

**PHASE 2
GEOTECHNICAL AND GEO-ENVIRONMENTAL
SITE INVESTIGATION**

**LAND PARCEL 8
HOGWOOD FARM
(FINCHWOOD PARK DEVELOPMENT)**

FOR

**CALA HOMES THAMES AND
LEGAL & GENERAL HOMES LIMITED**

ISSUE 3



41623-019

17 January 2022

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ISSUE 3

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Appendix 3	Groundwater Monitoring Report
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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 of land known as Parcel 8, a 0.9 hectare former agricultural field, which is currently occupied by the site compound and car park.
3. The solid geology is shown to comprise the London Clay Formation and 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 or made ground over firm 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. Traditional strip and trench fill foundations are expected to be appropriate, taken through any made ground and founded at an expected 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. Plots near to the mature trees in the south west of the site may need to be piled. 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. Three samples of made ground recorded elevated concentrations of a small number of metals and one PAH compound. It is recommended that, if this material remains in garden

and landscaped areas, it should be capped with 600 mm of clean soil, including at least 100 mm of topsoil.

14. No elevated concentrations of contaminants have been identified in the topsoil and natural ground. Therefore, the topsoil and natural ground across the site can be considered suitable for re-use.
15. DS-4 AC-4 sulphate precautions are required for concrete in contact with the made ground, however this is reduced to DS-1 AC-1 for concrete in contact with the natural ground only.
16. 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 window sample boreholes which were progressed 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.

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 is not thought that ground levels will be modified significantly. If this is not the case, further advice may be needed.

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

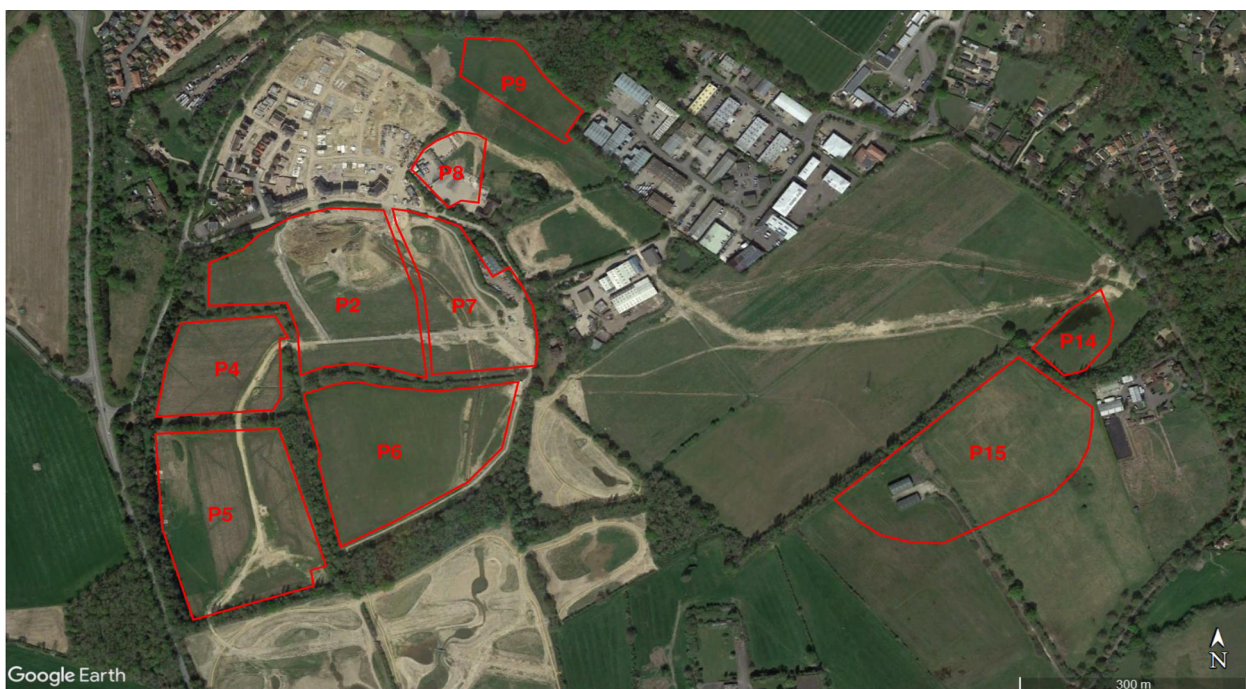
Land parcel 8 is an approximately 0.9 hectare area of former agricultural land which is part of the wider Finchwood Park Development. It is located around 1 km to the south of Arborfield Garrison in Berkshire, the partially constructed Phase 1 Development borders the site to the west and north west.

The information presented in this report relates solely to parcel 8 and will herein referred to as “the site”.

The approximately 0.9 hectare site is centred on grid reference 476829, 164640 and is relatively level at around 57 m above Ordnance Datum (AOD).

Access to the site was off Sheerlands Road to the west and through the CALA Homes’ development site. The site currently predominantly comprises the CALA Homes site compound and car park area, with undeveloped former agricultural land in the north east part of the site. It is bordered by the Phase 1 development site to the north, the site haul road, beyond which is undeveloped Parcel 7. Works associated with the Nine Mile Ride Extension borders the north of the site, beyond which is undeveloped Parcel 7. An existing residential property with associated gardens is present to the east.

The plan below shows parcel 8 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 8 are summarised in the sections below.

4.1 Site History

4.1.1 The Site

The historical maps shows that the site had remained relatively unchanged agricultural land since the earliest maps dated 1876 to 1938. By 1961 a lodge was built on the site and by 1999 the lodge had been extended to include stables and a training area for horses.

The site remained unchanged until 2018 when the Finchwood Park development commenced and the majority of the site was used as the CALA Homes site compound and car park, with undeveloped former agricultural land remaining in north west of the site.

4.1.2 The Surrounding Area

The earliest historical maps, show the area surrounding the site is predominantly agricultural. Sheerlands Road is present in its current location to west of the site and Arborfield Cross is located around 2.5 km to the north.

By 1938 brickworks are shown nearly 400 m north east of the site, later developed as Hogwood Industrial Estate. In addition, a second brickworks is shown in the 1938 historical map over 250 m north of the site, by 1961 a clay pit location is present in this location.

In 1932 Arborfield Remount Depot is labelled around 750 m north of the site, despite its extent remaining unclear. The 1961 historical map shows Arborfield Remount Depot has been renamed Arborfield Garrison, and extended up to the northern boundary of Hogwood Farm.

A residential property is shown on the 1976-79 map located less than 250 m to the north of parcel 8. The 1984 map shows Hogwood Farm Industrial Estate in its current layout around 200 m to the northeast, with a possible tank immediately to the west. 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 the aquifer classification of the London Clay Formation 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 approximately 275 m east/south 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 infilled 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 is 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 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 the site on the 18th October and completed six window samples holes (WS301 to WS306) across the site to depths of between 3 and 4 m.

Copies of all exploratory hole logs are presented in Appendix 2, and their locations are plotted on the Exploratory Hole Location Plan, Drawing number 41623/009 in Appendix 1.

5.2 Laboratory Testing

Following the site visit, two samples of topsoil, three samples of natural ground and four samples of made 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.

6.0 GROUND CONDITIONS

6.1 Surface Covering

Topsoil was encountered at the surface in two of the six window sample holes and was described as brown sandy clay with frequent rootlets. It was encountered to depths of between 0.15 m and 0.7 m below ground level (bgl).

In the remaining four window sample holes a covering of made ground was encountered, placed in order to form the surface of the site compound and car park area. This is discussed below.

6.2 Made Ground

Made ground was encountered from ground level in four of the six window sample holes. It was found to comprise mainly concrete, brick and tarmac with additional materials, such as plastic, fabric, metal wire, metal nails and glass within a brown slightly sandy clay matrix. It reached depths of between 0.2 and 0.6 m below ground level (bgl).

6.3 Natural Ground

Natural ground was found underlying the topsoil or made ground. This typically comprised firm orangish brown and grey slightly sandy silts and silty clays. These were sometimes noted to be soft within the top 1 m bgl. The strength generally increased with depth, with SPT 'N' values being at least 20 at 4 m bgl.

6.4 Obstructions

Other than the surfacing being very dense in some areas, no obstructions were encountered in any of the window sample holes.

6.5 Groundwater

Groundwater strikes were not recorded in any of the window sample boreholes during the investigation.

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. None of the monitoring wells were located within the boundary of Parcel 8, however one was located near to the north eastern boundary. The peak groundwater level was recorded to be between 0.96 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 or made ground 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.

7.2 Geotechnical Testing

No geotechnical samples were taken during the recent site visit. However geotechnical testing has been carried out on soil samples from neighbouring parcels 7 and 9. The samples recorded from Parcels 7 and 9 modified plasticity indices of between 22 and 26.7% which correspond to medium volume change potential soils. Due to the consistency of the ground conditions across all three land parcels, it is considered that the soils across Parcel 8 should be assumed to be of medium volume change potential. The geotechnical test results are summarised in the table below:

Pit	Depth (m)	Parcel	Modified Plasticity Index	Volume change potential
TP301	2.3	7	24	Medium
TP305	1.7	9	26.7	Medium
TP307	2.3	9	22	Medium
TP308	3.1	9	22	Medium
TP310	1.6	9	25	Medium

7.3 Foundations

For the majority of the dwellings, it is expected that 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/m² is likely to be achievable. The clay within the top metre was sometimes noted to be soft, and therefore if soft clay is encountered at the minimum founding depth, the foundations should be deepened until firm clay is reached.

In addition, 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.

Piling is only expected to be required where plots are located towards the southern/south western perimeter of the site where mature trees are present, or if significant widespread level changes are proposed. The undrained shear strengths recorded in previous cable percussion boreholes on an adjacent land parcel, show that the clay soils beneath the site will be capable of mobilising sufficient end bearing and skin friction in order to support the dwellings on conventional driven pile foundations. Detailed pile design has not been undertaken, as the specified types, spacings and surface areas of the piles that will be used is unknown, however a preliminary analysis has shown that a driven pile with a nominal diameter of 300 mm will have an allowable pile carrying load of around 350 kN when driven to a depth of 10 m bgl. Specific pile design would need to be undertaken by the piling contractor.

7.4 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.

7.5 Superstructure Precautions

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

7.6 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.

7.7 Obstructions

Other than some dense surfacing, obstructions were not encountered over the course of the site works. Given the site's former agricultural use it is not expected that significant obstructions will be encountered.

7.8 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.

7.9 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.

7.10 Limitations

To reiterate, the comments made above in relation to geotechnical analysis and design refer only to the 0.9 hectare area 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 majority of the site is surfaced with made ground which formed the car park and site compound. Topsoil was present in the north and north east of the site. Underlying the topsoil or made ground the natural ground comprised 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 to a significant depth 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

Two samples of topsoil, three samples of natural ground, and four samples of made ground were despatched for chemical testing. Each of the samples was analysed for the suite of contaminants listed below:

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

*Natural ground and made ground samples only.

The four samples of made ground were also screened for asbestos.

In addition to the above testing, two samples of made ground and two samples of natural ground were also tested for fully fractionated petroleum hydrocarbons (TPH CWG).

