Eastwood&Partners
CONSULTING ENGINEERS

PHASE 2
GEOTECHNICAL AND GEO-ENVIRONMENTAL SITE INVESTIGATION

LAND PARCEL 9
HOGWOOD FARM
(FINCHWOOD PARK DEVELOPMENT)

FOR

CALA HOMES THAMES AND
LEGAL & GENERAL HOMES LIMITED

ISSUE 2

41623-020 **17 January 2022**

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Job No.	:	41623
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Approved	:	[redacted]
		Ruth Noble

CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

1. The site is part of the wider Finchwood Park Development, accessed off Sheerlands Road, around 1 km to the south of Arborfield Garrison in Berkshire.

2. This report covers the area known as ‘land parcel 9’ which comprises former agricultural land surfaced with grass and other scrub vegetation.

3. The solid geology is shown to comprise the London Clay Formation no superficial deposits are indicated.

4. The solid bedrock is classified as Unproductive Strata and the site does not lie within a groundwater Source Protection Zone.

5. No radon precautions or ground gas protective measures are considered to be required.

6. The ground conditions comprise topsoil, over firm becoming stiff clay deposits of the weathered and unweathered London Clay Formation.

7. Groundwater was not encountered during the investigation, however previous groundwater monitoring has suggested that shallow groundwater may be present, particularly during wetter months.

8. If no significant level changes are undertaken, traditional strip and trench fill foundations would be expected to be appropriate, taken through any made ground and founded at a minimum depth of 900 mm in natural clay strata.

9. Foundations will require deepening where within the influence of trees, in accordance with NHBC Standards Chapter 4.2. Heave precautions will be required wherever the foundation depth exceeds 1.5 m due to the influence of past or present trees.

10. Where plots are located near to the perimeter of the site, close to trees, or if significant increases in site levels are undertaken, piling will be required. The extent of piled plots will be determined by the nature of the earthworks operations. Analysis has shown that conventional driven piles should be sufficient.

11. It is assumed that precast concrete floors with a minimum 150 mm high ventilated void beneath will be used. The ventilated void height will need to be increased to 250 mm where heave precautions are required.

12. Soakaways are not considered to be a viable form of surface water drainage due to the presence of cohesive strata.

13. No elevated concentrations of contaminants have been identified over the course of the investigation. Therefore, no risk to human health, plants or controlled waters have been identified and the topsoil and natural ground across the site can be considered suitable for reuse.

14. DS-2 AC-2 sulphate precautions will be required for below ground concrete. This may be able to be downgraded if further testing is undertaken across the site.

15. The conclusions made in this report are subject to agreement by the approving bodies and your warranty provider.

2.0 INTRODUCTION

2.1 Terms of Reference

This report presents the findings of a Phase 2 (intrusive) geotechnical and geo-environmental site investigation carried out by Eastwood & Partners (Consulting Engineers) Ltd for CALA Homes Thames and Legal & General Homes Limited. Any other parties using the information in this report do so at their own risk and any duty of care is excluded.

2.2 Context

Eastwood & Partners undertook a broader site investigation that encompasses the Phase 2 Development Area that is the subject of this report in 2017. Our report reference CAT/RAN/SAE/41623-002, dated 21 August 2017, should be read in conjunction with this report.

No other intrusive site investigations are known to have been undertaken on the site in the past.

2.3 Aims and Objectives

The aims and objectives of this investigation were as follows. To:

- Detail the ground conditions and their geotechnical properties enabling outline foundation proposals to be made for the proposed development;
- Carry out tiered risk assessment to establish the likely risks to future receptors, involving the use of generic assessment criteria and where unacceptable risks are identified, site specific assessment criteria within a detailed quantitative risk assessment;
- Identify feasible remediation options if unacceptable risks are highlighted; and
- Develop an appropriate remediation strategy where remediation is required.

2.4 Scope of Investigation

The investigation consisted of intrusive site works and laboratory analysis. The findings were used to test the conceptual model and produce a final risk assessment.

The intrusive works comprised the excavation of trial pits which were excavated to enable:

- Examination of the upper few metres of ground;
- In situ description of soils, enabling any localised lateral and vertical changes in soil conditions to be logged;

- Assessment of any contamination identified using visual and olfactory methods; and
- Collection of soil samples for geotechnical and chemical testing.

A number of cable percussion boreholes were also undertaken for the purposes of determining the ground conditions at depth to assist with pile design.

2.5 Limitations of Investigation

This report is based on the assumption that the site will be developed with low-rise conventional housing with private gardens, areas of soft landscaping and associated infrastructure including roads and driveways. It has been suggested that due to drainage requirements, significant level changes may be implemented as part of the development. This has been taken account of in our recommendations.

Where assessments of site areas affected in particular ways are given, these are approximate. All information, comments and opinions given in this report are based on the ground conditions encountered during the site work, on the results of laboratory testing carried out as part of the investigation. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata and water conditions between or below investigation points. It should be noted that groundwater levels vary due to seasonal or other effects, and may at times differ from those measured during the investigation.

This report considers the ground and groundwater and does not cover any buildings or their fabric, or any existing hardstanding materials. Generally, testing has only been carried out for contaminants identified as potentially present with no assessment made of biological contamination. Risks to ecological receptors, such as bats, have not been considered.

3.0 SITE DESCRIPTION

Land parcel 9 is an approximately 1.2 hectare area of open, former agricultural land consisting of grass and scrub vegetation and is part of the wider Finchwood Park development. Aborfield Garrison lies 1 km to the north and the partially constructed phase 1 development area is 100 m to the west.

The information in this report relates solely to parcel 9 and will herein be referred to as 'the site'.

The site is centred around the grid reference 476918 164748 and is relatively level at around 56 m above Ordnance Datum (AOD).

Access to the site was off Sheerlands Road through the CALA homes development site. The site is boarded to the south and west by a haulage road which is forming part of the works to construct the new Nine Mile Ride Extension. To the north the site is bordered by mature trees beyond which lies an un-named road providing access to a new housing development. Mature woodland is present to the north east and Hogwood Industrial Estate is to the south east.

The plan below shows parcel 9 in relation to other land parcels that form part of the Finchwood Park development.

4.0 SUMMARY OF PHASE 1 ASSESSMENT

A Phase 1 assessment of the broader site (of which the subject site is a part of) was undertaken as part of our initial wider site investigation in 2017, reference CAT/RAN/SAE/41623-002, and should be read in conjunction with this Phase 2 report. The pertinent points specifically relevant to Parcel 9 are summarised in the sections below.

4.1 Site History

4.1.1 The Site

The historical mapping shows that the site has remained undeveloped throughout the course of the mapping period.

4.1.2 The Surrounding Area

The surrounding area predominantly comprises agricultural land, however by 1938 brickworks are shown less than 100 m to the east of the site, later developed as Hogwood Industrial Estate. A second brick works 250 m north west of the site is also shown in 1938, the 1961 map also shows a clay pit in this location. By 1932 Arborfield Remount Depot is labelled around 250 m north of the site, although its full extent and proximity to the site is unclear.

Gravel pits are shown 1 km south east of the site between 1900 and 1912.

The 1961 historical map shows Arborfield Remount Depot has been renamed Arborfield Garrison, and extended up to the northern boundary of Hogwood Farm.

The 1984 map shows Hogwood Farm Industrial Estate in its current layout around 100 m to the east. By 1988 the attenuation pond between the two industrial estates is also shown. The 1999 map shows the brickworks and clay pit north east of the site no longer to be in use.

4.2 Geology

The site is shown to be underlain by the London Clay Formation. Superficial deposits are not mapped across the site area. No faults are shown to cross the site.

4.3 Hydrogeology

The Envirocheck identifies that the underlying solid bedrock below the site is primarily classified as Unproductive Strata. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The site is not recorded as being within a groundwater Source Protection Zone.

4.4 Hydrology

The nearest surface water feature is an attenuation pond located around 200 m to the east of the site.

4.5 Ground Gas

No radon precautions are required at the site.

No landfill sites are identified within 250 m of the site within the Envirocheck.

A number of ponds are shown on historical maps of the wider Hogwood Farm site and are presumed to have been backfilled. The ponds were small features and are expected to have been shallow, and therefore the risk of significant gas generation and subsequent migration was considered to be low.

There is one area of potentially infilled land identified within 250 m of the site in the Envirocheck. This is located to the east and north-east of the site, and is thought to refer to Hogwood Shaw brickworks which were shown to be present on the 1938 historical map. No pits are shown in conjunction with these brickworks, a pond is however later shown immediately to the north-west of the brickworks. This is assumed to be the former clay pit. The pond is present on the most recent mapping indicating that it has not been backfilled.

A significant depth of made ground (>2 m) is not anticipated beneath the site.

Ground gas protective measures are therefore not considered to be necessary at this stage.

4.6 Potential Pollutant Linkages

The table overleaf details the possible sources and associated contaminants of concern, pathways and receptors which were identified by the Phase 1 report:

Source	Potential Contaminants	Potential Pathways	Potential Receptors
Made ground, if present	• Heavy metals/metalloids and polycyclic aromatic hydrocarbons (PAHs) • Asbestos	• Ingestion, inhalation, direct contact	• Future site occupants and visitors • Site construction workers • Plants
		• Direct contact	• Water supply pipes
		• Migration through ground	• Controlled waters
	• Sulphates	• Direct contact	• Sub-surface concrete structures
Topsoil	• Heavy metals/metalloids and polycyclic aromatic hydrocarbons (PAHs) • Pesticides	• Ingestion, inhalation, direct contact	• Future site occupants and visitors • Site construction workers • Plants
Natural ground	• Naturally occurring contaminants	• Ingestion, inhalation, direct contact	• Future site occupants and visitors • Site construction workers • Plants • Water supply pipes

5.0 GROUND INVESTIGATION

5.1 Site Works

Eastwood & Partners visited site between 18 and 19 October 2021 and excavated eight trial pits, TP305 to TP312 across the site to determine underlying ground conditions. The site was revisited on 8th November 2021 to determine ground conditions at greater depth, one cable percussion borehole was completed at this time, BH07.

Copies of all exploratory hole logs are presented in Appendix 2, and their locations are plotted on the Exploratory Hole Location Plan, Drawing number 41623/018A in Appendix 1.

5.2 Laboratory Testing

Following the site visit in October 2021 five samples of topsoil and three samples of natural ground were dispatched for chemical testing. Soil samples were taken in 500 g plastic tubs and 250 ml amber glass jars and were analysed at Chemtest Laboratories, using MCERTs accredited methodologies where available.

The chemical test results are presented in Appendix 4 and are discussed further in Sections 8 and 9.

Five disturbed samples of natural ground were sent for geotechnical testing at Geolabs in Watford. The geotechnical test results are presented in Appendix 5 and are discussed further in Section 7.

6.0 GROUND CONDITIONS

6.1 Surface Covering

The site is surfaced with grass and scrub vegetation over topsoil.

6.2 Made Ground

Made ground was not encountered in any of the exploratory holes.

6.3 Topsoil

Topsoil was encountered across the site from ground surface to depths of between 0.3 m and 0.7 m below ground level (bgl). It comprised

slightly gravelly sandy clay.

6.4 Natural Ground

Natural ground of the weathered London Clay Formation was encountered beneath the topsoil. This comprised of firm, brown mottled orange and grey, silty clay. Unweathered firm to stiff London Clay was then encountered from approximately 3.4 m bgl in some of the pits. The trial pits were terminated between 3.0 m and 4.0 m. The cable percussion borehole (BH07) was terminated at 15 m in stiff grey London Clay.

6.5 Obstructions

No obstructions were encountered during the site investigation.

6.6 Groundwater

All of the trial pits remained dry whilst open.

Eastwood & Partners undertook a programme of groundwater monitoring across the wider Hogwood Farm site between July 2018 and June 2019. The results of this were reported on in our Groundwater Monitoring Report, reference 41623/007, dated 21 August 2019. A copy of this report is enclosed in Appendix 3. One monitoring well was located within Parcel 7 site and the peak groundwater level was recorded to be between 0.54 m bgl. Therefore, shallow groundwater may impact the excavation of trenches, particularly during wetter months.

7.0 GEOTECHNICAL APPRAISAL

7.1 General

Our investigations indicate that the ground conditions beneath site are homogenous with little variation noted. The ground conditions comprise topsoil over natural deposits of the London Clay Formation. Groundwater was not encountered in any of the exploratory holes, but previous groundwater monitoring has indicated the presence of shallow groundwater.

Laboratory Testing

Four samples of the natural cohesive ground from the weathered London Clay Formation were sent for geotechnical laboratory testing. The samples recorded modified plasticity indices of between 22% and 26.7% which correspond to medium volume change potential soils. It is therefore recommended that the cohesive soils across the entirety of the site are assumed to have medium volume change potential. The geotechnical test results are summarised in the table below:

Pit	Depth	Water Content	Liquid Limit	Liquid limit x 0.4	Potentially desiccated?	Modified Plasticity Index	Volume change potential
TP305	1.7	29.3	46	18.4	No	26.7	Medium
TP307	2.3	25.8	40	16.0	No	22	Medium
TP308	3.1	24.9	39	15.6	No	22	Medium
TP310	1.6	25.7	41	16.4	No	25	Medium

Insitu Testing

The following table provides a summary of the SPT ‘N’ values recorded in the cable percussion borehole.

Strata	Mean N-Values Recorded
	BH07
Weathered London Clay	7
London Clay <10m bgl	17
London Clay >10m bgl	37

This demonstrates that there is a clear increase in strength of the London Clay with depth.

7.2 Foundations

For the majority of the dwellings, if no significant level change is undertaken at the site, traditional strip and trench fill foundations, taken onto natural non-desiccated cohesive strata of the weathered

London Clay Formation, are expected to be appropriate. The geotechnical testing has shown that the soils should be assigned a medium volume change potential and therefore a minimum founding depth of 900 mm below existing or finished ground level (whichever the deeper) will apply. At this depth an allowable bearing capacity of 100 kN/m^2 is likely to be achievable.

Foundations within clay soils will need to be deepened in accordance with NHBC Standards, Chapter 4.2 where past, present or proposed trees are within influencing distance of the foundation. Heave precautions should be included where the footing depth due to past or present trees is in excess of 1500 mm.

Consideration should be given to tree influence at an early stage. Buildings are likely to need to be piled wherever the depth due to trees exceeds 2.5 m.

Due to the possibility of shallow groundwater, particularly during wetter months, excavations should not be left open for prolonged periods. Methods such as dig and pour or sump and pump may be required to mitigate against shallow groundwater.

Where ground levels are not significantly modified, piling is only expected to be required towards the perimeter of the site where mature trees are present. It has however been suggested that ground levels may need to be increased significantly across the site in order to accommodate drainage requirements. The earthworks operations at the site will influence the number of piled foundations required. This will be determined by forthcoming layout and levels details, but at this stage it would be prudent to assume that piling would be required across the site. Given the site is generally surfaced with topsoil, and as no significant obstructions were encountered, it is expected that driven piles will be appropriate.

7.3 Ground Floors

It is assumed that a precast concrete floor, with a ventilated void will be used. The void height should be at least 150 mm, increasing to 250 mm high where heave precautions are required.

7.4 Superstructure Precautions

Additional superstructure precautions are not considered to be required due to the ground conditions.

7.5 Excavation Problems

All of the trial pits remained dry and stable whilst open. Nonetheless, support will be required in accordance with current Health & Safety Regulations wherever access is required to trenches deeper than 1.2 m or less where there is risk of collapse.

7.6 Obstructions

Obstructions were not encountered over the course of the site works. Given the former greenfield/agricultural use it is not expected that significant obstructions will be encountered.

7.7 Surface Water Drainage

Given the cohesive nature of the natural strata encountered surface water drainage via ground soakage is unlikely to be viable for the proposed development.

7.8 Roadworks

Based upon the ground conditions observed a CBR value of at least 2% is likely to be applicable. It is recommended that CBR tests are undertaken along any proposed roads prior to construction so that accurate CBR values can be obtained. The ground should be assumed to be frost susceptible and a minimum construction thickness of 450 mm will therefore apply.

