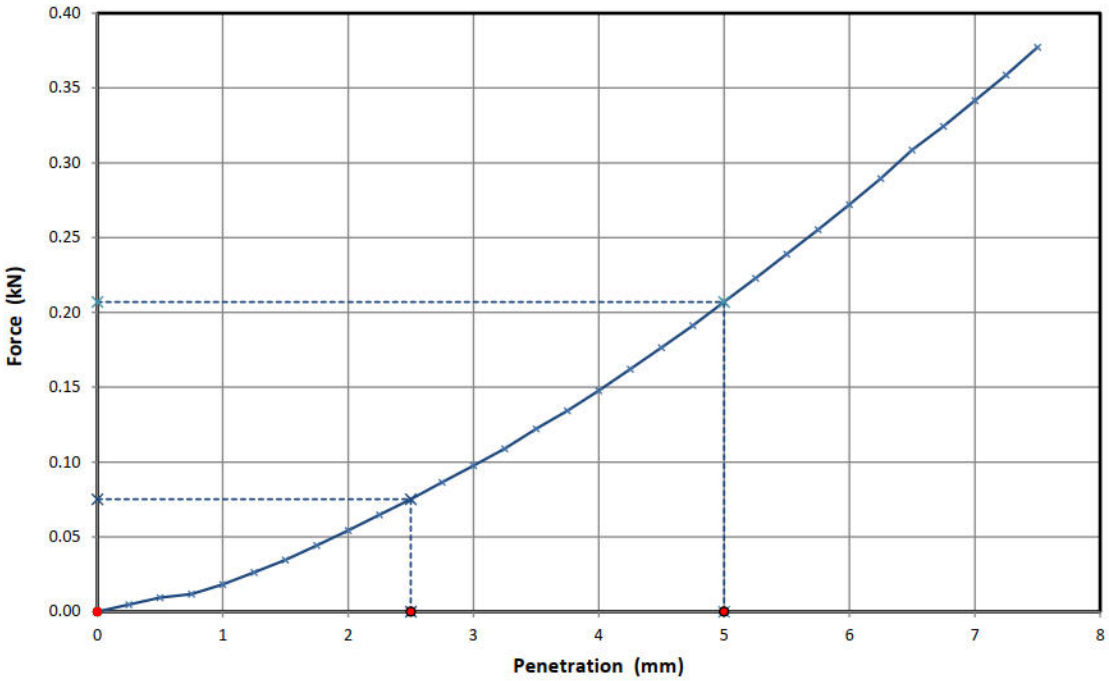
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.9
Remarks	

CBR Test Values			
2.5mm Top	0.51	2.5mm Bottom	
5mm Top	0.88	5mm Bottom	
CBR Value %	**0.88**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB15
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.77

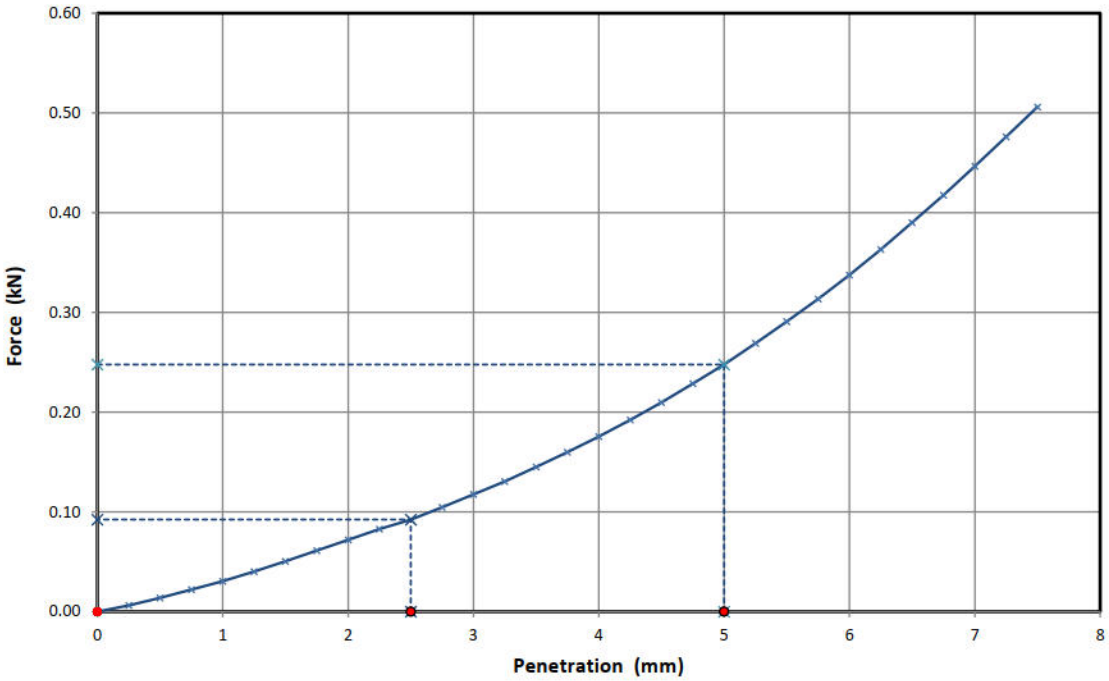
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.87
Remarks	

CBR Test Values			
2.5mm Top	0.57	2.5mm Bottom	
5mm Top	1	5mm Bottom	
CBR Value %	1	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB16
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.72

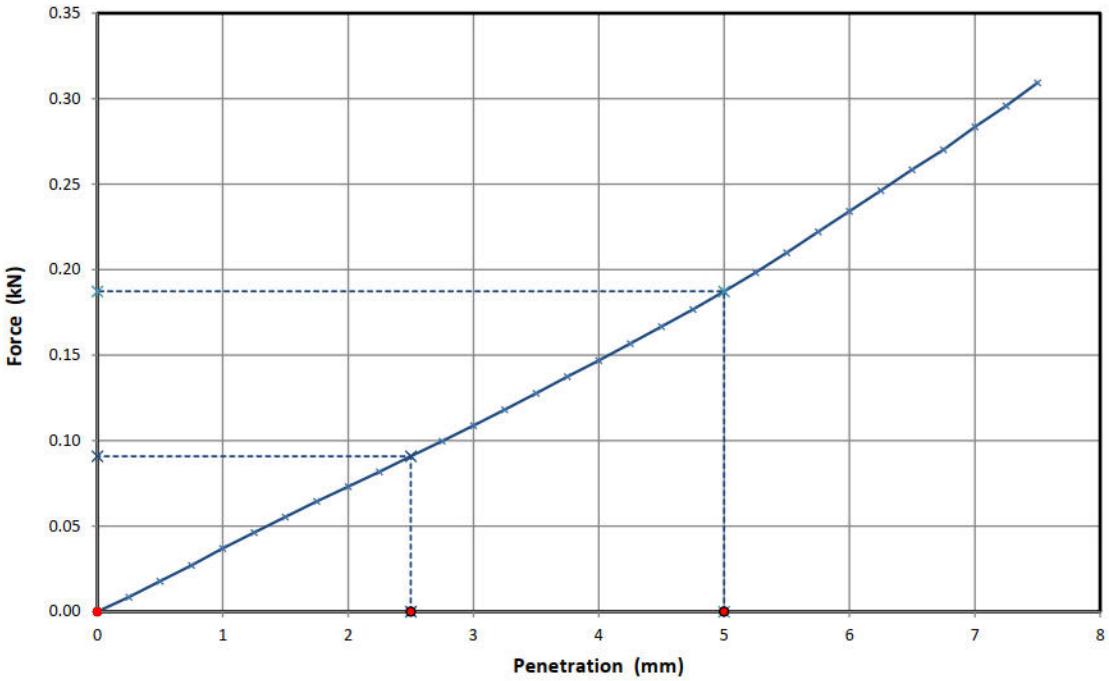
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.87
Remarks	

CBR Test Values			
2.5mm Top	0.7	2.5mm Bottom	
5mm Top	1.2	5mm Bottom	
CBR Value %	**1.2**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB17
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.79

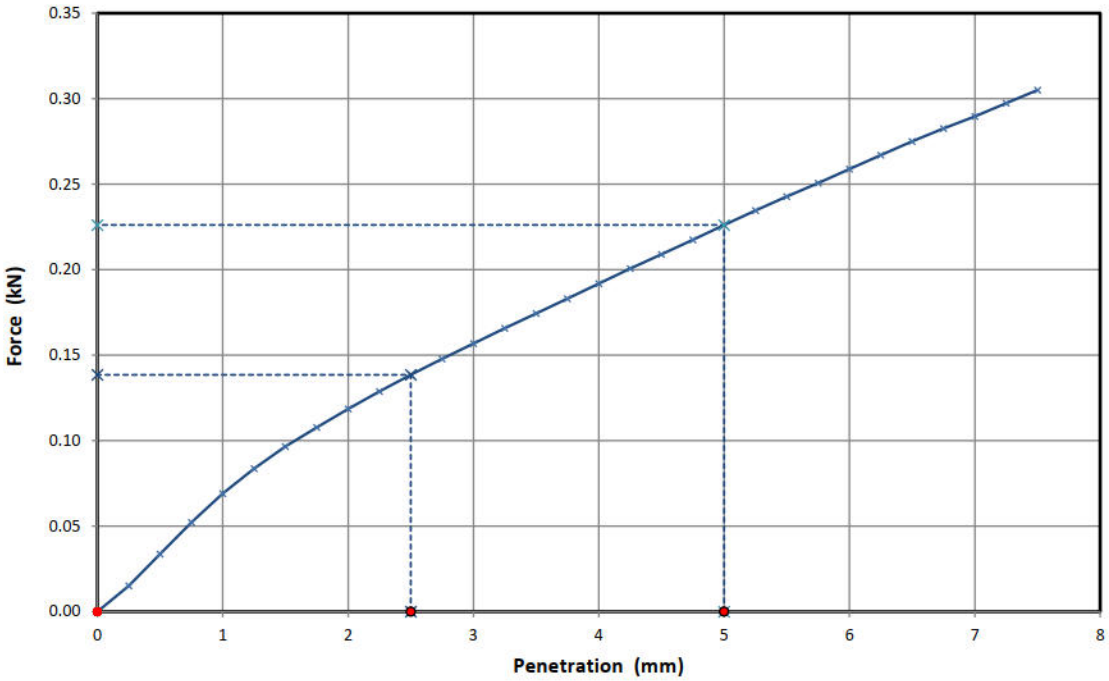
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.71
Remarks	