8.6 Assessment Criteria

As the site is to be developed with residential dwellings and private gardens, the assessment criteria relating to 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

A copy of 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 Made Ground

Two of the made ground samples recorded elevated concentrations of metals/metalloids. These are summarised in the table below;

Sample	Recorded Concentration (mg/kg)		
	Copper	Lead	Zinc
WS301 (0.2 m)	~	380	470
WS304 (0.3 m)	240	~	~
Assessment Value (mg/kg)	200*	200	300*

*Phytotoxic assessment value – does not exceed human health assessment value

In addition to the above exceedances of metals/metalloids, two of the samples of made ground recorded elevated concentrations of the polycyclic aromatic hydrocarbon (PAH) compound dibenz(a,h)anthracene. The samples from WS303 at 0.1 m and WS304 at 0.3 m recorded concentrations of 0.49 mg/kg and 0.27 mg/kg respectively, compared to the assessment value of 0.24 mg/kg.

No further samples of made ground recorded any elevated concentrations of contaminants and asbestos was not detected in any of the samples.

8.7.2 Topsoil

Neither of the samples of topsoil recorded any elevated concentrations of any of the determinants.

The topsoil is therefore considered suitable for reuse on site.

8.7.3 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

In accordance with BRE Special Digest 1 (2005), the site has been categorised as a brownfield location in relation to the Aggressive Chemical Environment. Groundwater is expected to be mobile through the near surface soils.

8.8.1 Made Ground

All four samples of made ground were scheduled for pH and sulphate testing. Water soluble concentrations varied from 78 mg/l to 1700 mg/l. Total potential sulphate ranged from 0.2% to 1.44%. The pH ranged from 7.7 to 9.6. The maximum concentration of total potential sulphates falls into Design Sulphate Class DS-4 and the pH values fall into Aggressive Chemical Environment Class (ACEC) AC-4.

8.8.2 Natural Ground

All three samples of natural ground were scheduled for pH and sulphate testing. Water soluble concentrations were <10 mg/l in all of the samples. Total potential sulphate was recorded consistently at 0.11%. The pH ranged from 7.8 to 8.6. The values for both water soluble sulphates and total potential sulphates for the natural ground samples fall into Design Sulphate Class DS-1 and the pH values fall into Aggressive Chemical Environment Class (ACEC) AC-1.

8.9 Significant Pollutant Linkages

The following significant pollutant linkages have thus been identified.

Source	Potential Contaminants	Pathway	Receptor
Made ground	Heavy metals/metalloids and polycyclic aromatic hydrocarbons (PAHs)	Ingestion, inhalation, direct contact	Site residents, visitors and construction workers Plants
		Direct Contact	Water supply pipes
		Migration through ground	Controlled Waters
	Sulphates	Direct Contact	Sub-surface concrete structures

9.0 RISK ASSESSMENT

9.1 Human Health – Future Residents and Visitors

None of the samples of topsoil or natural ground on Parcel 8 recorded elevated concentrations of determinants above the generic human health assessment values. It is therefore concluded that these do not pose a significant risk to human health and are considered suitable for use in the proposed development.

However, one sample of made ground recorded an elevated concentration of lead and two further samples recorded elevated concentrations of the PAH compound dibenz(a,h)anthracene when compared against the generic human health assessment criteria. The made ground was encountered across the site compound and car park area and is recently placed, compacted hardcore material. It is not considered physically or chemically suitable to remain in place across gardens and landscaped areas. It is therefore recommended that the made ground is removed from garden areas or capped with 600 mm of clean soil, including at least 100 mm of topsoil. If the made ground is stripped from garden areas it could be placed below areas of hardstanding, or alternatively it should be removed from site. Additional geotechnical testing such as grading analysis should be undertaken on any material which is proposed for re-use below areas of hardstanding. This would enable the classification of the material to be determined and thus confirm the overall suitability within engineered uses.

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. Therefore, the overall risk to the health of construction workers is considered to be low.

All ground workers employed on the site should be made aware that elevated concentrations of metals and PAHs are present. Normal site procedures, such as the wearing of gloves when handling soils and the washing of hands prior to eating, should be implemented at all times.

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 or natural ground recorded elevated phytotoxic concentrations of contaminants. The topsoil and natural ground can therefore be considered suitable for re-use across the development.

Two made ground samples contained elevated phytotoxic concentrations of contaminants. As discussed in section 9.1, a 600 mm capping layer is to be provided where the material remains in garden and landscaped areas. This will provide a suitable growing medium for plants and will remove contact with the affected material.

9.4 Gas Precautions

Ground gas precautions are not considered to be necessary.

9.5 Controlled Waters

Some slightly elevated concentrations of metals/metalloids and PAHs were detected in the made ground during the investigation. These contaminants are not expected to be soluble and there is no highly sensitive groundwater or surface water receptors nearby, therefore the potential risk to controlled waters is considered to be negligible.

9.6 Construction Materials

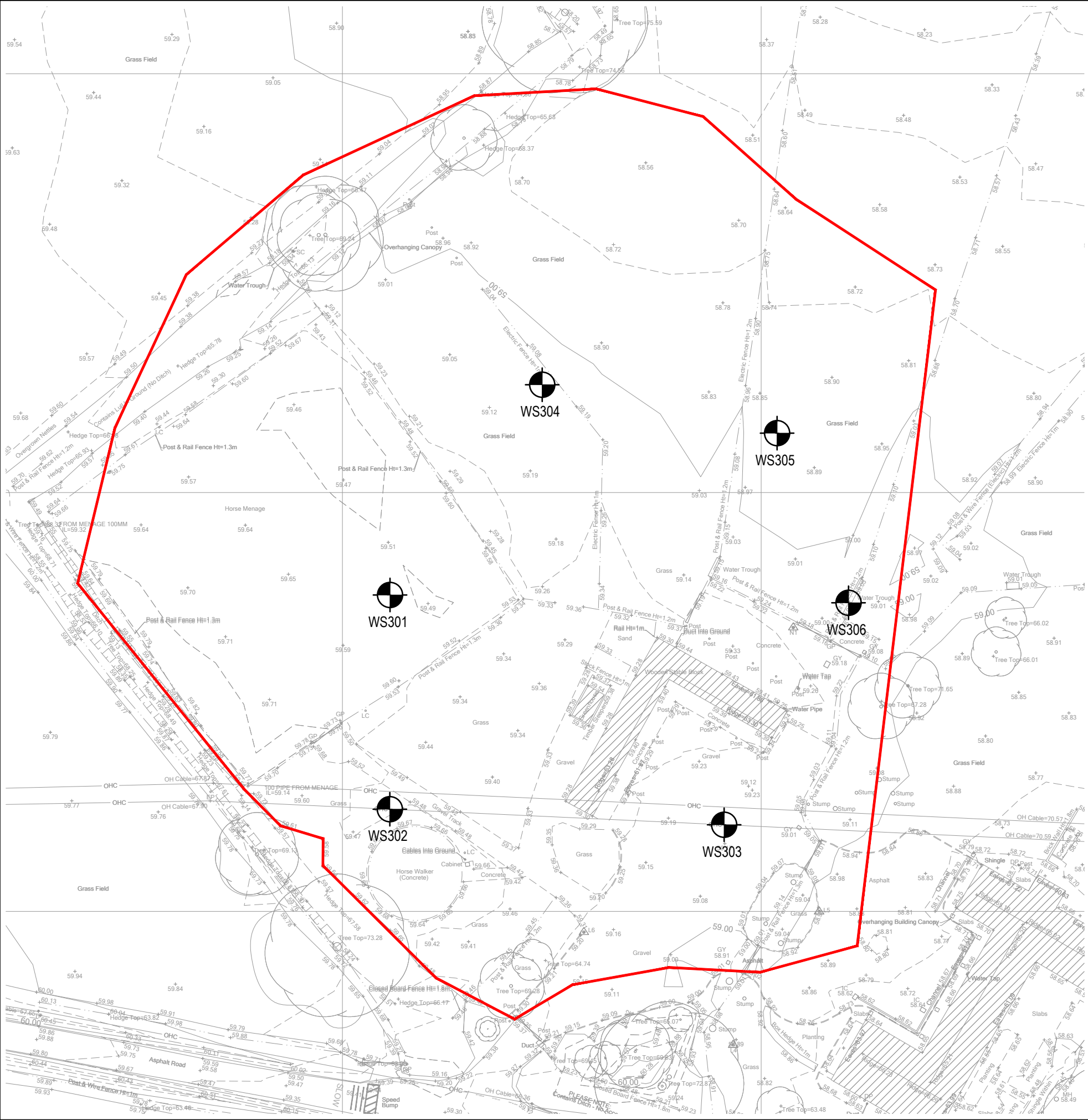
Based upon the results of the pH and sulphate testing discussed in Section 8.8, DS-4 AC-4 sulphate precautions are required for below ground concrete in contact with the made ground. However, for concrete in contact with the natural ground only, no sulphate precautions are required and DS-1 AC-1 concrete will be appropriate.

9.7 Limitations

The risk assessment presented above relates solely to the 0.9 hectare area surrounding the existing site compound and car park which forms land parcel 8.

Appendix 1

Exploratory Hole Location Plan, drawing reference 41623/019



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

KEY:



Approximate location of window sample borehole undertaken by
Eastwood and Partners on 18th October 2021.



Site Boundary.

B	Site boundary changed.	AS	RN	18.01.22
A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

CALA HOMES THAMES & LEGAL AND
GENERAL HOMES LTD

PARCEL 8, HOGWOOD FARM

EXPLORATORY HOLE LOCATION PLAN

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mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3 1:500			DRAWING STATUS INFORMATION	
DRAWN AS	CHECKED ED	DATE 21.12.21	DRAWING NUMBER 41623/016	REV A

Appendix 2

Window Sample Logs

Project Name Hogwood Farm	Project No. 41623	Co-ords:	Hole Type WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 18/10/2021	Logged By EJD

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20 - 0.30	SPT	N=10 (1,1/2,2,3,3)	0.40			MADE GROUND: Soft brown and black gravelly slightly sandy CLAY with clasts of BRICK and CONCRETE. Sand is fine to coarse. Gravel is subangular to angular fine to medium of flint.	
		0.90 - 1.00			0.70			Soft darkish grey slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is subangular fine to medium of flint.	
		1.00						Soft to firm brown mottled grey slightly sandy CLAY with occasional Gravel. Sand is fine to coarse. Gravel is subangular fine grained Chalk	1
		1.30 - 1.40	SPT	N=11 (3 for 75mm/3,2,3,3)	1.30			Firm orangish brown mottled grey slightly sandy silty CLAY. Sand is fine to coarse. <u>Carbonaceous flecks present</u>	
		2.00							2
		3.00							3
		3.80 - 4.00	SPT	N=18 (3,4/4,4,5,5)	3.80			Stiff darkish grey and black mottled orange slightly sandy CLAY. Sand is fine to coarse	4
		4.00			4.00			Stiff darkish grey and black mottled orange slightly sandy CLAY. Sand is fine to coarse	4
								End of Borehole at 4.000m	
									5
									6
									7
									8
									9

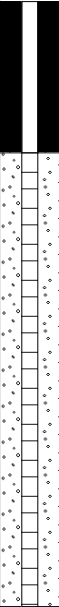
Remarks	
No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm, 67mm. Backfilled with arisings and core cemented back in hole.	