7.9 Limitations

To reiterate, the comments made above in relation to geotechnical analysis and design refer only to the 1.2 hectare area of former agricultural field specified in Section 3 of this report.

8.0 REFINEMENT OF OUTLINE CONCEPTUAL MODEL

8.1 Source Characterisation

An outline conceptual model, detailing the possible sources and associated contaminants of concern, potential pathways and receptors identified in the Phase 1 study was detailed in Section 4.6.

This section of the report documents the works undertaken to obtain information to test and refine this model enabling a risk assessment to be produced and, where significant risks are expected, remediation recommendations.

8.2 Ground Conditions

Our investigations indicate that the site is surfaced with topsoil over weathered and unweathered deposits of the London Clay Formation. Groundwater was not encountered in any of the exploratory holes.

8.3 Gas Precautions

No radon precautions are required at the site and no landfill sites were identified within 250 m. Made ground was not encountered and therefore ground gas precautions are not considered to be necessary in the construction of new dwellings.

8.4 Unexpected Contamination

Visual and olfactory evidence of possible significant contamination was not encountered in any of the exploratory holes.

8.5 Chemical Testing

Five samples of topsoil and three samples of natural ground were despatched for chemical testing. Each of the samples was analysed for the suite of contaminants listed overleaf:

Contaminant Type	Actual Contaminants
Metals/Metalloids	Arsenic, cadmium, chromium (VI and total), lead, mercury, nickel, selenium, copper and zinc
pH	pH
PAHs	Speciated polycyclic aromatic hydrocarbons (PAH)
Sulphates*	Water soluble sulphate, total (acid soluble sulphate) and sulphur

*Not tested in topsoil.

In addition to the above testing, two of the topsoil samples were also tested for organochlorine and organophosphorus pesticides.

8.6 Assessment Criteria

As the site is to be developed with conventional dwellings with private gardens the assessment criteria for a 'residential end-use with homegrown produce' have been adopted.

Tables detailing the relevant assessment concentrations used are included in Appendix 4.

8.7 Chemical Test Results

The chemical test results (Chemtest report 21-37242) are included in Appendix 4. Some preliminary risk assessment is undertaken in this section of the report where determinants can be readily discounted.

8.7.1 Topsoil

None of the samples of topsoil recorded elevated concentrations of any of the determinants and pesticides were not recorded above the detection limit in either of the samples tested.

The topsoil is therefore considered suitable for reuse on site.

8.7.2 Natural Ground

None of the samples of natural ground recorded elevated concentrations of any of the determinants.

The natural ground is therefore considered suitable for reuse on site.

8.8 Sulphates

The site has been categorised as greenfield and groundwater is assumed to be mobile. Three samples of natural ground were scheduled for pH and sulphate testing.

The pH ranged from 6.4 to 8.7.

Water soluble sulphate was recorded to be between <10 and 180 mg/l.

Total potential sulphate ranged from 0.096 to 0.25%.

8.9 Significant Pollutant Linkages

The following significant pollutant linkages have thus been identified.

Source	Pathway	Receptor
Sulphates in the natural ground	Direct contact	Below ground concrete

9.0 RISK ASSESSMENT

9.1 Human Health – Future Residents and Visitors

The ground investigation has not identified any contamination hazards that may present a significant risk a future residents and visitors. Therefore, the topsoil and natural ground can be considered suitable for reuse.

9.2 Human Health – Construction Workers

Groundworkers employed during the construction phase of the development are most at risk of harm due to them having direct contact with affected soils. However, the contact is generally of short duration, and all competent ground workers will be aware of the potential risks associated with handling soils. Furthermore, no significant human-health risk has been identified during the course of this investigation.

Normal site procedures such as the wearing of gloves when handling soils, and the washing of hands prior to eating should be implemented.

Any unusual, brightly coloured, ashy or odorous material or material suspected of containing asbestos encountered during construction should be brought to the attention of the site staff and investigated.

9.3 Plants

No samples of topsoil, made ground or natural ground recorded elevated phytotoxic concentrations of contaminants. The topsoil and natural ground can therefore be considered suitable for reuse across the development.

9.4 Gas Precautions

Ground gas precautions are not considered to be necessary.

9.5 Controlled Waters

Groundwater has not been encountered as part of this investigation and no elevated concentrations of contaminants have been detected.

Therefore, no risk to controlled waters has been identified during the course of this investigation.

9.6 Construction Materials

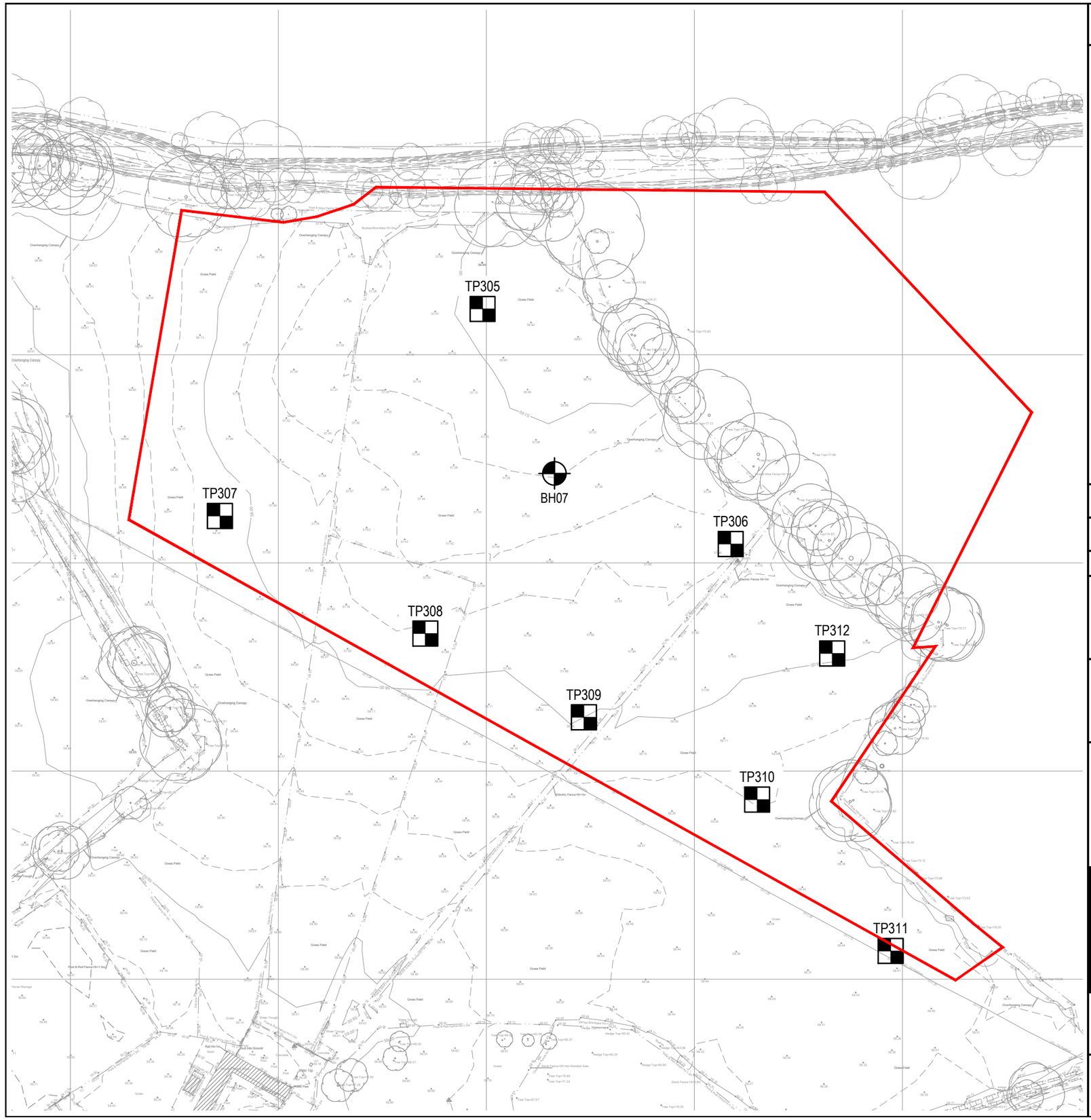
Based upon the results of sulphate testing discussed in Section 8, the maximum total potential sulphate concentration falls into design sulphate class DS-2, and the pH falls into aggressive chemical environment for concrete (ACEC) class AC-2. Therefore, subsurface concrete should include DS-2 AC-2 sulphate precautions. It may be possible to enable this classification to be downgraded if further testing is competed at the site, however this cannot be guaranteed.

9.7 Limitations

The risk assessment presented above relates solely to the 1.2 hectare former agricultural field which constitutes land parcel 9.

Appendix 1

Exploratory Hole Location Plan, drawing reference 41623/018A



INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

KEY:

Site boundary.

Approximate location of cable percussion borehole completed on behalf of Eastwood & Partners on 08.11.2021.

Approximate location of trial pit excavated by Eastwood and Partners on 18.10.2021.

REV	DESCRIPTION	SIG	CHK	DATE
B	Site boundary amended.	RB	ME	18.01.22
A	First Issue.			

CALA HOMES THAMES & LEGAL AND GENERAL HOMES LTD

PARCEL 9, HOGWOOD FARM

EXPLORATORY HOLE LOCATION PLAN

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SCALE WHEN PLOTTED AT A3	DRAWING STATUS
1:1000	INFORMATION

DRAWN	CHECKED	DATE	DRAWING NUMBER	REV
CL	ME	17.12.21	41623/018	B

Appendix 2

Trial Pit Logs

Cable Percussion Borehole Logs

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TrialPit No
TP305
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.80m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.70			Firm orangish brown mottled brown slightly silty slightly sandy CLAY. Sand is fine to coarse.
			3.40			Firm grey slightly silty slightly sandy CLAY. Sand is fine to coarse.
			3.80			Trialpit Complete at 3.800m

Remarks:

Stability:

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TrialPit No
TP306
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 4.00m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
						Firm orangish brown mottled brown slightly silty slightly sandy CLAY. Sand is fine to coarse.
			0.70			
			3.70			Firm grey slightly silty slightly sandy CLAY. Sand is fine to coarse.
			4.00			Trialpit Complete at 4.000m

Remarks:

Stability:

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TrialPit No
TP307
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.00m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.45			Firm orangish brown mottled brown slightly silty slightly sandy CLAY. Sand is fine to coarse.
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability:

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TrialPit No
TP308
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.00m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.40			Firm mottled orangish brown and grey slightly sandy slightly silty CLAY. Sand is fine to coarse.
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability:

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TrialPit No
TP309
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.80m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.40			Firm mottled orangish brown and grey slightly sandy slightly silty CLAY. Sand is fine to coarse.
			3.40			Firm grey slightly silty slightly sandy CLAY. Sand is fine to coarse.
			3.80			Trialpit Complete at 3.800m

Remarks:

Stability:

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TrialPit No
TP310
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.80m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.45			Firm mottled orangish brown and grey slightly sandy slightly silty CLAY. Sand is fine to coarse.
			3.80			Trialpit Complete at 3.800m

Remarks:

Stability:

Eastwood&Partners
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TrialPit No
TP311
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	18/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 4.00m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						TOPSOIL: Brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine angular flint. Sand is fine to coarse.
			0.30			Firm mottled orangish brown and grey sandy CLAY.
			4.00			Trialpit Complete at 4.000m

Remarks:

Stability:

Eastwood&Partners
CONSULTING ENGINEERS

TrialPit No
TP312
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	19/10/2021
Location: Arborfield		Dimensions: m	Scale 1:25
Client: Legal & General Homes		Depth: 3.00m m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						Brown slightly gravelly sandy CLAY with frequent rootlets. Gravel is fine angular flint.
			0.45			Firm mottled orangish brown and grey slightly sandy silty clay.
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability: Good

Eastwood&Partners
CONSULTING ENGINEERS

Borehole Log

Borehole No.
CP07
Sheet 1 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 08/11/2021 - 08/11/2021	Logged By EJD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.60			TOPSOIL: Soft brown clay, silts and sands
		1.20		N=5 (1 for 75mm/1,1,1,2)				Brown silty sandy CLAY
		2.50		N=9 (1,1/2,2,2,3)				
					3.00			Grey silty CLAY
		4.00		N=16 (2,2/3,4,4,5)				
		5.50		N=18 (2,2/4,4,5,5)				
								Water seepage
		7.00		N=20 (2,3/4,5,5,6)				
		8.50		N=25 (3,4/5,5,7,8)				
		10.00		N=26 (3,4/5,6,7,8)				Continued on next sheet

Remarks

Eastwood&Partners
CONSULTING ENGINEERS

Borehole Log

Borehole No.
CP07
Sheet 2 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 08/11/2021 - 08/11/2021	Logged By EJD

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.50		N=28 (4,4/6,6,7,9)				
		13.00		N=33 (4,5/7,8,9,9)				
		15.00		N=50 (4,5/6,8,10,26)	15.00			End of borehole at 15.00 m

11
12
13
14
15
16
17
18
19
20

Remarks

Appendix 3

Groundwater Monitoring Report

Eastwood&Partners
CONSULTING ENGINEERS

Eastwood & Partners, St Andrews House, 23 Kingfield Road, Sheffield, S11 9AS
Tel: 0114 255 4554 mail@eastwoodandpartners.com www.eastwoodandpartners.com

Nick Jordan
Legal & General Homes Communities
One Coleman Street
London
EC2R 5AA

CAT/RAN/41623-007

21 August 2019

Dear Nick,

Hogwood Farm, Arborfield – Groundwater Monitoring Report

We are writing to report on the groundwater monitoring which was undertaken at this site between July 2018 and June 2019.

Monitoring visits

Monthly visits were undertaken by E&P during which, monitoring of the water depth in each of the twenty-two installed monitoring wells was undertaken. WS22, located in the SANG area in the southern part of the site could not be located and was not monitored during any of the visits. All remaining wells (WS1 to WS21 and WS23) were monitored on at least one occasion. The occasions during which monitoring could not be undertaken are listed in the table below, along with the corresponding reasons.

Monitoring well	Dates not monitored	Reason
WS2	June 2019	Well destroyed/buried by ongoing construction works in the vicinity
WS4	July to August 2018	Could not locate
WS11	December 2018 to June 2019	Well destroyed/buried during archaeological works in the vicinity
WS15	June 2019	Well monitored but found to be dry and silted up to 1.15 m
WS22	All	Could not locate well, suspect it was not installed
WS223	December 2018 to June 2019	Well destroyed/buried during archaeological works in the vicinity

In addition to the above, no monitoring was undertaken during November 2018.

Monitoring Results

The monitoring commenced in July 2018 where the water level was recorded to be between 1.2 m and 2.1 m below ground level (bgl) across the site. The water levels then dropped to

their deepest in September 2018 where they were found to be between 1.2 m and 2.7 m bgl. The levels then rose to a peak in March 2019 where the levels were found to be between 0.0 m and 0.96 m bgl. As expected, the levels then fell towards June 2019, although small rises were recorded in a few wells between May and June.

A copy of the spreadsheet outlining the monitoring results is attached along with a graph demonstrating the annual cyclical nature of the water levels.

Interpretation of Results

From the results recorded we have produced two plans showing the groundwater contours across the site;

- Drawing 41623/005 – Groundwater Monitoring Locations with Highest Water Depths; and
- Drawing 41623/006 – Groundwater Monitoring Locations with Lowest Water Depths

Copies of the plans are enclosed. These both show a similar trend with water levels being highest in the north west and north east, falling south east and south west respectively, towards the centre of the southern area of the site.

The enclosed Ordnance Survey (OS) plan shows a large number of surface watercourses and ponds both on the site and in the surrounding area. The OS extract which covers a wider area also shows a large number of surface water features, including the Blackwater River located around 550 m south of the site. A surface water drain/stream is indicated to run through the site, exiting at the centre of the southern boundary of the site. This then turns south west and flows directly to the Blackwater River. This is therefore consistent with the contours plotted from the water monitoring, which indicate the water levels to fall towards the drain/stream.

The elevation of the site is between around 52 m AOD in the south and east to around 60 m AOD in the north. The Blackwater River lies at an elevation of around 50 m AOD. It is therefore not unexpected that the groundwater is encountered at shallow depth below the site. The water depths recorded are therefore considered to represent the true groundwater level, and not a perched water table.

Conclusion

Water monitoring of twenty-two monitoring wells across the site over twelve months between July 2018 and June 2019 has demonstrated an annual cyclical pattern with water levels being

shallowest towards the end of the winter period/beginning of spring and deepest towards the end of the summer period/beginning of autumn. The water levels were observed to be relatively shallow, with water recorded at the surface on a few occasions in a small number of wells. Contour plans have been produced which indicate the groundwater is flowing towards a surface water drain/stream which exits the centre of the southern boundary of the site and flows towards the Blackwater River. The values recorded are considered to be representative of the true groundwater, and not a perched water table.

Yours sincerely

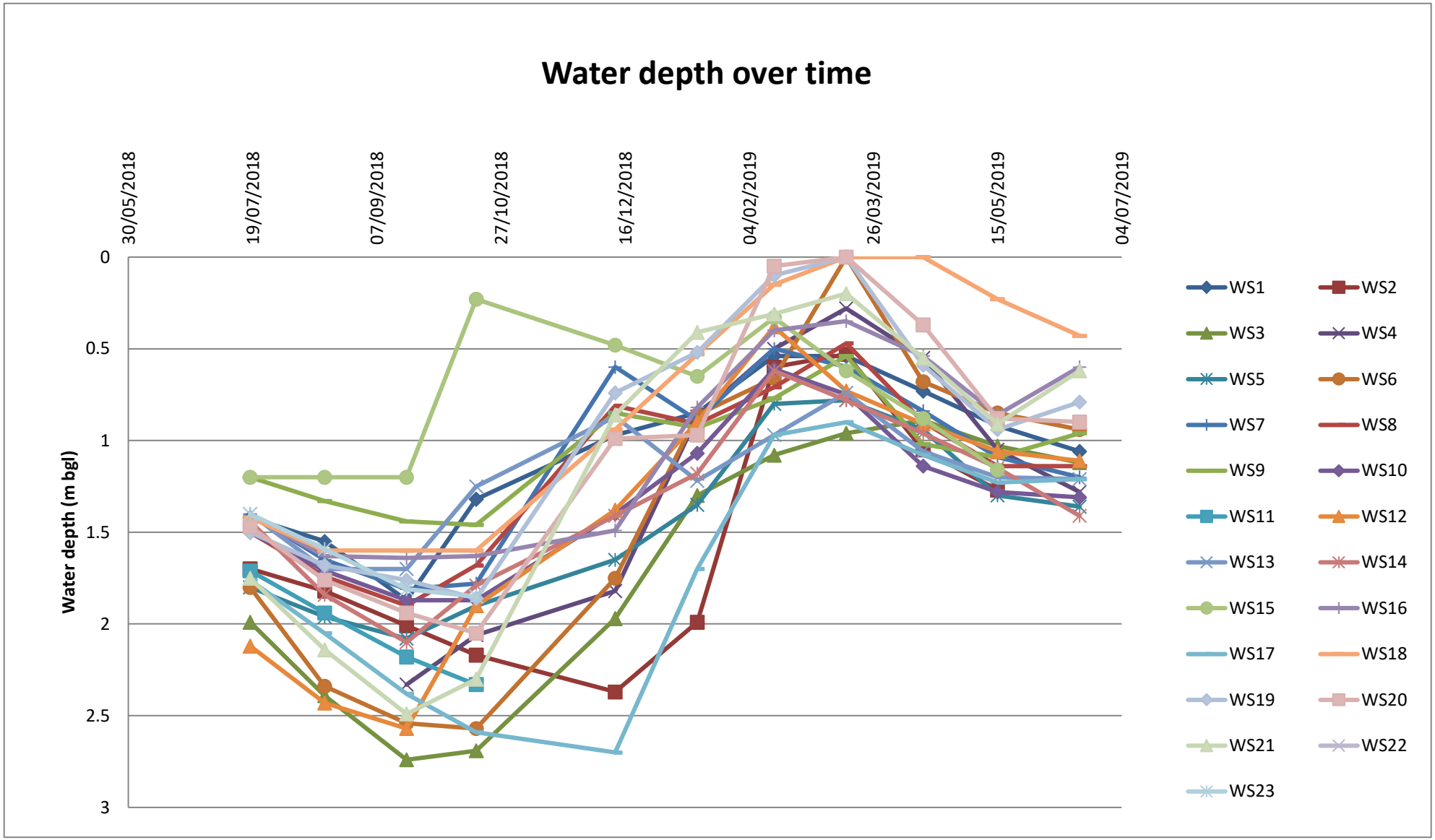
Catherine Topliss

Enc. Monitoring results spreadsheet
Graph of monitoring results
Drawings 41623/005 and 41623/006
Ordnance Survey Plan and Ordnance Survey Extract

Groundwater Monitoring Results Table

Monitoring well	Water level (mbgl)											Depth (m bgl)
	18/07/2018	17/08/2018	19/09/2018	17/10/2018	12/12/2018	14/01/2019	14/02/2019	15/03/2019	15/04/2019	15/05/2019	17/06/2019	
WS1	1.42	1.55	1.87	1.32	0.97	0.85	0.54	0.54	0.73	0.92	1.06	2.9
WS2	1.7	1.82	2.01	2.17	2.37	1.99	0.6	0.53	1.05	1.27		2.8
WS3	1.99	2.39	2.74	2.69	1.97	1.3	1.08	0.96	0.89	1.03	1.12	3
WS4			2.33	2.06	1.82	0.87	0.5	0.28	0.55	1.05	1.28	3.7
WS5	1.8	1.96	2.08	1.9	1.65	1.35	0.8	0.78	0.94	1.3	1.36	3.6
WS6	1.8	2.34	2.54	2.57	1.75	0.86	0.66	0	0.68	0.85	0.94	3.8
WS7	1.4	1.65	1.81	1.78	0.6	0.89	0.5	0.6	0.84	1.09	1.2	3.6
WS8	1.5	1.74	1.9	1.68	0.81	0.91	0.71	0.47	0.9	1.14	1.14	2.8
WS9	1.2	1.33	1.44	1.46	0.85	0.93	0.77	0.54	1.02	1.09	0.96	3.9
WS10	1.5	1.71	1.87	1.87	1.4	1.07	0.61	0.75	1.14	1.28	1.31	2.8
WS11	1.71	1.94	2.18	2.33								2.5
WS12	2.12	2.43	2.57	1.9	1.38	0.9	0.38	0.73	0.91	1.06	1.11	2.9
WS13	1.4	1.7	1.7	1.25	0.87	1.22	0.97	0.74	1.06	1.2	1.21	1.8
WS14	1.44	1.84	2.1	1.79	1.41	1.18	0.62	0.78	0.96	1.15	1.41	2.9
WS15	1.2	1.2	1.2	0.23	0.48	0.65	0.33	0.62	0.88	1.16		1.3
WS16	1.41	1.63	1.64	1.63	1.49	0.82	0.4	0.35	0.54	0.86	0.6	1.6
WS17	1.76	2.05	2.38	2.59	2.7	1.7	0.97	0.9	1.08	1.23	1.21	2.7
WS18	1.42	1.6	1.6	1.6	0.94	0.53	0.15	0	0	0.23	0.43	2.7
WS19	1.5	1.68	1.76	1.86	0.74	0.52	0.1	0	0.59	0.94	0.79	3.5
WS20	1.47	1.76	1.94	2.05	0.99	0.97	0.05	0	0.37	0.88	0.9	2.9
WS21	1.75	2.14	2.49	2.3	0.86	0.41	0.31	0.2	0.55	0.91	0.62	3.3
WS22												3.6
WS23	1.4	1.59	1.81	1.85								2.9

17/06/2019
WS2 - Destroyed/buried
WS15 - Dry (silted up to 1.15 m)


Water depth over time
30/05/2018
19/07/2018
07/09/2018
27/10/2018
16/12/2018
04/02/2019
26/03/2019
15/05/2019
04/07/2019
Water depth (m bgl)
0
0.5
1
1.5
2
2.5
3
WS1
WS2
WS3
WS4
WS5
WS6
WS7
WS8
WS9
WS10
WS11
WS12
WS13
WS14
WS15
WS16
WS17
WS18
WS19
WS20
WS21
WS22
WS23

INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE. ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

1.5	Highest water depth recorded throughout the monitoring period in metres below ground level.
50.50	Highest water depth recorded throughout the monitoring period in metres above Ordnance Datum.
●	GWM Standpipe location
———	Groundwater level contour line
— — —	Groundwater level contour line - extrapolated

REV	DESCRIPTION	SIG	CHK	DATE
A	First Issue.			

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING LOCATIONS WITH HIGHEST WATER DEPTHS

Eastwood & Partners CONSULTING ENGINEERS

St. Andrew's House
23 Kingfield Road
Sheffield
S11 9AS

Tel 0114 255 4554
Fax 0114 255 4330

mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3	DRAWING STATUS
1:5000	INFORMATION

DRAWN	CHECKED	DATE	DRAWING NUMBER	REV
TC	RAN	24.07.19	41623/005	A

INFORMATION WITHIN THIS DRAWING IS NOT NECESSARILY PRODUCED TO SCALE.
ALWAYS USE FIGURED DIMENSIONS AND CO-ORDINATES - IF IN DOUBT, ASK.

0.5	Lowest water depth recorded throughout the monitoring period in metres below ground level.
55.50	Lowest water depth recorded throughout the monitoring period in metres above Ordnance Datum.
●	GWM Standpipe location
———	Groundwater level contour line
— — —	Groundwater level contour line - extrapolated

REV	DESCRIPTION	SIG	CHK	DATE
A	First Issue.			

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING LOCATIONS WITH LOWEST WATER DEPTHS

Eastwood & Partners CONSULTING ENGINEERS

St. Andrew's House
23 Kingfield Road
Sheffield
S11 9AS

Tel 0114 255 4554
Fax 0114 255 4330

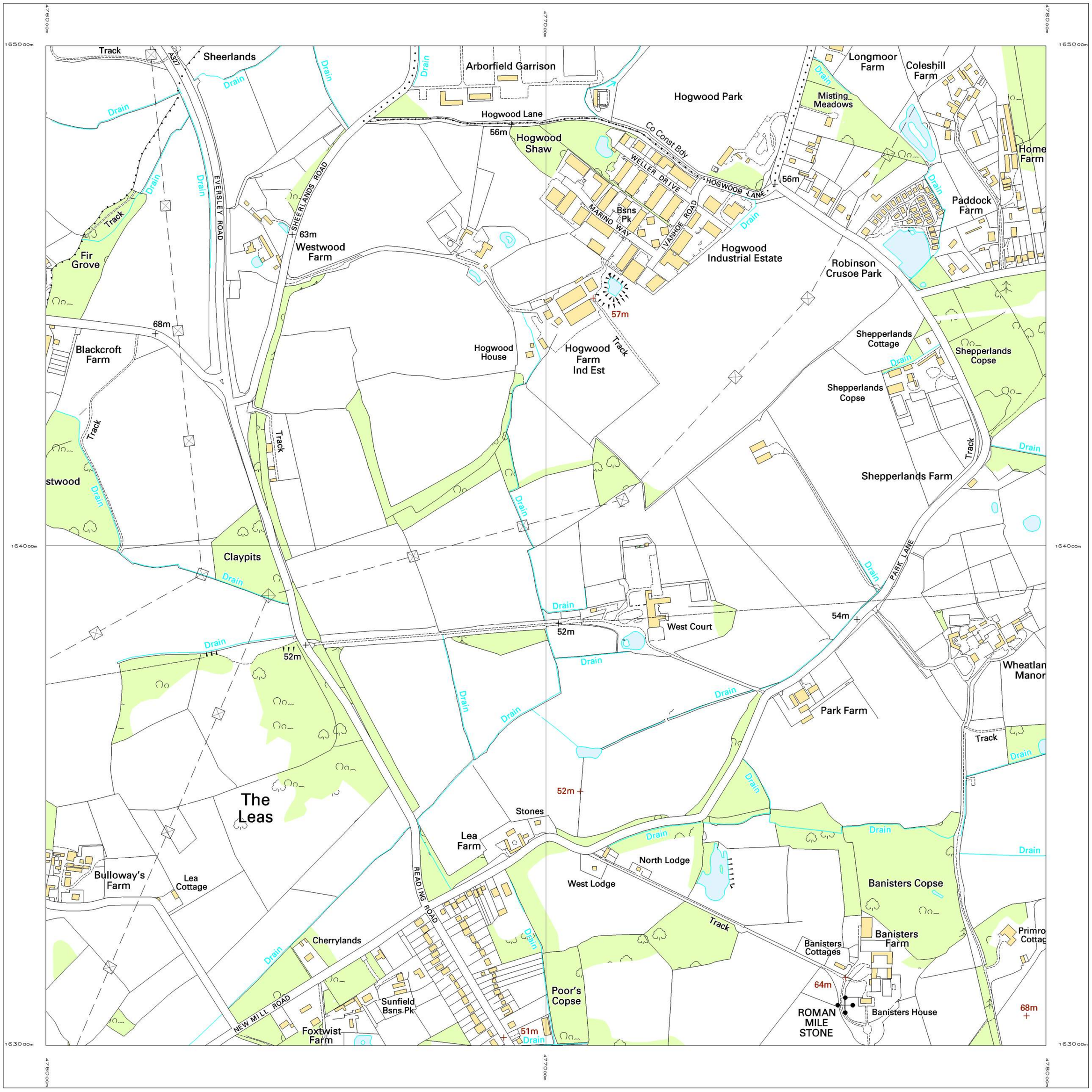
mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3	DRAWING STATUS
1:5000	INFORMATION

DRAWN	CHECKED	DATE	DRAWING NUMBER	REV
TC	RAN	24.07.19	41623/006	A

Ordnance Survey®

OS Landplan®



Plotted 06 Nov 2009 from Ordnance Survey digitally derived data.

Produced using significant survey information from Ordnance Survey large scales digital data, and incorporated into OS Landplan Nov 2008.

Administrative boundaries revised to Oct 2008.

Additional boundaries information:

N

100 50 0 100 200 300 400 500

Metres

Scale 1:5000

This OS Landplan plot is enlarged from derived mapping produced at 1:10000 scale

Heights are given in metres above Newlyn Datum. The representation of a road, track or path is no evidence of a right of way.