CBR Test Values			
2.5mm Top	0.69	2.5mm Bottom	
5mm Top	0.94	5mm Bottom	
CBR Value %	**0.94**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB18
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.72

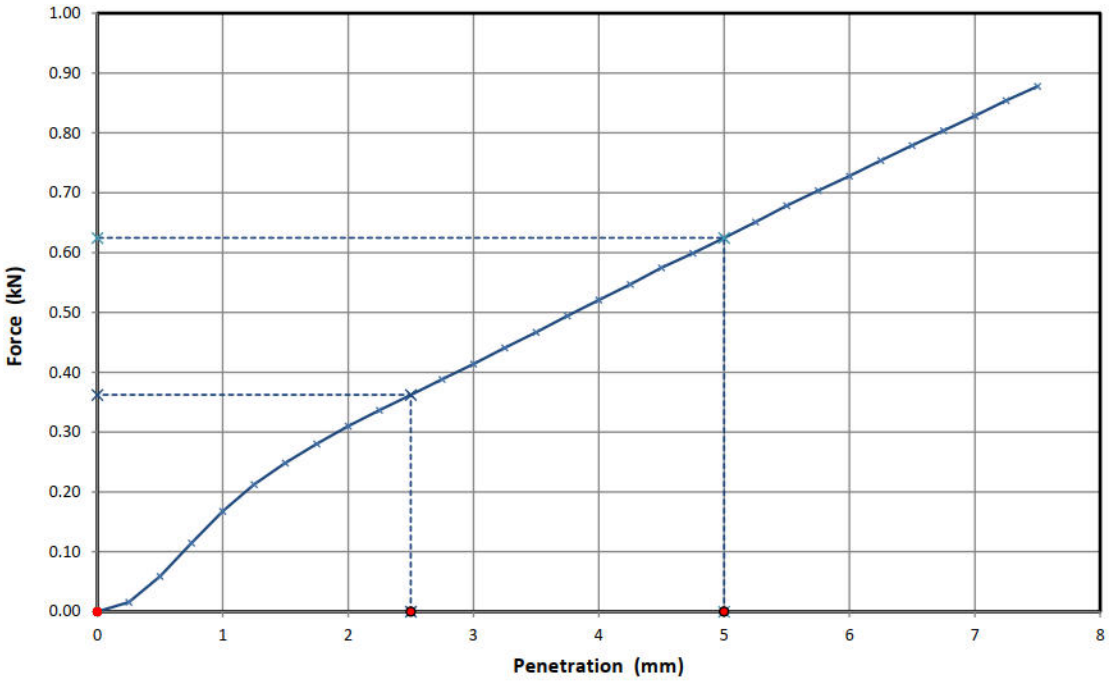
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.7
Remarks	

CBR Test Values			
2.5mm Top	1	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB19
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.90
Dry Density (Mg/m3)	1.73

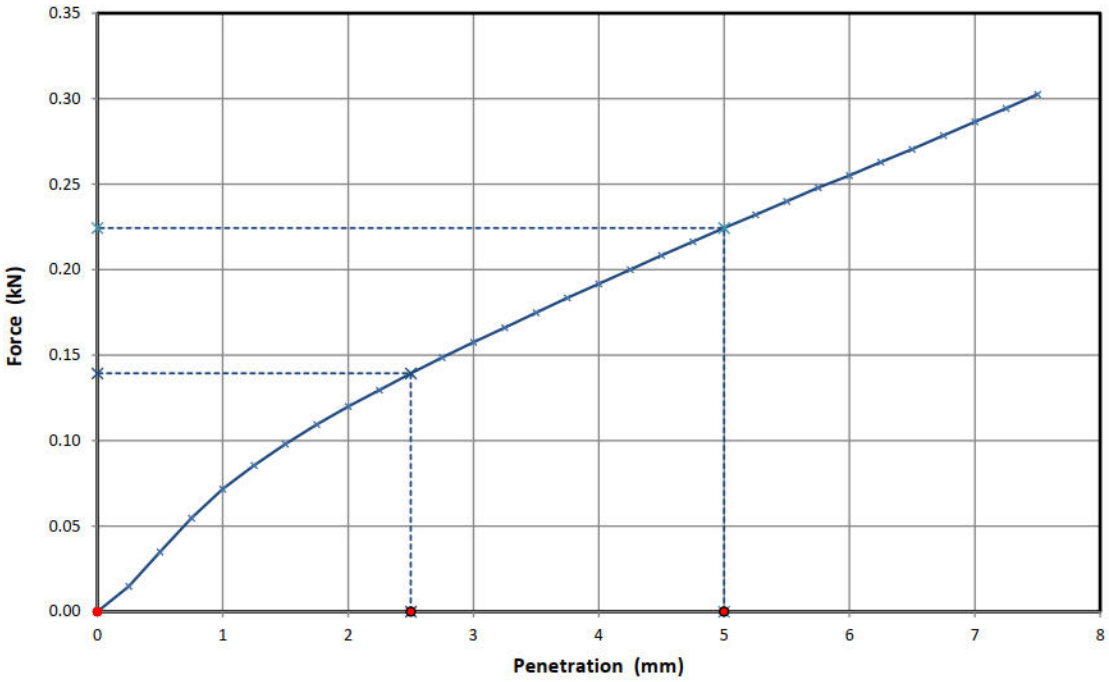
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.73
Remarks	

CBR Test Values			
2.5mm Top	2.7	2.5mm Bottom	
5mm Top	3.1	5mm Bottom	
CBR Value %	**3.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB20
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.72

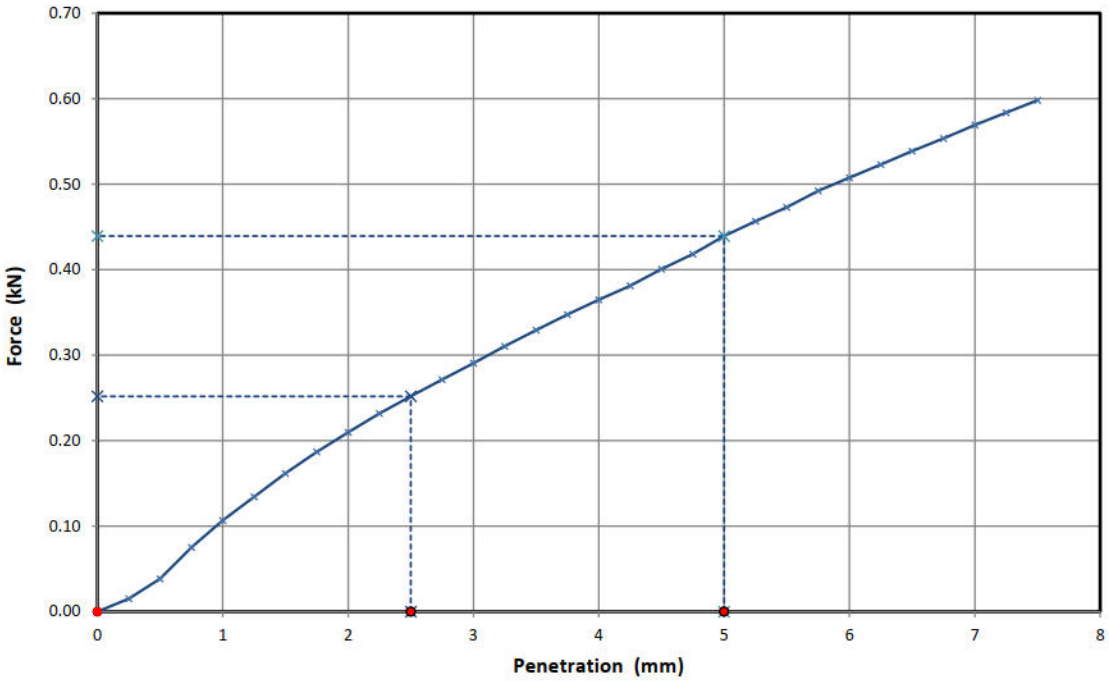
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.81
Remarks	

CBR Test Values			
2.5mm Top	1.1	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB21
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.88
Dry Density (Mg/m3)	1.71