Project Name Hogwood Farm	Project No. 41623	Co-ords:	Hole Type WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 18/10/2021	Logged By EJD

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	SPT	N=7 (2,1/1,2,1,3)	0.60		MADE GROUND: Soft darkish grey slightly sandy CLAY with occasional gravel. Sand is fine to coarse. Gravel is subangular to angular fine to medium of flint and macadam.	1	
		1.00			1.20		Soft grey mottled orange slightly sandy CLAY with occasional Gravel. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded Chalk		
		1.40 - 1.50			Firm grey mottled orange slightly sandy slightly silty CLAY. Sand is fine to coarse.				
		2.00	SPT	N=13 (2,2/3,3,3,4)	2.40		<u>More orange veining with increasing depth</u>	2	
		2.40 - 2.50			Firm orange mottled grey slightly sandy silty CLAY. Sand is fine to coarse.				
		3.00 - 3.20			<u>More orange coloured and stiff with increasing depth. With some lenses of grey sandy SILT.</u>				
		3.00 3.00	SPT	N=21 (3,4/5,4,6,6)	3.00		Stiff orangish brown slightly sandy silty CLAY. Sand is fine to coarse	3	
		4.00			4.00		End of Borehole at 4.000m		
							5		
							6		
							7		
							8		
							9		

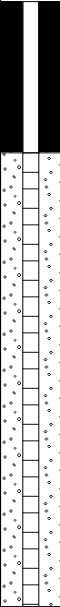
Remarks	
No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm, 67mm. Backfilled with arisings and core cemented back in hole.	

Project Name Hogwood Farm	Project No. 41623	Co-ords:	Hole Type WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 18/10/2021	Logged By EJD

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	SPT	N=10 (1,2/2,2,3,3)	0.20			MADE GROUND: Soft darkish grey and black slightly gravelly slightly sandy CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse flint with occasional brick fragments.	1
		0.80 - 0.90			0.70			Soft to firm orangish brown mottled grey slightly sandy CLAY with carbonaceous flecks. Sand is fine to coarse.	
		1.00			1.10			Firm grey mottled orange sandy CLAY. Sand is fine to coarse. <i>More gravelly with increasing depth with subangular to angular fine to coarse chalk clasts</i>	
		1.90 - 2.00	SPT	N=12 (2,2/2,3,3,4)	2.35			Firm orangish brown mottled grey slightly sandy CLAY. Sand is fine to coarse.	2
		2.00						<i>Lenses of grey sandy SILT present</i>	
		2.80 - 2.90	SPT	N=22 (4,4/5,5,6,6)	3.75			Firm to stiff orangish brown mottled grey slightly sandy SILT with patches of yellowish brown sandy SILT. Sand is fine to coarse.	3
		3.00						<i>Transition to sandy CLAY</i>	
		3.90 - 4.00	SPT	N=21 (4,4/4,5,5,7)	4.00			Stiff darkish grey and black CLAY.	4
		4.00						End of Borehole at 4.000m	
									5
									6
									7
									8
									9

Remarks	
No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm, 67mm. Backfilled with arisings.	

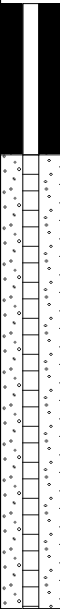
Project Name Hogwood Farm	Project No. 41623	Co-ords:	Hole Type WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 18/10/2021	Logged By EJD

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.40			0.40			MADE GROUND: Soft brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium subangular to angular flint with occasional brick and glass fragments.	
					0.60			Soft darkish grey slightly sandy CLAY with occasional Gravel. Gravel is subangular fine to medium of flint and chalk. Sand is fine to coarse.	
		1.00	SPT	N=9 (1,2/2,2,2,3)				Firm orangish brown mottled grey slightly sandy CLAY. Sand is fine to coarse.	1
		2.00	SPT	N=14 (2,3/2,4,4,4)	1.85			Firm to stiff orangish brown mottled grey slightly sandy silty CLAY. Sand is fine to coarse.	2
		2.60 - 2.70						<u>More orange coloured with increasing depth</u> <u>Orangish yellow sandy SILT present</u>	
		3.00	SPT	N=21 (3,4/4,5,6,6)	3.50				3
		4.00	SPT	N=23 (3,4/5,6,5,7)	4.00			Stiff darkish grey slightly sandy silty CLAY. Sand is fine to coarse.	
								End of Borehole at 4.000m	4
									5
									6
									7
									8
									9

Remarks	
No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm, 67mm. Backfilled with arisings.	

No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm. Backfilled with arisings. No SPT's.

Project Name Hogwood Farm	Project No. 41623	Co-ords:	Hole Type WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 18/10/2021	Logged By EJD

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.15			0.15			TOPSOIL: Brown sandy CLAY with frequent rootlets.	
		1.00 - 1.10						Firm becoming stiff with depth slightly sandy slightly silty CLAY with occasional silt partings.	1
		2.70 - 2.80							2
		3.00	SPT	N=22 (3,4/4,6,6,6)	3.00			End of Borehole at 3.000m	3
									4
									5
									6
									7
									8
									9

Remarks No installs. Liner size reduced as hole progressed as follows; 102mm, 87mm, 75mm. Backfilled with arisings.	
--	--

Appendix 3

Groundwater Monitoring Report

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.

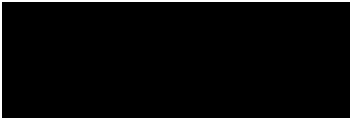
The elevation of the site is between around 52 m AOD in the south and east to around 60 m AOD in the north. The Blackwater River lies at an elevation of around 50 m AOD. It is therefore not unexpected that the groundwater is encountered at shallow depth below the site. The water depths recorded are therefore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

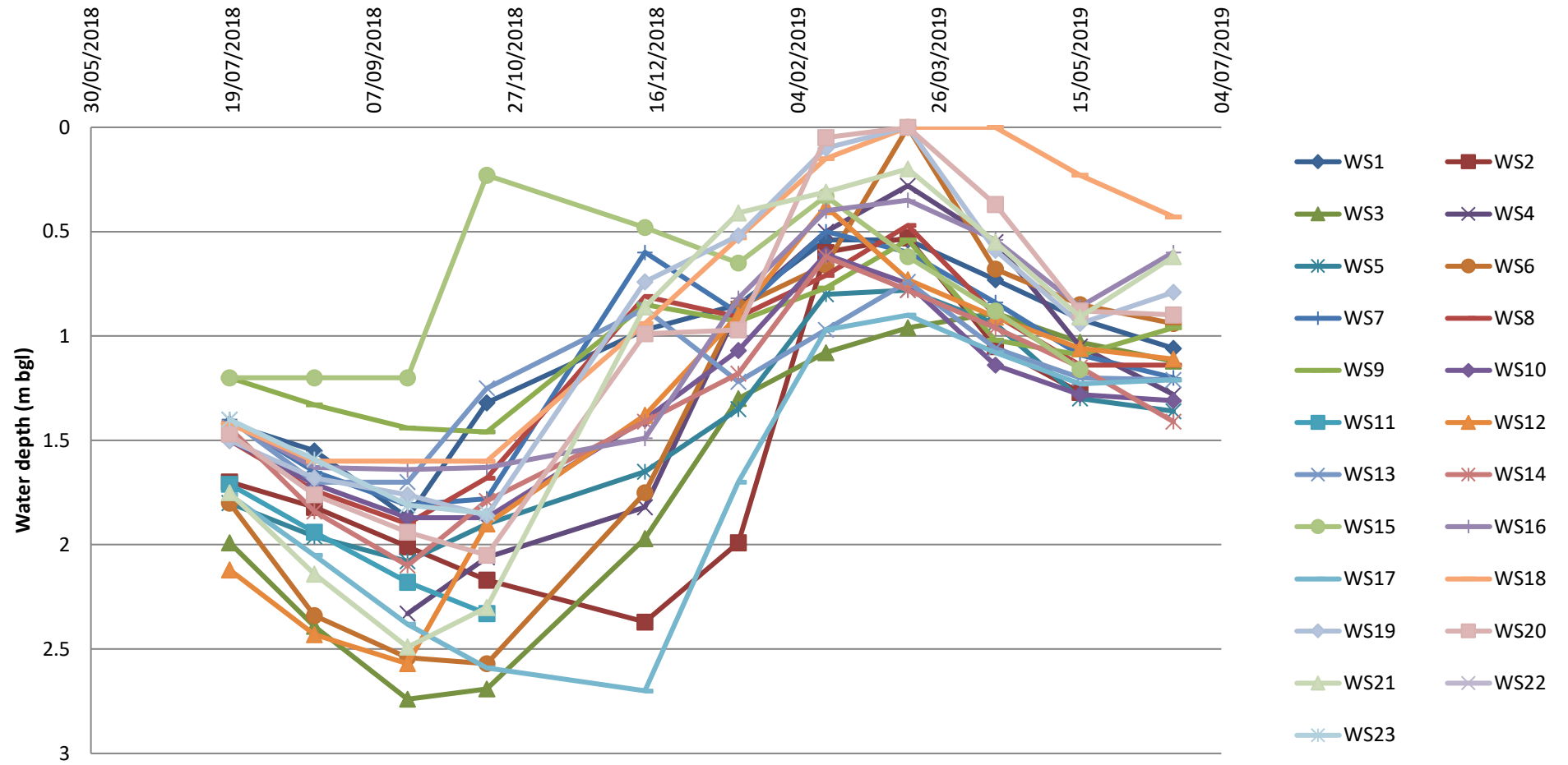
Monitoring well	Water level (mbgl)											Depth (m bgl)
	18/07/2018	17/08/2018	19/09/2018	17/10/2018	12/12/2018	14/01/2019	14/02/2019	15/03/2019	15/04/2019	15/05/2019	17/06/2019	
WS1	1.42	1.55	1.87	1.32	0.97	0.85	0.54	0.54	0.73	0.92	1.06	2.9
WS2	1.7	1.82	2.01	2.17	2.37	1.99	0.6	0.53	1.05	1.27		2.8
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





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

A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING
LOCATIONS WITH HIGHEST WATER
DEPTHS

Eastwood & Partners
CONSULTING ENGINEERS

EOP

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23 Kingfield Road
Sheffield
S11 9AS

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mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3 1:5000			DRAWING STATUS INFORMATION	
DRAWN TC	CHECKED RAN	DATE 24.07.19	DRAWING NUMBER 41623/005	REV 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

A	First Issue.			
REV	DESCRIPTION	SIG	CHK	DATE

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING
LOCATIONS WITH LOWEST WATER
DEPTHS