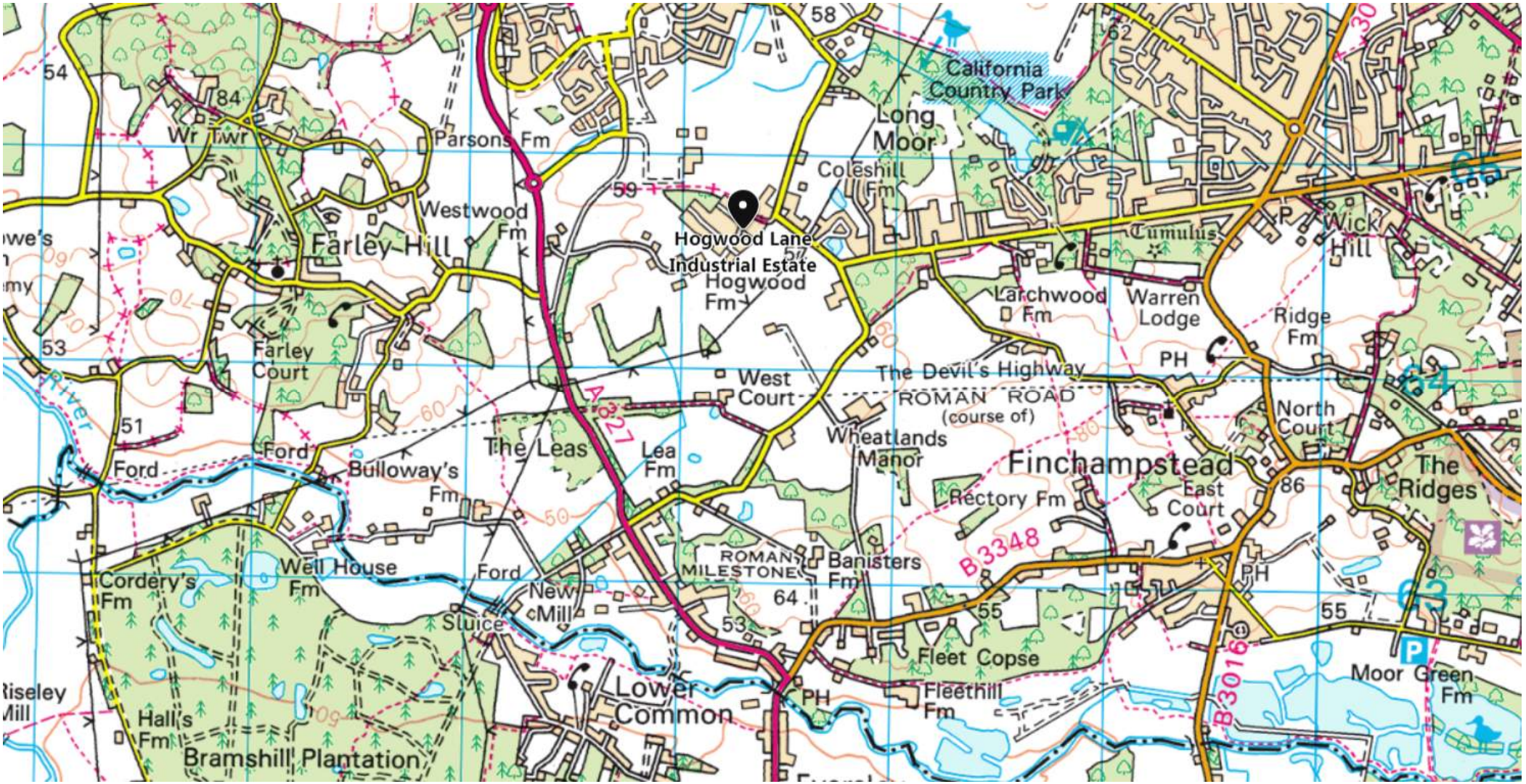
The alignment of tunnels is approximate.

An OS Landplan symbols leaflet is available on request from Ordnance Survey Mapping and Data Centres.

Plot centre coordinates: 477000 164000

Supplied by: Thames Print Room

Plot serial number: 00145800


Hogwood Lane Industrial Estate
California Country Park
Long Moor
Coleshill Fm
Parsons Fm
Westwood Fm
Farley Hill
Hogwood Fm
Cumulus
Wick Hill
Larchwood Fm
Warren Lodge
Ridge Fm
PH
Farley Court
West Court
The Devil's Highway
ROMAN ROAD
(course of)
North Court
A327
River
Ford
The Leas
Lea Fm
Wheatlands Manor
Finchampstead
Bulloway's Fm
Rectory Fm
East Court
The Ridges
B3348
Well House Fm
Cordery's Fm
ROMAN MILESTONE
Banisters Fm
New Mill
Sluice
Fleet Copse
Fleethill Fm
Moor Green Fm
B3016
Lower Common
Hall's Fm
Bramshill Plantation
Riseley Mill

Appendix 4

Chemical Test Results

Table of Assessment Values

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	21-37242-1
Initial Date of Issue:	02-Nov-2021
Client	Eastwood & Partners
Client Address:	St. Andrews House 23 Kingfield Road Sheffield South Yorkshire S11 9AS
Contact(s):	Elliot Dean Melanie Ebling
Project	41623 Hogwood Farm, Finchampstead

Quotation No.:		**Date Received:**	26-Oct-2021
Order No.:		**Date Instructed:**	26-Oct-2021
No. of Samples:	30		
Turnaround (Wkdays):	5	**Results Due:**	01-Nov-2021
Date Approved:	02-Nov-2021		

[redacted]

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners				**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:				**Chemtest Sample ID.:**	1306230	1306231	1306232	1306233	1306234	1306235	1306236	1306237	1306238
Order No.:				Client Sample Ref.:	MG	NG	MG	NG	MG	MG	MG	MG	TS
				Sample Location:	TP301	TP301	TP302	TP302	TP303	TP303	TP304	TP304	TP305
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
				Bottom Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
				Date Sampled:	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
				Asbestos Lab:	DURHAM		DURHAM		DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-		-		-	-	-	-	
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	
Moisture	N	2030	%	0.020	3.0	14	6.7	13	12	14	11	12	13
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Sand	Sand	Clay	Clay	Clay	Clay	Sand
pH	M	2010		4.0	9.3	8.2	10.6	8.6	9.0	8.8	8.6	8.6	8.2
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.56	0.53	0.30	0.058	0.55	0.26	0.18	0.069	
Total Sulphur	M	2175	%	0.010	0.26	0.079	0.18	0.064	0.16	0.10	0.081	0.065	
Sulphate (Acid Soluble)	M	2430	%	0.010	0.20	0.071	0.17	0.020	0.30	0.081	0.076	0.029	
Arsenic	M	2450	mg/kg	1.0	9.4	5.8	12	5.0	11	7.7	8.6	9.5	6.0
Cadmium	M	2450	mg/kg	0.10	0.12	< 0.10	0.22	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	32	16	18	15	20	17	21	32	17
Copper	M	2450	mg/kg	0.50	110	53	48	16	62	77	27	50	40
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	0.12	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	15	8.3	13	6.3	12	11	19	14	7.7
Lead	M	2450	mg/kg	0.50	33	14	43	18	26	21	18	19	19
Selenium	M	2450	mg/kg	0.20	< 0.20	0.34	< 0.20	< 0.20	< 0.20	0.25	0.28	0.30	0.27
Zinc	M	2450	mg/kg	0.50	59	29	87	29	49	35	36	35	29
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20									1.2
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0		< 5.0		< 5.0	< 5.0	< 5.0	< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	120		17		< 1.0	< 1.0	< 1.0	< 1.0	

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners				**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:				**Chemtest Sample ID.:**	1306230	1306231	1306232	1306233	1306234	1306235	1306236	1306237	1306238
Order No.:				Client Sample Ref.:	MG	NG	MG	NG	MG	MG	MG	MG	TS
				Sample Location:	TP301	TP301	TP302	TP302	TP303	TP303	TP304	TP304	TP305
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
				Bottom Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
				Date Sampled:	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
				Asbestos Lab:	DURHAM		DURHAM		DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	580		89		< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	700		110		< 5.0	< 5.0	< 5.0	< 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	700		110		< 10	< 10	< 10	< 10	
Naphthalene	M	2800	mg/kg	0.10	0.40	< 0.10	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	0.62	< 0.10	0.48	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	1.4	< 0.10	0.77	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	1.2	< 0.10	0.77	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	13	0.35	9.5	< 0.10	0.50	15	7.8	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	4.4	0.10	2.6	< 0.10	0.18	2.6	1.9	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	31	0.90	24	0.39	1.5	13	9.9	0.40	0.16
Pyrene	M	2800	mg/kg	0.10	26	0.79	19	0.32	1.1	9.0	7.2	0.33	0.18
Benzo[a]anthracene	M	2800	mg/kg	0.10	15	0.49	13	0.18	0.88	4.1	4.1	0.28	< 0.10
Chrysene	M	2800	mg/kg	0.10	15	0.47	12	0.18	0.80	3.7	3.7	0.27	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	24	0.69	22	< 0.10	1.7	5.3	4.9	0.39	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	8.1	0.26	7.5	< 0.10	0.64	1.8	1.9	0.12	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	21	0.58	20	< 0.10	1.2	4.0	3.6	0.30	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	16	0.48	17	< 0.10	1.2	3.2	2.9	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	2.6	0.12	2.3	< 0.10	0.25	0.49	0.38	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	15	0.44	13	< 0.10	0.96	2.4	2.1	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	190	5.7	160	< 2.0	11	65	50	2.1	< 2.0
Demeton-O	N	2820	mg/kg	0.20									< 0.20
Phorate	N	2820	mg/kg	0.20									< 0.20
Demeton-S	N	2820	mg/kg	0.20									< 0.20
Disulfoton	N	2820	mg/kg	0.20									< 0.20
Fenthion	N	2820	mg/kg	0.20									< 0.20
Trichloronate	N	2820	mg/kg	0.20									< 0.20
Prothiofos	N	2820	mg/kg	0.20									< 0.20
Fensulphothion	N	2820	mg/kg	0.20									< 0.20
Sulprofos	N	2820	mg/kg	0.20									< 0.20
Azinphos-Methyl	N	2820	mg/kg	0.20									< 0.20
Coumaphos	N	2820	mg/kg	0.20									< 0.20
Alpha-HCH	N	2840	mg/kg	0.20									< 0.20
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20									< 0.20
Beta-HCH	N	2840	mg/kg	0.20									< 0.20
Delta-HCH	N	2840	mg/kg	0.20									< 0.20
Heptachlor	N	2840	mg/kg	0.20									< 0.20

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners					**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:					**Chemtest Sample ID.:**	1306230	1306231	1306232	1306233	1306234	1306235	1306236	1306237	1306238
Order No.:					Client Sample Ref.:	MG	NG	MG	NG	MG	MG	MG	MG	TS
					Sample Location:	TP301	TP301	TP302	TP302	TP303	TP303	TP304	TP304	TP305
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
					Bottom Depth (m):	0.3	1.3	0.2	0.9	0.3	1.5	1.0	2.8	0.2
					Date Sampled:	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
					Asbestos Lab:	DURHAM		DURHAM		DURHAM	DURHAM	DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aldrin	N	2840	mg/kg	0.20										< 0.20
Heptachlor Epoxide	N	2840	mg/kg	0.20										< 0.20
Gamma-Chlordane	N	2840	mg/kg	0.20										< 0.20
Alpha-Chlordane	N	2840	mg/kg	0.20										< 0.20
Endosulfan I	N	2840	mg/kg	0.20										< 0.20
4,4-DDE	N	2840	mg/kg	0.20										< 0.20
Dieldrin	N	2840	mg/kg	0.20										< 0.20
Endrin	N	2840	mg/kg	0.20										< 0.20
4,4-DDD	N	2840	mg/kg	0.20										< 0.20
Endosulfan II	N	2840	mg/kg	0.20										< 0.20
Endrin Aldehyde	N	2840	mg/kg	0.20										< 0.20
4,4-DDT	N	2840	mg/kg	0.20										< 0.20
Endosulfan Sulphate	N	2840	mg/kg	0.20										< 0.20
Methoxychlor	N	2840	mg/kg	0.20										< 0.20
Endrin Ketone	N	2840	mg/kg	0.20										< 0.20

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners				**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:				**Chemtest Sample ID.:**	1306239	1306240	1306241	1306242	1306243	1306244	1306245	1306246	1306247
Order No.:				Client Sample Ref.:	TS	NG	TS	TS	NG	TS	NG	TS	TS
				Sample Location:	TP306	TP306	TP308	TP309	TP309	TP311	TP311	TP321	TP322
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
				Bottom Depth (m):	0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
				Date Sampled:	18-Oct-2021	18-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	20-Oct-2021	20-Oct-2021
				Asbestos Lab:		DURHAM					DURHAM		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A		-					-		
Asbestos Identification	U	2192		N/A		No Asbestos Detected					No Asbestos Detected		
Moisture	N	2030	%	0.020	13	16	18	21	15	11	10	11	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Roots	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Loam	Clay	Sand	Clay	Clay	Sand
pH	M	2010		4.0	8.2	8.6	7.9	7.8	8.7	7.6	6.4	7.6	7.9
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		< 0.010			< 0.010		0.18		
Total Sulphur	M	2175	%	0.010		0.032			0.051		0.082		
Sulphate (Acid Soluble)	M	2430	%	0.010		< 0.010			< 0.010		0.070		
Arsenic	M	2450	mg/kg	1.0	7.8	14	8.7	8.3	16	8.1	9.1	4.4	2.8
Cadmium	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	19	34	26	23	32	17	26	9.3	4.4
Copper	M	2450	mg/kg	0.50	17	18	24	12	21	17	25	12	6.4
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	6.6	36	8.6	11	30	6.8	21	4.6	1.6
Lead	M	2450	mg/kg	0.50	18	11	23	17	12	15	12	15	8.0
Selenium	M	2450	mg/kg	0.20	0.21	0.28	0.22	0.23	0.58	0.21	0.25	0.22	< 0.20
Zinc	M	2450	mg/kg	0.50	27	47	37	34	45	24	44	19	16
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20			1.6						0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0		< 5.0					< 5.0		
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0		< 1.0					< 1.0		

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners			**Chemtest Job No.:**		21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:			**Chemtest Sample ID.:**		1306239	1306240	1306241	1306242	1306243	1306244	1306245	1306246	1306247
Order No.:			Client Sample Ref.:		TS	NG	TS	TS	NG	TS	NG	TS	TS
			Sample Location:		TP306	TP306	TP308	TP309	TP309	TP311	TP311	TP321	TP322
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
			Bottom Depth (m):		0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
			Date Sampled:		18-Oct-2021	18-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	20-Oct-2021	20-Oct-2021
			Asbestos Lab:			DURHAM					DURHAM		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0		< 1.0					< 1.0		
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0					< 1.0		
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0		< 5.0					< 5.0		
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0		< 10					< 10		
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.36	0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.11	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.13	< 0.10	0.41	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	0.12	< 0.10	0.31	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.23	0.13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.19	0.13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.22	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.16	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.21	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	2.2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Demeton-O	N	2820	mg/kg	0.20			< 0.20						< 0.20
Phorate	N	2820	mg/kg	0.20			< 0.20						< 0.20
Demeton-S	N	2820	mg/kg	0.20			< 0.20						< 0.20
Disulfoton	N	2820	mg/kg	0.20			< 0.20						< 0.20
Fenthion	N	2820	mg/kg	0.20			< 0.20						< 0.20
Trichloronate	N	2820	mg/kg	0.20			< 0.20						< 0.20
Prothiofos	N	2820	mg/kg	0.20			< 0.20						< 0.20
Fensulphothion	N	2820	mg/kg	0.20			< 0.20						< 0.20
Sulprofos	N	2820	mg/kg	0.20			< 0.20						< 0.20
Azinphos-Methyl	N	2820	mg/kg	0.20			< 0.20						< 0.20
Coumaphos	N	2820	mg/kg	0.20			< 0.20						< 0.20
Alpha-HCH	N	2840	mg/kg	0.20			< 0.20						< 0.20
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20			< 0.20						< 0.20
Beta-HCH	N	2840	mg/kg	0.20			< 0.20						< 0.20
Delta-HCH	N	2840	mg/kg	0.20			< 0.20						< 0.20
Heptachlor	N	2840	mg/kg	0.20			< 0.20						< 0.20

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners					**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:					**Chemtest Sample ID.:**	1306239	1306240	1306241	1306242	1306243	1306244	1306245	1306246	1306247
Order No.:					Client Sample Ref.:	TS	NG	TS	TS	NG	TS	NG	TS	TS
					Sample Location:	TP306	TP306	TP308	TP309	TP309	TP311	TP311	TP321	TP322
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
					Bottom Depth (m):	0.3	1.5	0.2	0.2	1.2	0.25	1.5	0.3	0.3
					Date Sampled:	18-Oct-2021	18-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	19-Oct-2021	20-Oct-2021	20-Oct-2021
					Asbestos Lab:		DURHAM					DURHAM		
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aldrin	N	2840	mg/kg	0.20			< 0.20						< 0.20
Heptachlor Epoxide	N	2840	mg/kg	0.20			< 0.20						< 0.20
Gamma-Chlordane	N	2840	mg/kg	0.20			< 0.20						< 0.20
Alpha-Chlordane	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endosulfan I	N	2840	mg/kg	0.20			< 0.20						< 0.20
4,4-DDE	N	2840	mg/kg	0.20			< 0.20						< 0.20
Dieldrin	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endrin	N	2840	mg/kg	0.20			< 0.20						< 0.20
4,4-DDD	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endosulfan II	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endrin Aldehyde	N	2840	mg/kg	0.20			< 0.20						< 0.20
4,4-DDT	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endosulfan Sulphate	N	2840	mg/kg	0.20			< 0.20						< 0.20
Methoxychlor	N	2840	mg/kg	0.20			< 0.20						< 0.20
Endrin Ketone	N	2840	mg/kg	0.20			< 0.20						< 0.20

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners			**Chemtest Job No.:**		21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:			**Chemtest Sample ID.:**		1306248	1306249	1306250	1306251	1306252	1306253	1306254	1306255	1306256
Order No.:			Client Sample Ref.:		NG	TS	TS	MG	NG	MG	MG	MG	MG
			Sample Location:		TP322	TP324	TP325	WS301	WS301	WS302	WS303	WS303	WS304
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.2	0.4	0.3	0.2	0.9	0.1	0.1	0.8	0.3
			Bottom Depth (m):		1.2	0.4	0.3	0.3	1.0	0.3	0.2	0.9	0.4
			Date Sampled:		20-Oct-2021	20-Oct-2021	20-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
			Asbestos Lab:		DURHAM			DURHAM		DURHAM	DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-			-		-	-		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected			No Asbestos Detected		No Asbestos Detected	No Asbestos Detected		No Asbestos Detected
Moisture	N	2030	%	0.020	11	11	19	8.8	19	20	20	12	9.2
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Loam	Clay	Sand	Clay	Clay	Loam	Clay	Sand
pH	M	2010		4.0	6.7	7.6	7.5	8.9	7.8	7.7	8.2	8.6	9.6
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010			0.34	< 0.010	0.087	0.078	< 0.010	1.7
Total Sulphur	M	2175	%	0.010	0.055			0.12	0.035	0.079	0.067	0.035	0.48
Sulphate (Acid Soluble)	M	2430	%	0.010	< 0.010			0.17	0.036	0.022	0.090	< 0.010	1.3
Arsenic	M	2450	mg/kg	1.0	6.5	3.9	7.0	21	27	27	28	10	35
Cadmium	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.3	0.10	0.10	0.10	< 0.10	0.52
Chromium	M	2450	mg/kg	1.0	9.0	7.9	15	40	35	36	36	24	49
Copper	M	2450	mg/kg	0.50	6.0	8.1	11	45	35	35	37	18	240
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.52	< 0.10	< 0.10	< 0.10	< 0.10	0.12
Nickel	M	2450	mg/kg	0.50	4.0	3.5	6.3	25	13	13	13	14	33
Lead	M	2450	mg/kg	0.50	4.4	14	23	380	24	24	25	8.9	91
Selenium	M	2450	mg/kg	0.20	< 0.20	0.20	0.24	< 0.20	< 0.20	< 0.20	< 0.20	0.23	< 0.20
Zinc	M	2450	mg/kg	0.50	17	20	31	470	67	70	72	31	180
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20									
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0			66				< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0			66				< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0			< 1.0				< 1.0	< 1.0

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners					**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:					**Chemtest Sample ID.:**	1306248	1306249	1306250	1306251	1306252	1306253	1306254	1306255	1306256
Order No.:					Client Sample Ref.:	NG	TS	TS	MG	NG	MG	MG	MG	MG
					Sample Location:	TP322	TP324	TP325	WS301	WS301	WS302	WS303	WS303	WS304
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.2	0.4	0.3	0.2	0.9	0.1	0.1	0.8	0.3
					Bottom Depth (m):	1.2	0.4	0.3	0.3	1.0	0.3	0.2	0.9	0.4
					Date Sampled:	20-Oct-2021	20-Oct-2021	20-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
					Asbestos Lab:	DURHAM			DURHAM		DURHAM	DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0		< 1.0			880				< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0		< 1.0			< 1.0				< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0		< 5.0			880				< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0		< 10			950				< 10	< 10
Naphthalene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.12
Acenaphthylene	N	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.45
Fluorene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.32
Phenanthrene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.41	< 0.10	0.38	0.82	< 0.10	2.2
Anthracene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.16	< 0.10	0.16	0.29	< 0.10	0.75
Fluoranthene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	1.3	< 0.10	0.85	1.3	0.14	3.3
Pyrene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	1.2	< 0.10	0.68	1.2	0.13	2.5
Benzo[a]anthracene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.78	< 0.10	0.53	0.71	0.13	1.3
Chrysene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.80	< 0.10	0.49	0.77	0.12	1.2
Benzo[b]fluoranthene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	1.4	< 0.10	0.90	1.2	< 0.10	1.8
Benzo[k]fluoranthene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.58	< 0.10	0.34	0.61	< 0.10	0.54
Benzo[a]pyrene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	1.1	< 0.10	0.87	0.88	< 0.10	1.7
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.97	< 0.10	0.74	0.94	< 0.10	1.3
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.19	< 0.10	0.22	0.49	< 0.10	0.27
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10		< 0.10	< 0.10	< 0.10	0.79	< 0.10	0.72	0.65	< 0.10	0.89
Total Of 16 PAH's	N	2800	mg/kg	2.0		< 2.0	< 2.0	< 2.0	9.7	< 2.0	6.9	9.9	< 2.0	19
Demeton-O	N	2820	mg/kg	0.20										
Phorate	N	2820	mg/kg	0.20										
Demeton-S	N	2820	mg/kg	0.20										
Disulfoton	N	2820	mg/kg	0.20										
Fenthion	N	2820	mg/kg	0.20										
Trichloronate	N	2820	mg/kg	0.20										
Prothiofos	N	2820	mg/kg	0.20										
Fensulphothion	N	2820	mg/kg	0.20										
Sulprofos	N	2820	mg/kg	0.20										
Azinphos-Methyl	N	2820	mg/kg	0.20										
Coumaphos	N	2820	mg/kg	0.20										
Alpha-HCH	N	2840	mg/kg	0.20										
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20										
Beta-HCH	N	2840	mg/kg	0.20										
Delta-HCH	N	2840	mg/kg	0.20										
Heptachlor	N	2840	mg/kg	0.20										

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners					**Chemtest Job No.:**	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242	21-37242
Quotation No.:					**Chemtest Sample ID.:**	1306248	1306249	1306250	1306251	1306252	1306253	1306254	1306255	1306256
Order No.:					Client Sample Ref.:	NG	TS	TS	MG	NG	MG	MG	MG	MG
					Sample Location:	TP322	TP324	TP325	WS301	WS301	WS302	WS303	WS303	WS304
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.2	0.4	0.3	0.2	0.9	0.1	0.1	0.8	0.3
					Bottom Depth (m):	1.2	0.4	0.3	0.3	1.0	0.3	0.2	0.9	0.4
					Date Sampled:	20-Oct-2021	20-Oct-2021	20-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021	18-Oct-2021
					Asbestos Lab:	DURHAM			DURHAM		DURHAM	DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
Aldrin	N	2840	mg/kg	0.20										
Heptachlor Epoxide	N	2840	mg/kg	0.20										
Gamma-Chlordane	N	2840	mg/kg	0.20										
Alpha-Chlordane	N	2840	mg/kg	0.20										
Endosulfan I	N	2840	mg/kg	0.20										
4,4-DDE	N	2840	mg/kg	0.20										
Dieldrin	N	2840	mg/kg	0.20										
Endrin	N	2840	mg/kg	0.20										
4,4-DDD	N	2840	mg/kg	0.20										
Endosulfan II	N	2840	mg/kg	0.20										
Endrin Aldehyde	N	2840	mg/kg	0.20										
4,4-DDT	N	2840	mg/kg	0.20										
Endosulfan Sulphate	N	2840	mg/kg	0.20										
Methoxychlor	N	2840	mg/kg	0.20										
Endrin Ketone	N	2840	mg/kg	0.20										

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners		**Chemtest Job No.:**			21-37242	21-37242	21-37242
Quotation No.:		**Chemtest Sample ID.:**			1306257	1306258	1306259
Order No.:		Client Sample Ref.:			TS	TS	NG
		Sample Location:			WS305	WS306	WS306
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.1	0.0	1.0
		Bottom Depth (m):			0.3	0.15	1.1
		Date Sampled:			18-Oct-2021	18-Oct-2021	18-Oct-2021
		Asbestos Lab:					
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type	U	2192		N/A			
Asbestos Identification	U	2192		N/A			
Moisture	N	2030	%	0.020	36	19	16
Soil Colour	N	2040		N/A	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Roots	Stones
Soil Texture	N	2040		N/A	Clay	Sand	Clay
pH	M	2010		4.0	8.2	7.7	8.1
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010			< 0.010
Total Sulphur	M	2175	%	0.010			0.035
Sulphate (Acid Soluble)	M	2430	%	0.010			< 0.010
Arsenic	M	2450	mg/kg	1.0	16	13	7.7
Cadmium	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	45	33	16
Copper	M	2450	mg/kg	0.50	30	18	12
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	36	37	7.6
Lead	M	2450	mg/kg	0.50	16	10	24
Selenium	M	2450	mg/kg	0.20	0.30	< 0.20	0.24
Zinc	M	2450	mg/kg	0.50	64	45	35
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20			
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0			< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0			< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0			< 1.0

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners			**Chemtest Job No.:**		21-37242	21-37242	21-37242
Quotation No.:			**Chemtest Sample ID.:**		1306257	1306258	1306259
Order No.:			Client Sample Ref.:		TS	TS	NG
			Sample Location:		WS305	WS306	WS306
			Sample Type:		SOIL	SOIL	SOIL
			Top Depth (m):		0.1	0.0	1.0
			Bottom Depth (m):		0.3	0.15	1.1
			Date Sampled:		18-Oct-2021	18-Oct-2021	18-Oct-2021
			Asbestos Lab:				
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0			< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0			< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0			< 10
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	0.17	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	0.16	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Demeton-O	N	2820	mg/kg	0.20			
Phorate	N	2820	mg/kg	0.20			
Demeton-S	N	2820	mg/kg	0.20			
Disulfoton	N	2820	mg/kg	0.20			
Fenthion	N	2820	mg/kg	0.20			
Trichloronate	N	2820	mg/kg	0.20			
Prothiofos	N	2820	mg/kg	0.20			
Fensulphothion	N	2820	mg/kg	0.20			
Sulprofos	N	2820	mg/kg	0.20			
Azinphos-Methyl	N	2820	mg/kg	0.20			
Coumaphos	N	2820	mg/kg	0.20			
Alpha-HCH	N	2840	mg/kg	0.20			
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20			
Beta-HCH	N	2840	mg/kg	0.20			
Delta-HCH	N	2840	mg/kg	0.20			
Heptachlor	N	2840	mg/kg	0.20			

Results - Soil

Project: 41623 Hogwood Farm, Finchampstead

Client: Eastwood & Partners			**Chemtest Job No.:**		21-37242	21-37242	21-37242
Quotation No.:			**Chemtest Sample ID.:**		1306257	1306258	1306259
Order No.:			Client Sample Ref.:		TS	TS	NG
			Sample Location:		WS305	WS306	WS306
			Sample Type:		SOIL	SOIL	SOIL
			Top Depth (m):		0.1	0.0	1.0
			Bottom Depth (m):		0.3	0.15	1.1
			Date Sampled:		18-Oct-2021	18-Oct-2021	18-Oct-2021
			Asbestos Lab:				
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Aldrin	N	2840	mg/kg	0.20			
Heptachlor Epoxide	N	2840	mg/kg	0.20			
Gamma-Chlordane	N	2840	mg/kg	0.20			
Alpha-Chlordane	N	2840	mg/kg	0.20			
Endosulfan I	N	2840	mg/kg	0.20			
4,4-DDE	N	2840	mg/kg	0.20			
Dieldrin	N	2840	mg/kg	0.20			
Endrin	N	2840	mg/kg	0.20			
4,4-DDD	N	2840	mg/kg	0.20			
Endosulfan II	N	2840	mg/kg	0.20			
Endrin Aldehyde	N	2840	mg/kg	0.20			
4,4-DDT	N	2840	mg/kg	0.20			
Endosulfan Sulphate	N	2840	mg/kg	0.20			
Methoxychlor	N	2840	mg/kg	0.20			
Endrin Ketone	N	2840	mg/kg	0.20			

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2820	Organophosphorus (O-P) Pesticides in Soils by GC-MS	Organophosphorus pesticide representative suite including Parathion, Malathion etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2840	Organochlorine (O-Cl) Pesticides in Soils by GC-MS	Organochlorine pesticide representative suite including DDT and its metabolites, 'drins' and HCH etc, plus client specific determinands	Dichloromethane extraction / GC-MS

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Inorganic Compounds	Human Health - Residential with Homegrown Produce (mg/kg)
Arsenic	37
Cadmium	11
Chromium (III)	910
Chromium (VI)	6
Lead	200
Mercury	1.2
Nickel	180
Selenium	250
Copper	2400
Zinc	3700

Organic Compounds	Human Health - Residential with Homegrown Produce (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Naphthalene	2.3	5.6	13
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Fluorene	170	400	860
Phenanthrene	95	220	440
Anthracene	2400	5400	11000
Fluoranthene	280	560	890
Pyrene	620	1200	2000
Benzo(a)anthracene	7.2	11	13
Chrysene	15	22	27
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(k)fluoranthene	77	93	100
Benzo(a)pyrene	2.2	2.7	3.0
Dibenz(a,h)anthracene	0.24	0.28	0.3
Indeno(1,2,3-cd)pyrene	27	36	41
Benzo(g,h,i)perylene	320	340	350
Benzene	0.087	0.17	0.37
Toluene	130	290	660
Ethylbenzene	47	110	260
o-Xylene	60	140	330
m-Xylene	59	140	320
p-Xylene	56	130	310

Prepared	KB	Checked	RAN	Date	17.12.2021	Job No	41623

E P
Eastwood & Partners
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PARCEL 9 HOGWOOD FARM (FINCHWOOD PARK)

CALA HOMES THAMES AND LEGAL & GENERAL LIMITED

ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE

Contaminant	Phytotoxicity			
	pH 5.0 to 5.5	pH 5.5 to 6.0	pH 6.0 to 6.5	pH >7.0
Arsenic	50			
Cadmium	3			
Chromium	400			
Lead	300			
Mercury	1			
Nickel	50	60	75	110
Copper	80	100	135	200
Zinc	200	200	200	300

The assessment concentration for lead is the Category 4 Screening Level produced by Contaminated Land: Applications in Real Environments (CL:AIRE) and outlined in Appendix H of their report SP1010. The others have been taken from Nathanail, C. P., McCaffrey, C., Gillett, A., Ogden, R., and Nathanail, J., 2015, *'The LQM/CIEH S4ULs for Human Health Risk Assessment'*, Land Quality Press, Nottingham. The metals/metalloids are based on a sandy loam soil and 6% soil organic matter. The assessment values are not intended to be applied to individual sample results where materials are similar, as the levels of contaminants will have a natural variability across the site. Instead, the modified mean value should be compared with the assessment concentration.

The assessment values for phytotoxicity are the levels at which plant growth is thought to be affected. They are taken from the maximum permissible and advisable concentrations in soil after application of soil sludge given in the *'The Code of Good Agricultural Practice for the Protection of Soil*', MAFF, 1998.

The assessment of sulphate, water soluble sulphate, elemental sulphur and sulphide is to determine the aggressive nature of the ground with respect to concrete and consequently the results are compared with BRE Special Digest 1:2005 '*Concrete in Aggressive Ground*'.

Appendix 5

Geotechnical Test Results

GEOLABS Limited
Unit D3 HRS Business Park
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B33 0SJ

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email: admin@geolabs.co.uk
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Eastwood and Partners (Consulting Engineers) Limited
The Old Pumping House
Main Road
Littleton
Winchester
SO22 6PR

19 November 2021
Report No : GEO/34197/01

For the attention of Ms M Ebling / Ms R Noble

Date samples received	26/10/2021
Date written instructions received	26/10/2021
Date testing commenced	27/10/2021
Date of sample disposal	**17/12/2021**

Our ref **GEO / 34197**
Your Ref **41623**

Project **HOGWOOD FARM**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	15	Water Content
2	15	Liquid & Plastic Limits

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

J A Reynolds
Director

BS EN ISO 17892-12 : 2018

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
TP301	2.30		D	Brown mottled orangish brown and grey very sandy CLAY.	25.6	43	19	24	100	CI	2	1
TP305	1.70		D	Brown mottled orange and grey sandy CLAY with rare fine to medium gravel.	29.3	46	19	27	99	CI	2	1
TP307	2.30		D	Brown very sandy CLAY.	25.8	40	18	22	100	CI	2	1
TP308	3.10		D	Brown mottled orange and light grey very sandy CLAY.	24.9	39	17	22	100	CI	2	1
TP310	1.60		D	Orangish brown mottled light grey very sandy CLAY.	25.7	41	16	25	100	CI	2	1
TP312A	2.30		D	Brown mottled greyish brown very sandy CLAY.	22.2	43	17	26	100	CI	2	1
TP315	1.50		D	Orange mottled light grey sandy CLAY.	28.6	49	19	30	100	CI	2	1
TP318	2.30		D	Brown mottled light grey sandy CLAY.	28.7	50	19	31	100	CI	2	1
TP320	1.70		D	Brown mottled light grey sandy CLAY.	27.9	51	22	29	100	CH	2	1
TP325	1.20		D	Brown mottled orange and light grey sandy CLAY.	26.3	55	21	34	100	CH	2	1
TP329	3.20		D	Brown very sandy CLAY.	23.7	42	17	25	100	CI	2	1
TP343	1.10		D	Greyish brown mottled light brown and orangish brown very sandy CLAY with rare fine gravel.	24.1	31	16	15	99	CL	2	1
TP345	2.70		D	Brownish grey mottled brown sandy CLAY.	27.1	53	20	33	100	CH	2	1
TP348	3.00		D	Light brown and greyish brown mottled sandy CLAY.	30.4	51	19	32	100	CH	2	1
TP350	1.50		D	Brown mottled greyish brown very sandy CLAY.	24.4	44	16	28	100	CI	2	1

Test Type:
1 - 1 point 80g / 30° fall cone method.
2 - 4 point 80g / 30° fall cone method.
3 - Non plastic determination.

Sample condition:
1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

[redacted]

J A Reynolds - Director
19/11/2021

Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623

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BS EN ISO 17892-12 : 2018

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
TP360	1.00		D	Brown mottled orange, light grey and dark brown very sandy CLAY with rare fine gravel.	22.0	32	16	16	99	CL	2	1

Test Type:
1 - 1 point 80g / 30° fall cone method.
2 - 4 point 80g / 30° fall cone method.
3 - Non plastic determination.

Sample condition:
1 - As Received
2 - Air Dried
3 - Washed & Air Dried

Checked and Approved by:

[redacted]

19/11/2021

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LIQUID AND PLASTIC LIMITS

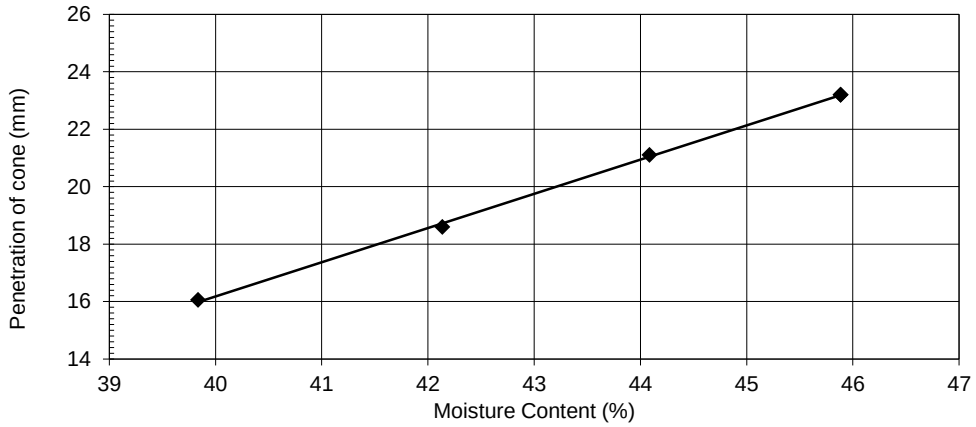
Location	TP301
Depth (m)	2.30
Sample Type	D

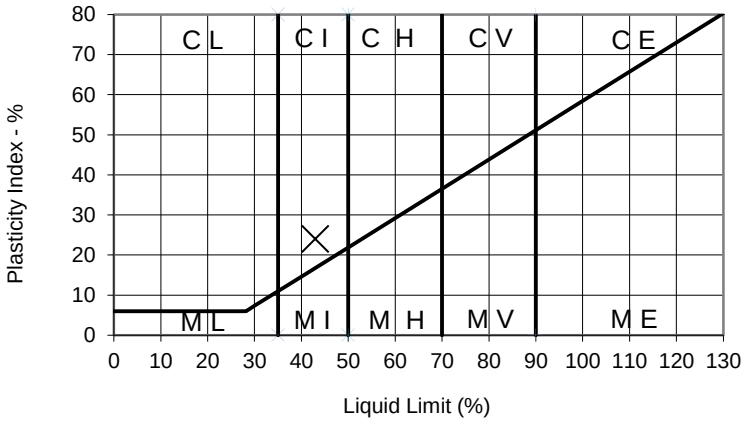
Description:

Brown mottled orangish brown and grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	25.6	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	43	%
Plastic Limit :	19	%
Plasticity Index :	24	%
Equivalent Water Content of material passing 425µm sieve :	25.6	%
Liquidity Index :	0.28	





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LIQUID AND PLASTIC LIMITS

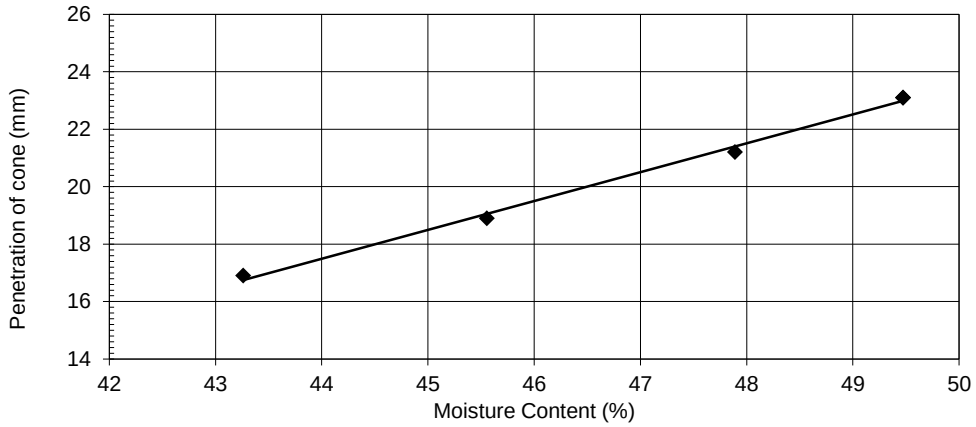
Location	TP305
Depth (m)	1.70
Sample Type	D

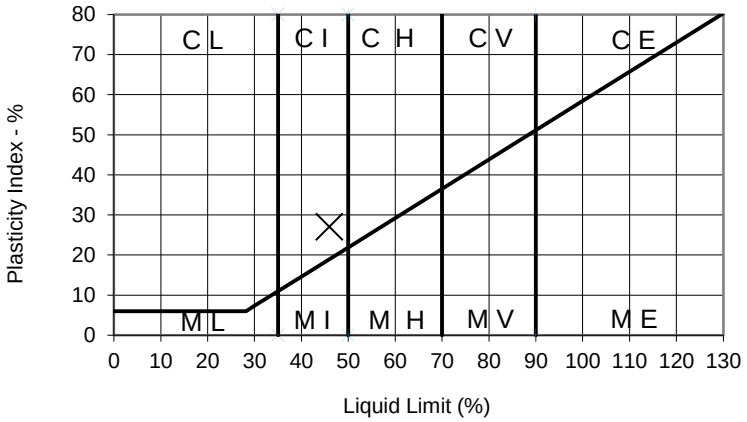
Description:

Brown mottled orange and grey sandy CLAY with rare fine to medium gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014)	29.3	%
Estimated percentage passing 425µm sieve :	99	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	46	%
Plastic Limit :	19	%
Plasticity Index :	27	%
Equivalent Water Content of material passing 425µm sieve :	29.7	%
Liquidity Index :	0.40	





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LIQUID AND PLASTIC LIMITS

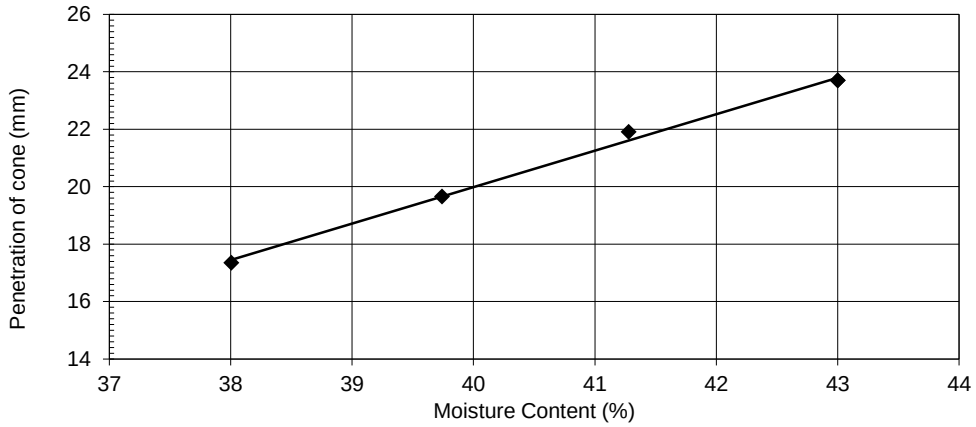
Location	TP307
Depth (m)	2.30
Sample Type	D

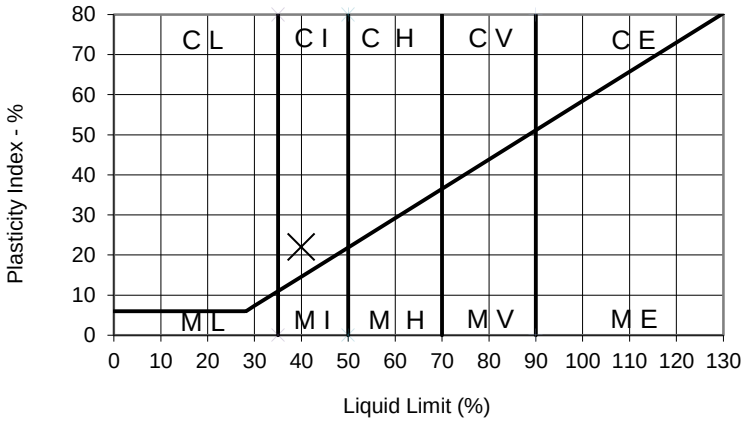
Description:

Brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	25.8	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	40	%
Plastic Limit :	18	%
Plasticity Index :	22	%
Equivalent Water Content of material passing 425µm sieve :	25.8	%
Liquidity Index :	0.35	





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LIQUID AND PLASTIC LIMITS

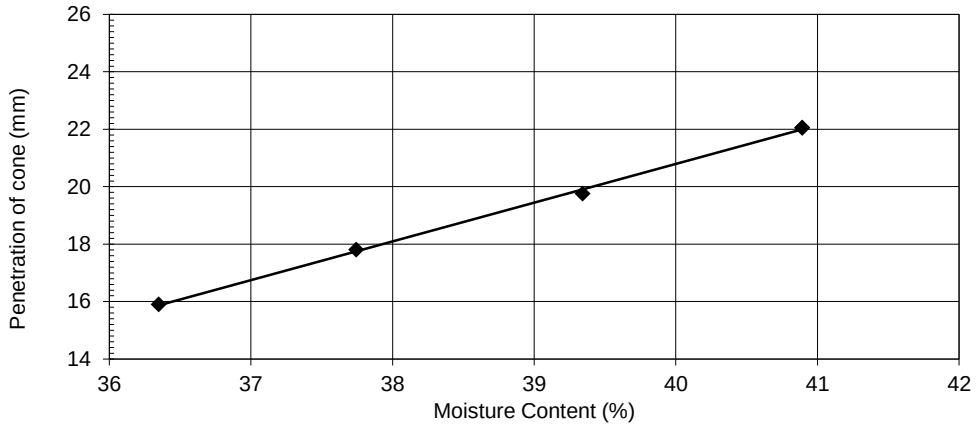
Location	TP308
Depth (m)	3.10
Sample Type	D

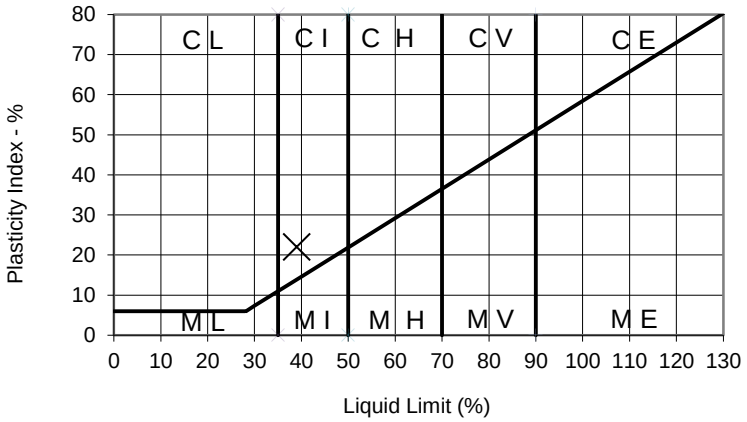
Description:

Brown mottled orange and light grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	24.9	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	39	%
Plastic Limit :	17	%
Plasticity Index :	22	%
Equivalent Water Content of material passing 425µm sieve :	24.9	%
Liquidity Index :	0.36	





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LIQUID AND PLASTIC LIMITS

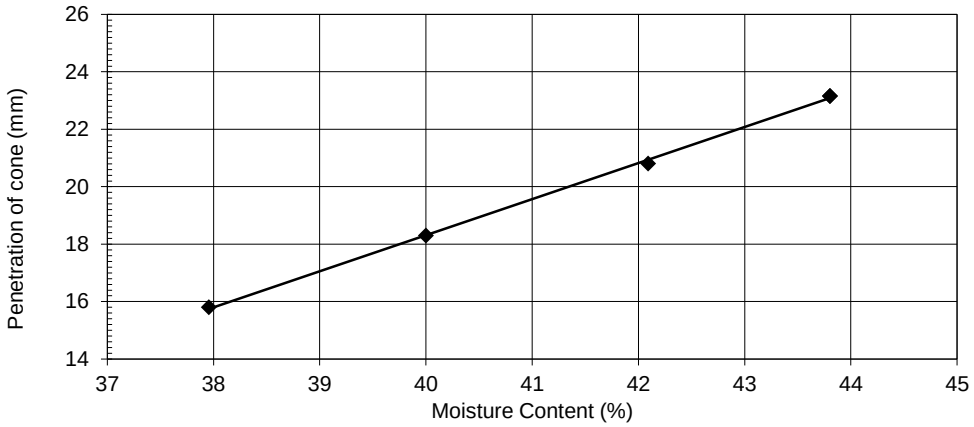
Location	TP310
Depth (m)	1.60
Sample Type	D

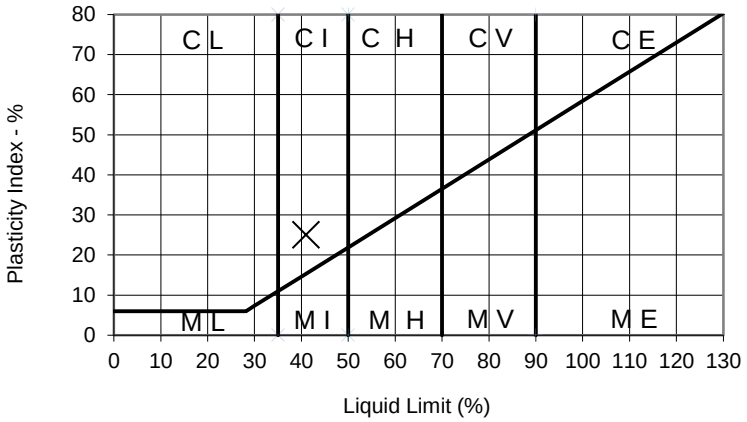
Description:

Orangish brown mottled light grey very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	25.7	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	41	%
Plastic Limit :	16	%
Plasticity Index :	25	%
Equivalent Water Content of material passing 425µm sieve :	25.7	%
Liquidity Index :	0.39	





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LIQUID AND PLASTIC LIMITS

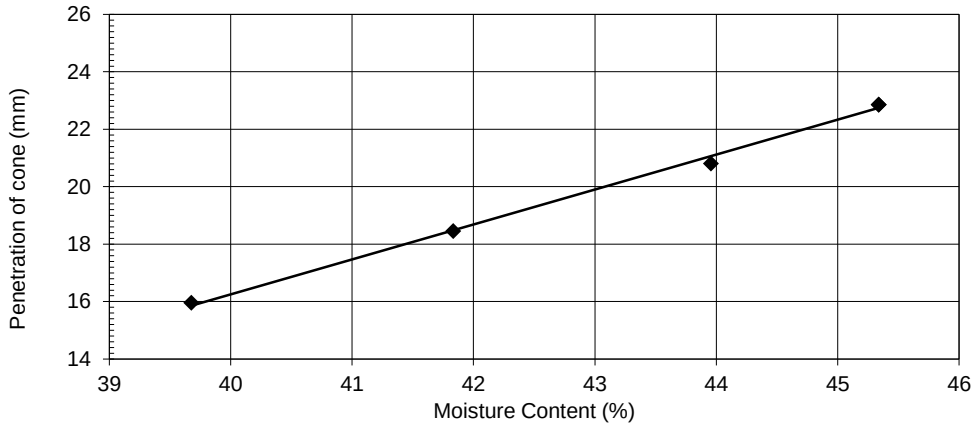
Location	TP312A
Depth (m)	2.30
Sample Type	D

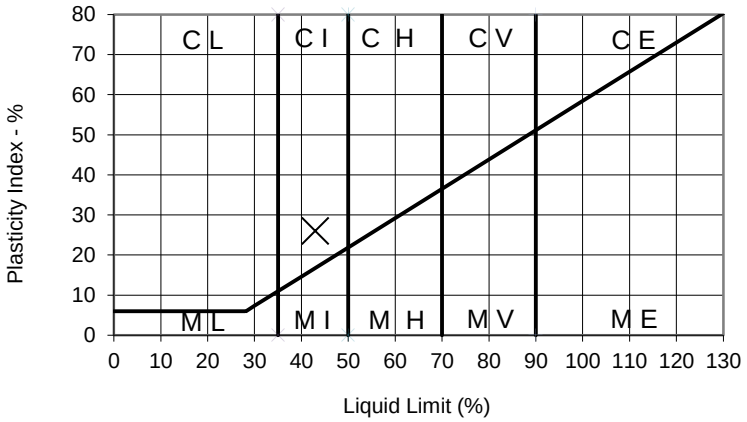
Description:

Brown mottled greyish brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	22.2	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	43	%
Plastic Limit :	17	%
Plasticity Index :	26	%
Equivalent Water Content of material passing 425µm sieve :	22.2	%
Liquidity Index :	0.20	





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LIQUID AND PLASTIC LIMITS

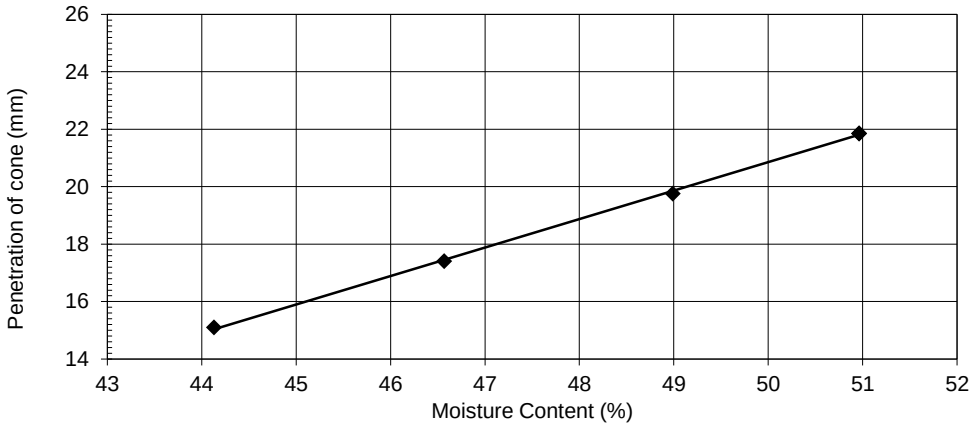
Location	TP315
Depth (m)	1.50
Sample Type	D

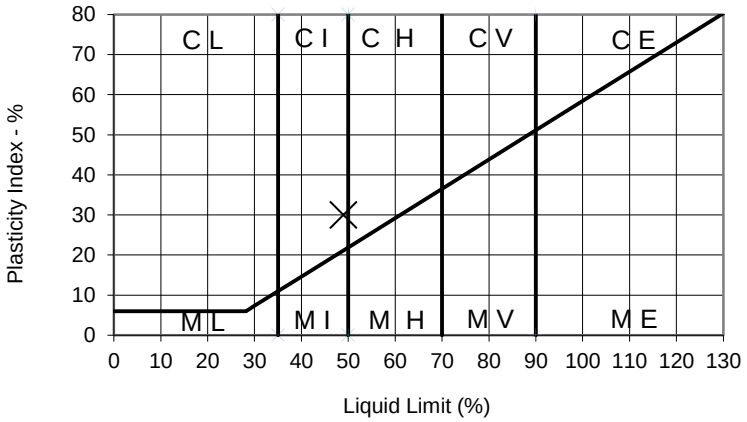
Description:

Orange mottled light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	28.6	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	49	%
Plastic Limit :	19	%
Plasticity Index :	30	%
Equivalent Water Content of material passing 425µm sieve :	28.6	%
Liquidity Index :	0.32	





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HOGWOOD FARM
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LIQUID AND PLASTIC LIMITS

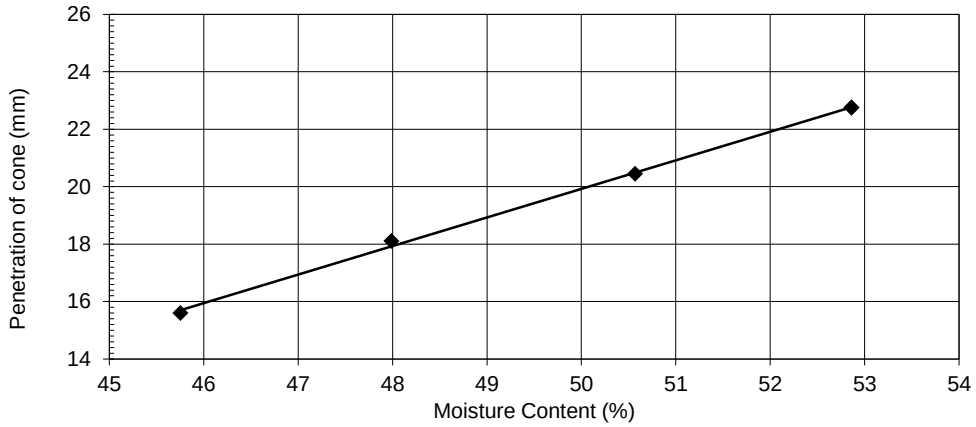
Location	TP318
Depth (m)	2.30
Sample Type	D

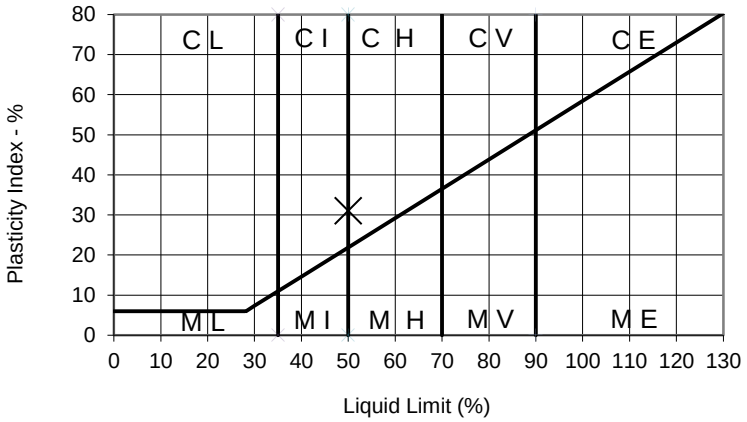
Description:

Brown mottled light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	28.7	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	50	%
Plastic Limit :	19	%
Plasticity Index :	31	%
Equivalent Water Content of material passing 425µm sieve :	28.7	%
Liquidity Index :	0.31	





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Checked and Approved by

[redacted]

J A Reynolds - Director
19/11/2021

Project Number:

GEO / 34197

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LIQUID AND PLASTIC LIMITS

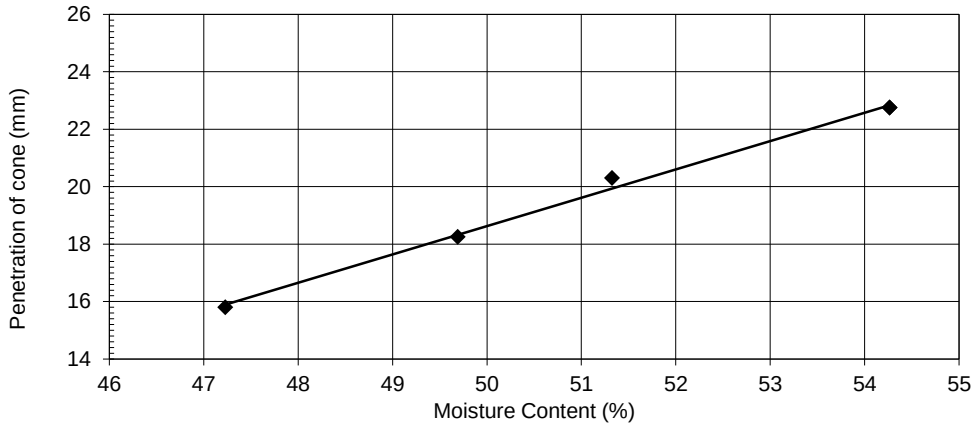
Location	TP320
Depth (m)	1.70
Sample Type	D

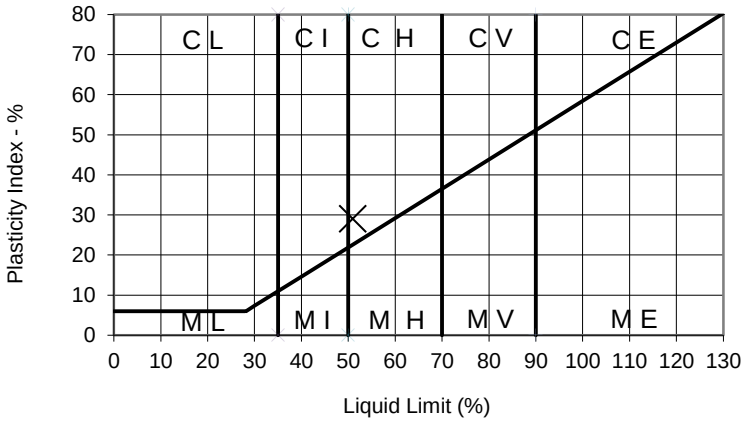
Description:

Brown mottled light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	27.9	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	51	%
Plastic Limit :	22	%
Plasticity Index :	29	%
Equivalent Water Content of material passing 425µm sieve :	27.9	%
Liquidity Index :	0.20	





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Project Name:

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41623

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LIQUID AND PLASTIC LIMITS

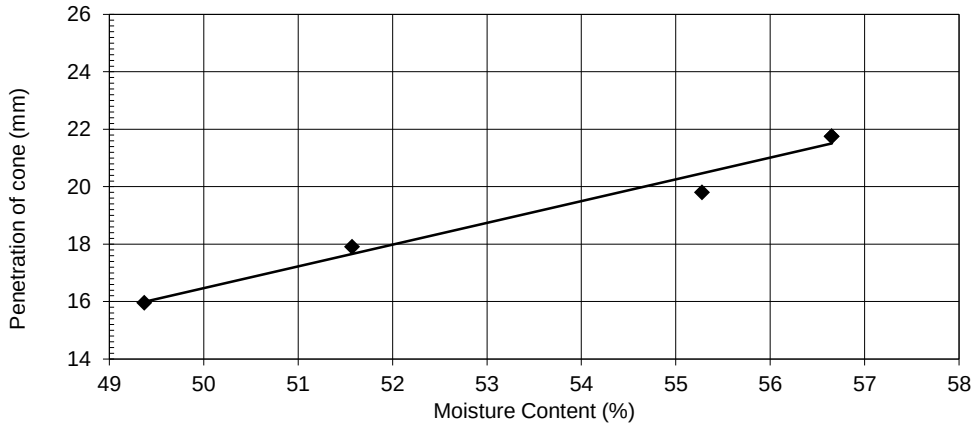
Location	TP325
Depth (m)	1.20
Sample Type	D

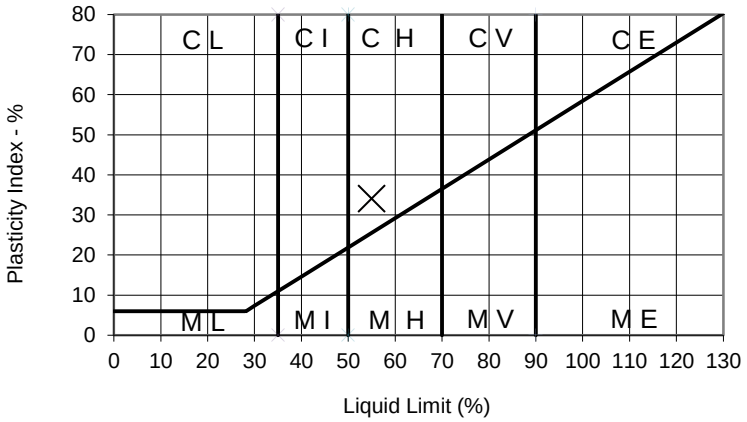
Description:

Brown mottled orange and light grey sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	26.3	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	55	%
Plastic Limit :	21	%
Plasticity Index :	34	%
Equivalent Water Content of material passing 425µm sieve :	26.3	%
Liquidity Index :	0.16	





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LIQUID AND PLASTIC LIMITS

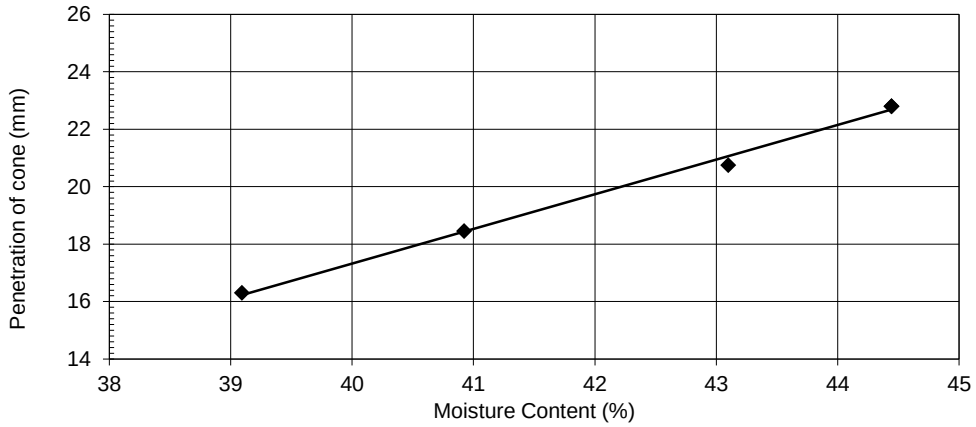
Location	TP329
Depth (m)	3.20
Sample Type	D