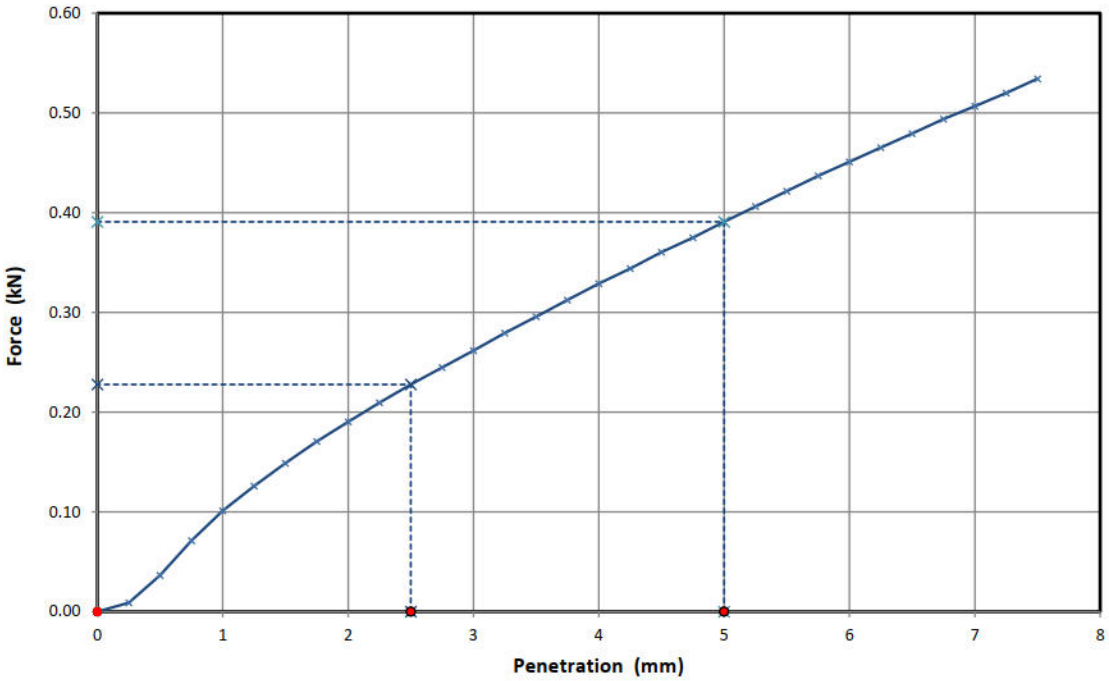
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.6
Remarks	

CBR Test Values			
2.5mm Top	1.9	2.5mm Bottom	
5mm Top	2.2	5mm Bottom	
CBR Value %	**2.2**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB22
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	13
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.90
Dry Density (Mg/m3)	1.72

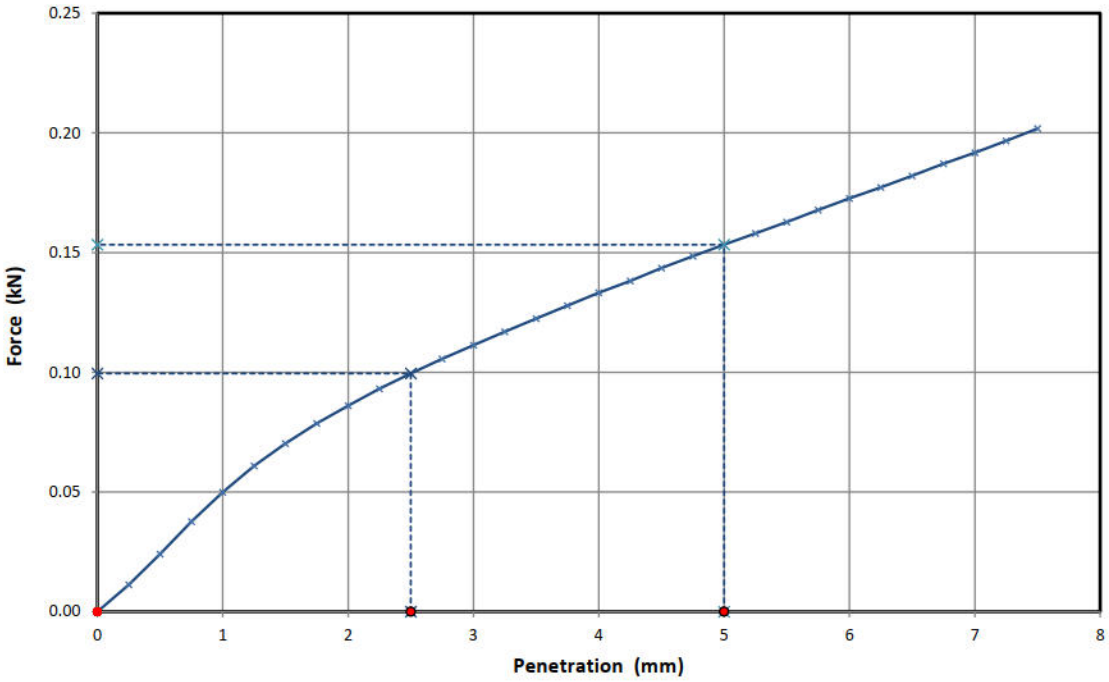
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.8
Remarks	

CBR Test Values			
2.5mm Top	1.7	2.5mm Bottom	
5mm Top	2	5mm Bottom	
CBR Value %	**2**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB23
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.88
Dry Density (Mg/m3)	1.71

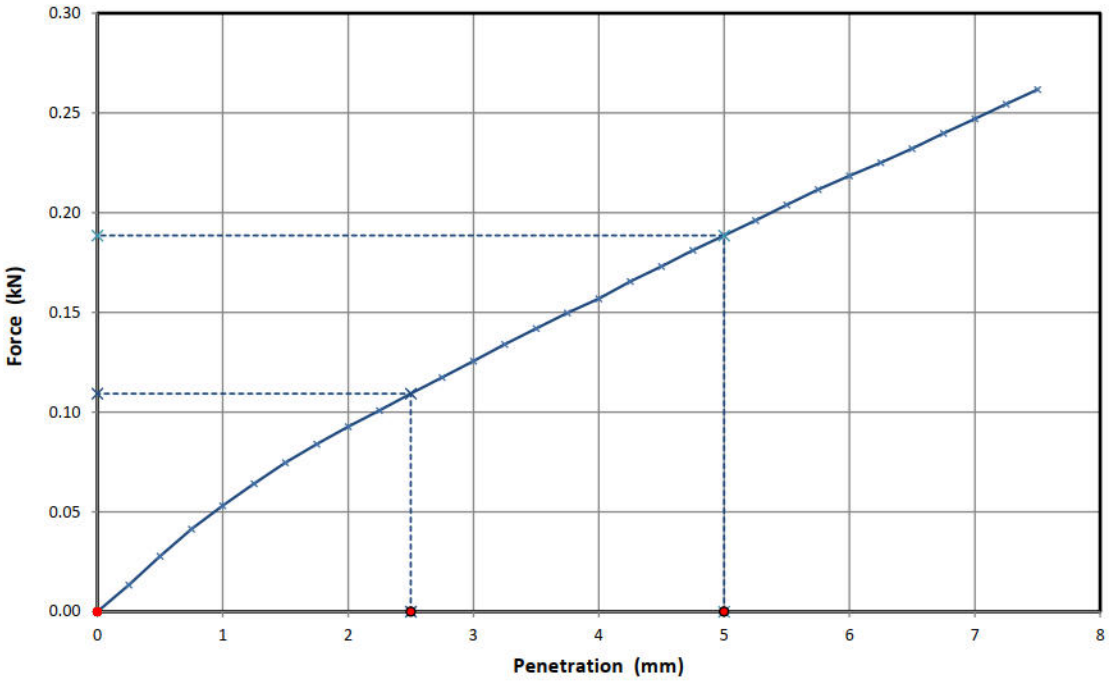
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.8
Remarks	

CBR Test Values			
2.5mm Top	0.75	2.5mm Bottom	
5mm Top	0.77	5mm Bottom	
CBR Value %	**0.77**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB24
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.93
Dry Density (Mg/m3)	1.73

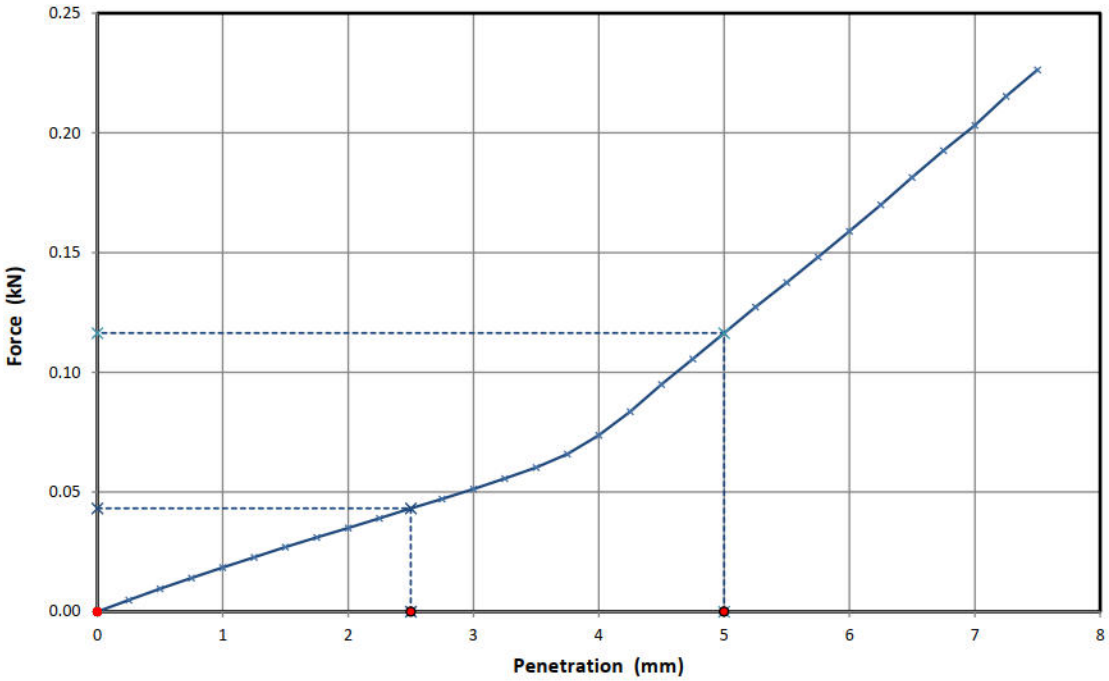
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.84
Remarks	

CBR Test Values			
2.5mm Top	0.83	2.5mm Bottom	
5mm Top	0.94	5mm Bottom	
CBR Value %	**0.94**	**CBR Value %**	

Operator
Darcy E

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB25
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.98
Dry Density (Mg/m3)	1.75