Eastwood & Partners
CONSULTING ENGINEERS

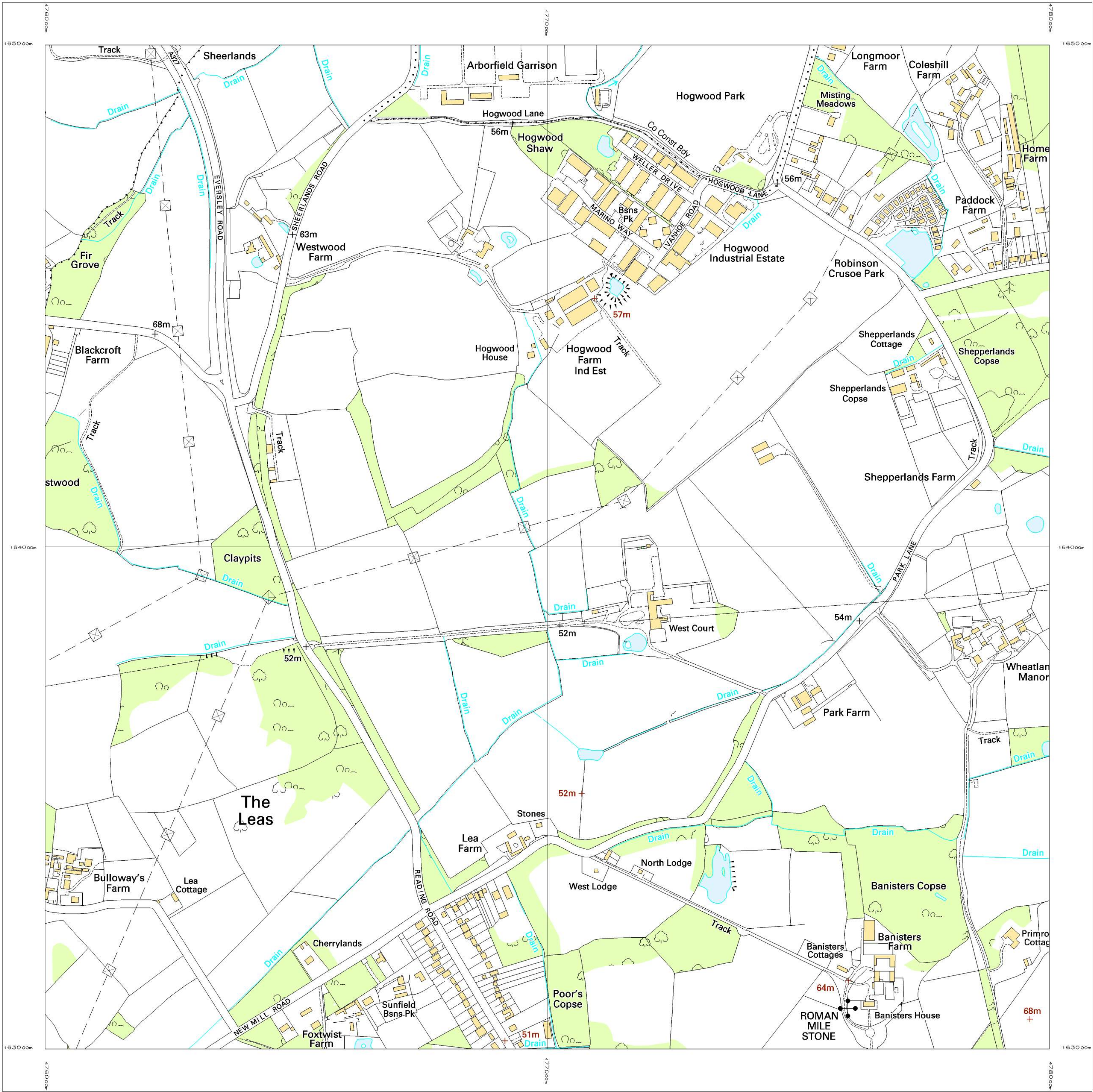
EOP

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SCALE WHEN PLOTTED AT A3 1:5000			DRAWING STATUS INFORMATION	
DRAWN TC	CHECKED RAN	DATE 24.07.19	DRAWING NUMBER 41623/006	REV A



Plotted 06 Nov 2009 from Ordnance Survey digitally derived data.

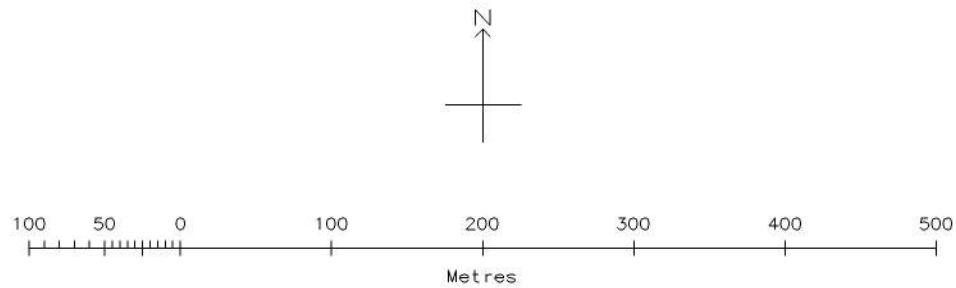
Produced using significant survey information from Ordnance Survey large scales digital data, and incorporated into OS Landplan Nov 2008.

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Administrative boundaries revised to Oct 2008.

Additional boundaries information:



Scale 1:5000

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

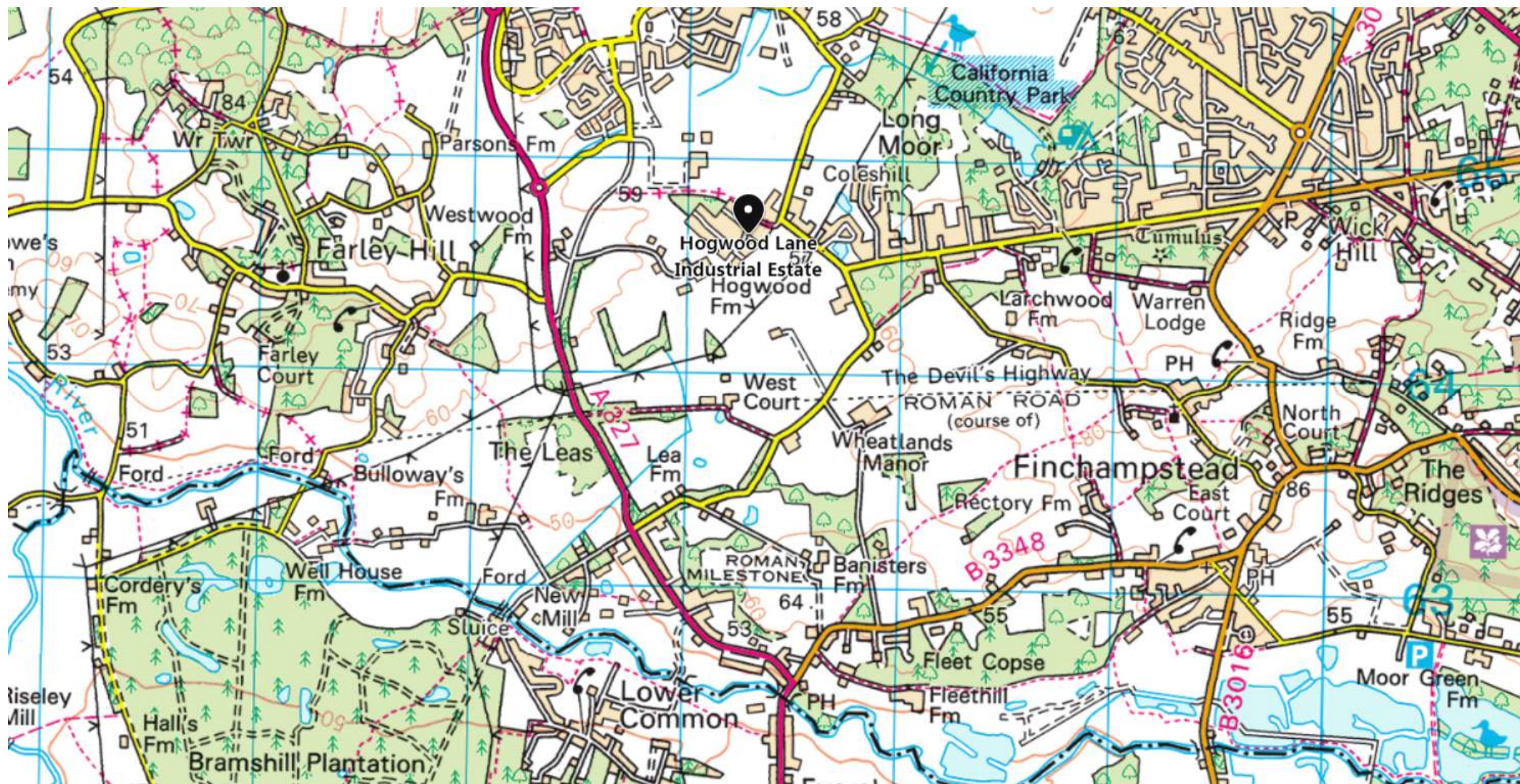
Heights are given in metres above Newlyn Datum. The representation of a road, track or path is no evidence of a right of way.

The alignment of tunnels is approximate.

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

Ordnance Survey, the OS Symbol and OS Landplan are registered trade marks of Ordnance Survey, the national mapping agency of Great Britain.

Plot centre coordinates: 477000 164000
Supplied by: Thames Print Room
Plot serial number: 00145800



Appendix 4

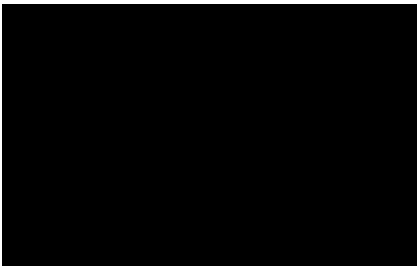
Chemical Test Results

Table of Assessment Values



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		


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	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
Quotation No.:	Chemtest Sample ID.:					1306248	1306249	1306250	1306251	1306252	1306253	1306254	1306255
Order No.:	Client Sample Ref.:					NG	TS	TS	MG	NG	MG	MG	MG
	Sample Location:					TP322	TP324	TP325	WS301	WS301	WS302	WS303	WS303
	Sample Type:					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
	Bottom Depth (m):					1.2	0.4	0.3	0.3	1.0	0.3	0.2	0.9
	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
	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
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0				< 1.0				< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0				880				< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10				950				< 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 SO ₄	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*; Dibenzo[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

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Prepared	KDL	Checked	CAT	Date	22/12/2021	Job No	41623
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 Eastwood & Partners CONSULTING ENGINEERS St Andrew's House 23 Kingfield Road Sheffield S11 9AS Tel: (0114) 255 4554 Fax: (0114) 255 4330	CALA HOMES THAME AND LEGAL & GENERAL HOMES LTD PARCEL 8 FINCHWOOD PARK ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE
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Contaminant	Phytotoxicity			
	pH 5.0 to 5.5	pH 5.5 to 6.0	pH 6.0 to 7.0	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'*.