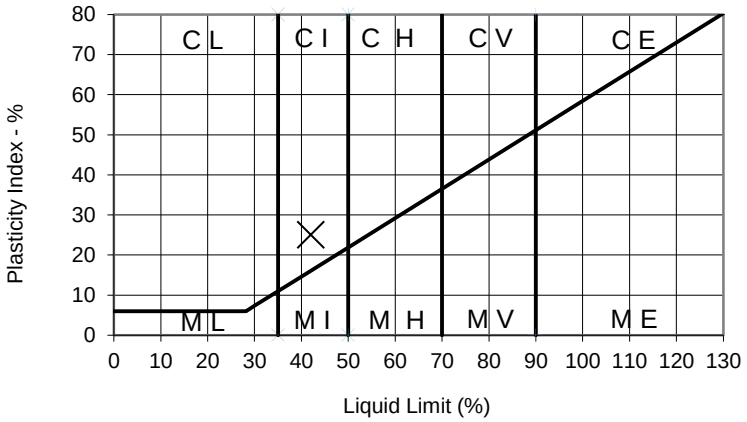
Description:

Brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	23.7	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	42	%
Plastic Limit :	17	%
Plasticity Index :	25	%
Equivalent Water Content of material passing 425µm sieve :	23.7	%
Liquidity Index :	0.27	





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LIQUID AND PLASTIC LIMITS

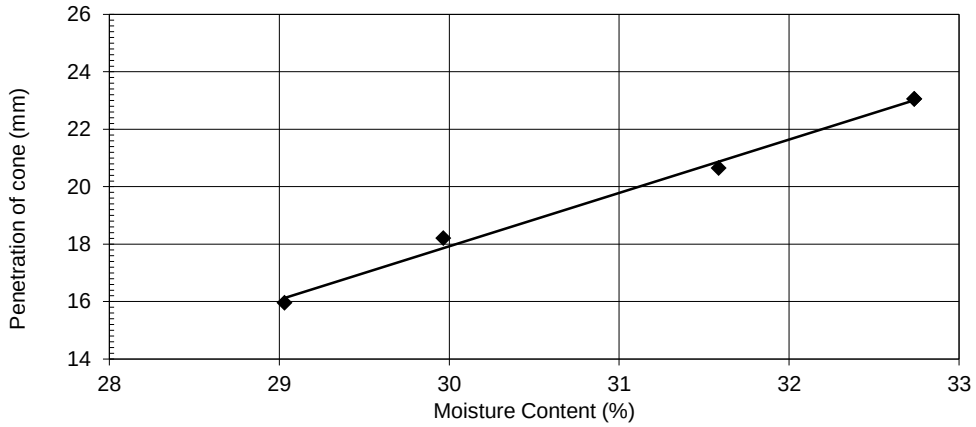
Location	TP343
Depth (m)	1.10
Sample Type	D

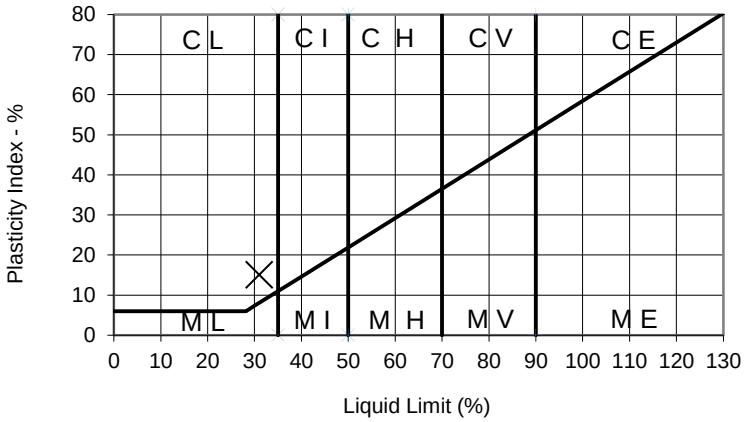
Description:

Greyish brown mottled light brown and orangish brown very sandy CLAY with rare fine gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014)	24.1	%
Estimated percentage passing 425µm sieve :	99	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	31	%
Plastic Limit :	16	%
Plasticity Index :	15	%
Equivalent Water Content of material passing 425µm sieve :	24.4	%
Liquidity Index :	0.56	





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LIQUID AND PLASTIC LIMITS

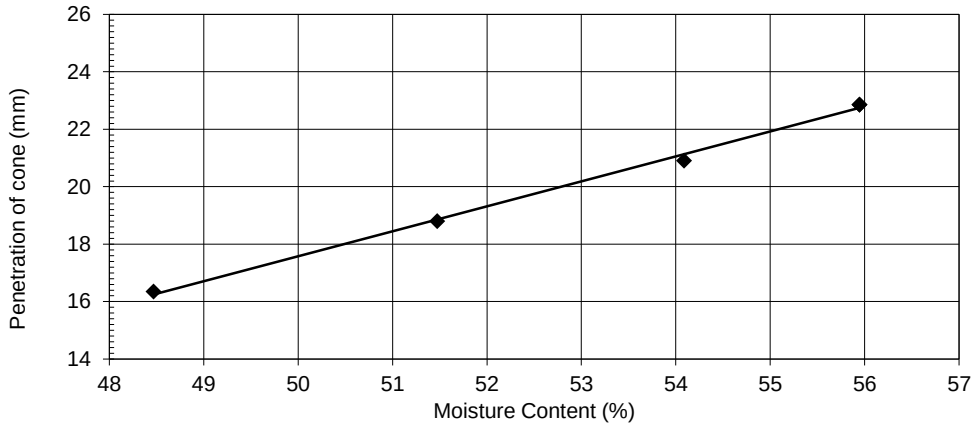
Location	TP345
Depth (m)	2.70
Sample Type	D

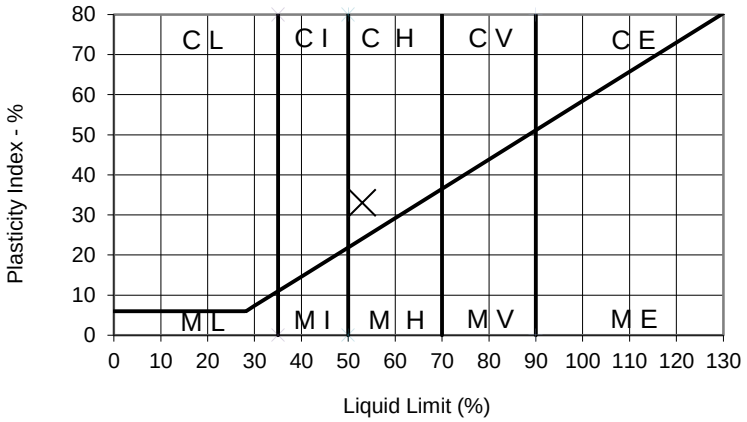
Description:

Brownish grey mottled brown sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	27.1	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	53	%
Plastic Limit :	20	%
Plasticity Index :	33	%
Equivalent Water Content of material passing 425µm sieve :	27.1	%
Liquidity Index :	0.22	





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LIQUID AND PLASTIC LIMITS

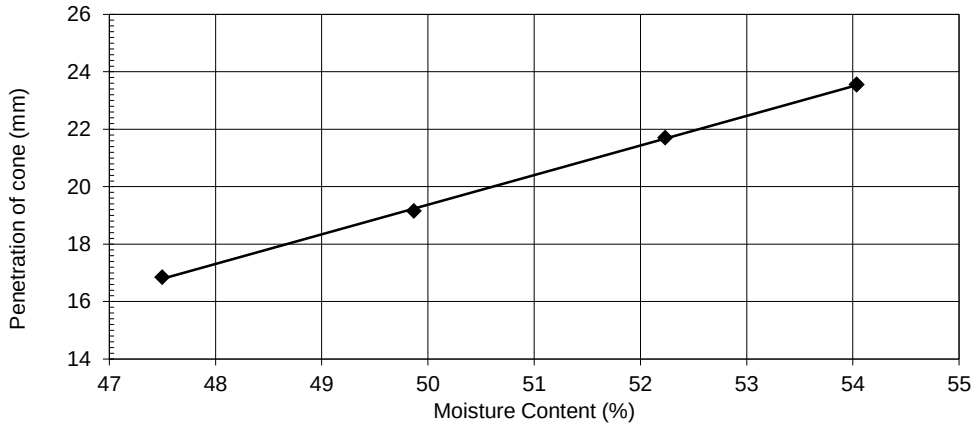
Location	TP348
Depth (m)	3.00
Sample Type	D

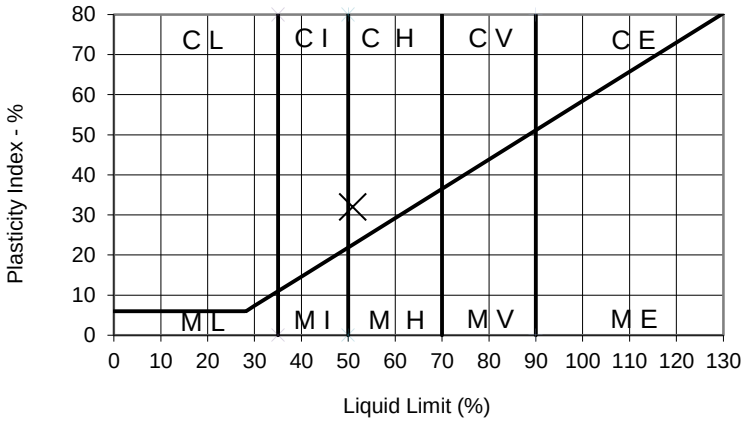
Description:

Light brown and greyish brown mottled sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	30.4	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	51	%
Plastic Limit :	19	%
Plasticity Index :	32	%
Equivalent Water Content of material passing 425µm sieve :	30.4	%
Liquidity Index :	0.36	





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LIQUID AND PLASTIC LIMITS

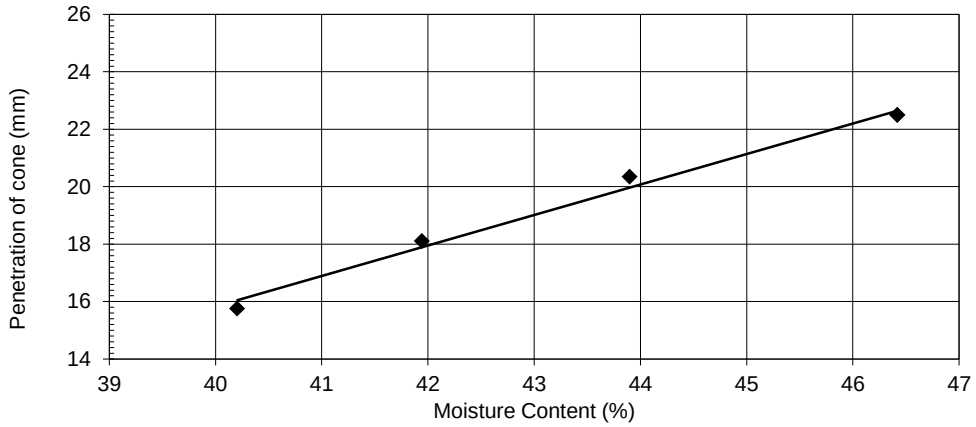
Location	TP350
Depth (m)	1.50
Sample Type	D

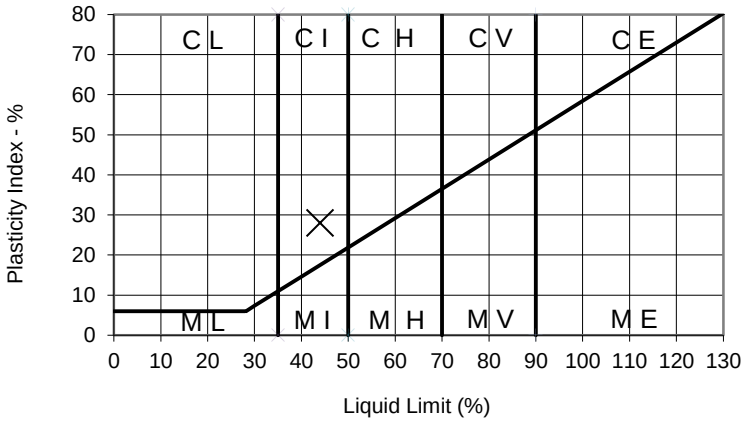
Description:

Brown mottled greyish brown very sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014)	24.4	%
Estimated percentage passing 425µm sieve :	100	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	44	%
Plastic Limit :	16	%
Plasticity Index :	28	%
Equivalent Water Content of material passing 425µm sieve :	24.4	%
Liquidity Index :	0.30	





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LIQUID AND PLASTIC LIMITS

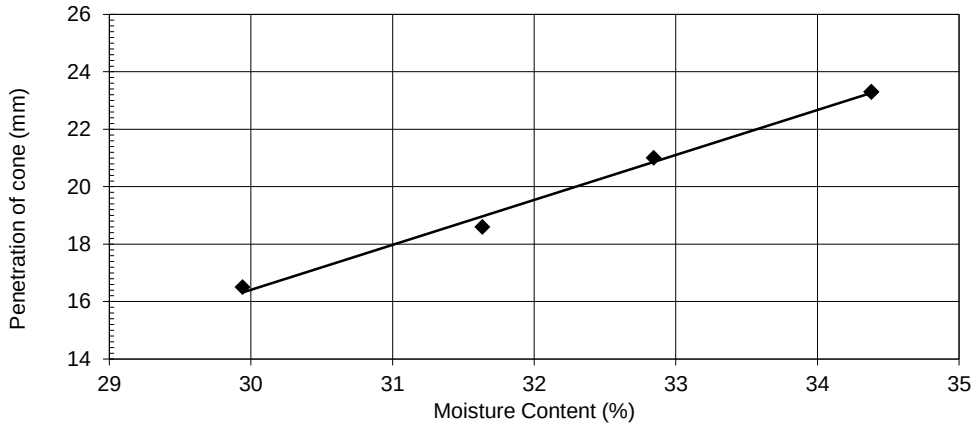
Location	TP360
Depth (m)	1.00
Sample Type	D

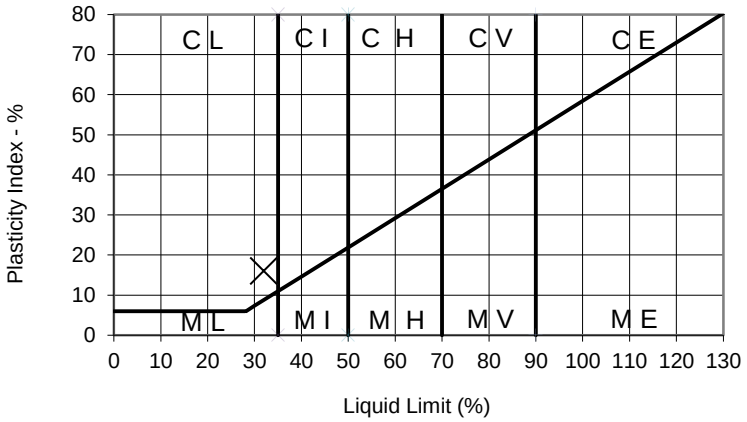
Description:

Brown mottled orange, light grey and dark brown very sandy CLAY with rare fine gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014)	22.0	%
Estimated percentage passing 425µm sieve :	99	%
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content :	32	%
Plastic Limit :	16	%
Plasticity Index :	16	%
Equivalent Water Content of material passing 425µm sieve :	22.3	%
Liquidity Index :	0.39	





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