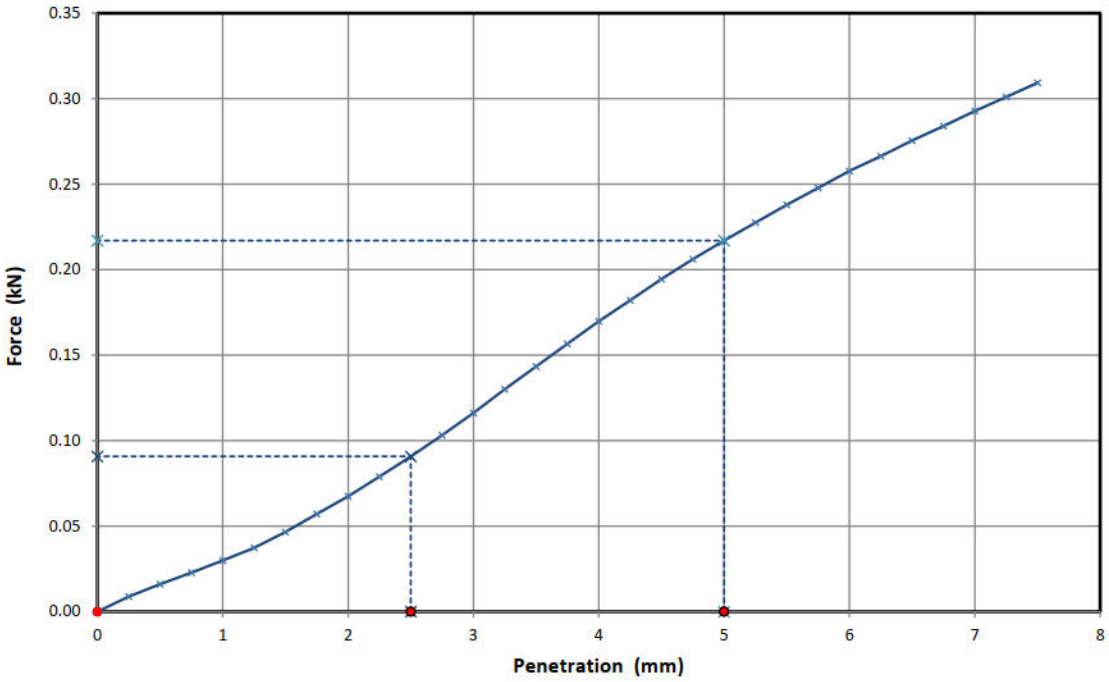
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.79
Remarks	

CBR Test Values			
2.5mm Top	0.33	2.5mm Bottom	
5mm Top	0.58	5mm Bottom	
CBR Value %	**0.58**	**CBR Value %**	

Operator
Darcy E

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB26
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.73

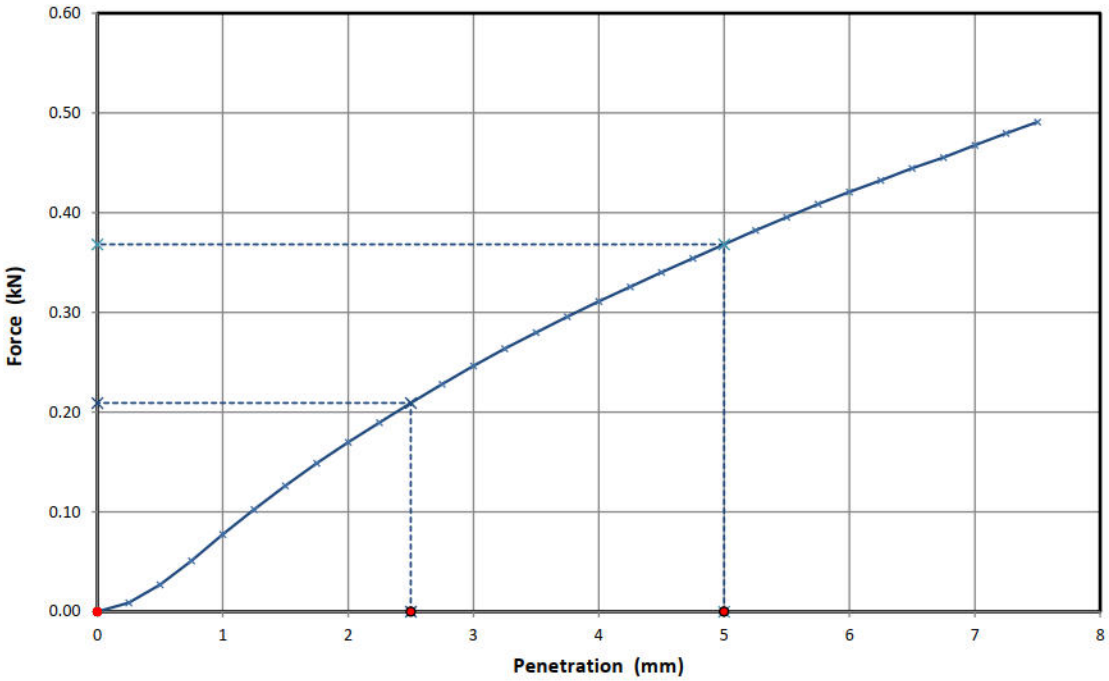
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.31
Remarks	

CBR Test Values			
2.5mm Top	0.69	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB27
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	17
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.71

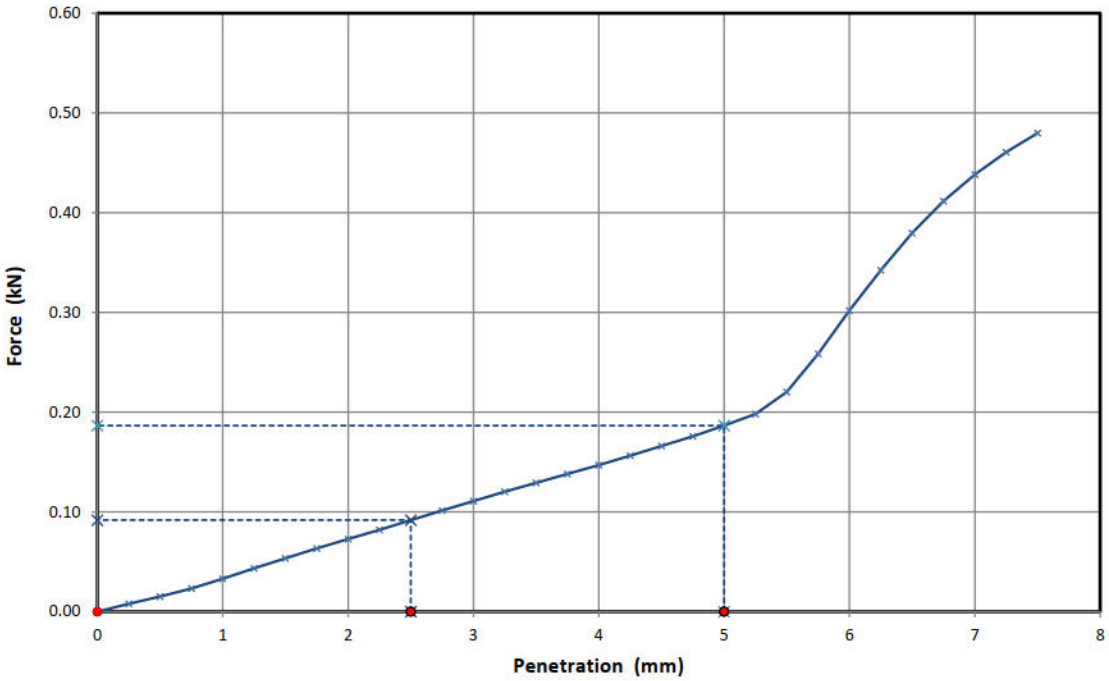
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.31
Remarks	

CBR Test Values			
2.5mm Top	1.6	2.5mm Bottom	
5mm Top	1.8	5mm Bottom	
CBR Value %	**1.8**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB28
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.01
Dry Density (Mg/m3)	1.74

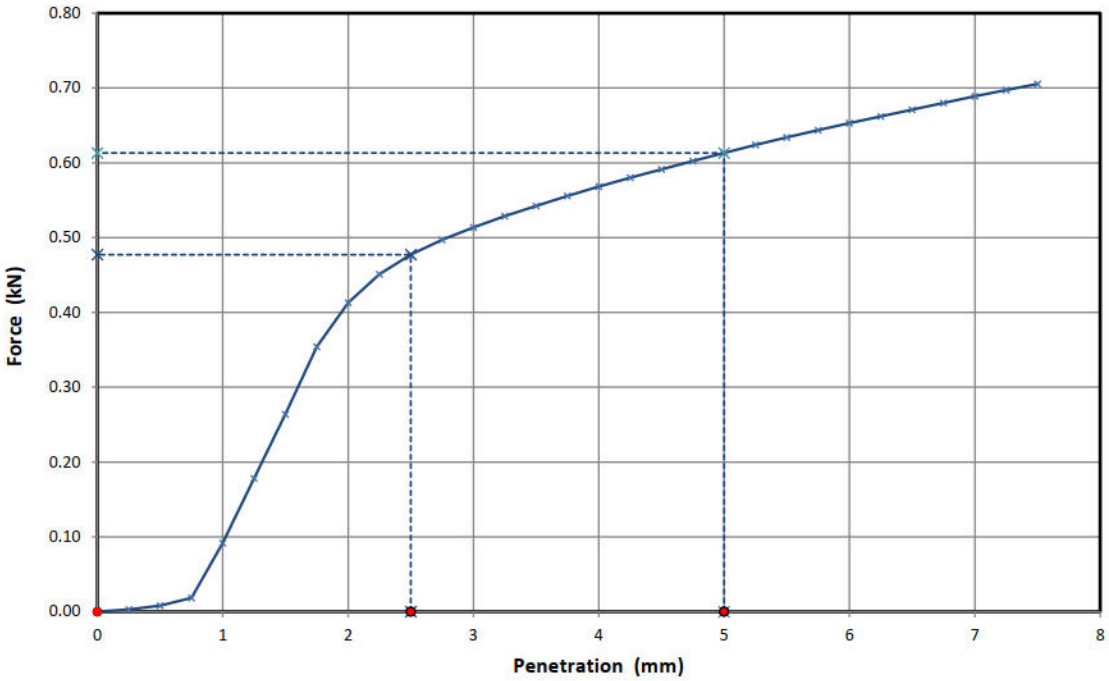
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.85
Remarks	

