



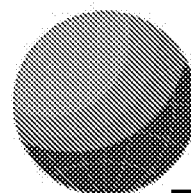
Ground Investigation Report

Report Reference: P21.167/GIR

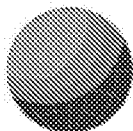
The Rising Sun, North Bersted

Prepared For

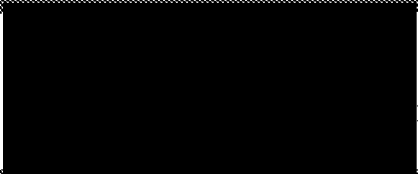
Cactus Project UK



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Report Approval

Report Author(s)	Signature	Date
Shaun Gilbrook BSc FGS Engineering Geologist, Director		16/06/2021

Report Approved	Signature	Date
Graham Carter BSc FGS MEnvSc Engineering Geologist, Director		16/06/2021

Revision – Requested by	Nature of Revision	Date
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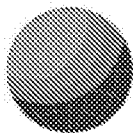


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Trading Terms

Unless specifically stated within the tender/quotation or unless identified within the introduction to this report it is confirmed that this report has been compiled wholly in accord with Impact Geotechnical Ltd's terms of engagement. This report is provided for sole use by the Client and is confidential to them. No responsibility whatsoever for the contents of the report will be accepted to anyone other than the Client.

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Context

This report is written in the context of an agreed scope of work between Impact Geotechnical Ltd and the Client and should not be used in a different context. In light of additional information becoming available, improved practices and changes in legislation amendment or re-interpretation of the report in whole or part may be necessary after its original submission.

Professional Interpretation

The recommendations made and opinions expressed in the report are based on the conditions revealed by the site works together with an assessment of the data from the insitu and laboratory testing or in respect of the desktop reports. No responsibility can be accepted for conditions that have not been revealed by the research, site works and testing.

The Client is advised that the conditions observed on site by Impact Geotechnical Ltd at the time of any site survey may be subject to change. Certain indicators of the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance and they may subsequently have become evident. It is not possible to assess areas which are inaccessible or where access is not granted and IGL accept no liability for risks subsequently identified therein.

The Conceptual Model, Risk Assessment and sampling regime has been formulated in accordance with current UK guidance at time of production based upon the relevant information gained from Stage1, Stage 2 and Stage 3 Risk Assessments. While the model and assessment offer opinions and interpretations of these guidelines, the comments made are for guidance only and no liability can be accepted for their accuracy. It is possible that aspects of Geo-environmental reports may need to be altered following consultation with the statutory regulatory bodies to suit planning requirements.

Intrusive Field Operations

The data collected through direct operations in the production of this report has been so obtained, unless directly otherwise stated, in accordance with current UK guidance, law or accepted industry practice, including but not limited to: BS.5930: 1990 Code of Practice for Site Investigations (Amendment 3: 2015+A1:2020), & BS.10175: 2011 + A2: 2017 Investigations into Potentially Contaminated Sites. Exact exploratory locations will depend upon access conditions, site use and plant capability, IGL do not accept liability for issues arising from material identified between or outside of the area of exploratory locations.

Laboratory Testing

Unless stated otherwise within the text, all geotechnical and material laboratory tests have been performed in accordance with the relevant British Standard Documents. Laboratory testing for contaminated land assessment is completed under the UKAS / MCERTS accreditation schemes, unless identified as otherwise in the report.

Human Health Risk Assessment Criteria

The Environment Agency has undertaken revision of the Soil Guideline Values (SGVs) which are partially complete. Where standards are available using the "new" approach, these have been utilised for correlative purposes. Where standards have not yet been revised, guidance following the "old" approach has been utilised. Please note that upon release of the remaining guidelines, the standards contained within this report may be subject to change. In addition, the second edition of the LQM CIEH guidance has now been released and will be utilised in favour of previously published guideline values.

Third Parties

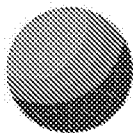
The findings and opinions conveyed in this report are based on information obtained from a variety of sources, including that from previous Site investigations and chemical testing laboratories. IGL has assumed that such information is correct. IGL cannot and does not guarantee the authenticity or reliability of the information it has relied upon and can accept no responsibility for inaccuracies with the data supplied by other parties.

The accuracy of the historical map extracts supplied cannot be guaranteed and it should be noted that different conditions may have existed between mapping sheet editions. Therefore, there can be no certainty that all areas of contamination have been identified during the Stage 1: Tier 1 Preliminary Risk Assessment.

Definitions

Reference to the word "contamination" in this report does not relate to the statutory definition of contaminated land under 1990 Environmental Protection Act unless otherwise stated. The definition used in this report is: "Land that contains substances that, when present in sufficient quantities or concentrations, are likely to cause harm, directly or indirectly, to man, to the environment, or on occasion to other targets" (NATO CCMS, 1985).

IGL 2020



1.0 INTRODUCTION

Impact Geotechnical Ltd (IGL) were instructed by Cactus Project UK (the Client) (Q21.225, dated: 6th May 2021), to carry out a Ground Investigation at the former Rising Sun, 351 Chichester Road, North Bersted, PO21 5AN (hereafter referred to as the "site").

The site is located within North Bersted, West Sussex, to the west of Chichester Road and comprises of a former car park and garden areas to the Rising Sun pub, which has since been converted into a grocery shop.

This report relates to the development of the site with two blocks of three houses, with the associated access roads, driveways and garden areas.

The investigation incorporated the construction of three windowless sample boreholes to a maximum depth of 5.45mbgl (metres below ground level) in order to provide stratigraphy and geotechnical parameters. In addition, one hand excavated trial pit was completed to a depth of 1.00mbgl, in order to complete soil infiltration testing in accordance with BRE 365 guidelines.

The aims of this report are to provide an outline Ground Model of the proposed development area, and to inform the detailed design of temporary and permanent works associated with the planned construction.

2.0 SITE LAYOUT

2.1 Site Description

2.1.1 General Description

The site comprises of two areas; the northern area is laid to tarmacadam and the southern area is softscaping, but at the time of the investigation was overgrown with brambles.

Access to the site is gained directly by the B2259 Chichester Road, to the east of the site.

2.1.2 Surrounding area

The surround area comprised of similar residential properties, with the town of Bognor Regis is located approximately 1.5 miles south of the site.

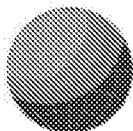
2.1.3 Topography

The site is generally flat, with no discernible features.

2.1.4 Ground and Surface Water

No ground or surface water features were noted on or adjacent to the site.

2.1.5 Trees and Vegetation



The northern part of the site is devoid of trees and vegetation with exception to the west boundary; several mature acer species (suspected sycamore) were noted.

Several trees and shrubs are found in the southern part of the site, again including suspected sycamore, hawthorn and coniferous trees, together with brambles, buddleia and weeds.

3.0 PHYSICAL SETTING

3.1 Geology

The Geology of Britain Viewer (BGS, 2021) indicates the site is underlain by Superficial Deposits comprising of River Terrace Deposits overlying Bedrock Geology of the Lewes/Seaford/Newhaven/Culver/Portsdown Chalk Formations (Undifferentiated)

River Terrace Deposits – Comprises primarily of Sand and Gravel, with lenses of Silt, Clay or Peat.

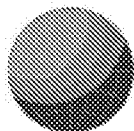
Lewes/Seaford/Newhaven/Culver/Portsdown Chalk Formations (Undifferentiated) – Generally described as firm white chalk with conspicuous semi-continuous nodular and tabular flint seams. Hardgrounds and thin marls known from the lowest beds with some large to very large flint nodules.

4.0 FIELDWORKS

The following intrusive works were carried out on Tuesday 11th May 2021 supervised by an Engineering Geologist from IGL. The SI was undertaken in accordance with the scope of works agreed with our Client and in relation to statutory guidance including BS5930: 1999 Code of Practice for Site Investigations (Amendment 3: 2015 + A1: 2020).

- Prior to any excavations taking place a Cable Avoidance Tool (CAT) was used to check for the position of any underlying electrical services. In addition, starter pits were excavated to 1.00 meters below ground level (mbgl) to clear test locations prior to any further drilling commencing.
- Three windowless sample boreholes (WS1-WS3) were constructed to a maximum depth of 5.45mbgl using a track mounted windowless sampling rig. The recovered soils from each borehole and groundwater conditions were logged, with representative samples recovered to allow subsequent testing.
- One super heavyweight dynamic probe (WS2/DP2) was completed through the base of WS2 at 5.00mbgl to a maximum depth of 10.00mbgl in order to provide a strength profile with depth.
- One hand excavated trial pit (TP1) was completed to a maximum depth 1.00mbgl (0.30m wide x 1.00m length) in order to complete soil infiltration testing in accordance with BRE 365.
- Upon completion exploratory holes were backfilled using arising materials and the surface finish reinstated to match existing.

The site layout plan indicating the position of the test location is provided in Appendix A, with photographs taken during the investigation in Appendix C.



5.0 GROUND CONDITIONS

5.1 Soils

The following table summarises the strata conditions encountered during the intrusive works:

Stratum	Depth Range Encountered
Made Ground	GL to 0.35-0.80m
River Terrace Deposits - Brickearth	0.35-0.80m to 1.20-1.70m
River Terrace Deposits	1.20-1.70m to 3.50-4.20m
Lewes/Seaford/Newhaven/Culver/Portsdown Chalk Formations	3.50-4.20m to 5.45m

5.1.1 – Made Ground

Within WS1, Made Ground was limited to a man-made topsoil deposit, described as a dark brown sandy clayey Silt, to a maximum depth of 0.35mbgl.

Within WS2, WS3 and TP1, a surface of taracadam was encountered to 0.05-0.10mbgl. Within WS1 and WS2 this was underlain by a brown/ dark brown sandy Gravel, comprising of flint and brick to 0.20mbgl. Within TP1 a pinkish brown sandy Gravel of limestone was recorded to a depth of 0.25mbgl.

Additional Made Ground soils recorded in WS2 were described as a dark grey gravelly Sand, to a maximum depth of 0.35mbgl. Within WS3, a dark grey gravelly Sand was recorded to 0.40mbgl, underlain by a soft slightly gravelly sandy silty Clay, to a maximum depth of 0.80mbgl.

5.1.2 – River Terrace Deposits - Brickearth

Beneath the topsoil/ Made Ground soils the initial natural materials were described as a soft brown sandy silty Clay, to maximum depths of 1.20-1.70mbgl.

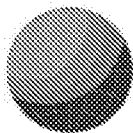
5.1.3 – River Terrace Deposits

The subsequent soils below 1.20-1.70m were described as a soft, locally firm brown, mottled grey and orangish brown slightly gravelly sandy silty Clay to depths of 1.60-2.70mbgl.

Below this, the soils were comprised of a mixture of firm brown mottled greyish brown and orangish brown gravelly very clayey Silt and loose brown mottled grey clayey silty fine to medium Sand, to maximum depths of 3.50-4.20m.

5.1.4 – Lewes/Seaford/Newhaven/Culver/Portsdown Chalk Formations

The bedrock geology was encountered at depths of 3.50-4.20mbgl. This was described as Structureless Chalk, composed of a white slightly gravelly Silt and was recorded to a maximum drilled depth of 5.45mbgl. Gravels were described as weak, low density chalk.