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Prepared	KDL	Checked	CAT	Date	22/12/2021	Job No	41623
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 Eastwood & Partners CONSULTING ENGINEERS St Andrew's House 23 Kingfield Road Sheffield S11 9AS Tel: (0114) 255 4554 Fax: (0114) 255 4330	CALA HOMES THAME AND LEGAL & GENERAL HOMES LTD PARCEL 8 FINCHWOOD PARK ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE
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TPH Fraction	Intended Land Use Residential (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic EC 5-6	42	78	160
Aliphatic EC >6-8	100	230	530
Aliphatic EC >8-10	27	65	150
Aliphatic EC >10-12	130 (48) ^{vap}	330 (118) ^{vap}	760 (283) ^{vap}
Aliphatic EC >12-16	1100 (24) ^{sol}	2400 (59) ^{sol}	4,300 (142) ^{sol}
Aliphatic EC >16-35	65,000 (8.48) ^{f, sol}	92,000 (21) ^{f, sol}	110,000 ^f
Aliphatic EC >35-44	65,000 (8.48) ^{f, sol}	92,000 (21) ^{f, sol}	110,000 ^f
Aromatic EC 5-7	70	140	300
Aromatic EC >7-8	130	290	660
Aromatic EC >8-10	34	83	190
Aromatic EC >10-12	74	180	380
Aromatic EC >12-16	140	330	660
Aromatic EC >16-21	260 ^f	540 ^f	930 ^f
Aromatic EC >21-35	1,100 ^f	1,500 ^f	1,700 ^f
Aromatic EC >35-44	1,100 ^f	1,500 ^f	1,700 ^f

^f oral, dermal, and inhalation exposure compared with oral HCV

^{sol} S4UL presented exceeds the solubility saturation limit, which is presented in brackets

^{vap} S4UL presented exceed the vapour saturation limit, which is presented in brackets

The assessment criteria for each of the petroleum hydrocarbon fractions 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. These are also all based on a sandy loam soil.

Within the Environment Agency Science Report P5-080/TR3, Askari, K. & Pollard, S., 2005 *'The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils'* it is stated that the assessment values should not be considered individually; instead the potential additive effects should be calculated. This is achieved by calculating an individual Hazard Quotient (HQ) for each fraction. The HQ is the proportion of the assessment concentration represented by the recorded concentration. The HQs are then added together to form a Hazard Index (HI) and where this exceeds unity a potential significant risk to human health may exist.

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Prepared	KDL	Checked	CAT	Date	22/12/2021	Job No	41623
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 Eastwood & Partners CONSULTING ENGINEERS St Andrew's House 23 Kingfield Road Sheffield S11 9AS Tel: (0114) 255 4554 Fax: (0114) 255 4330	CALA HOMES THAME AND LEGAL & GENERAL HOMES LTD PARCEL 8 FINCHWOOD PARK ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE
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Appendix 5

Geotechnical Test Results

GEOLABS Limited
Unit D3 HRS Business Park
Granby Avenue
Birmingham
B33 0SJ

Tel: +44(0) 121 296 4600
Fax: +44(0) 121 296 4599
email: admin@geolabs.co.uk
web: www.geolabs.co.uk

Eastwood and Partners (Consulting Engineers) Limited
The Old Pumping House
Main Road
Littleton
Winchester
SO22 6PR

19 November 2021

Report No : GEO/34197/01

Page 1 of 1

For the attention of Ms M Ebling / Ms R Noble

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

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

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**



Director



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

Project Number:

GEO / 34197

Project Name:

**HOGWOOD FARM
41623**

GEOLABS®

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

[illegible]

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

Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623



LIQUID AND PLASTIC LIMITS

Location TP301
Depth (m) 2.30
Sample Type D

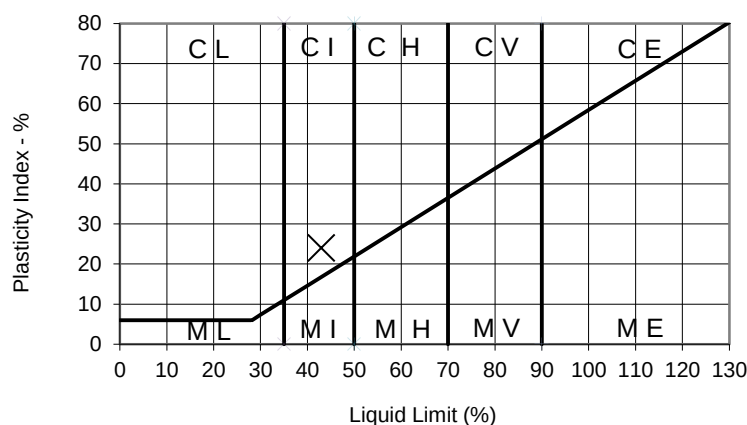
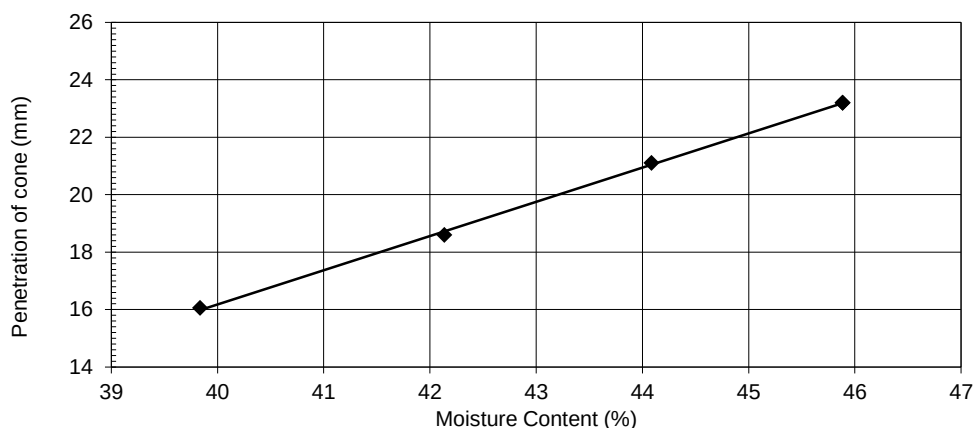
Description:

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



Project Number:

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Project Name:

**HOGWOOD FARM
41623**



LIQUID AND PLASTIC LIMITS

Location TP305
Depth (m) 1.70
Sample Type D

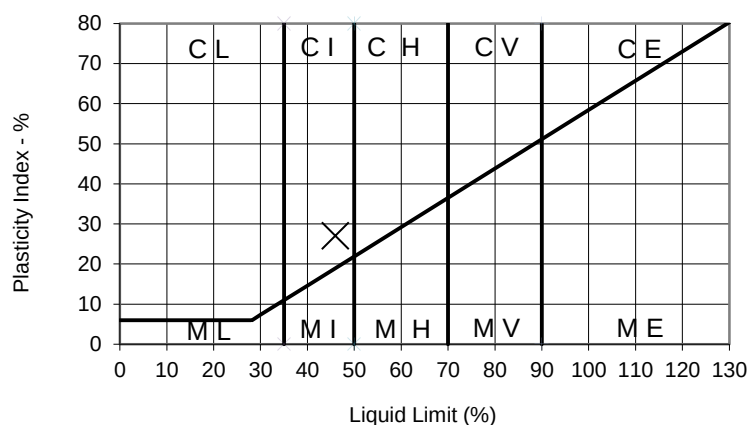
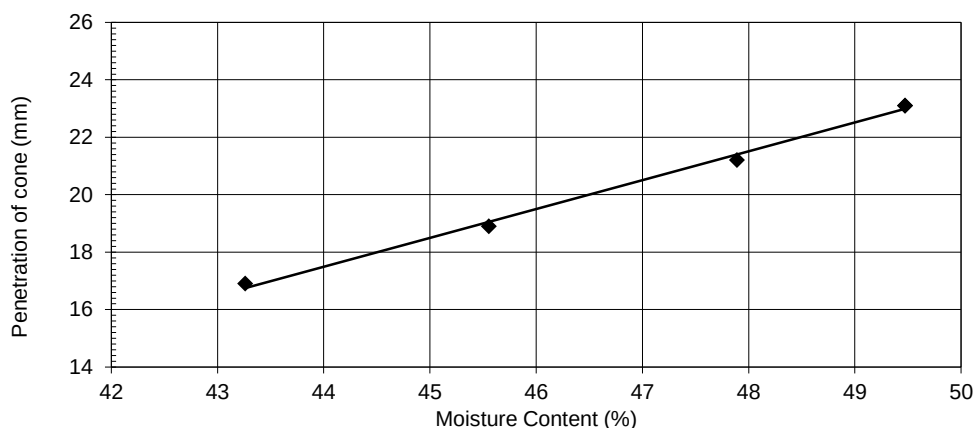
Description:

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



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623



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 %

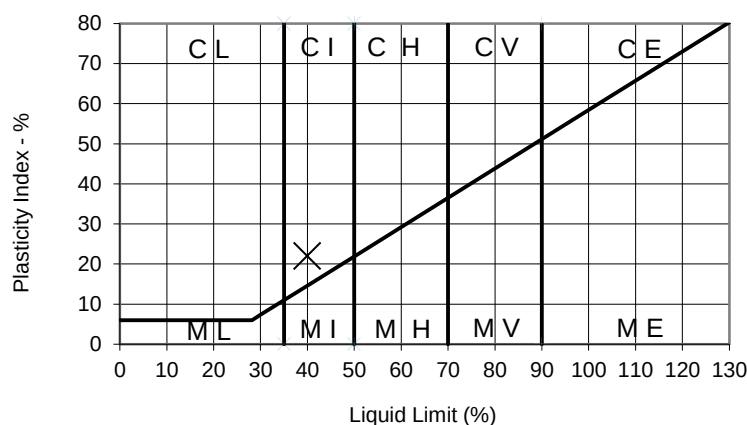
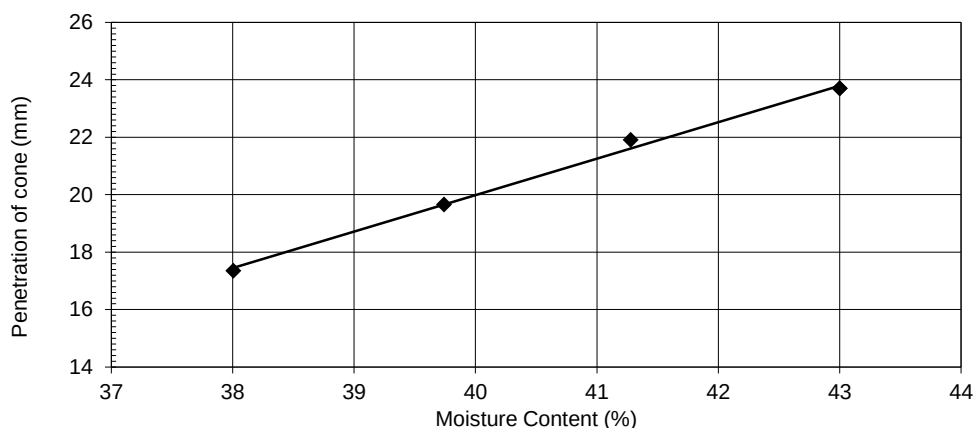
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 40 %

Plastic Limit : 18 %

Plasticity Index : 22 %

Equivalent Water Content of material passing 425µm sieve : 25.8 %

Liquidity Index : 0.35



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623



LIQUID AND PLASTIC LIMITS

Location TP308
Depth (m) 3.10
Sample Type D

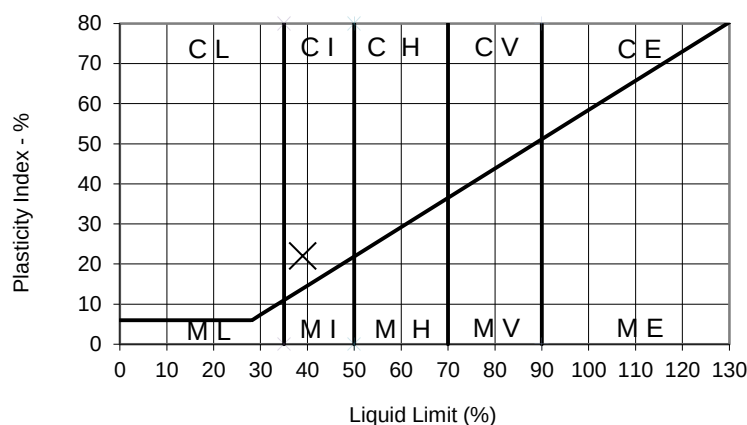
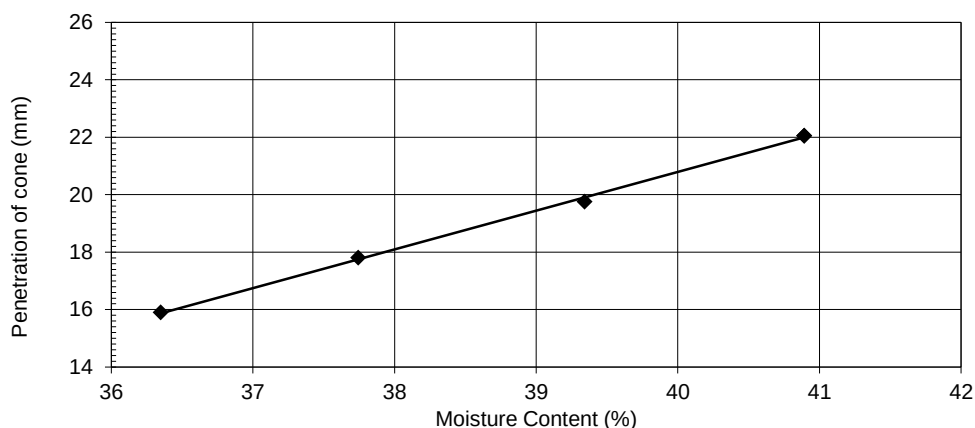
Description:

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



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623



Unit D3 HRS Business Park, Granby Avenue, Birmingham, B33 0SJ

Client : Eastwood and Partners (Consulting Engineers) Limited, The Old Pumping House, Main Road, Littleton, Winchester, SO22 6PR

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(Ref 1637329783)

LIQUID AND PLASTIC LIMITS

Location TP310
Depth (m) 1.60
Sample Type D

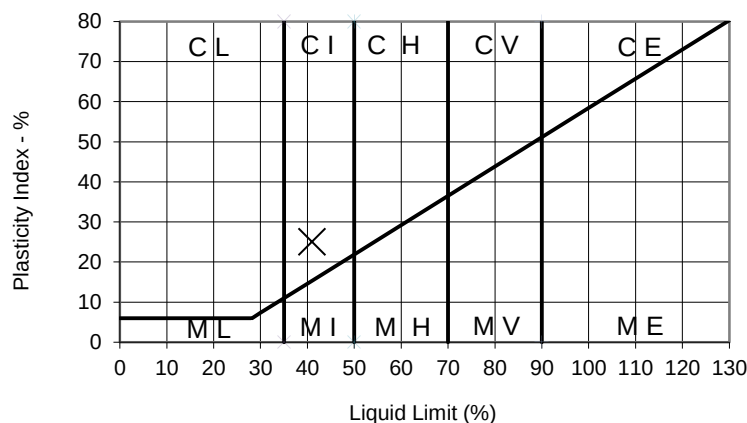
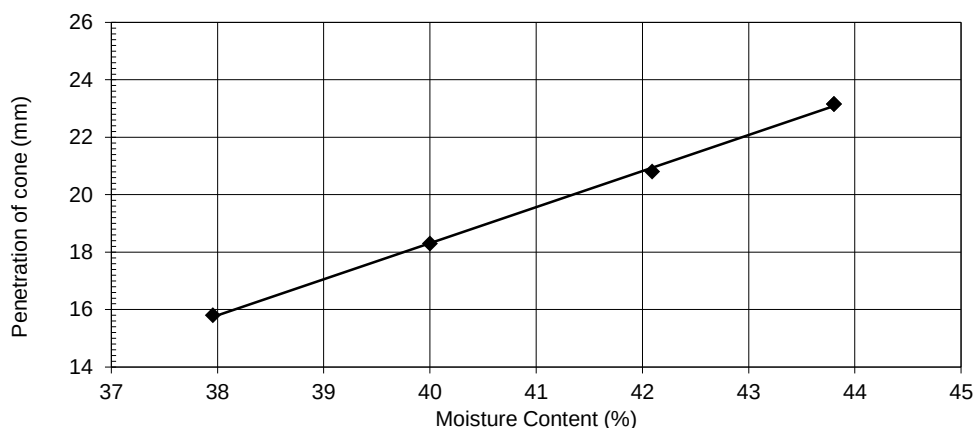
Description:

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



Project Number:

GEO / 34197

Project Name:

**HOGWOOD FARM
41623**



LIQUID AND PLASTIC LIMITS

Location TP312A
Depth (m) 2.30
Sample Type D

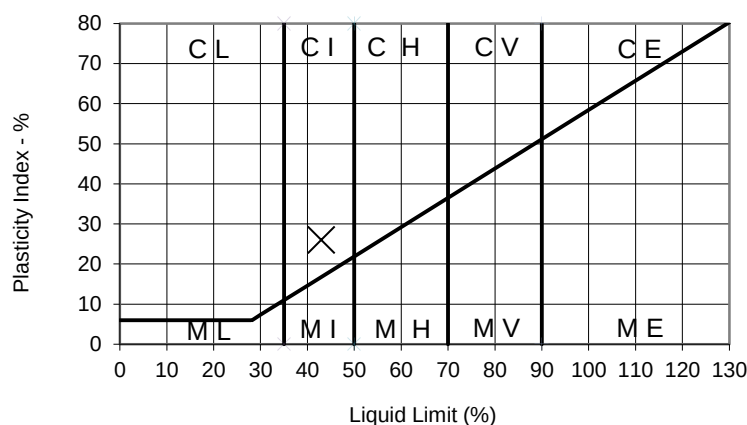
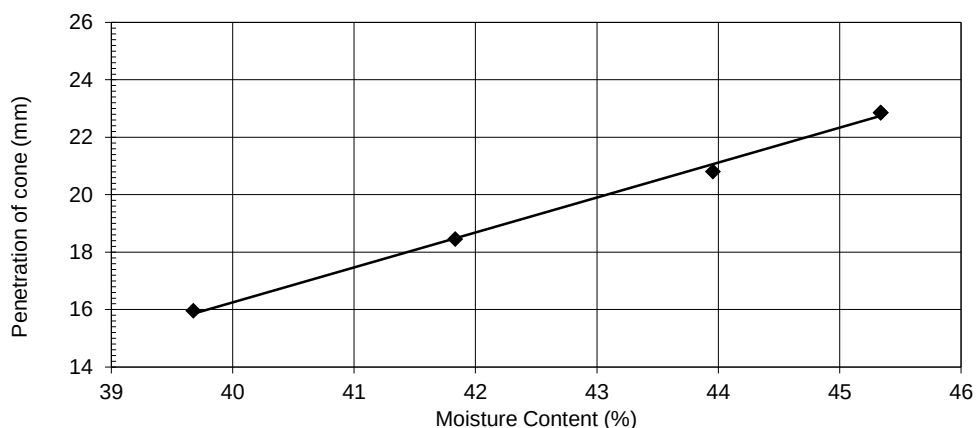
Description:

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



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623



LIQUID AND PLASTIC LIMITS

Location TP315
Depth (m) 1.50
Sample Type D

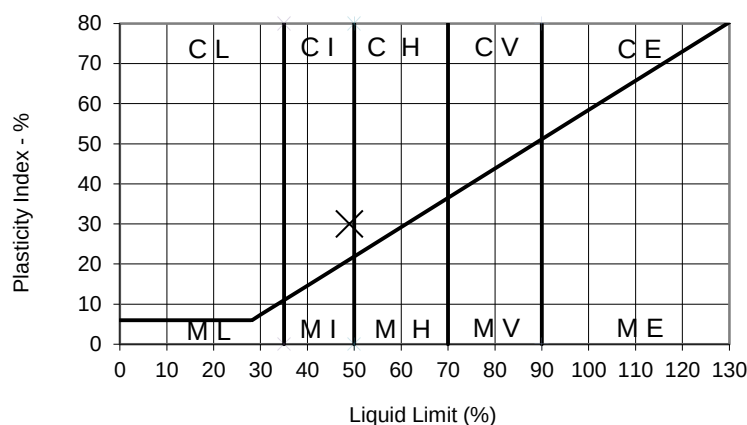
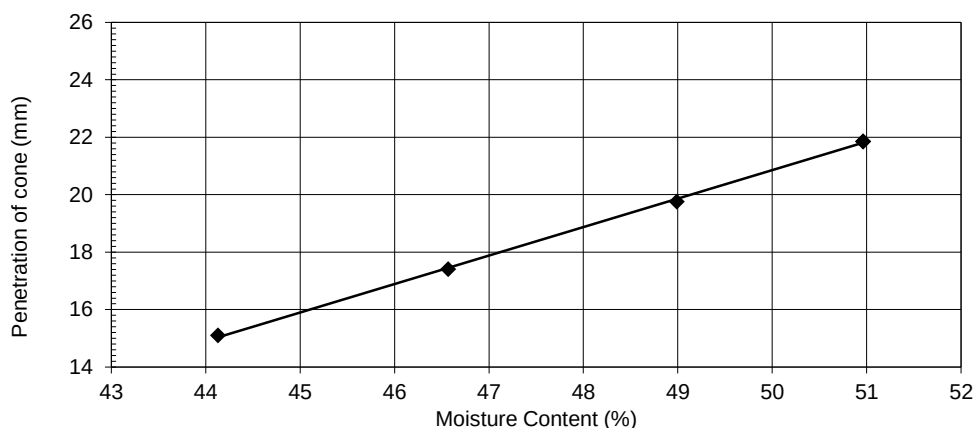
Description:

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



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623

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LIQUID AND PLASTIC LIMITS

Location TP318
Depth (m) 2.30
Sample Type D

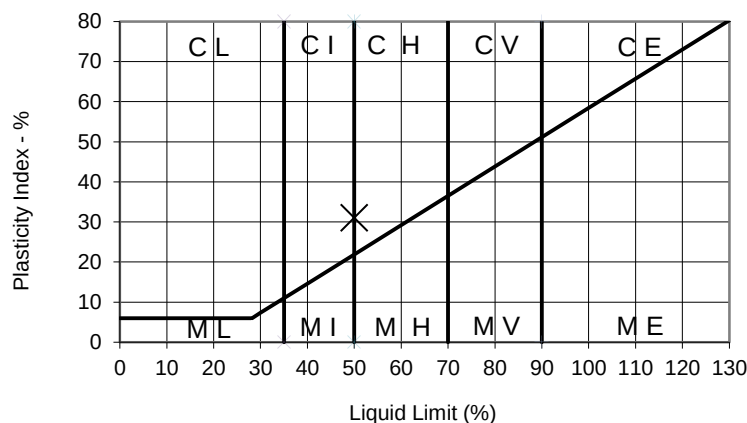
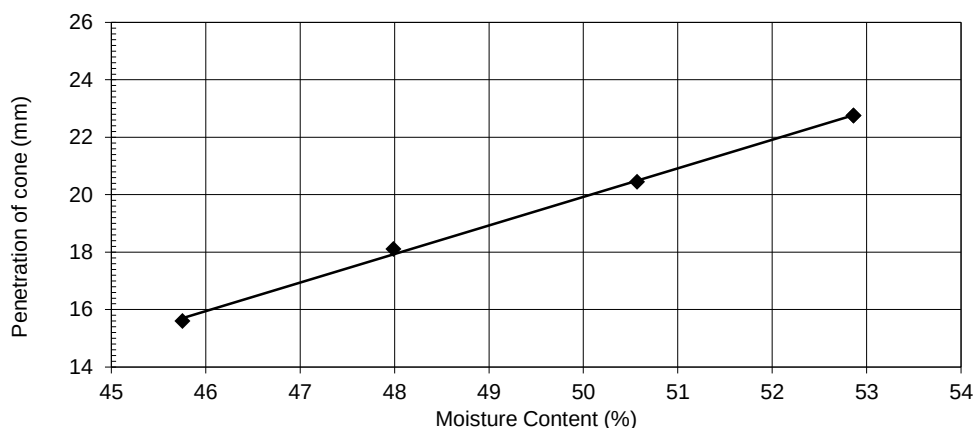
Description:

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



Project Number:

GEO / 34197

Project Name:

HOGWOOD FARM
41623

GEOLABS

LIQUID AND PLASTIC LIMITS

Location TP320
Depth (m) 1.70
Sample Type D

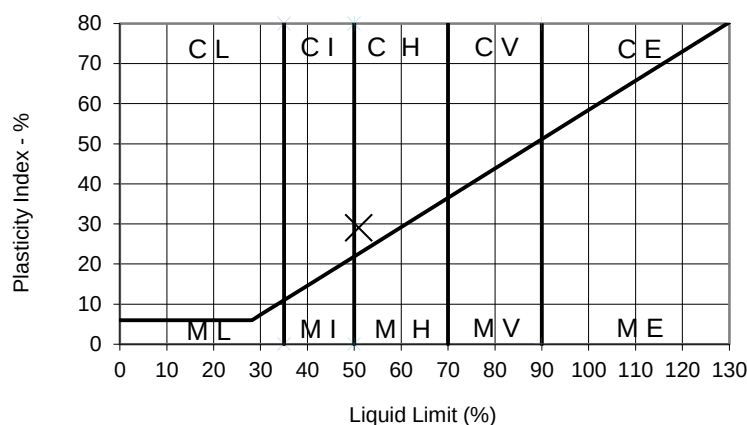
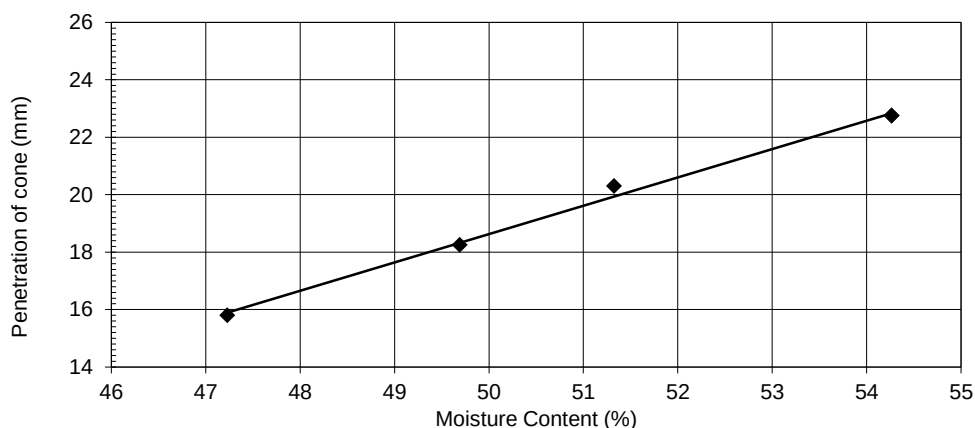
Description:

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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GEOLABS

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 %

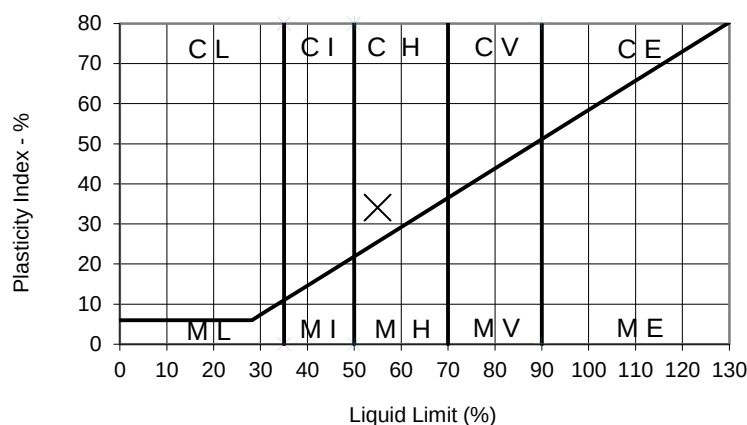
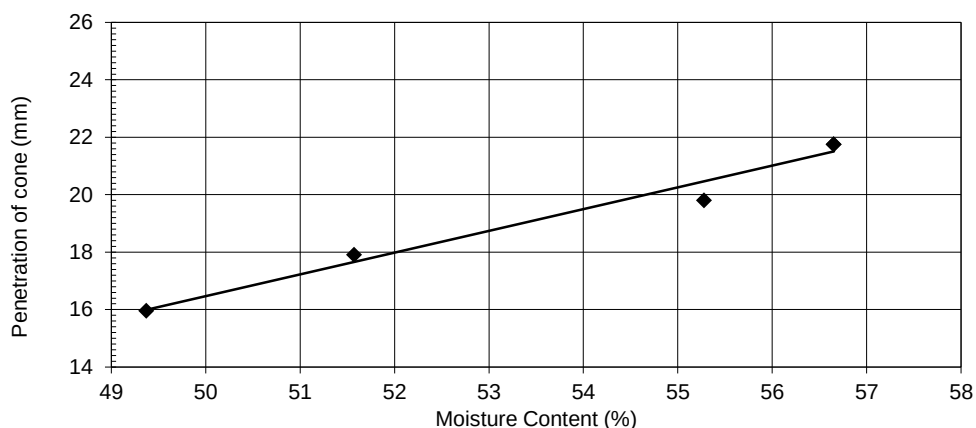
Liquid Limit - Fall Cone 4 point Method (cone angle 30°) with increasing water content : 55 %

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

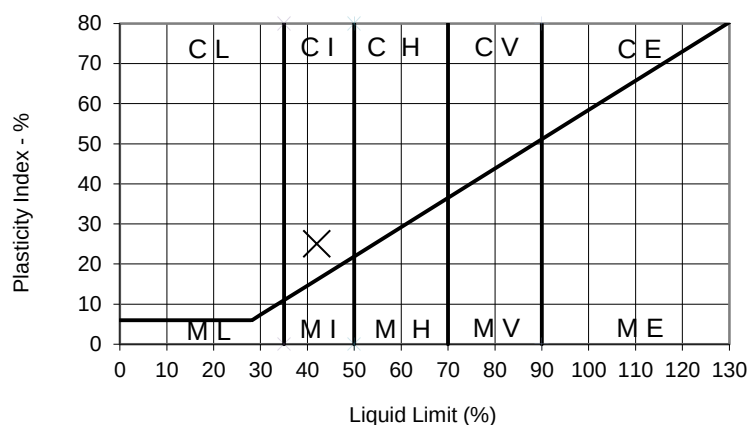
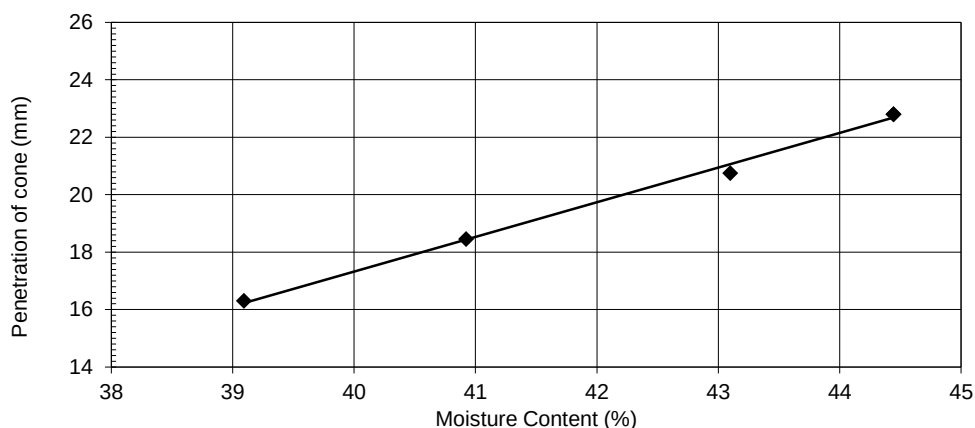
Description:

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

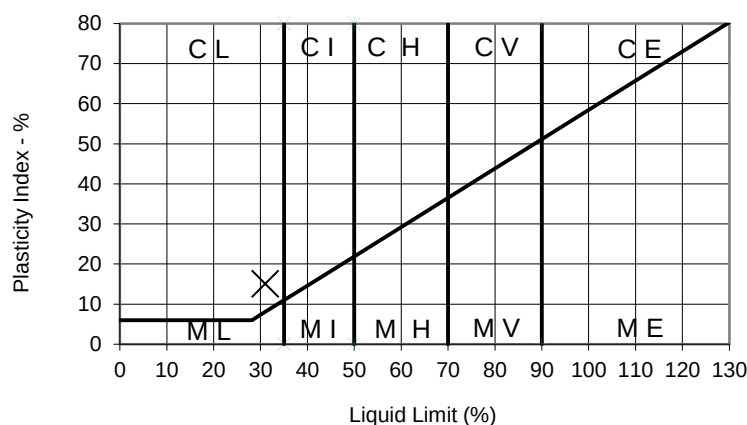
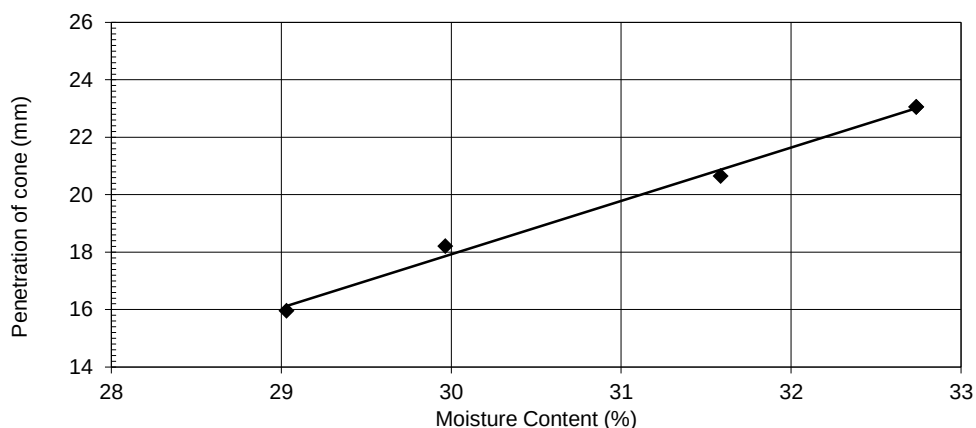
Description:

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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**HOGWOOD FARM
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LIQUID AND PLASTIC LIMITS

Location TP345
Depth (m) 2.70
Sample Type D

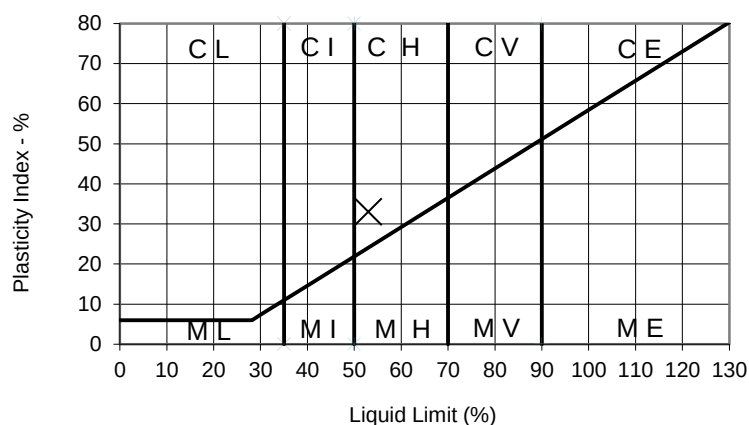
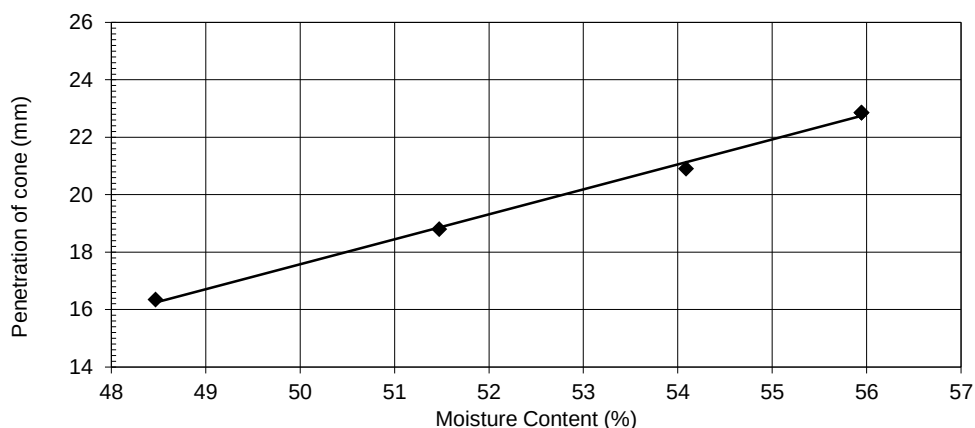
Description:

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

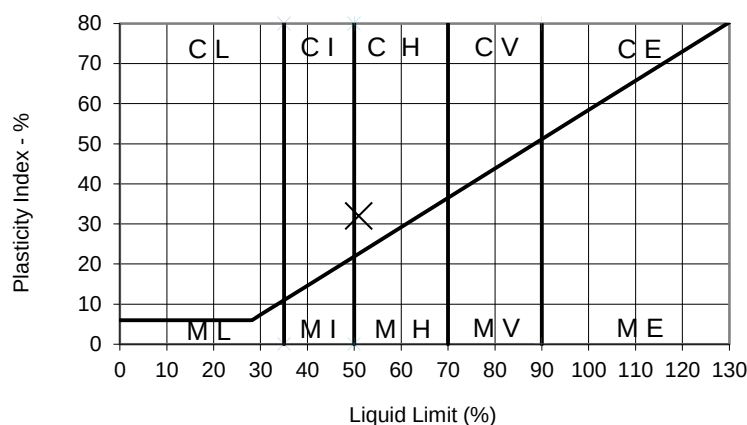
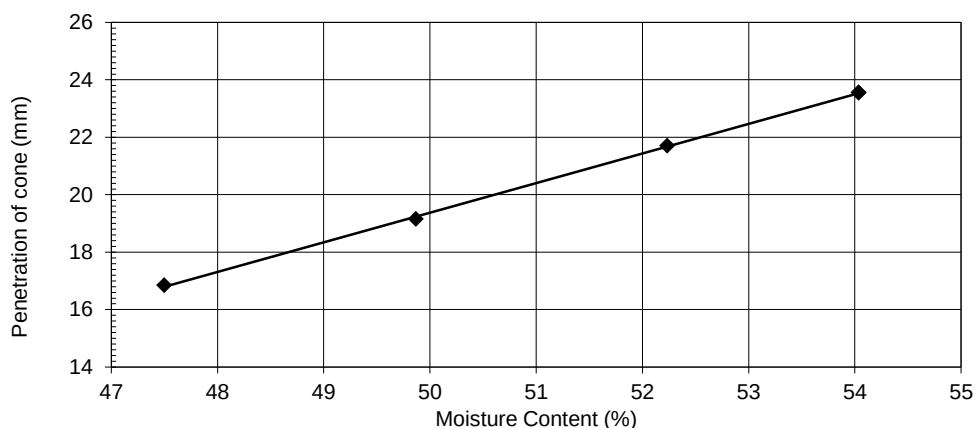
Location TP348
Depth (m) 3.00
Sample Type D

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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**HOGWOOD FARM
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LIQUID AND PLASTIC LIMITS

Location TP350
Depth (m) 1.50
Sample Type D

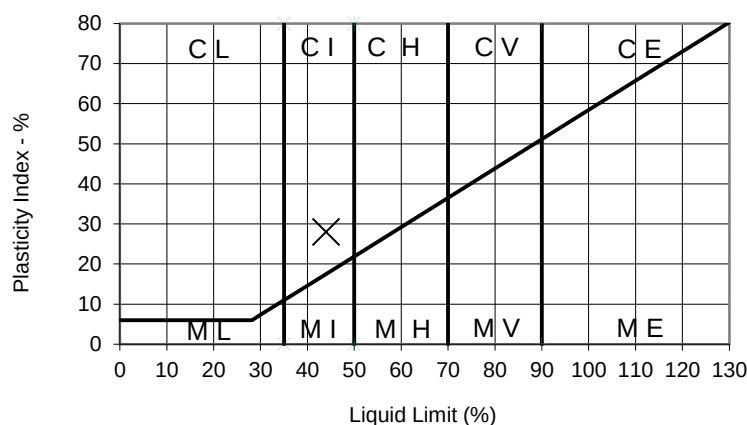
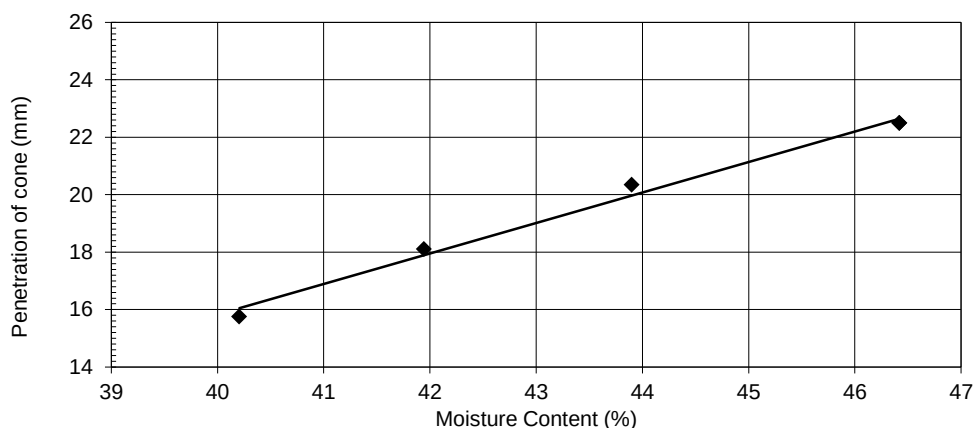
Description:

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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HOGWOOD FARM
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GEOLABS

LIQUID AND PLASTIC LIMITS

Location TP360
Depth (m) 1.00
Sample Type D

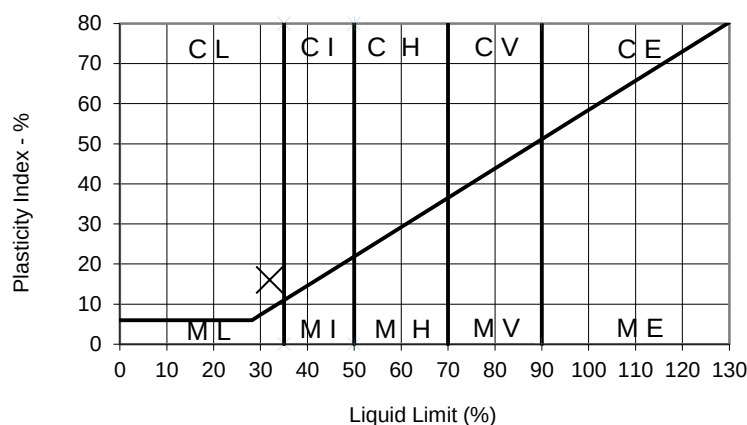
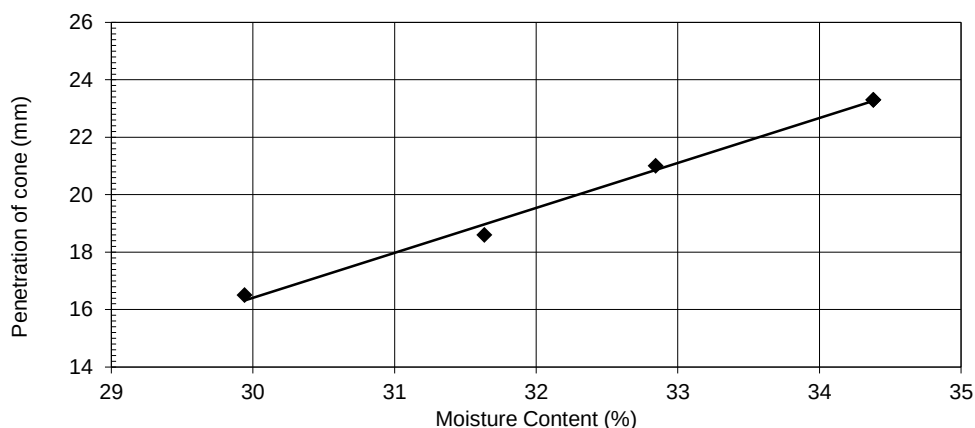
Description:

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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**HOGWOOD FARM
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