CBR Test Values			
2.5mm Top	0.7	2.5mm Bottom	
5mm Top	0.93	5mm Bottom	
CBR Value %	**0.93**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB29
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	9.9
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.87
Dry Density (Mg/m3)	1.70

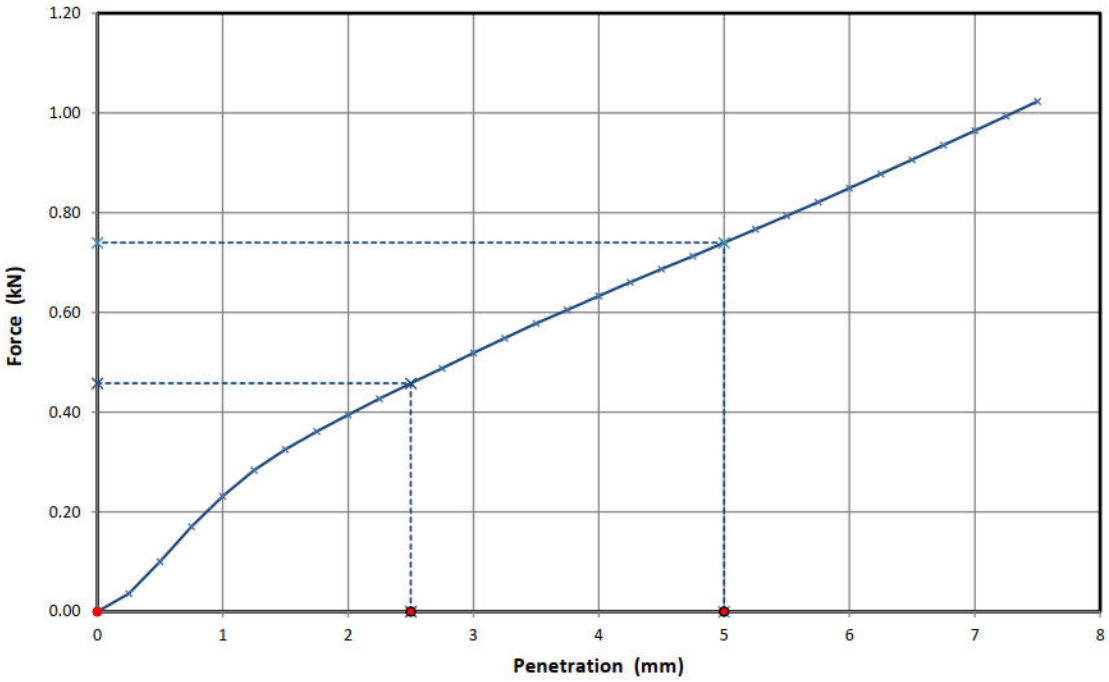
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.83
Remarks	

CBR Test Values			
2.5mm Top	3.6	2.5mm Bottom	
5mm Top	3.1	5mm Bottom	
CBR Value %	**3.6**	**CBR Value %**	

Operator
Darcy E

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB30
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	9.5
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.85
Dry Density (Mg/m3)	1.69

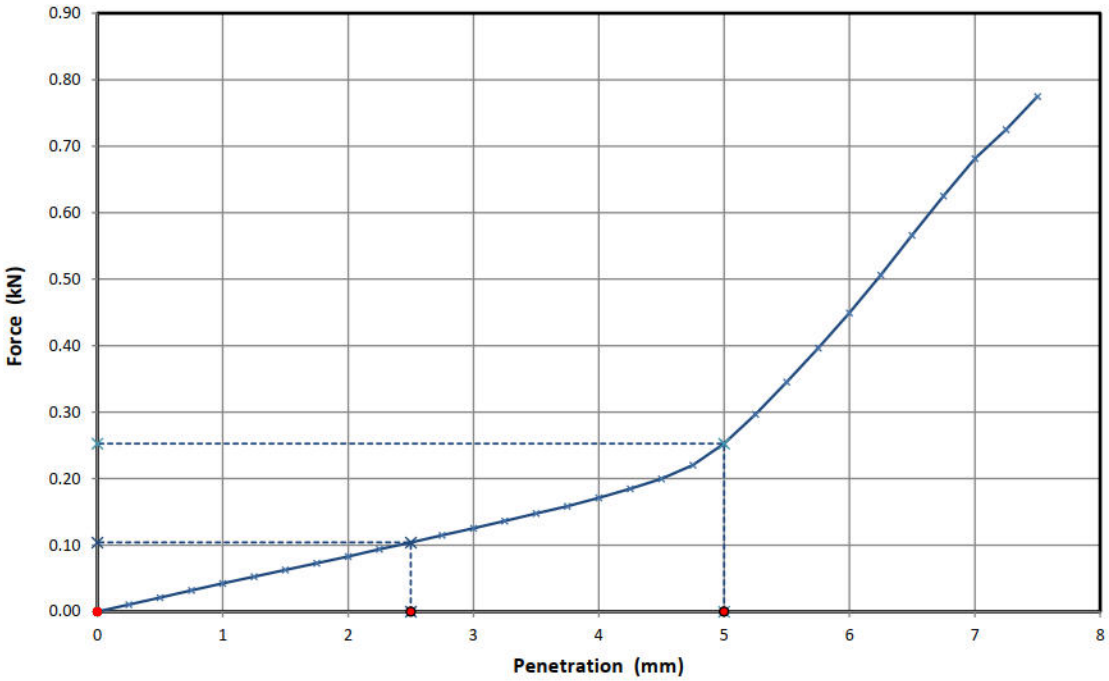
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.86
Remarks	

CBR Test Values			
2.5mm Top	3.5	2.5mm Bottom	
5mm Top	3.7	5mm Bottom	
CBR Value %	**3.7**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB31
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.01
Dry Density (Mg/m3)	1.76

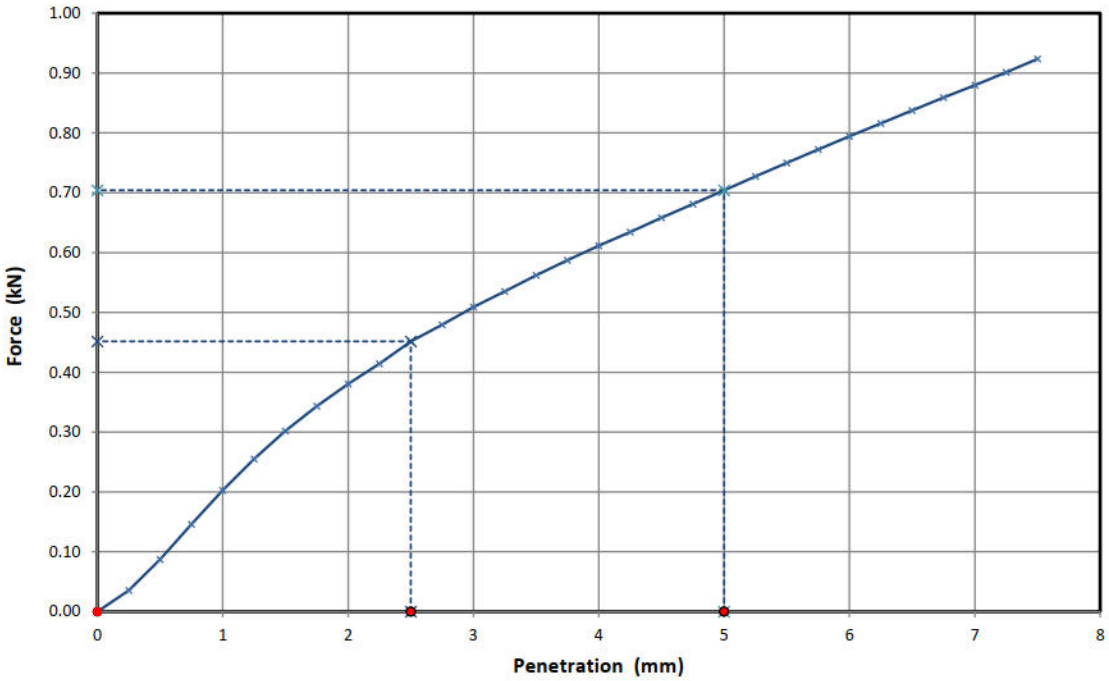
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.82
Remarks	

CBR Test Values			
2.5mm Top	0.79	2.5mm Bottom	
5mm Top	1.3	5mm Bottom	
CBR Value %	**1.3**	**CBR Value %**	

Operator
Darcy E

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2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB32
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty sandy CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	10
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.89
Dry Density (Mg/m3)	1.71