Please refer to the stratigraphic logs contained within Appendix B for a more detailed description.

5.2 Groundwater

Groundwater was encountered within all window sample boreholes at a depth of 2.00mbgl.

5.3 Visual and Olfactory Observations of Contamination

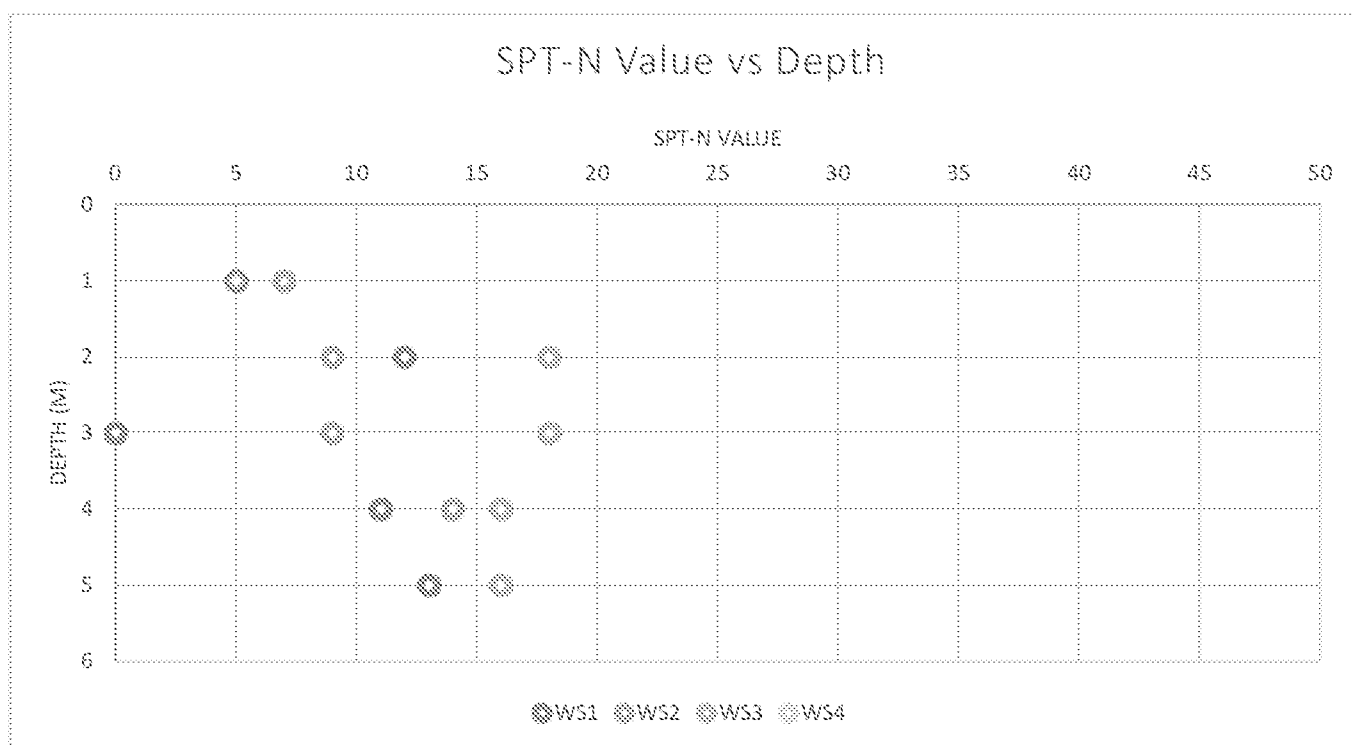
With the exception of anthropogenic materials encountered within the Made Ground soils, no visual or olfactory evidence of soil or groundwater contamination was noted during the investigation works.

6.0 Insitu Testing

6.1 Standard Penetration Testing

Standard Penetration testing was completed throughout the drilling of the window sample boreholes at 1.00m centres. This form of testing is completed using a 63.5kg drop hammer weight, over a 750mm drop, measuring the blow counts for six, 75mm increments. The first two values are recorded as seating blows, with the remaining four values, added together to provide an 'N-value'.

The graph below summarises the results of this testing.



Insitu testing through the upper River Terrace Deposits (Brickearth) provided SPT N-values of N=5-7, which correlate to generally soft to firm consistency soils.

Testing within the underlying River Terrace Deposits at 2.00-4.00mbgl range between N=0-18, which correlate to low end firm/ loose to stiff/medium density soils, with the exception of WS1 at 3.00mbgl, which suggests very soft/loose ground conditions in this location, at that depth.

Testing within the underlying Chalk at 5.00mbgl, provide SPT N-values of N=13-16.

When using SPT results for soil strength parameters, it should be noted that for chalk in which N-values are lower than N=25, it is not usually possible to determine on the SPT alone if the chalk is low density, relatively un-weathered chalk or medium/ high density chalk, with open discontinuities. Consequently, it is considered that the combination of hand descriptions, laboratory testing, together with SPT results is vital to determine the density and insitu state of the chalk.

On the basis of the SPT results and hand descriptions, it is considered that the chalk encountered is of low quality and is considered to be CIRIA grade Dm.

6.2 Soil Infiltration Testing

Soil infiltration testing was completed within TP1 accordance with the testing standards identified in BRE 365: 2016 'Soakaway Design'. The test included the squaring of the pit sides before filling with potable water, the subsequent decline in water level was measured to allow determination of the coefficient of permeability (k); using this testing method, the rate of outflow between 75% and 25% effective depths are used to determine the infiltration rate.

The table below summarises the test results.

Test ref	Test Depth (m)	Initial fill level (mbgl)	Time at 75% fill depth (mins)	Time at 25% fill Depth (mins)	K (m/s)
TP1 Test 1	1.00m	0.17	2	30	5.37×10^{-5}
TP1 Test 2	1.00m	0.27	4	48	3.32×10^{-5}
TP1 Test 3	1.00m	0.26	4	52	3.05×10^{-5}

These results indicate 'Good' drainage conditions on the basis of table 14.1 'Soil Mechanics in Engineering Practice', Terzaghi, Peck and Mesri (after Casagrande and Fadum (1940)).

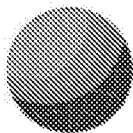
7.0 LABORATORY TESTING

7.1 Geotechnical Testing

7.1.1 Atterberg Limits and Natural Moisture Content

In total, eight disturbed samples of the underlying cohesive superficial soils ranging in depth between 1.00m and 3.50mbgl were submitted for determination of their Natural Moisture Content (NMC) and Plasticity Index (PI).

NMC results ranged between 14% and 26%.



Two samples were taken from the Upper Brickearth deposits. The results from these samples indicate Liquid Limits between 49% and 58% and Plastic Limits between 18% and 20%. Plasticity Index values are subsequently calculated to be between 31% and 38%. No material was retained on a 425µm sieve for the samples tested.

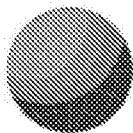
The remaining six samples were taken from the underlying River Terrace Deposits. The results from these samples indicate Liquid Limits between 23% and 40% Plastic Limits between 13% and 16%. Plasticity Index values are subsequently calculated to be between 7% and 25%. Once the portion retained on the 425µm had been taken into account (0-21%), the Modified PI results range between 6% and 24%.

Based upon these results the Brickearth deposits are medium to high Plasticity and the underlying River Terrace Deposits low to medium plasticity. In accordance with the NHBC guidance (chapter 4.2 'Building Near Trees') the Brickearth deposits have medium shrinkage potential and the River Terrace range between non-shrinkable to medium shrinkage potential.

7.1.2 Sulphate and pH Analysis

To be confirmed.

Full laboratory test results can be found in Appendix E.



8.0 DISCUSSION OF GROUND CONDITIONS

8.1 Soil Engineering Properties

This report relates to the development of the site with two blocks of three houses, with the associated access roads, driveways and garden areas. However, at the time of writing, foundation designs and construction plans have not been provided.

8.1.1 – Made Ground

Made Ground soils were recorded across the site to a maximum depth of 0.80mbgl in WS2. Within WS1, Made Ground was limited to a man-made topsoil deposit, described as a dark brown sandy clayey Silt, to a maximum depth of 0.35mbgl.

Within WS2, WS3 and TP1, a surface of taracadam was encountered to 0.05-0.10mbgl. Within WS1 and WS2 this was underlain by a brown/ dark brown sandy Gravel, comprising of flint and brick to 0.20mbgl. Within TP1 a pinkish brown sandy Gravel of limestone was recorded to a depth of 0.25mbgl. Additional Made Ground soils recorded in WS2 were described as a dark grey gravelly Sand, to a maximum depth of 0.35mbgl. Within WS3, a dark grey gravelly Sand was recorded to 0.40mbgl, underlain by a soft slightly gravelly sandy silty Clay, to a maximum depth of 0.80mbgl.

8.1.2 – River Terrace Deposits (Brickearth)

Beneath the topsoil/ Made Ground soils the initial natural soils were described as a soft brown sandy silty Clay, to maximum depths of 1.20-1.70mbgl.

Insitu testing completed within the River Terrace Deposits encountered within WS2 recorded SPTN values of N=5-7 suggesting a soft/ soft to firm consistency.

Laboratory testing has indicated this material to be medium to high plasticity and considered medium shrinkage potential in accordance with NHBC guidance.

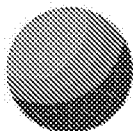
8.1.3 – River Terrace Deposits

Encountered below 1.20-1.70mbgl the River Terrace Deposits were described as a soft, locally firm brown, mottled grey and orangish brown slightly gravelly sandy silty Clay to depths of 1.60-2.70mbgl.

Below this, the soils were comprised of a mixture of firm brown mottled greyish brown and orangish brown gravelly very clayey Silt and loose brown mottled grey clayey silty fine to medium Sand, to maximum depths of 3.50-4.20m.

SPT results within this material range between N=0-18, which correlate to low end firm/ loose to stiff/medium density soils, with the exception of WS1 at 3.00mbgl, which suggests very soft/loose ground conditions in this location, at that depth.

Laboratory testing has indicated this material to be low to medium plasticity and considered non-shrinkable to medium shrinkage potential in accordance with NHBC guidance.



8.1.4 – Lewes/Seaford/Newhaven/Culver/Portsmouth Chalk Formations

The bedrock geology was encountered at depths of 3.50-4.20mbgl. This was described as Structureless Chalk, composed of a white slightly gravelly Silt and was recorded to a maximum drilled depth of 5.45mbgl. Gravels were described as weak, low density chalk.

SPT results within this material at 5.00mbgl, provide SPT N-values of N=13-16. Subsequent dynamic probe testing provides equivalent SPT N-values of N=9-10 at 5.00-6.00mbgl, increasing to N=11-17 at 9.00-10.00mbgl. This suggests a small improvement in insitu strength with depth.

On the basis of the insitu testing (SPT's and SHDP testing) and hand descriptions, it is considered that the chalk encountered is of low quality and is considered to be CIRIA grade Dm.

8.1.4 – Groundwater

Groundwater was encountered within all window sample boreholes at a depth of 2.00mbgl.

8.2 Shallow Foundations

The Made Ground soils encountered across the site would not be considered suitable as a bearing stratum; soils of this origin are frequently present in a weak and variable condition such that unacceptable settlement would be anticipated even under light loading intensities.

The underlying Brickearth Deposits are also not considered suitable for structural loads, due to their low strength. As noted within hand descriptions and insitu testing the underlying River Terrace Deposits are more competent and may be considered for structural loadings, however the considerations to the variable nature and groundwater conditions should be made.

Taking into account the variable nature of the soils at 2.00mbgl, a conservative safe bearing capacity in the order of 50kN/m² can be utilised for the design of shallow foundations at 1.60-2.00mbgl, with the soils described as a firm brown mottled grey and orangish brown silty Clay/ clayey Silt. This figure includes a factor of safety of 3 and assumes a minimum concrete width of 0.60m.

When selecting foundation depths, the presence of trees should be taken into account. Several trees were noted on site during the investigation, and NHBC guidance should be sought to confirm the minimum recommended foundation depth for foundations with the zone of influence of trees, with the worst case medium shrinkage potential soils.

Given the variable soil composition, structural reinforcement would be recommended to account for any differential settlement. In addition, any soft spots encountered should be removed and replaced with suitable fill material, foundation depth locally deepened or bridged, where possible.

New foundations must not be cast over existing structures/ foundations relating to previous structures on site; these should be removed prior to forming final excavations. Loose material should be removed from the base of the excavations and the excavations should be concreted as soon as possible. Failure to do so could result in increased and differential settlement.

However, should the proposed structures require higher ground bearing pressures, it may be prudent to consider a deeper piled system which may provide a more suitable foundation solution with piles formed uniformly within the underlying Chalk to mitigate against any adverse and / or differential settlements.

Any spread type foundation should account for the recommendations of the NHBC in terms of inclusion of void former / compressible material around foundation sides and ground beams throughout the low shrinkage potential of the cohesive River Terrace/Lyndhurst Member Stratum.

The formation level to any spread foundations should be inspected by the designing engineer prior to pouring of foundations to ensure that the founding material is suitable on the basis of applied design assumptions.

8.3 Deep Foundations

As discussed in the previous section a piled foundation solution could also be considered and would provide a more stable system in the long term for the proposed development to avoid issues arising from shallow foundations formed on soils of different types.

It is expected that piles will be taken into the chalk bedrock; insitu testing has indicated a small improvement with depth within this material, and therefore piles may need to be larger or extend deeper into this material in order to provide suitable working loads for the proposed development. The design of a piled solution would, however, likely require further ground investigation, completed to greater depth.

Once the full development design and layouts including anticipated loads are known it is recommended that a specialist piling contractor is consulted to confirm the most appropriate design and construction method for a piling solution.

The following table (over page) provides soil parameters for pile designs only:

Depth	Material	Soil Unit Weight (kN/m ³)	Average Undrained Cohesion (kN/m ²)	Angle of Internal Friction (φ)	Adhesion Factor
0.80-1.70m	Brickearth	17-18	20-30	-	-
1.20m-4.20m	River Terrace Deposits	17-18	40-50	-	-
4.20- 5.00 (10.00m*)	Chalk (Grade Dm)	18-19	-	-	-

*Inferred from dynamic probe testing

It is possible that pile groups may be required as part of final pile designs. The total working loads of a pile group may be considerably less than the separate totals combined, as a result of interaction of the piles.

The ground conditions should be assessed prior to piling for piling mat designs, particularly where soft/ loose soil, reworked (dredged) materials and waterlogged ground is encountered.

Compressible material should be incorporated around the sides ground beams where applicable; in accordance with NHBC guidance. Pile sleeving should also be considered within the shrinkable soils around the zone of tree root influence.

8.4 Excavations and Groundwater

It is likely that excavations of less than 1.20mbgl may require support to their faces due to the variable nature of superficial soils. Should excavations be taken below this then adequate support should be provided in order to satisfy statutory safety regulations.

Groundwater was also identified during the investigation works at 2.00-3.00mbgl, however, it should be noted that groundwater water levels can vary through the year and therefore groundwater levels may be encountered during other times of the year.

If groundwater is identified within any of the excavations during the construction phase, then it should be dealt with appropriately and removed using good engineering practices.

8.5 Retaining Structures

The design of any temporary retaining structures to support excavation faces should be made assuming the following moderately conservative parameters:

Material	Effective angle of friction (ϕ')	Effective Cohesion; c' (kPa)	Bulk Density kN/m^3
Brickearth	25-26	0	17-18
River Terrace Deposits	25-26	0	17-18
Chalk (Grade Dm)	26-27	0	18-19

8.6 Aggressive Chemical Environment to Concrete

Sulphate concentrations are to be confirmed.

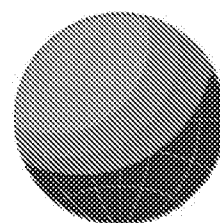
APPENDICES

Appendix A – Hole Location Plan

Appendix B – Stratigraphic Logs

Appendix C – Photographs

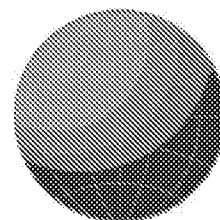
Appendix D – Laboratory Certificates



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APPENDIX A

Hole Location Plan



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Notes:

1. Do not scale from this drawing.
2. All dimensions must be checked on site prior to commencement of work.
3. Where applicable this drawing is to be read in conjunction with other consultants drawings.
4. This drawing is the copyright of Impact Geotechnical Ltd.

Drawing Title:

Hole Location Plan

Site Name:

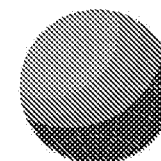
The Rising Sun

Project Reference:

P21.167

Revision: 0

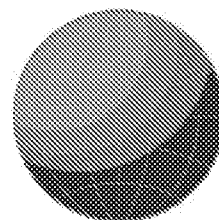
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APPENDIX B

Stratigraphic Logs



IMPACT
GEOTECHNICAL



Percussion Drilling Log

Project Name: The Rising Sun, North Bersted		Client: Cactus		Date: 11/05/2021	
Location: North Bersted, West Sussex		Contractor: Impact Geotechnical Ltd			
Project No. : P21.167		Crew Name: RM/GC		Drilling Equipment: Archway Dart WLS Rig	
Borehole Number WS1	Hole Type WLS	Level	Logged By SG	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D		0.40			(MADE GROUND) Grass over dark brown sandy clayey Silt. Sand is fine to medium. Occasional fine to coarse, sub-angular to sub-rounded flint and occasional brick. (TOPSOIL)	
		1.00	D					Firm brown sandy silty CLAY. Sand is fine to medium. Occasional fine to coarse, sub-angular to sub-rounded flint. (RIVER TERRACE DEPOSITS - BRICKEARTH)	1
		1.00	SPT	N=5 (0,1/0,1,2,2)	1.20				
		1.50	D		1.60			Soft brown, mottled grey and orangish brown slightly gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub-angular to sub-rounded flint and chalk. (RIVER TERRACE DEPOSITS)	
		2.00	D					Firm brown mottled greyish brown and orangish brown gravelly sandy very clayey SILT, locally silty SAND. Sand is fine to coarse. Gravel is fine to coarse, sub-angular to sub-rounded flint and chalk. (RIVER TERRACE DEPOSITS)	2
		2.00	SPT	N=12 (0,2/3,3,3,3)					
		2.50	D					<i>Brown silty fine to medium SAND.</i>	
		3.00	D						3
		3.00	SPT	N=0 (2,0/0,0,0,0)					
		3.50 - 4.00	D		3.50			Recovered as: Structureless CHALK, composed of a white slightly gravelly SILT. Gravel is fine to coarse, sub-angular to sub-rounded, weak low density chalk. Occasional orangish brown staining. (LEWES/SEAFOORD/NEWHAVEN/CULVER/PORTSDOWN CHALK FORMATIONS)	4
		4.00	SPT	N=11 (2,2/2,3,3,3)					
		4.50 - 5.00	D						5
		5.00	SPT	N=13 (3,4/3,3,3,4)					
					5.45			End of Borehole at 5.450m	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

Hand excavated pit to 1.00m. SPT's Completed at 1.00m centres. Groundwater encountered at 2.00m. Backfilled with arisings on completion.





Percussion Drilling Log

Project Name: The Rising Sun, North Bersted		Client: Cactus		Date: 11/05/2021	
Location: North Bersted, West Sussex		Contractor: Impact Geotechnical Ltd			
Project No. : P21.167		Crew Name: RM/GC		Drilling Equipment: Archway Dart WLS Rig	
Borehole Number WS2	Hole Type WLS	Level	Logged By SG	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10			0.10			Tarmacadam	
		0.20			0.20			(MADE GROUND) Brown/ dark brown silty very sandy fine to coarse, sub-angular to sub-rounded flint, occasional brick.	
		0.35			0.35			(MADE GROUND) Dark grey gravelly silty fine to coarse Sand. Gravel is fine to coarse, angular to sub-rounded flint and brick.	
		0.90	D		0.90			Grey gravelly silty fine to coarse Sand Gravel is fine to coarse, angular to sub-rounded flint.	1
		1.00	SPT	N=7 (1,2/1,2,2,2)	1.00			Organic odour. Occasional decaying roots.	
		1.50	D		1.40			Soft to firm grey mottled brown sandy silty CLAY. Sand is fine. Slight organic odour. (RIVER TERRACE DEPOSITS)	
		2.00	D		2.00			Firm brown, mottled grey and orangish brown slightly gravelly sandy silty CLAY. Sand is fine. Gravel is fine, sub-angular to sub-rounded flint and chalk. (RIVER TERRACE DEPOSITS)	2
		2.50	SPT	N=9 (1,2/3,2,2,2)	2.50				
		3.00	D		2.70			Loose brown mottled grey clayey silty fine to medium SAND. Frequent fine sub-angular gravels of chalk. (RIVER TERRACE DEPOSITS)	3
		3.00	SPT	N=9 (1,1/2,1,3,3)	3.10			Soft/firm brown mottled greyish brown and orangish brown gravelly sandy very clayey SILT, locally silty SAND. Sand is fine to coarse. Gravel is fine to coarse, sub-angular to sub-rounded flint and chalk. (RIVER TERRACE DEPOSITS)	
		3.50	D		3.80			Grey very clayey/silty fine to medium SAND.	4
		4.00	D		4.20			Recovered as: Structureless CHALK, composed of a white slightly gravelly SILT. Gravel is fine to coarse, sub-angular to sub-rounded, weak low density chalk. Occasional orangish brown staining. (LEWES/SEAFORD/NEWHAVEN/CULVER/PORTSDOWN CHALK FORMATIONS)	5
		4.00	SPT	N=14 (0,3/3,3,4,4)	4.20			End of Borehole at 5.000m	
		4.50	D		5.00				

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 Hand excavated pit to 1.00m. SPT's Completed at 1.00m centres. Groundwater encountered at 2.00m. Backfilled with arisings on completion. SHDP testing completed through base of borehole to 10.00m. - See DP2 Log.										
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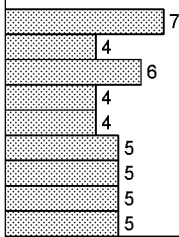


Probe Log

Probe No.
WS2/DP2
FINAL
Sheet 1 of 2

Project Name: The Rising Sun, North Bersted	Project No. P21.167	Co-ords: -	Hole Type DP
Location: North Bersted, West Sussex	Level: mbgl	Scale 1:30	Logged By SG
Client: Cactus	Dates: 11/05/2021 -		

Depth (m)	Blows/100mm					Torque (Nm)
	10	20	30	40		
1						
2						
3						
4						
5						
6						



Remarks	Fall Height 750	Cone Base Diameter
Completed through the base of WS2 at 5.00m. End of DP at 10.00m	Hammer Wt 64	Final Depth 10.00
Abort Reason	Probe Type DPSH-B	Log Scale 1:30
	Ground Water Level	





Percussion Drilling Log

Project Name: The Rising Sun, North Bersted		Client: Cactus		Date: 11/05/2021	
Location: North Bersted, West Sussex		Contractor: Impact Geotechnical Ltd			
Project No. : P21.167		Crew Name: RM/GC		Drilling Equipment: Archway Dart WLS Rig	
Borehole Number WS3	Hole Type WLS	Level	Logged By SG	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.05			0.05			Tarmacadam	
		0.20			0.20			(MADE GROUND) Brown/ dark brown silty very sandy fine to coarse, sub-angular to sub-rounded flint, occasional brick. Occasional cobbles of flint.	
		0.40			0.40			(MADE GROUND) Dark grey gravelly silty fine to coarse Sand. Gravel is fine to coarse, angular to sub-rounded flint and brick.	
		0.80			0.80			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	1
		1.00	D		1.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		1.00	SPT	N=5 (1,1/0,1,2,2)	1.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		1.50	D		1.50			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		1.70			1.70			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		2.00	D		2.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	2
		2.00	SPT	N=18 (2,4/5,5,4,4)	2.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		2.50	D		2.50			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		3.00	D		3.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	3
		3.00	SPT	N=18 (2,2/3,6,5,4)	3.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		3.50	D		3.50			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		4.00	SPT	N=16 (2,2/3,3,5,5)	4.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	4
		4.50	D		4.50			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	
		5.00	SPT	N=16 (3,4/4,4,4,4)	5.00			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	5
		5.45			5.45			(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	6
								(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	7
								(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	8
								(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	9
								(MADE GROUND) Soft brown slightly gravelly sandy silty Clay. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded flint and brick. Occasional cobbles of brick.	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 Hand excavated pit to 1.00m. SPT's Completed at 1.00m centres. Groundwater encountered at 2.00m. Backfilled with arisings on completion.										
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BRE 365 Soil Infiltration Testing			
Project Ref	P21.167	Hole Ref	TP1
Site Name	The Rising Sun	Test Number	Test 1

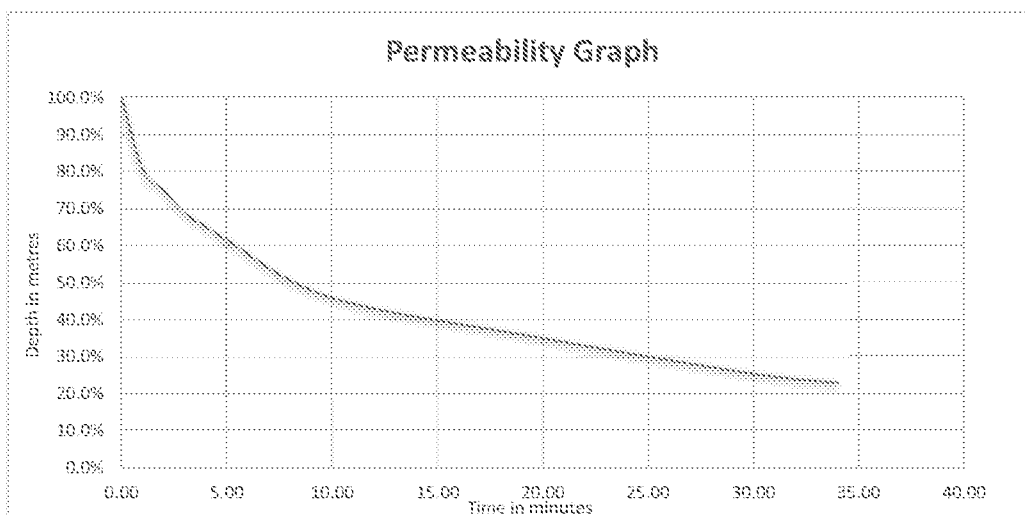
TP1

Test 1

[illegible]

Pit Size		Time in mins	
Length	1.00	2	75%
Width	0.30	30	25%
Depth	1.00		

5.37398E-05



BRE 365 Soil Infiltration Testing			
Project Ref	P21.167	Hole Ref	TP1
Site Name	The Rising Sun	Test Number	Test 2

Pit Size		Time in mins	
Length	1.00	4	75%
Width	0.30	48	25%
Depth	1.00		

Permeability Graph

Time in minutes	Depth in metres (%)
0.00	100.0
10.00	55.0
20.00	42.0
30.00	35.0
40.00	30.0
50.00	25.0
60.00	18.0

BRE 365 Soil Infiltration Testing			
Project Ref	P21.167	Hole Ref	TP1
Site Name	The Rising Sun	Test Number	Test 3

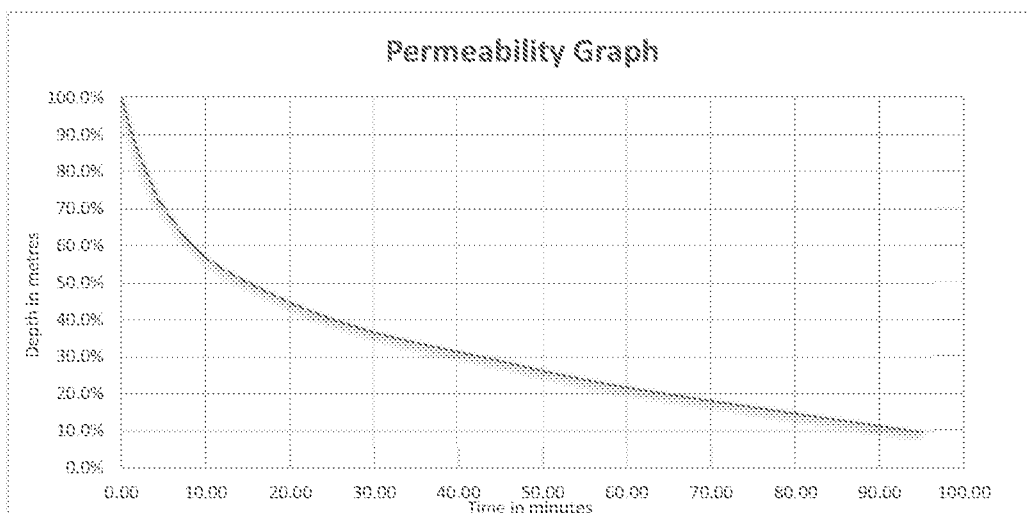
TP1

Test 3

[illegible]

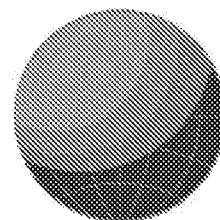
Pit Size		Time in mins	
Length	1.00	4	75%
Width	0.30	52	25%
Depth	1.00		

3.05401E-05



APPENDIX C

Photographs



IMPACT
GEOTECHNICAL

1.



2.



3.



4.



Investigation Photographs

Project Ref: P21.167

Site Name: The Rising Sun

1. Existing site looking south
2. Existing site looking west
3. Existing site looking south into southern area
4. Overgrown southern area



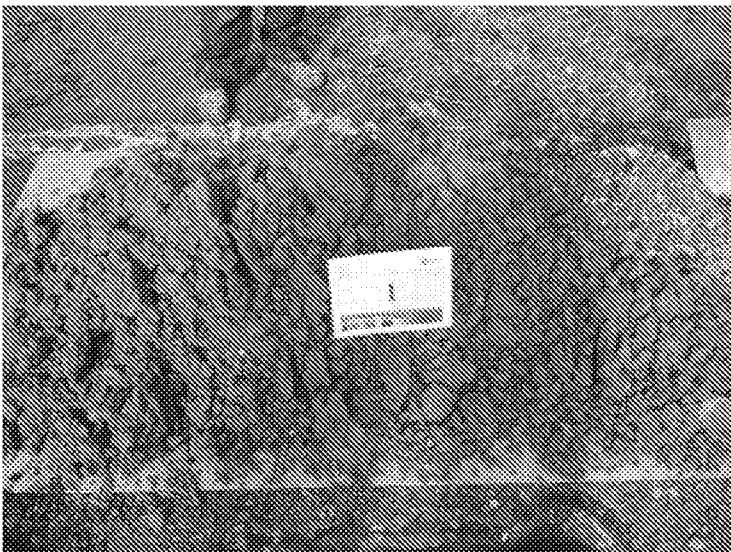
5.



6.



7.



8.



Investigation Photographs

Project Ref: P21.167

Site Name: The Rising Sun

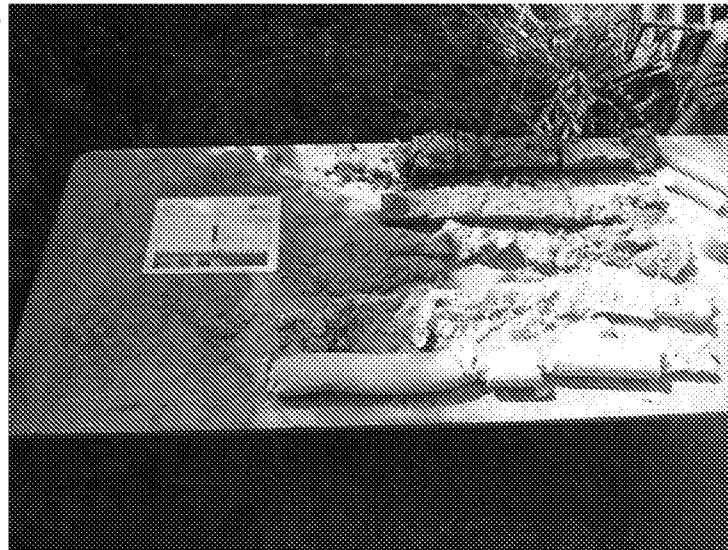
- 5. TP1
- 6. TP1 GL-1.00m
- 7. TP1 spoil
- 8. WS1



9.



10.



11.



12.



Investigation Photographs

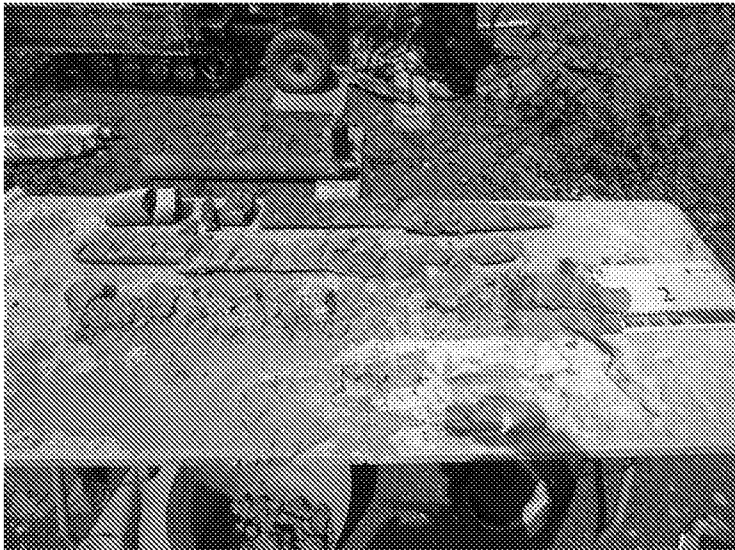
Project Ref: P21.167

Site Name: The Rising Sun

- 9. WS1 GL-1.00m
- 10. WS1 1.00-5.00m
- 11. WS2
- 12. WS2 GL-1.00m



13.



14.



15.



16.



Investigation Photographs

Project Ref: P21.167

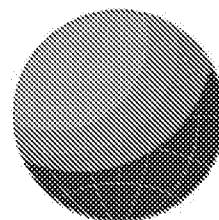
Site Name: The Rising Sun

- 13. WS1 1.00-5.00m
- 14. WS3
- 15. WS3 spoil
- 16. WS3 1.00-5.00m

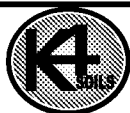


APPENDIX D

Laboratory Certificates



IMPACT
GEOTECHNICAL

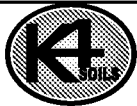


Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No. 30095	Project Name The Rising Sun, North Bersted	Programme	
		Samples received	13/05/2021
Project No. P21.176	Client Impact Geotechnical	Schedule received	16/05/2021
		Project started	17/05/2021
		Testing Started	10/06/2021

Hole No.	Sample				Soil Description	NMC %	Passing 425µm %	LL %	PL %	PI %	Remarks
	Ref	Top m	Base m	Type							
WS1	-	1.00		D	Greyish brown sandy silty CLAY	24	100	49	18	31	
WS1	-	1.50		D	Greyish brown slightly mottled orangish brown and bluish grey slightly gravelly sandy silty CLAY (gravel is fine)	23	98	38	13	25	
WS1	-	2.00		D	Orangish brown gravelly clayey SAND (gravel is fm and sub-angular to sub-rounded chalk gravel)	16	84	23	16	7	
WS2	-	1.50		D	Greyish brown slightly mottled orangish brown and bluish grey slightly gravelly sandy silty CLAY (gravel is fine)	21	100	40	16	24	
WS2	-	2.00		D	Light brown sandy gravelly silty CLAY (gravel is fm and sub-angular to angular chalk gravel)	18	100	33	15	18	
WS2	-	3.50		D	Light brown gravelly silty very sandy CLAY (gravel is fm and sub-angular to angular chalk gravel)	18	79	23	16	7	
WS3	-	1.00		D	Brown mottled greyish brown slightly sandy silty CLAY	26	100	58	20	38	
WS3	-	2.50		D	Light grey mottled yellowish brown slightly gravelly slightly sandy very silty CLAY (gravel is fm and sub-angular to sub-rounded)	14	90	25	13	12	

 2519	Test Methods: BS1377: Part 2: 1990: Natural Moisture Content : clause 3.2 Atterberg Limits: clause 4.3, 4.4 and 5.0	Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU	Checked and Approved Initials K.P. Date: 11/06/2021
	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.

30095

Borehole/Pit No.

WS1

Site Name

The Rising Sun, North Bersted

Sample No.

-

Project No.

P21.176

Client

Impact Geotechnical

Depth Top

1.00

m

Depth Base

-

m

Sample Type

D

Samples received

13/05/2021

Schedules received

16/05/2021

Project Started

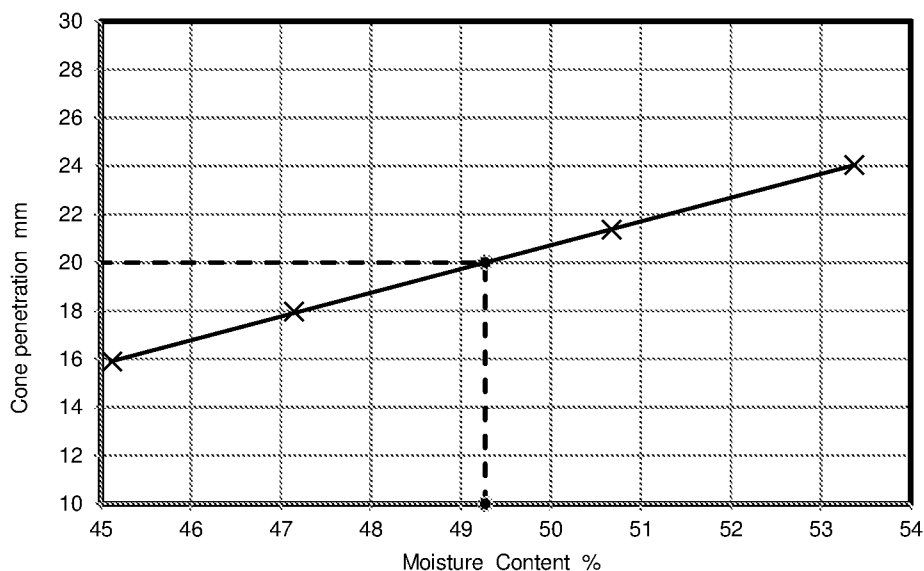
17/05/2021

Date Tested

10/06/2021

Soil Description

Greyish brown sandy silty CLAY



NATURAL MOISTURE CONTENT

24

%

% PASSING 425µm SIEVE

100

%

LIQUID LIMIT

49

%

PLASTIC LIMIT

18

%

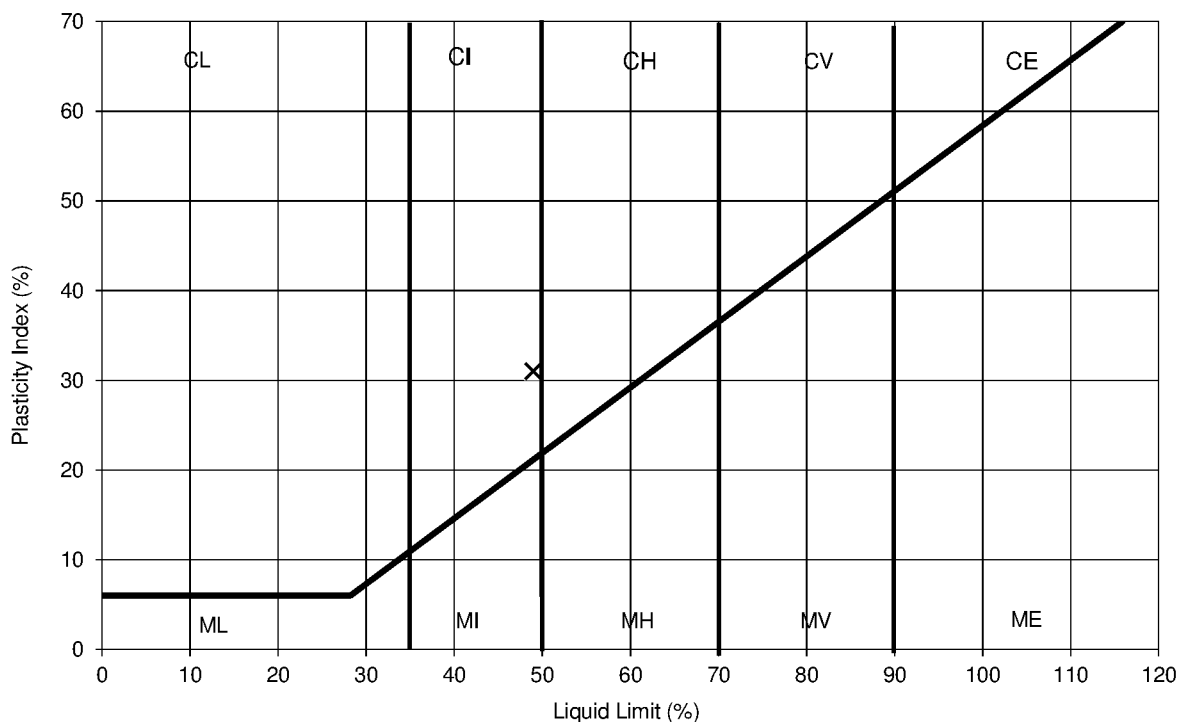
PLASTICITY INDEX

31

%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: K.P.

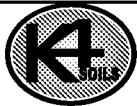
Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.

30095

Borehole/Pit No.

WS1

Site Name

The Rising Sun, North Bersted

Sample No.

-

Project No.

P21.176

Client

Impact Geotechnical

Depth Top

1.50

m

Depth Base

-

m

Sample Type

D

Samples received

13/05/2021

Schedules received

16/05/2021

Project Started

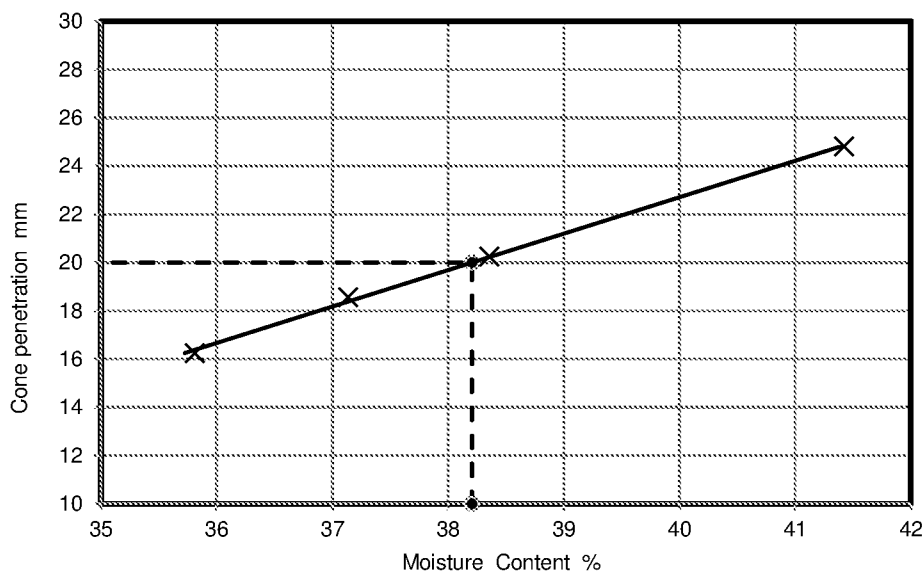
17/05/2021

Date Tested

09/06/2021

Soil Description

Greyish brown slightly mottled orangish brown and bluish grey slightly gravelly sandy silty CLAY (gravel is fine)



NATURAL MOISTURE CONTENT

23

%

% PASSING 425µm SIEVE

98

%

LIQUID LIMIT

38

%

PLASTIC LIMIT

13

%

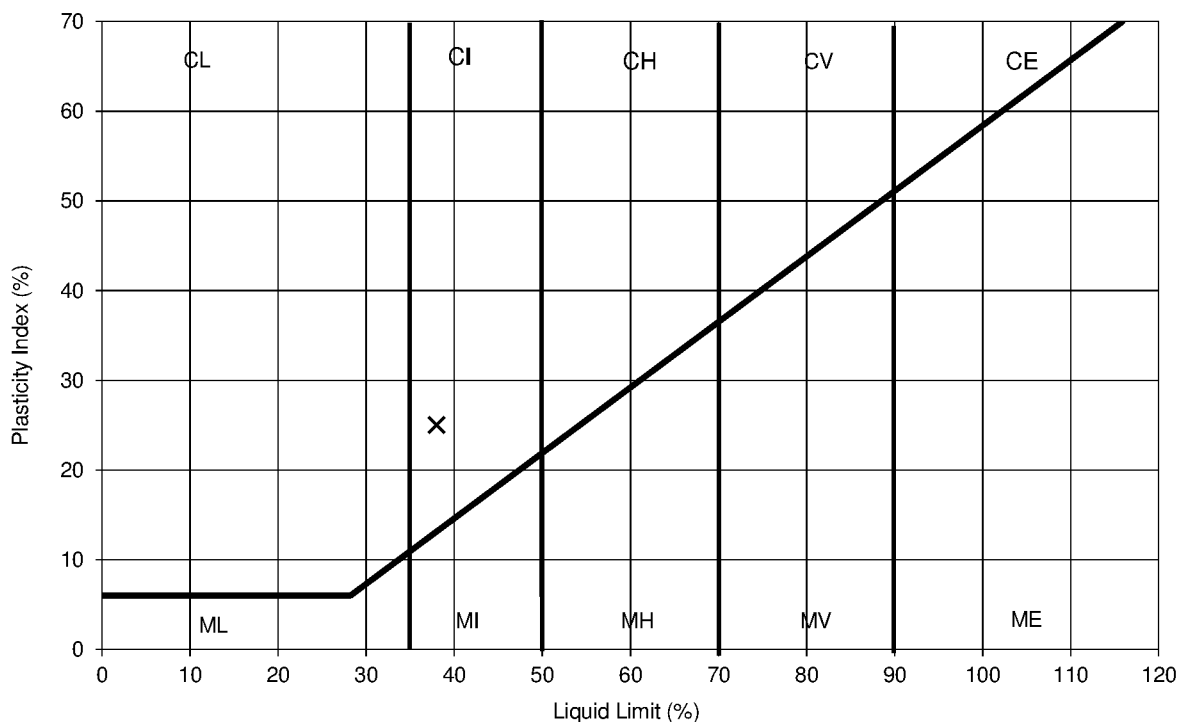
PLASTICITY INDEX

25

%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

Checked and Approved

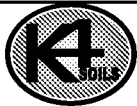
Initials: K.P.

Date: 11/06/2021

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

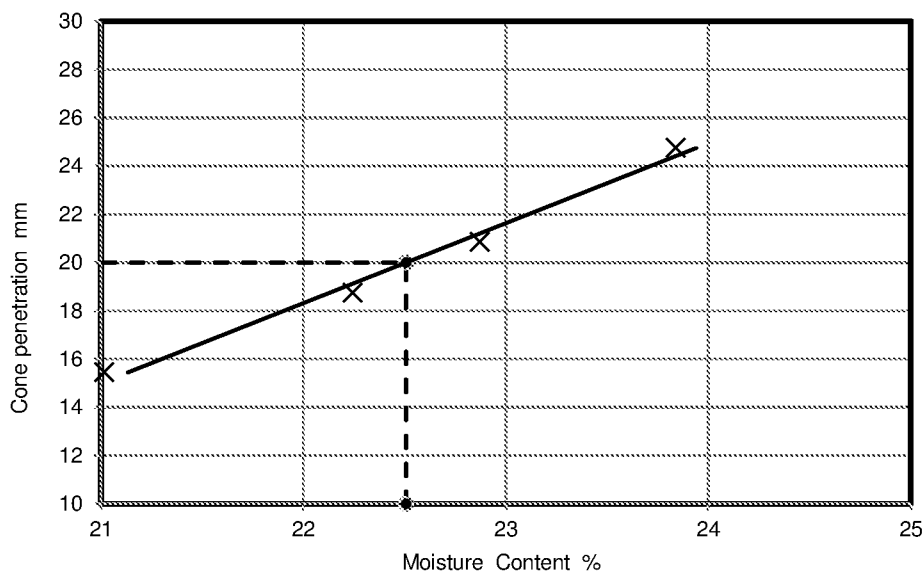
MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.	30095
Borehole/Pit No.	WS1
Sample No.	-
Depth Top	2.00 m
Depth Base	- m
Sample Type	D
Samples received	13/05/2021
Schedules received	16/05/2021
Project Started	17/05/2021
Date Tested	09/06/2021

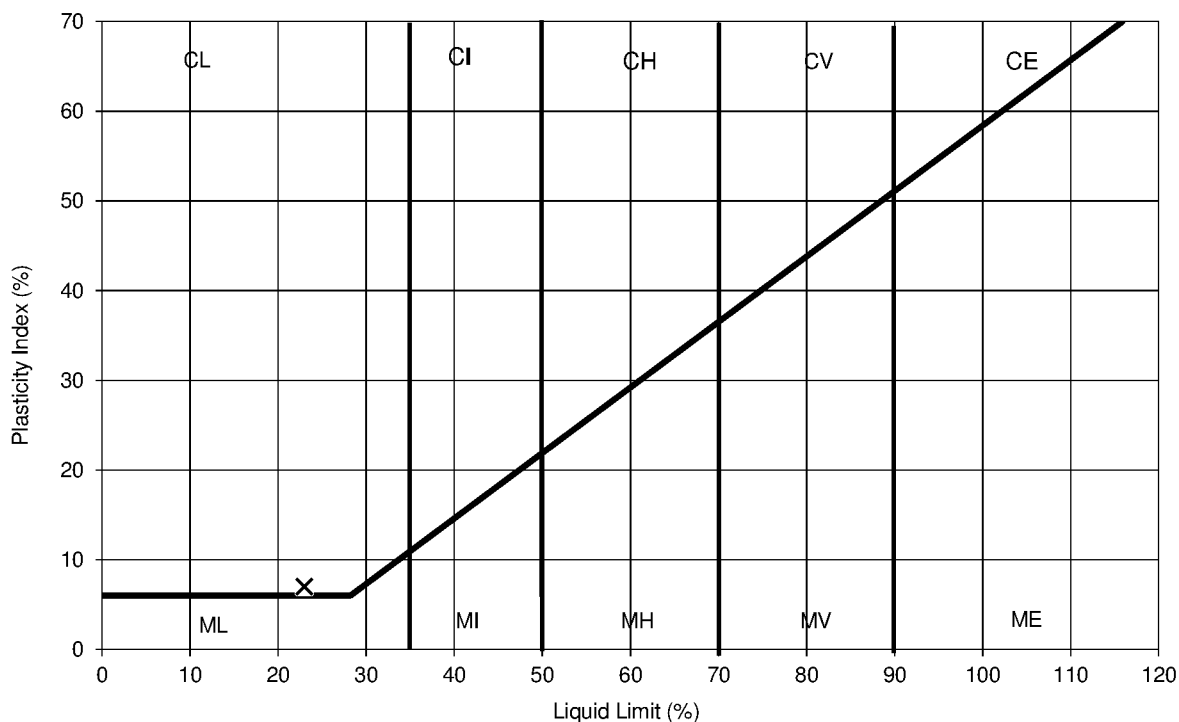
Site Name	The Rising Sun, North Bersted		
Project No.	P21.176	Client	Impact Geotechnical
Soil Description	Orangish brown gravelly clayey SAND (gravel is fm and sub-angular to sub-rounded chalk gravel)		



NATURAL MOISTURE CONTENT	16	%
% PASSING 425µm SIEVE	84	%
LIQUID LIMIT	23	%
PLASTIC LIMIT	16	%
PLASTICITY INDEX	7	%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
 BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
 BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

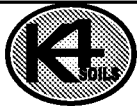
Initials: K.P.
 Date: 11/06/2021

Tel: 01923 711 288 Email: James@k4soils.com

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2

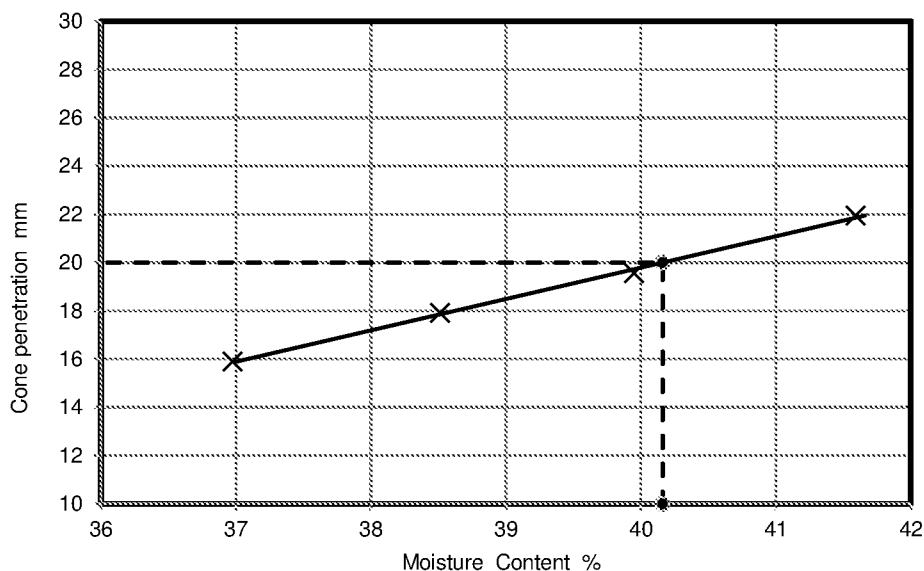
2519



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.	30095
Borehole/Pit No.	WS2
Sample No.	-
Depth Top	1.50 m
Depth Base	- m
Sample Type	D
Samples received	13/05/2021
Schedules received	16/05/2021
Project Started	17/05/2021
Date Tested	09/06/2021

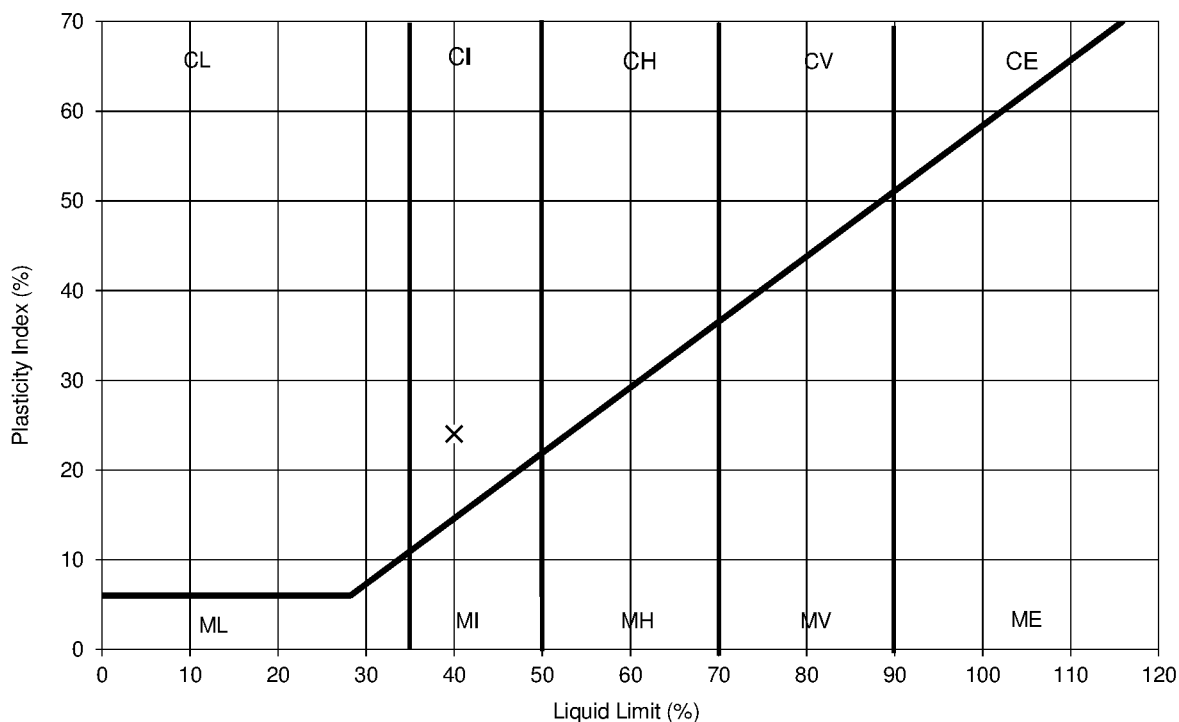
Site Name	The Rising Sun, North Bersted		
Project No.	P21.176	Client	Impact Geotechnical
Soil Description	Greyish brown slightly mottled orangish brown and bluish grey slightly gravelly sandy silty CLAY (gravel is fine)		



NATURAL MOISTURE CONTENT	21	%
% PASSING 425µm SIEVE	100	%
LIQUID LIMIT	40	%
PLASTIC LIMIT	16	%
PLASTICITY INDEX	24	%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
 BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
 BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

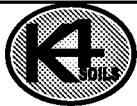
Initials: K.P.
 Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.

30095

Borehole/Pit No.

WS2

Site Name

The Rising Sun, North Bersted

Sample No.

-

Project No.

P21.176

Client

Impact Geotechnical

Depth Top

2.00

m

Depth Base

-

m

Sample Type

D

Samples received

13/05/2021

Schedules received

16/05/2021

Project Started

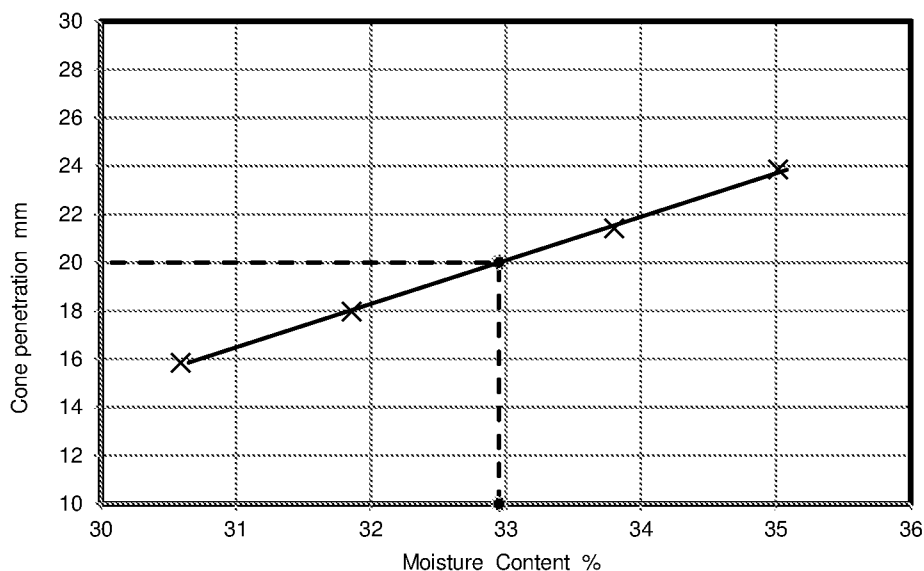
17/05/2021

Date Tested

09/06/2021

Soil Description

Light brown sandy gravelly silty CLAY (gravel is fm and sub-angular to angular chalk gravel)



NATURAL MOISTURE CONTENT

18

%

% PASSING 425µm SIEVE

100

%

LIQUID LIMIT

33

%

PLASTIC LIMIT

15

%

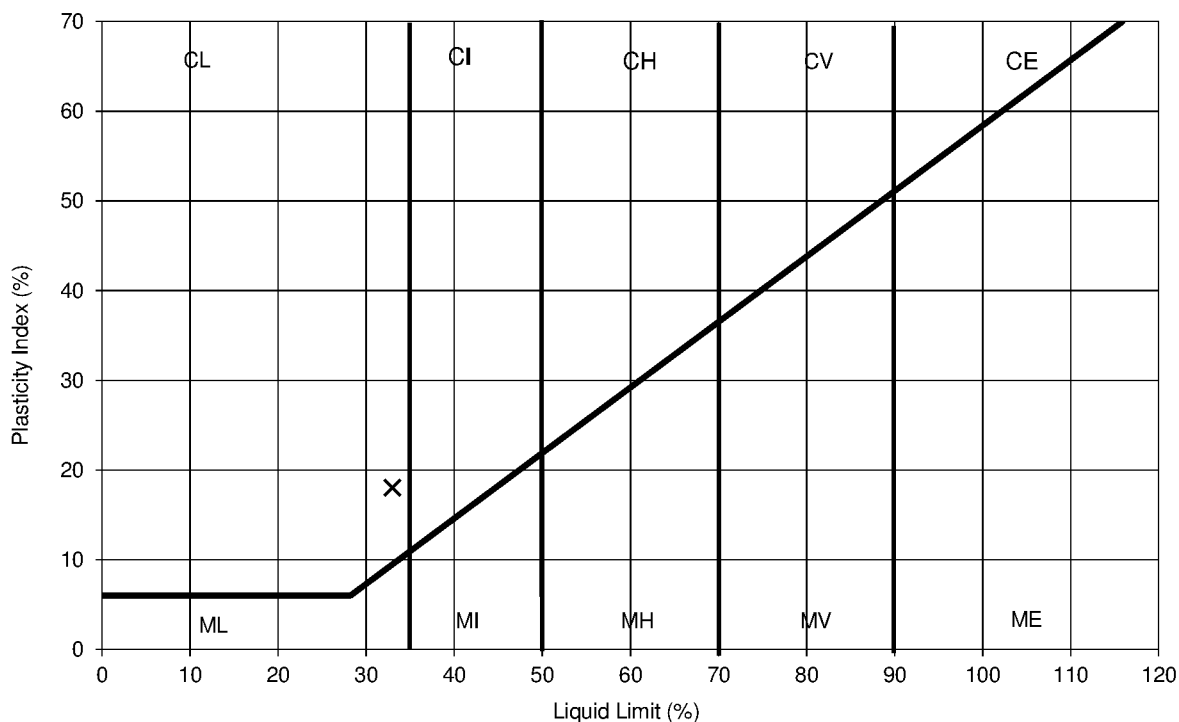
PLASTICITY INDEX

18

%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: K.P.

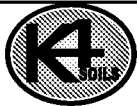
Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.

30095

Borehole/Pit No.

WS2

Site Name

The Rising Sun, North Bersted

Sample No.

-

Project No.

P21.176

Client

Impact Geotechnical

Depth Top

3.50

m

Depth Base

-

m

Sample Type

D

Samples received

13/05/2021

Schedules received

16/05/2021

Project Started

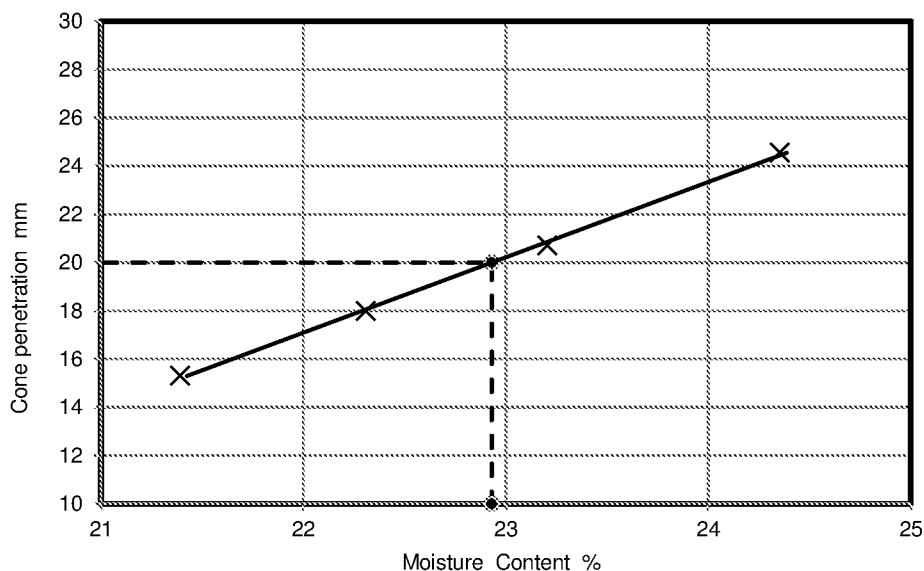
17/05/2021

Date Tested

09/06/2021

Soil Description

Light brown gravelly silty very sandy CLAY (gravel is fm and sub-angular to angular chalk gravel)



NATURAL MOISTURE CONTENT

18

%

% PASSING 425µm SIEVE

79

%

LIQUID LIMIT

23

%

PLASTIC LIMIT

16

%

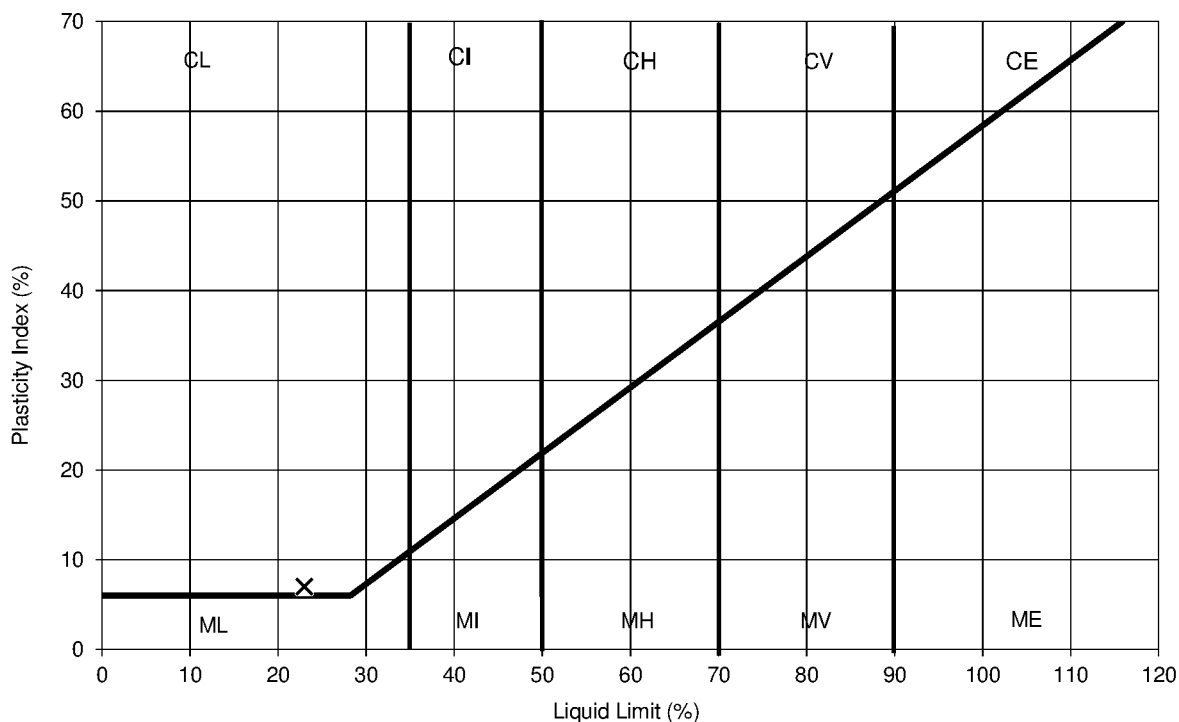
PLASTICITY INDEX

7

%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: K.P.

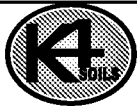
Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.

30095

Borehole/Pit No.

WS3

Site Name

The Rising Sun, North Bersted

Sample No.

-

Project No.

P21.176

Client

Impact Geotechnical

Depth Top

1.00

m

Depth Base

-

m

Sample Type

D

Samples received

13/05/2021

Schedules received

16/05/2021

Project Started

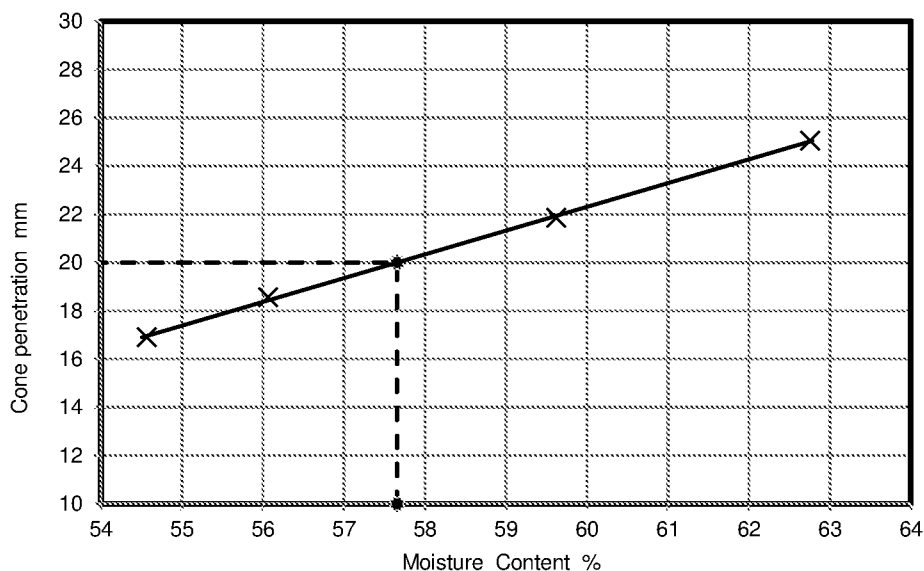
17/05/2021

Date Tested

09/06/2021

Soil Description

Brown mottled greyish brown slightly sandy silty CLAY



NATURAL MOISTURE CONTENT

26

%

% PASSING 425µm SIEVE

100

%

LIQUID LIMIT

58

%

PLASTIC LIMIT

20

%

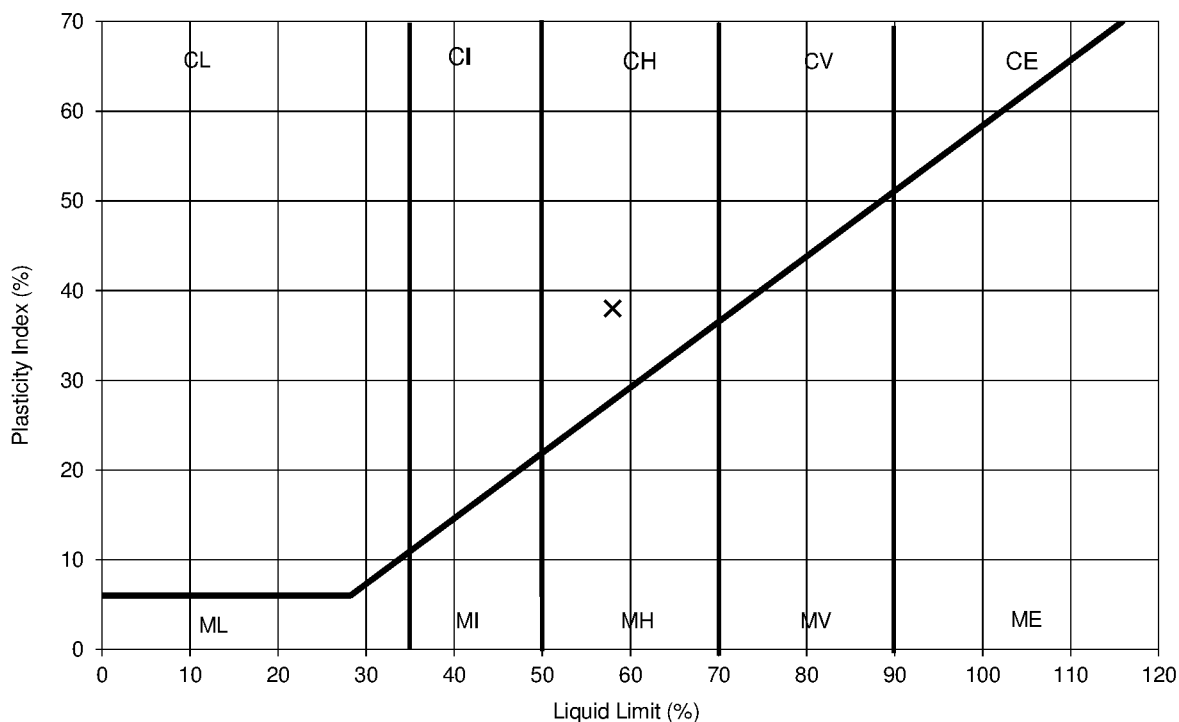
PLASTICITY INDEX

38

%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: K.P.

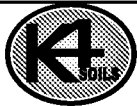
Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

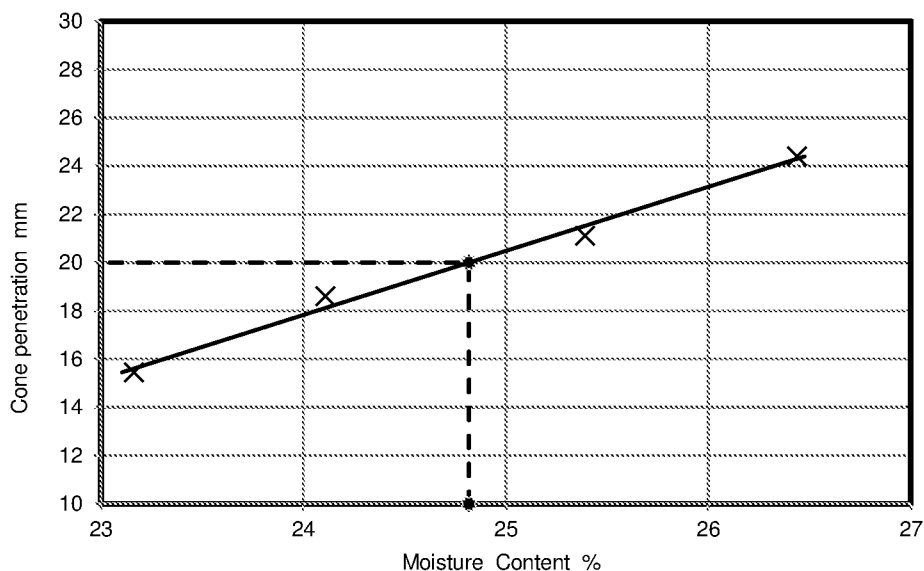
MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No.	30095
Borehole/Pit No.	WS3
Sample No.	-
Depth Top	2.50 m
Depth Base	- m
Sample Type	D
Samples received	13/05/2021
Schedules received	16/05/2021
Project Started	17/05/2021
Date Tested	09/06/2021

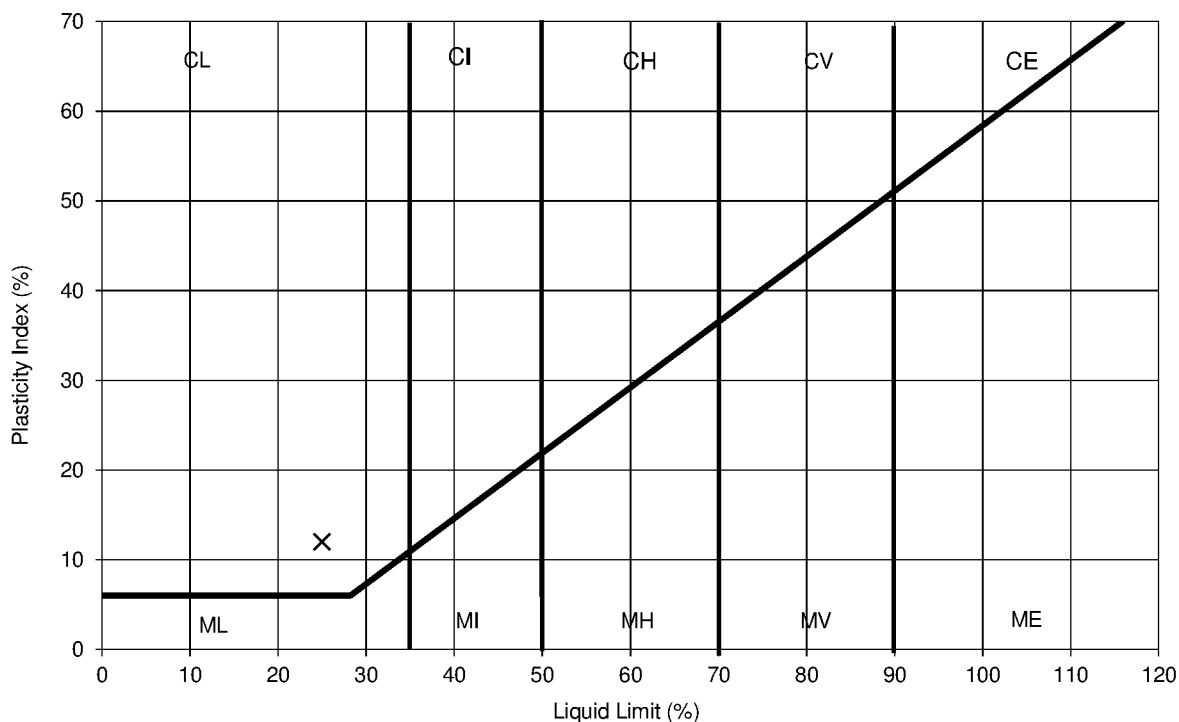
Site Name	The Rising Sun, North Bersted		
Project No.	P21.176	Client	Impact Geotechnical
Soil Description	Light grey mottled yellowish brown slightly gravelly slightly sandy very silty CLAY (gravel is fm and sub-angular to sub-rounded)		



NATURAL MOISTURE CONTENT	14	%
% PASSING 425µm SIEVE	90	%
LIQUID LIMIT	25	%
PLASTIC LIMIT	13	%
PLASTICITY INDEX	12	%

Remarks

PLASTICITY INDEX



TEST METHOD

BS1377: Part 2 :Clause 4.3 : 1990 Determination of the liquid limit by the cone penetrometer method
 BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index
 BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Checked and Approved

Initials: K.P.
 Date: 11/06/2021



2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2