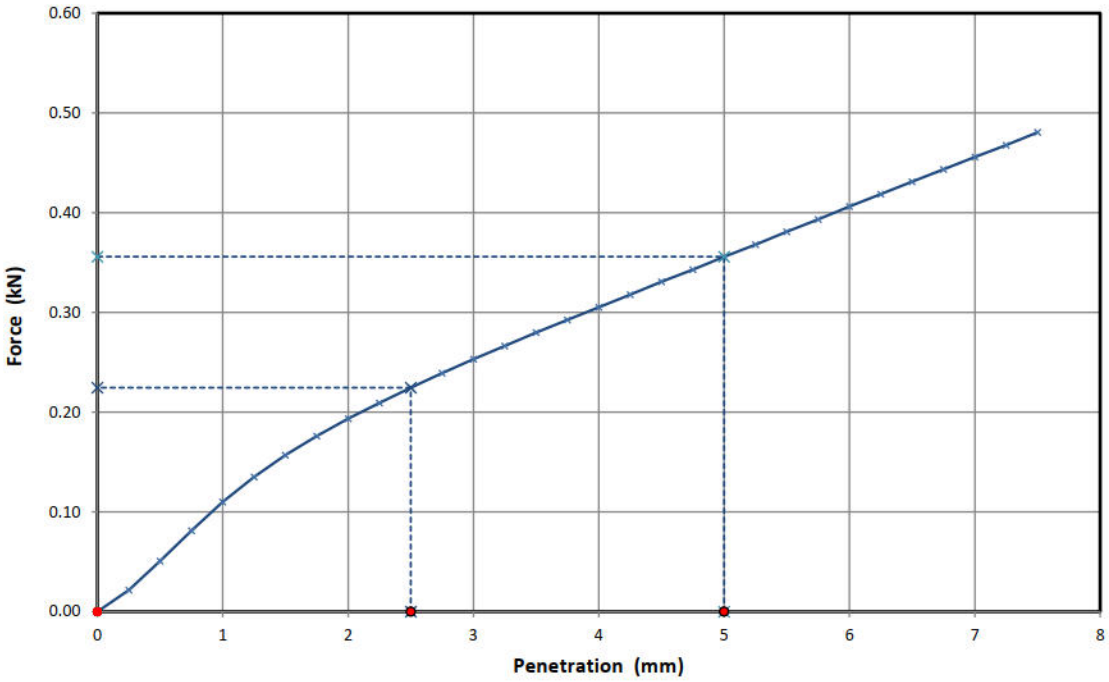
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.75
Remarks	

CBR Test Values			
2.5mm Top	3.4	2.5mm Bottom	
5mm Top	3.5	5mm Bottom	
CBR Value %	**3.5**	**CBR Value %**	

Operator
Darcy E

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB33
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.94
Dry Density (Mg/m3)	1.73

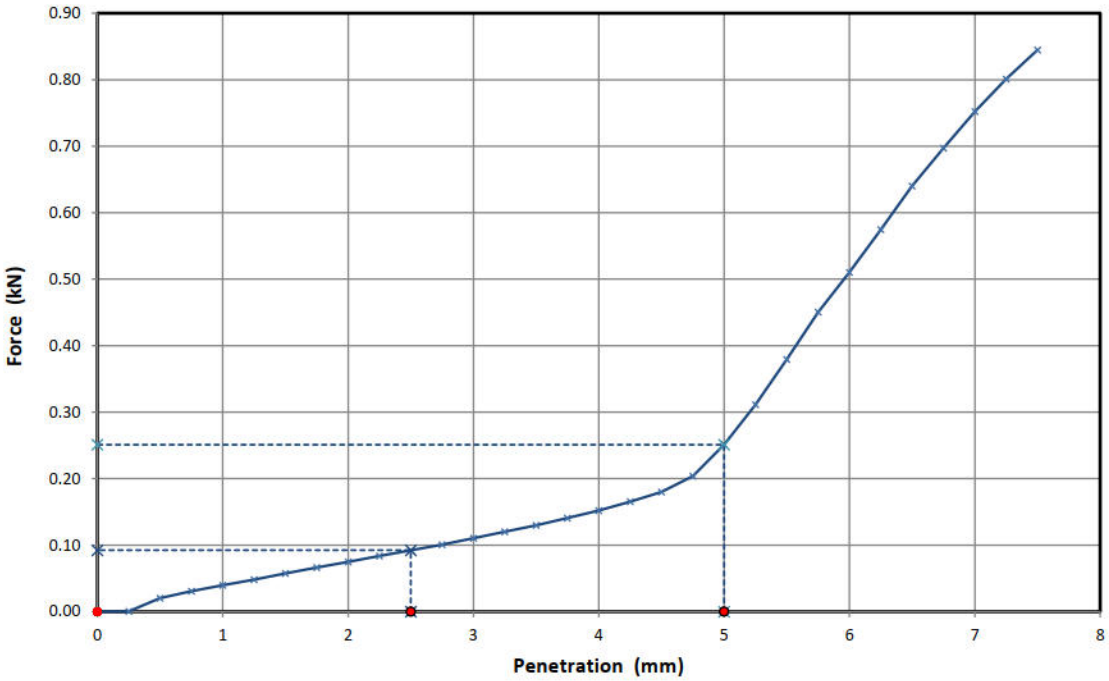
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.86
Remarks	

CBR Test Values			
2.5mm Top	1.7	2.5mm Bottom	
5mm Top	1.8	5mm Bottom	
CBR Value %	**1.8**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB34
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.02
Dry Density (Mg/m3)	1.75

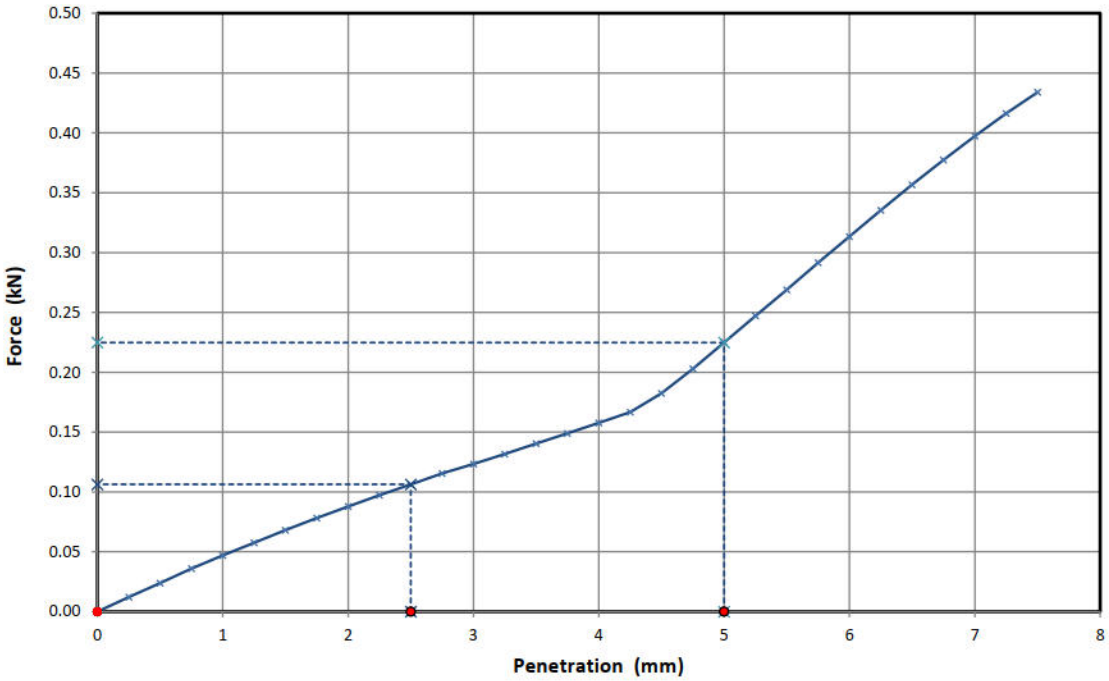
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.75
Remarks	

CBR Test Values			
2.5mm Top	0.7	2.5mm Bottom	
5mm Top	1.3	5mm Bottom	
CBR Value %	**1.3**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB35
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.02
Dry Density (Mg/m3)	1.76

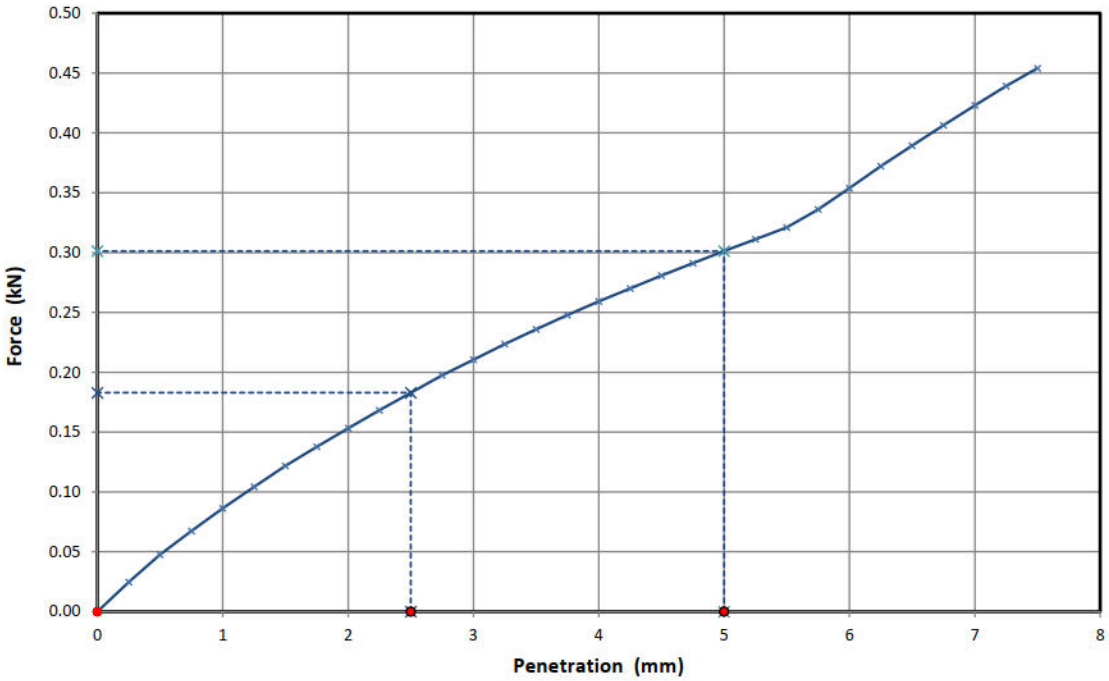
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.77
Remarks	

CBR Test Values			
2.5mm Top	0.81	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB36
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.73

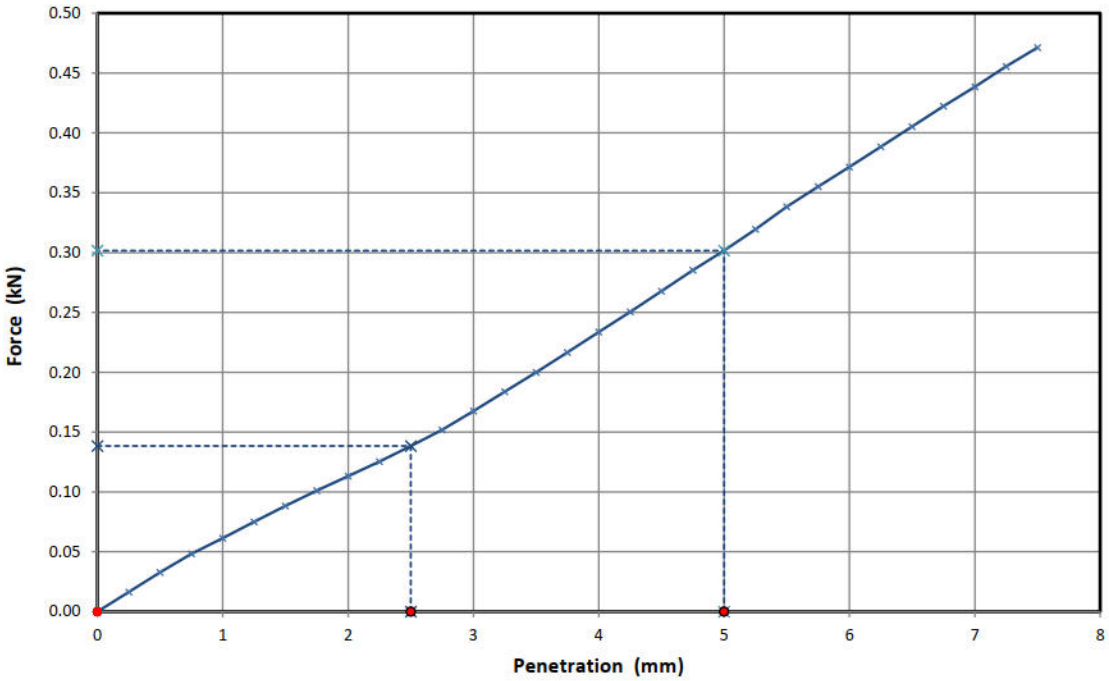
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.76
Remarks	

CBR Test Values			
2.5mm Top	1.4	2.5mm Bottom	
5mm Top	1.5	5mm Bottom	
CBR Value %	**1.5**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB37
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	12
Moisture Top (%)	16
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.72

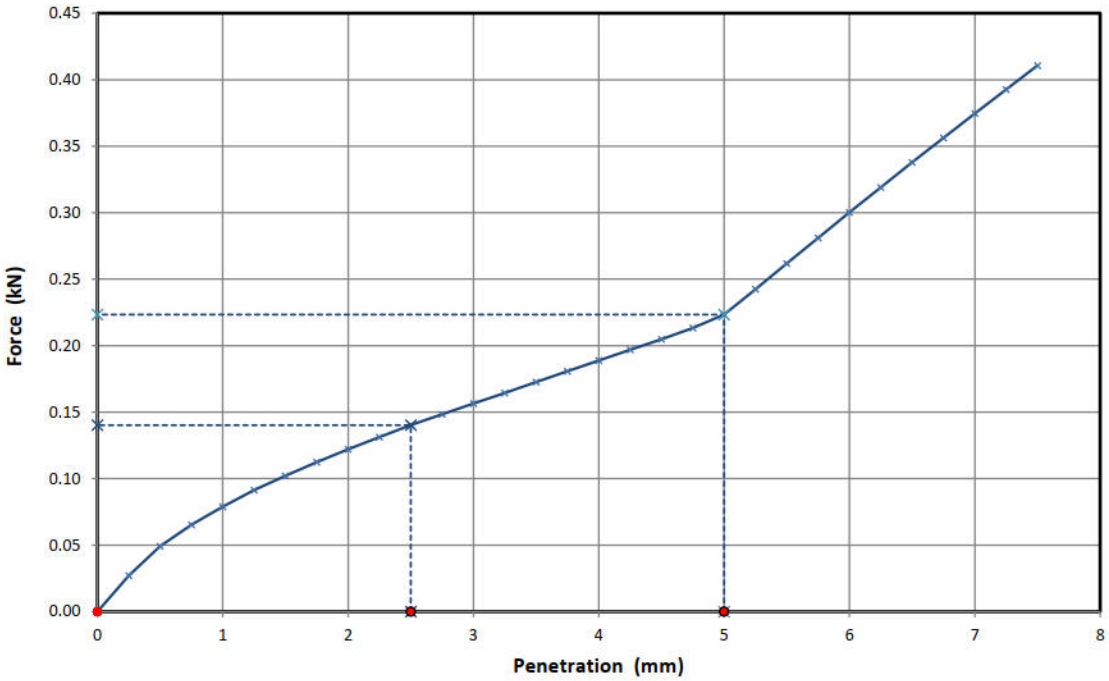
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.83
Remarks	

CBR Test Values			
2.5mm Top	1	2.5mm Bottom	
5mm Top	1.5	5mm Bottom	
CBR Value %	**1.5**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB38
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	14
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.75

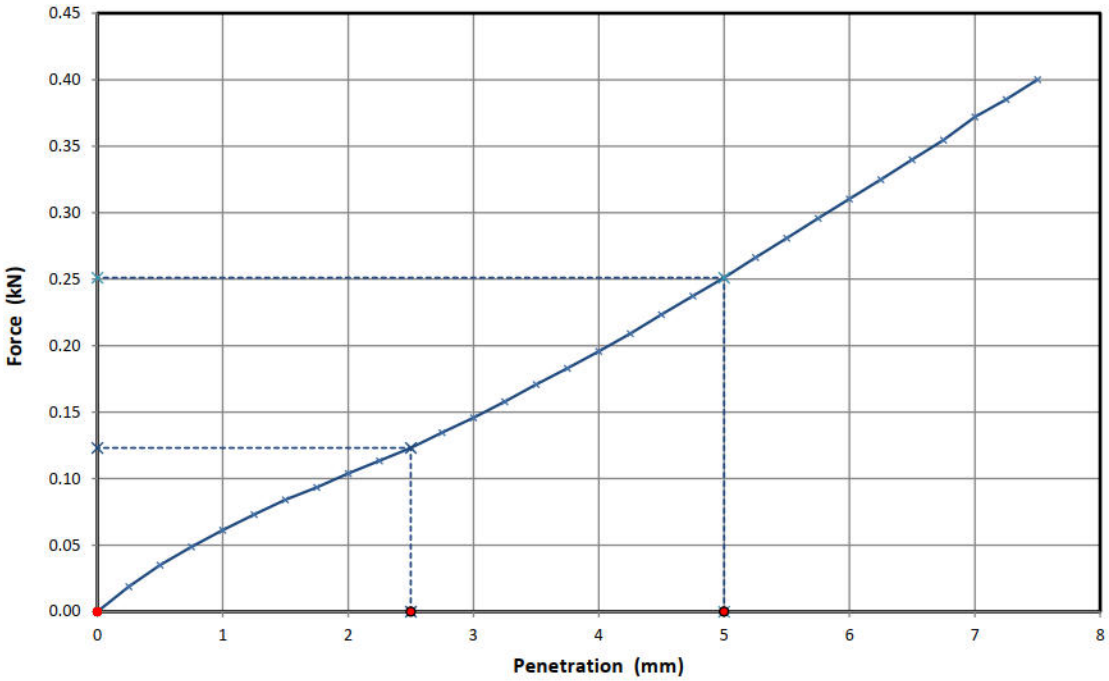
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.68
Remarks	

CBR Test Values			
2.5mm Top	1.1	2.5mm Bottom	
5mm Top	1.1	5mm Bottom	
CBR Value %	**1.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB39
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.72

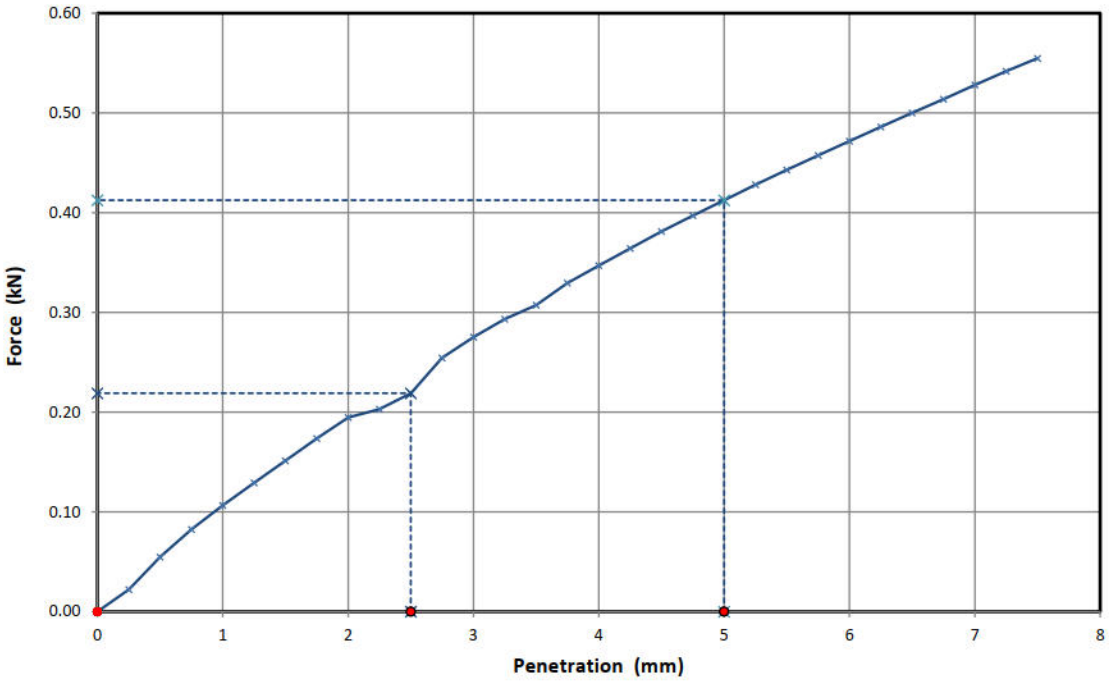
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.42
Remarks	

CBR Test Values			
2.5mm Top	0.93	2.5mm Bottom	
5mm Top	1.3	5mm Bottom	
CBR Value %	**1.3**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB40
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	11
Moisture Top (%)	15
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.89
Dry Density (Mg/m3)	1.70

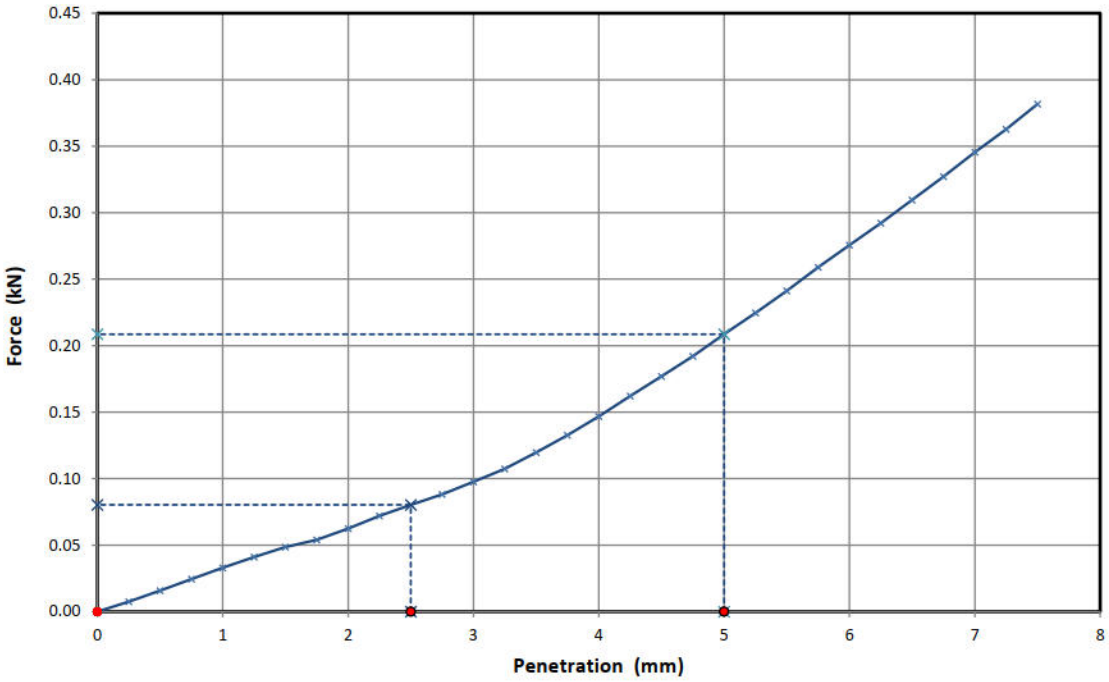
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.31
Remarks	

CBR Test Values			
2.5mm Top	1.7	2.5mm Bottom	
5mm Top	2.1	5mm Bottom	
CBR Value %	**2.1**	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB41
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	15
Moisture Top (%)	18
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.01
Dry Density (Mg/m3)	1.75

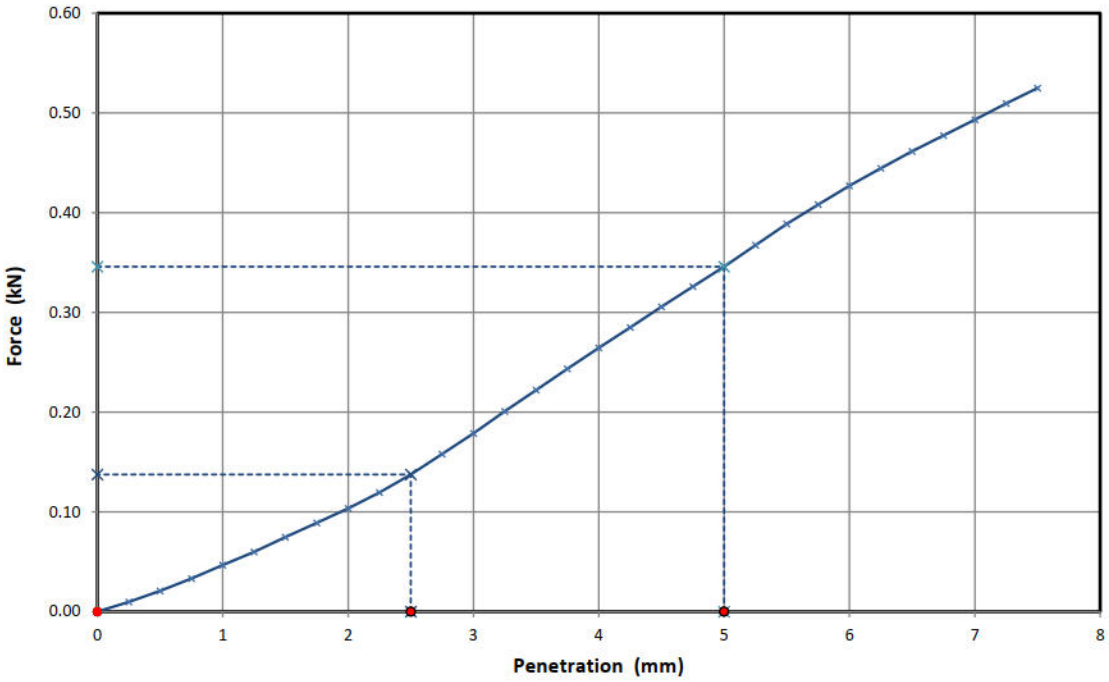
Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.78
Remarks	

CBR Test Values			
2.5mm Top	0.61	2.5mm Bottom	
5mm Top	1	5mm Bottom	
CBR Value %	1	**CBR Value %**	

Operator
Darcy E

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**California Bearing Ratio** **BS 1377: Part 4: 1990 Clause 7**	Contract Number	74403
		Borehole/Pit No.	SB42
Project Name	Summer Lane (NORTH SOUTH) Pagham, West Sussex, PO21 4FD	Sample No.	
Soil Description	Brown fine to medium gravelly silty CLAY	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	11/09/2024		



Initial Sample Conditions	
Moisture Content (%)	13
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.99
Dry Density (Mg/m3)	1.76

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	96
Swelling (mm)	1.81
Remarks	

CBR Test Values			
2.5mm Top	1	2.5mm Bottom	
5mm Top	1.7	5mm Bottom	
CBR Value %	**1.7**	**CBR Value %**	

Operator
Darcy E

UKAS TESTING
2788

2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB
[redacted]

APPENDIX G: Chemical Laboratory Testing

Ground and Water Ltd
2 The Long Barn
Norton Farm
Selbourne Road
Alton
Hampshire
GU34 3NB

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

[redacted]

Analytical Report Number : 24-030141

Project / Site name:	Summer Lane (North South) Pagham West	**Samples received on:**	11/07/2024
Your job number:	GWPR5982	**Samples instructed on/ Analysis started on:**	11/07/2024
Your order number:	GWPR5982	**Analysis completed by:**	17/07/2024
Report Issue Number:	1	**Report issued on:**	17/07/2024
Samples Analysed:	5 soil samples		

[redacted]

Signed:

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-030141
Project / Site name: Summer Lane (North South) Pagham West
Your Order No: GWPR5982

Lab Sample Number				253765	253766	253767	253768	253769
Sample Reference				BH2	BH4	BH7	BH3	BH5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				16.40	3.70	8.70	1.20	17.00
Date Sampled				08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	19	17	14	15
Total mass of sample received	kg	0.1	NONE	1.3	1.3	1.4	1.7	0.5
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.6	8.3	8.3	8.2	10
Total Sulphate as SO_4	%	0.005	MCERTS	0.05	0.011	0.077	-	-
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	580	75	890	66	1800
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	289	37.2	443	33.2	902
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	23	10	34	-	-
Total Sulphur	mg/kg	50	MCERTS	3100	100	3700	-	-
Total Sulphur	%	0.005	MCERTS	0.314	0.01	0.371	-	-
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	3.4	< 0.5	0.8	-	-
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	0.22	< 0.05	< 0.05	-	-
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	-	-
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	12	3.8	25	-	-
Magnesium (water soluble)	mg/kg	5	NONE	24	7.6	49	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 24-030141
Project / Site name: Summer Lane (North South) Pagham West

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
253765	BH2	None Supplied	16.4	Brown clay
253766	BH4	None Supplied	3.7	Brown clay and loam
253767	BH7	None Supplied	8.7	Brown clay and loam
253768	BH3	None Supplied	1.2	Brown clay and loam
253769	BH5	None Supplied	17	Brown clay and loam

Analytical Report Number : 24-030141
Project / Site name: Summer Lane (North South) Pagham West

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution