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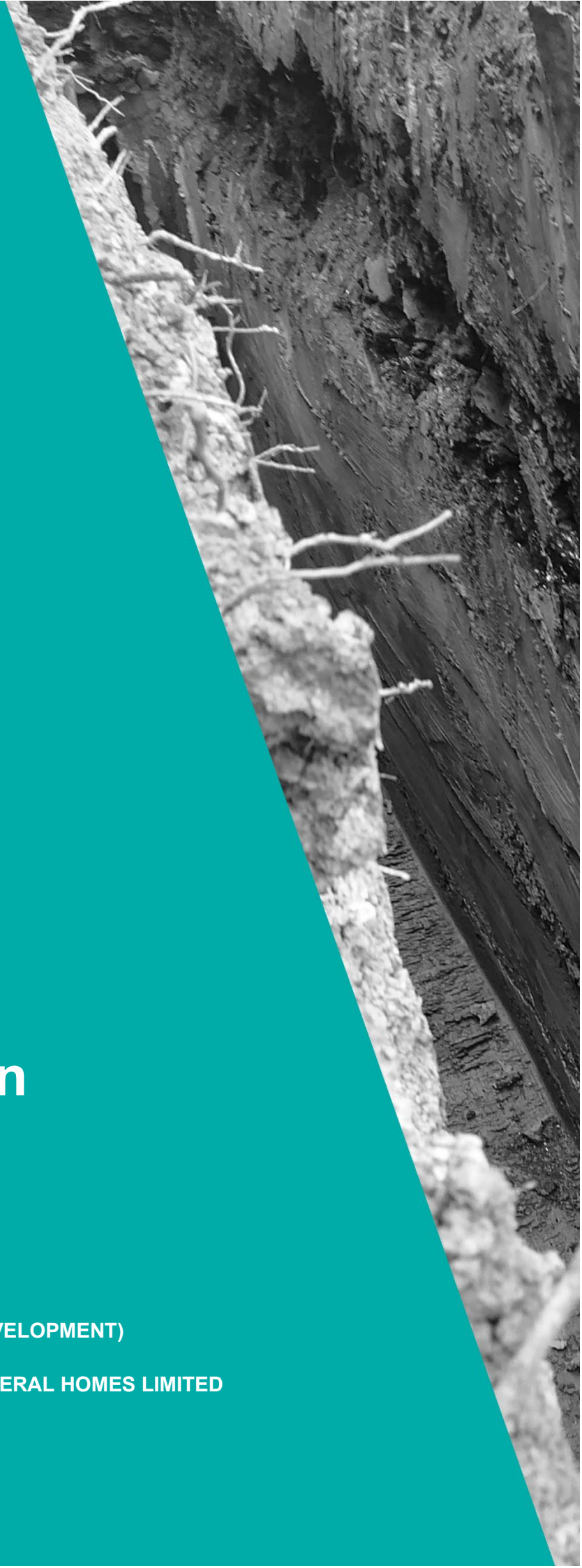

Site Investigation

HOGWOOD FARM (FINCHWOOD PARK DEVELOPMENT)

CALA HOMES THAMES AND LEGAL & GENERAL HOMES LIMITED

25 APRIL 2024

Eastwood
CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
mail@eastwoodce.com
0114 255 4554
eastwoodce.com

GEOTECHNICAL AND GEO-ENVIRONMENTAL SITE INVESTIGATION

PARCEL 4
HOGWOOD FARM
(FINCHWOOD PARK DEVELOPMENT)

FOR

CALA HOMES THAMES AND LEGAL & GENERAL HOMES LIMITED

ISSUE 3

41623-041 **25 April 2024**

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Ruth Noble

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1.0 EXECUTIVE SUMMARY

1. This report presents the findings of a Geotechnical and Geo-environmental Site Investigation carried out by Eastwood Consulting Engineers.

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

3. The site comprises former agricultural land surfaced with grass and scrub vegetation. The Phase 2 site compound and a laydown area are located in the north east and centre of the site respectively.

4. The solid geology is shown to comprise the London Clay Formation. No superficial deposits are indicated to be present.

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

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

7. The ground conditions comprise topsoil over firm to stiff clay deposits of the weathered London Clay Formation which becomes unweathered with depth. Compacted hardcore surfacing was present in the north east and centre of the site where the site compound and lay down areas are located.

8. Groundwater was not encountered during the investigation, however groundwater monitoring has suggested that shallow groundwater is likely to be present, particularly during wetter months.

9. For the majority of the site, traditional strip and trench fill foundations are expected to be appropriate, founded at an expected minimum depth of 900 mm in undisturbed natural clay strata.

10. 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, or for piled plots within the influence of trees.

11. Any plots near to the perimeter of the site, where mature trees are present, may need to be piled. Analysis has shown that conventional driven piles should be sufficient.

12. 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.

13. Soakaways are unlikely to be a viable form of surface water drainage due to the presence of cohesive strata.

14. No elevated concentrations of contaminants have been identified within the soil at the site. Therefore, no remedial measures are considered necessary and the topsoil and natural ground across the site are suitable for reuse.

15. It is assumed that the compacted hardcore surfacing will be removed during development at the site. If this is not the case, chemical analysis will be required to ensure it is suitable to remain.

16. No sulphate precautions are required for concrete in contact with the weathered London Clay Formation, however concrete in contact with the unweathered London Clay Formation will require DS-4 AC-4 sulphate precautions.

17. 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 Geotechnical and Geo-environmental Site Investigation carried out by Eastwood Consulting Engineers (ECE) for, and on the instructions of, 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

ECE (then Eastwood & Partners) undertook a broader site investigation that encompasses Parcel 4 in 2017. The resulting report, reference CAT/RAN/SAE/41623-002, dated 21 August 2017, should therefore 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.

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

2.4 Scope of Investigation

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

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

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

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

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

2.5 Limitations of Investigation

This report is based on the assumption that the site will be developed with low-rise conventional housing with private gardens, areas of soft landscaping and associated infrastructure including roads and driveways. It is not thought that ground levels will be modified significantly. If this is not the case, then the advice given in this report may not be appropriate.

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 and information gained from a geological and historical desk study. 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 the constituents of 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 THE SITE

3.1 Description

Land parcel 4 makes up the south-western section of Phase 2 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 is located immediately to the north and east. The site is centred on grid reference 476530, 164348. Access to the site at the time of the most recent site visit is from the west via the haul road connecting the development site entrance and the compound of the phase 2 construction area.

The site has an area of approximately 2.3 hectares and is roughly square on plan. It slopes down to the south east from approximately 64 m AOD in the north west to 59 m AOD in the south east. The site comprises former agricultural land, which as part of the wider development of the site, now includes the Phase 2 site compound in the north east of the site and the groundworks contractors' compound and associated laydown area to the north of the centre of the site. The south eastern quarter of the site has been stripped of vegetation and the surface covering across the remainder of the site is grass and scrub vegetation. A haul road enters the site from the south, leading north, before turning east, separating the south-eastern quarter of the site from the remainder of the site.

The site is bordered by Parcel 5 to the south and the partially constructed Phase 1 development to the north and east. Sheerlands Road and agricultural farmland are located to the west of the site.

The information presented in this report relates solely to Parcel 4, (herein referred to as "The Site"), except where specifically stated otherwise.

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 the Parcel 4 area are summarised in the sections below.

4.1 History

Historical Ordnance Survey maps obtained as part of the Envirocheck Report have been studied to assess the previous use of the site. Copies of the maps are presented in Appendix 2.

4.1.1 The Site

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

4.1.2 The Surrounding Area

The surrounding area predominantly comprises agricultural land, although claypits are located approximately 200 m south west of Parcel 4 and a clay pit and brickworks are shown to the north-east of the site. By the early 20th Century, a brickworks is also present around 250 m south of Hogwood Farm, and gravel pits are shown approximately 150 m south (greater than 250 m away from the current subject site) and 750 m west of Hogwood Farm.

By 1932 Arborfield Remount Depot is labelled around 500 m north east of Parcel 4, although its full extent and proximity to the site is unclear. By 1938 two additional brickworks are shown around 500 m to the north and east of the site, the latter later developed as Hogwood Industrial Estate.

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

The 1984 map shows Hogwood Farm Industrial Estate in its current layout around 500 m to the east, with a possible tank immediately to the west. By 1988 the attenuation pond between the two industrial estates is also shown.

4.2 Geology

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

4.3 Hydrogeology

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

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

4.4 Hydrology

The nearest surface water feature is a drain located around 275 m to the west of the site.

4.5 Ground Gas

The updated UK Radon maps, issued in December 2022, have been consulted. These confirm that the site is located in a 1km grid square where less than 1% of homes are estimated to lie at or above the action level. Therefore no radon precautions are required at the site.

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

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 north 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 however, shown in conjunction with this brickworks, but a pond is 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	• Heavy metals/metalloids • 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
Topsoil	• 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
Made ground/natural ground	• Sulphates	• Direct contact	• Sub-surface concrete structures

5.0 GROUND INVESTIGATION

5.1 Site Works

Eastwood Consulting Engineers (ECE) visited site between 25 and 26 July 2017 and excavated two trial pits (TP12 and TP15) as part of the broader site investigation. A further eight trial pits (TP720 to TP727), six window sample boreholes (WS401 to WS406) and two cable percussion boreholes (BH203 and BH204) were completed between 23 and 24 October 2023.

Copies of all logs are presented in Appendix 2, and their locations are plotted on the Exploratory Hole Location Plan, Drawing number 41623/027A in Appendix 1.

Limited areas of the site were not accessible for the completion of exploratory holes. These were the areas occupied by the site compound in the north east of the site and the compound and laydown area in the centre of the site. Window sample holes were completed in parts of these areas, however due to restricted room and constant plant movements, the full areas could not be accessed during the investigation. The areas not available for investigation represent a small part of the overall site, and due to the consistency of the ground conditions encountered across the site, further investigation of these areas is not considered necessary.

5.2 Laboratory Testing

One sample of natural ground was dispatched for chemical testing following the wider 2017 site investigation. A further eight samples of topsoil and seven samples of natural ground were dispatched for testing in October 2023.

Soil samples were taken in 250 ml amber glass jars and analysed at i2 Group Laboratories, Cambridge in October 2023 and Eurofins Chemtest Laboratories, Newmarket in 2017. In both cases testing was completed using MCERTs accredited methodologies where available. Laboratory testing results are presented in Appendix 4 and discussed further in Section 8.

Sixteen samples of natural clay were dispatched for geotechnical testing at Geolabs Limited in Watford, test results are presented in Appendix 5 and discussed further in Section 7.

6.0 GROUND CONDITIONS

6.1 Surface Covering

Approximately 50% of the site is surfaced with topsoil comprising sandy, occasionally gravelly clay, and frequent rootlets to depths of between 0.2 and 0.5 m below ground level (bgl). The exceptions to this are the compound and laydown areas located in the north east and centre of the site and a haul road running through the south eastern quarter of the site which are surfaced with compacted hardcore.

Reworked topsoil was recorded in TP721 and TP722 in the south east of the site.

6.2 Made Ground

Made ground was encountered in within the site compound and laydown areas (WS401 to WS404) and was generally found to comprise gravelly fine to coarse sand to depths of between 0.35 and 0.5 m bgl. The gravel included concrete, brick, plastic, glass, flint, chert, quartzite and sandstone. Obstructions within the hardcore forced the termination of WS403 and WS404 at 0.5 m.

6.3 Natural Ground

Natural ground of the weathered London Clay Formation was encountered beneath the topsoil or made ground. This generally comprised firm to stiff, orangish brown mottled grey sandy clay. Stiff grey clay representative of the unweathered London Clay Formation was encountered from between 3.1 and 3.35 m bgl, in a small number of window sample holes and trial pits. This was then found to become very stiff in the cable percussion boreholes from between 13 and 14 m bgl and continued to the base of the holes. The trial pits were terminated between 2.7 and 3.4 m bgl, window samples were terminated at between 3 and 4 m bgl (except where obstructions in the hardcore forced termination at 0.5 m) and the boreholes were terminated at 20 m bgl.

6.4 Obstructions

Due to the presence of the site compound and laydown areas located in the centre, north and east of the site, some areas of the site were not accessible for the completion of trial pits.

No subsurface obstructions were encountered during the site investigation.

6.5 Groundwater

Groundwater was not observed in any of the trial pits while they remained open.

Eastwood Consulting Engineers 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. As part of this, one monitoring well was installed in Parcel 4, WS08. The shallowest groundwater level recorded in WS08 was 0.47 m bgl.

As part of the October 2023 ground investigation works, groundwater monitoring wells were installed in WS401, WS402, WS405 and WS406. A programme of winter groundwater monitoring was then completed. A full copy of the results is included in Appendix 3 and these are summarised in the table below.

Monitoring Well	Water Level (m bgl)						Well Depth (m bgl)
	13/12/23	03/01/24	26/01/24	22/02/24	27/03/24	18/04/24	
WS401	0.4	0.15	0.1	0.1	GL	0.84	2.96
WS402	0.28	GL	0.27	0.1	GL	0.62	2.87
WS405	0.12	GL	0.25	GL	GL	0.64	2.85
WS406	GL	GL	0.35	GL	0.2	0.72	3.99

GL = Ground Level

Considering the above results, it is clear that shallow groundwater is present at the site, often being recorded at ground level across the area of the proposed residential plots. Therefore, groundwater and surface water may impact the excavation of trenches, particularly during wetter months. As such, it is likely that groundwater control measures such as sump and pump may need to be implemented during excavation works.

6.6 Evidence of Contamination

Visual or olfactory evidence of possible contamination was not identified in any of the exploratory holes.

7.0 GEOTECHNICAL APPRAISAL

The site is proposed for development with residential properties of conventional construction.

Our investigations indicate that the ground conditions beneath site are relatively homogenous. They generally comprise topsoil over natural deposits of the weathered London Clay Formation, becoming unweathered with depth. Groundwater was not recorded in any of the trial pits whilst they remained open, however previous groundwater monitoring has indicated the presence of shallow groundwater.

7.1 Laboratory Geotechnical Testing

Eleven samples of the natural cohesive ground from the weathered London Clay Formation were sent for geotechnical laboratory testing following the field work in October 2023. The full results for all geotechnical testing completed to date are included in Appendix 5 and are summarised below.

Exploratory Hole	Depth (m)	Moisture Content	Liquid Limit	0.4 x Liquid Limit	Potentially Desiccated?	Modified Plasticity Index (%)	Volume Change Potential
TP720	1.5	23.5	45	18	N	26	Medium
TP721	1	24.3	44	17.6	N	24	Medium
TP721	2.1	23.2	40	16	N	21	Medium
TP722	0.9	24.3	45	18	N	25	Medium
TP723	1.3	22.3	46	18.4	N	29	Medium
TP723	2.1	25.2	39	15.6	N	18	Low
TP724	1.1	23.2	45	18	N	27	Medium
TP724	2.5	24.7	37	14.8	N	18	Low
TP725	0.9	24.3	40	16	N	20	Medium
TP726	1	23.3	47	18.8	N	28	Medium
TP727	2.6	24.6	41	16.4	N	22	Medium

The samples recorded modified plasticity indices of 18 to 27% which correspond to a low to medium volume change potential. Nine of the eleven samples are indicated to have a medium volume change potential and it is therefore recommended that this is adopted for the cohesive soils across the entire site. None of the samples are indicated to be potentially significantly desiccated as the water content of the samples is greater than 40% of the liquid limit. Previous testing of the unweathered London Clay Formation on adjoining parcels confirms that this also has a medium volume change potential.

Following the cable percussion drilling work in October 2023, four undisturbed U100 samples of the unweathered London Clay Formation were recovered and scheduled for undrained triaxial testing.

Location	Depth (m bgl)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)
BH203	6.0 to 6.45	120	327	164
BH204	9.0 to 9.45	180	386	193
BH203	12 to 12.45	240	541	271
BH204	15 to 15.45	300	311	155

The above results demonstrate a general trend of increasing shear strength with depth, as would be expected based on the logs.

7.2 In-Situ Testing

In-situ hand shear vane testing undertaken on the site in the weathered London Clay Formation during October 2023 recorded shear strength values of between 59 and 113 kN/m^2, with an average reading of 75 kN/m^2.

Standard penetration tests (SPTs) were completed every 1.5 m in BH203 to BH204 and every 1 m in WS402 and WS406, the test results are summarised in the table below.

Strata	Average N Value Recorded			
	BH203	BH204	WS402	WS406
Weathered London Clay Formation	21.5	12	8.7	10.3
London Clay <10 m bgl	22.2	20	~	14
London Clay >10 m bgl	33	32.5	~	~

The above table shows that the average N-value increased with depth, as anticipated and in accordance with the engineer's field observations.

The full hand shear vane and SPT results can be seen in the trial pit, window sample and borehole logs included in Appendix 2.

7.3 Foundations

For the majority of the dwellings, it is expected that traditional strip and trench fill foundations, taken onto undisturbed 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 125 kN/m^2 is likely to be achievable.

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

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. Piling may also be required where site levels are proposed to be raised, particularly where this also intersects with plots requiring deepening due to trees.

Piling is therefore expected to be required towards the perimeter of the site where mature trees are present. Given the site is generally surfaced with topsoil, and as no significant below ground obstructions were encountered standard driven piles are expected to be appropriate. Specific pile design will need to be undertaken by the piling contractor using the information provided in this report.

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.

7.4 Ground Floors

Where less than 600 mm of made ground is present, ground bearing slabs will be appropriate. Elsewhere, reinforced suspended slabs or precast concrete floors with a minimum 150 mm high ventilated void should be used.

If the footings require heave precautions due to trees, a precast concrete floor with a ventilated void will be required. This void should be a minimum of 250 mm high.

7.5 Superstructure Precautions

No additional superstructure precautions will be required due to the ground conditions encountered.

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

Window sample holes WS403 and WS404 both refused within the made ground and could not be progressed any further. No further obstructions were encountered during the investigation.

7.8 Roads

A CBR value of at least 2% is likely to be appropriate for road design. The ground should be assumed to be frost susceptible and a minimum construction thickness of 450 mm will therefore apply. It is recommended that CBR tests are undertaken along any proposed roads prior to construction so that more accurate CBR values can be obtained.

7.9 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.

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 approximately 50% of the site is surfaced with topsoil while compacted hardcore was identified within the compound and laydown areas located within the site. Any surface covering is underlain by the weathered London Clay Formation which becomes unweathered with depth.

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. One area of potentially infilled ground is indicated to be located to the north of the site, and is thought to refer to Hogwood Shaw brickworks, this is assumed to be the former clay pit. However, this is not considered to present a risk of gas generation and migration. 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

Over the two phases of investigation eight samples of topsoil and eight of natural ground have been sent for chemical testing. Each of the samples was analysed for the suite of contaminants listed overleaf.

Samples of the hardcore surfacing were not selected for chemical analysis as this material has been placed to provide a temporary surfacing in the compound areas and will be removed prior to development. If this is not the case, chemical analysis of this material will be required.

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

*made and natural ground samples only

Two topsoil samples were also scheduled for pesticide testing and three natural ground samples were scheduled for fully fractioned petroleum hydrocarbon (TPH CWG), benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MTBE) testing.

Testing was undertaken by Chemtest, using MCERTs accredited methodologies, where available.

8.6 Assessment Criteria

As the site is to be developed with conventional dwellings with private gardens the assessment criteria for '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

Copies of the chemical test results (23-64744 and 17-19872) are included in Appendix 4. Some preliminary risk assessment is undertaken in this section of the report where determinants can be readily discounted.

8.7.1 Topsoil

None of the samples of topsoil recorded any elevated concentrations of determinants when compared to the residential with home grown produce assessment values.

Pesticides were recorded to be below the detection limit in the samples tested.

8.7.2 Natural Ground

None of the natural ground samples recorded elevated concentrations of any of the determinants when compared to the residential with homegrown produce assessment values.

The samples tested for TPH CWG, BTEX and MTBE all recorded results below the test detection limits.

8.7.3 Sulphates

In accordance with BRE Special Digest 1, the site comes under the classification of 'brownfield' and groundwater is expected to be mobile.

The following table displays the results of the made ground and natural ground samples tested:

Weathered London Clay Formation	**Range of Results**	**Characteristic Value**	**Sulphate Classification**
Water Soluble Sulphate (mg/l)	2.7 to 27.7	19.55	DS-1 AC-1
Total Sulphur (%)	<0.005 to 0.008	0.008	
Total Potential Sulphate (%)	<0.015 to 0.024	0.024	
pH	6.9 to 7.6	6.9	
Unweathered London Clay Formation	**Range of Results**	**Characteristic Value**	**Sulphate Classification**
Water Soluble Sulphate (mg/l)	200 to 640	555	DS-5 AC-5
Total Sulphur (%)	0.49 to 0.84	0.84	
Total Potential Sulphate (%)	1.47 to 2.52	2.52	
pH	8.1 to 8.5	8.1	

Based on both the water soluble sulphate and total potential sulphate values, a design sulphate class of DS-1 would be appropriate for the weathered London Clay Formation soils, present to depths of between around 3.1 and 3.35 m bgl. The pH values determine an ACEC class of AC-1 to be appropriate and as such no sulphate precautions would be required for below ground concrete in contact with shall natural ground only.

The total potential sulphate values in the underlying unweathered London Clay Formation, dictate a design sulphate class of DS-5 and ACEC class of AC-5 to be required. However, within BRE SD1 it is stated that '*a limitation can be applied if the sulfate class for the total potential sulfate is initially found to be Sulfate Class 5, but sulfate classes for groundwater and the water extracts tests are Sulfate Class 3 or less. In this case, the Design Sulfate Class for the site location can be limited to DS-4.*' Therefore, where the concrete is in contact with deeper natural ground, DS-4 AC-4 sulphate precautions will need to be incorporated.

No made ground was encountered at the site, however should any made ground me encountered, where below ground concrete is in contact with made ground a minimum design sulphate class of DS-2 and ACEC class of AC-2 should be adopted.

8.8 Significant Pollutant Linkages

The significant pollutant linkages consequently identified are thus documented in the following table.

Source	Pathway	Receptor
Sulphates in the unweathered London Clay Formation.	Direct contact	Below ground concrete

9.0 RISK ASSESSMENT

9.1 Human Health: Future Site Users

None of the samples of topsoil or natural ground recorded elevated concentrations of any of the determinants when compared to the residential with homegrown produce assessment values. Therefore, the topsoil and natural ground can be considered chemically and physically suitable for reuse on site.

It is assumed that all hardcore surfacing will be removed prior to completion of development at the parcel. If this is not the case and any remains in place, this will need to be tested to ensure its suitability.

9.2 Human Health: During Construction

Groundworkers employed during the construction phase of the development are most at risk of harm due to them having direct contact with the soils. However, the contact is generally of short duration, and all competent groundworkers will be aware of the potential risks associated with contact with potentially contaminated soils. Therefore, the overall risk to the health of construction workers is considered to be low.

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.

9.3 Plants

No samples recorded any phytotoxic concentrations of contaminants.

9.4 Ground Gas

Radon precautions are not required.

Ground gas precautions are not considered necessary.

9.5 Construction Materials

Based upon the results of the pH and sulphate testing discussed in Section 8, no sulphate precautions will be required for below ground concrete in contact with the weathered London Clay Formation only. However, where below ground concrete is in contact with the unweathered London Clay Formation (present from between around 3.1 and 3.35 m bgl) a sulphate class of DS-4 and ACEC class of AC-4 will be required.

Where made ground is present a minimum sulphate class of DS-2 and ACEC class of AC-2 should be adopted.

The results of the chemical testing will need to be forwarded to the water company so that appropriate water supply pipes can be selected.

9.6 Controlled Waters

The underlying bedrock is primarily classified as unproductive strata. Groundwater has not been encountered as part of this investigation and no significantly elevated concentrations of contaminants have been detected.

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

Standard good site practice during the construction phase of the development must still be adhered to in terms of surface water run-off control measures, to ensure there is no risk to controlled waters.

9.7 Unexpected Contamination

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

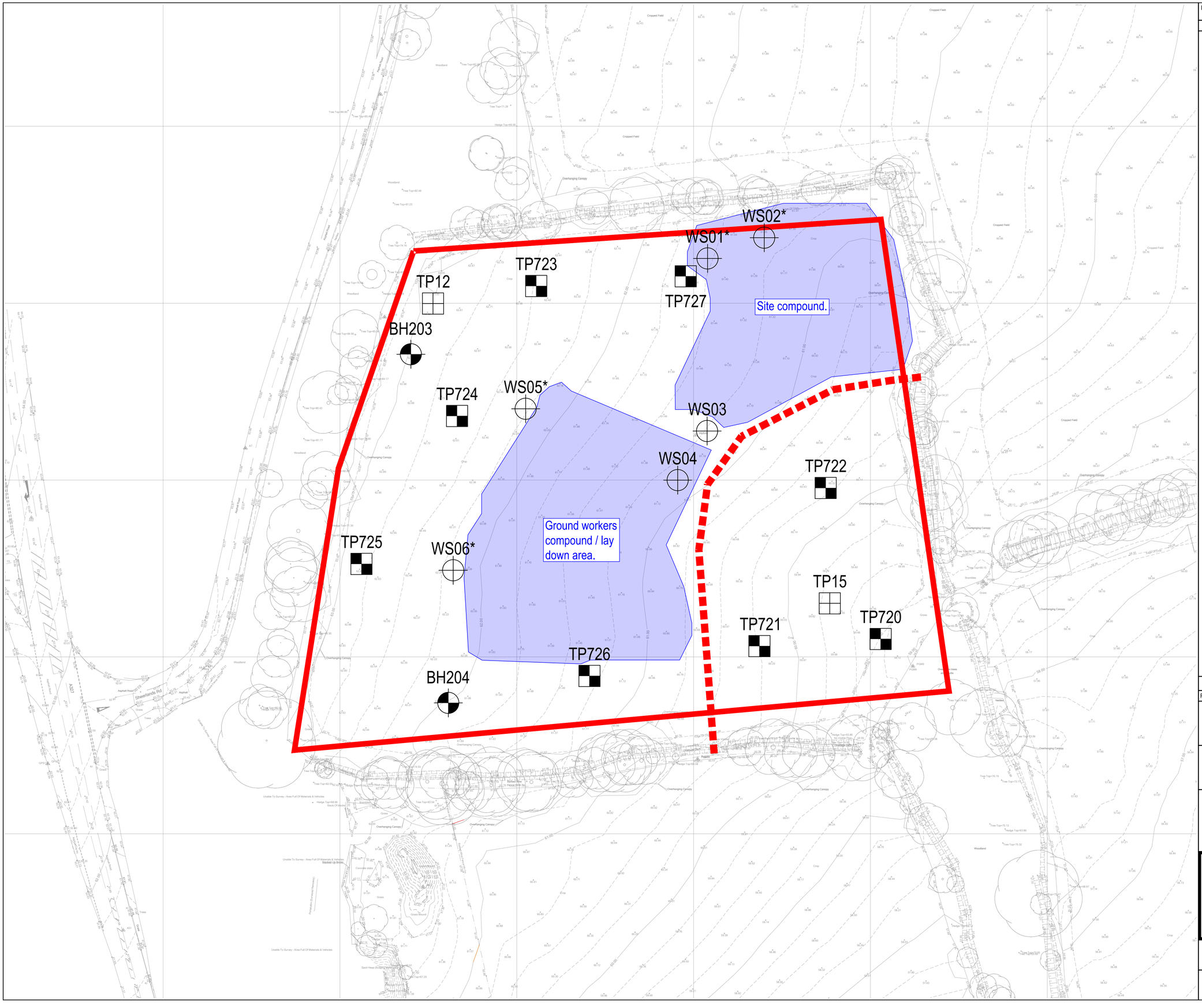
9.8 Disposal of Material

If material needs to be removed, it should to be taken to a suitably licensed landfill or waste treatment facility. The costs of disposal and landfill tax can be substantial. The disposal of material should therefore be seen as a last resort with options such as treatment and reuse either on-site or off-site considered where possible.

The category of landfill which can accept the waste (inert, non-hazardous or hazardous) would need to be determined and will also have a significant effect on the costs. Additional testing may be required by the landfill operator and the acceptance of material is generally at their discretion.

Appendix 1

Exploratory Hole Location Plan, drawing reference 41623/027



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

NOTES

KEY:

- Approximate location of trial pit completed by ECE on 24 October 2023.
- Approximate location of cable percussion borehole completed on behalf of ECE between 23 and 24 October 2023.
- Approximate location of window sample completed on behalf of ECE on 24 October 2023.
- Approximate location of trial pit excavated by Eastwood and Partners between 25 and 27 July 2017.
- * Window sample borehole installed within monitoring well.
- Approximate area of site compound.
- Site boundary.
- Haul road.

REV	DESCRIPTION	SIG	CHK	DATE
A	First Issue.			

CALA HOMES THAMES & LEGAL AND GENERAL HOMES LTD

PARCEL 04, HOGWOOD FARM

EXPLORATORY HOLE LOCATION PLAN

Eastwood & Partners
CONSULTING ENGINEERS
St. Andrew's House
23 Kingfield Road
Sheffield
S11 9AS
Tel 0114 255 4554
Fax 0114 255 4330
mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A1	DRAWING STATUS
1:500	PRELIMINARY

DRAWN	CHECKED	DATE	DRAWING NUMBER	REV
DW	ME	08.12.2023	41623/027	A

Appendix 2

Trial Pit Logs (TP12, TP15 and TP720 to TP727)

Window Sample Logs (WS401 to WS406)

Cable Percussion Borehole Logs (BH203 to BH204)

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

Trialpit No
TP12
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level: -	25/07/2017
Location: Arborfield		Dimensions: -	Scale 1:25
		Depth 2.30m	
Client: Legal and General Homes			Logged By SAE

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.10	D					TOPSOIL: Crop over brown silty CLAY with roots and rootlets.
			0.40			
0.60	D					Stiff orange brown silty CLAY. Friable in upper 0.5 m.
			2.30			Trialpit Complete at 2.30 m

Remarks:

Groundwater: None encountered

AGS

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

Trialpit No
TP15
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level: -	25/07/2017
Location: Arborfield		Dimensions: -	Scale 1:25
Client: Legal and General Homes		Depth 2.70m	Logged By SAE

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.10	D					TOPSOIL: Grass over brown silty CLAY with rootlets.
			0.35			
0.50	D					Stiff orange brown silty CLAY. Friable in upper 0.5 m.
0.90	IPP 1	450				
0.90	IPP 2	375				
0.90	IPP 3	400				
1.20	D					
			2.70			Trialpit Complete at 2.70 m

Remarks: IPP= Penetrometer readings given as unconfined compressive strength in kN/m2

Groundwater: None encountered

AGS

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TrialPit No
TP720
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m (0.50m)	Scale 1:25
Client: Legal & General Homes		Depth: 3.20m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.30			0.35			TOPSOIL: Soft to firm dark greyish brown slightly sandy CLAY with occasional rootlets.
1.50						Firm orangish brown mottled grey slightly sandy CLAY .
2.00		HVP=113	2.00			Stiff orangish brown mottled grey slightly sandy CLAY .
2.00		HVP=87				
2.00		HVP=89				
			3.20			Trialpit Complete at 3.200m

Remarks:

Stability: Good

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TrialPit No
TP721
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m (0.50m) Depth: 2.70m	Scale 1:25
Client: Legal & General Homes			Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						REWORKED TOPSOIL: Soft to firm dark greyish brown slightly sandy CLAY with occasional rootlets.
0.20			0.30			
						Firm orangish brown mottled grey slightly sandy CLAY .
1.00			1.00			
1.00		HVP=73				Stiff orangish brown mottled grey slightly sandy CLAY .
1.00		HVP=77				
1.00		HVP=81				
2.10						
			2.70			Trialpit Complete at 2.700m

Remarks:

Stability: Good

Eastwood
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TrialPit No
TP722
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m × 0.50m	Scale 1:25
Client: Legal & General Homes		Depth: 2.80m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.20						REWORKED TOPSOIL: Soft to firm dark greyish brown slightly sandy CLAY with occasional rootlets.
			0.50			
0.90						Firm orangish brown mottled grey slightly sandy CLAY.
1.30						
			2.80			Trialpit Complete at 2.800m

Remarks:

Stability: Good

Eastwood
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TrialPit No
TP723
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m × 0.50m	Scale 1:25
Client: Legal & General Homes		Depth: 3.00m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.15						TOPSOIL: Brown very sandy CLAY.
			0.35			Firm orangish brown slightly sandy, locally sandy, CLAY .
1.30						
2.10		HVP=59				
2.10		HVP=62				
2.10		HVP=73				
			2.30			Stiff orangish brown mottled grey slightly sandy CLAY.
2.40						
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability: Good

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TrialPit No
TP724
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m / 0.50m / Depth: 3.40m	Scale 1:25
Client: Legal & General Homes			Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.15						TOPSOIL: Brown very sandy CLAY.
			0.35			Stiff orangish brown sandy CLAY .
0.50						
0.50		HVP=78				
0.50		HVP=81				
0.50		HVP=82				
1.10						
1.10		HVP=70				
1.10		HVP=70				
1.10		HVP=76				
2.50						
2.50		HVP=56				
2.50		HVP=70				
2.50		HVP=74				
			3.20			Stiff dark grey slightly sandy CLAY.
			3.40			Trialpit Complete at 3.400m

Remarks:

Stability: Good

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TrialPit No
TP725
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m (0.50m)	Scale 1:25
Client: Legal & General Homes		Depth: 3.20m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.15			0.20			TOPSOIL: Brown very sandy slightly gravelly CLAY. Gravel is subangular fine to coarse flint.
0.50						Firm to stiff orangish brown mottled grey slightly sandy, locally sandy, CLAY .
0.90						
1.60		HVP=59				
1.60		HVP=76				
1.60		HVP=76				
2.50		HVP=59				
2.50		HVP=67				
2.50		HVP=73				
			3.10			Stiff dark grey slightly sandy CLAY.
			3.20			Trialpit Complete at 3.200m

Remarks:

Stability: Good

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TrialPit No
TP726
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m, 0.50m	Scale 1:25
Client: Legal & General Homes		Depth: 3.00m	Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.15						TOPSOIL: Brown very sandy slightly gravelly CLAY. Gravel is subangular fine to coarse flint.
			0.30			Firm orangish brown sandy CLAY.
0.70						
1.00						
1.10		HVP=60				
1.10		HVP=72				
1.10		HVP=89				
2.60		HVP=73				
2.60		HVP=73				
2.60		HVP=78	2.70			Stiff orangish brown sandy CLAY.
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability: Good

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TrialPit No
TP727
Sheet 1 of 1

Project Name	Project No.	Co-ords: -	Date
Hogwood Farm	41623	Level:	24/11/2023
Location: Arborfield		Dimensions: 1.50m, 0.50m, Depth: 3.00m	Scale 1:25
Client: Legal & General Homes			Logged ME

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
0.20						TOPSOIL: Brown very sandy slightly gravelly CLAY. Gravel is subangular fine to coarse flint.
			0.40			Firm orangish brown sandy CLAY.
1.00						
2.60						
			2.80			Stiff orangish brown sandy CLAY.
			3.00			Trialpit Complete at 3.000m

Remarks:

Stability: Good

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Borehole No.
WS401
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 24/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.20			MADE GROUND: Grey and black gravelly fine to coarse SAND. Gravel is angular to sub angular fine to coarse of concrete, brick, plastic, glass, flint, chert, quartzite and sandstone.
					0.35			MADE GROUND: Stiff dark brown slightly sandy slightly gravelly silty CLAY with occasional to frequent rootlets. Gravel is chert, slate, quartzite with lesser amounts of brick and concrete.
								Soft to firm becoming stiff light grey and orangish brown speckled black becoming dark grey and orange slightly gravelly sandy CLAY with occasional rootlets. Gravel is flint and quartzite. (Weathered London Clay Formation)
					2.45			Firm greyish brown and brownish grey mottled locally orangish brown and light orangish brown speckled black sandy micaceous CLAY. (Weathered London Clay Formation)
					3.00			End of Borehole at 3.000m
			Type	Results				

1 2 3 4 5 6 7 8 9

Remarks

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Borehole No.
WS402
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 24/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30			MADE GROUND: Grey and black gravelly fine to coarse SAND. Gravel is angular to sub angular fine to coarse of concrete, brick, plastic, glass, flint, chert, quartzite and sandstone.
					0.50			MADE GROUND: Stiff dark brown and dark grey mottled locally greyish brown and black slightly sandy slightly gravelly silty CLAY with occasional to frequent rootlets. Gravel is chert, slate, quartzite with lesser amounts of brick and concrete.
		1.00	SPT	N=9 (2,2/2,3,2,2)				Firm light grey and orangish brown mottled speckled black becoming dark grey and orange slightly gravelly sandy CLAY with occasional rootlets. Gravel is flint and quartzite. (Weathered London Clay Formation)
		2.00	SPT	N=8 (2,2/2,2,2,2)	2.00			Firm greyish brown and brownish grey mottled locally orangish brown and light orangish brown speckled black sandy micaceous CLAY. (Weathered London Clay Formation)
		3.00	SPT	N=9 (2,3/3,2,2,2)	3.00			End of Borehole at 3.000m
			Type	Results				

Remarks

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Borehole No.
WS403
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 24/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.50			MADE GROUND: Grey and black gravelly fine to coarse SAND. Gravel is angular to sub angular fine to coarse of concrete, brick, plastic, glass, flint, chert, quartzite and sandstone.
								End of Borehole at 0.500m
			Type	Results				

Remarks
Window sample terminated due to refusal in made ground. Three attempts made, all three refused.

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Borehole No.
WS404
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 24/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.50			MADE GROUND: Grey and black gravelly fine to coarse SAND. Gravel is angular to sub angular fine to coarse of concrete, brick, plastic, glass, flint, chert, quartzite and sandstone.
								End of Borehole at 0.500m
			Type	Results				

1 2 3 4 5 6 7 8 9

Remarks
Window sample terminated due to refusal in made ground. Three attempts made, all three refused.

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Borehole No.
WS405
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 24/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30			TOPSOIL: Soft to firm dark brown mottled brownish grey slightly sandy slightly gravelly clayey SILT with frequent to numerous rootlets. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse of flint, chert and quartzite.
					2.40			Soft to firm light grey and orangish brown locally light brownish orange slightly gravelly sandy CLAY with frequent rootlets. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse of flint, chert and quartzite. (Weathered London Clay Formation)
					3.30			Firm greyish brown and brownish grey mottled locally orangish brown and light orangish brown speckled black sandy micaceous CLAY. (Weathered London Clay Formation)
					4.00			Stiff to very stiff dark grey slightly gravelly sandy micaceous silty CLAY with rare shell fragments. (London Clay Formation)
								End of Borehole at 4.000m
			Type	Results				

1 2 3 4 5 6 7 8 9

Remarks

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Borehole No.
WS406
Sheet 1 of 1

Project Name	Project No.	Co-ords:	Hole Type
Hogwood Farm	41623		WS
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 25/10/2023	Logged By AMN

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30			TOPSOIL: Soft to firm dark brown mottled brownish grey slightly sandy slightly gravelly clayey SILT with frequent to numerous rootlets. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse of flint, chert and quartzite.
		1.00	SPT	N=8 (2,2/2,2,2,2)				Soft to firm light grey and orangish brown locally light brownish orange slightly gravelly sandy CLAY with frequent rootlets. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse of flint, chert and quartzite. (Weathered London Clay Formation)
		2.00	SPT	N=11 (2,2/2,3,3,3)				
					2.50			Firm greyish brown and brownish grey mottled locally orangish brown and light orangish brown speckled black sandy micaceous CLAY. (Weathered London Clay Formation)
		3.00	SPT	N=12 (2,2/3,3,3,3)				
					3.35			Firm to stiff dark grey slightly gravelly sandy micaceous silty CLAY with rare shell fragments. (London Clay Formation)
		4.00	SPT	N=14 (2,3/3,4,3,4)	4.00			End of Borehole at 4.000m
			Type	Results				

Remarks

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Borehole Log

Borehole No.
BH203
Sheet 1 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 23/10/2023 - 23/10/2023	Logged By ME

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10			TOPSOIL: Soft brown sandy CLAY.	
								Stiff brown mottled grey sandy CLAY. (Weathered London Clay Formation)	
		1.20		N=22 (3,4/5,5,6,6)					1
		2.00		N=25 (4,5/6,6,6,7)					2
		3.00		N=23 (3,4/5,6,6,6)					3
		4.00		N=16 (2,2/3,4,4,5)	4.00			Stiff grey silty sandy CLAY. (London Clay Formation)	4
		5.00		N=18 (2,3/3,4,5,6)					5
									6
		7.00		N=20 (2,3/4,4,6,6)					7
		8.00		N=24 (3,4/5,6,6,7)					8
		9.00		N=24 (3,4/5,6,6,7)					9
		10.00		N=25 (3,4/5,6,7,7)					10

Continued on next sheet

Remarks

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Borehole Log

Borehole No.
BH203
Sheet 2 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 23/10/2023 - 23/10/2023	Logged By ME

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00		N=26 (4,4/6,6,7,7)					11
		13.00		N=28 (4,5/6,7,7,8)					12
		14.00		N=31 (5,6/7,7,8,9)	14.00				13
		15.00		N=35 (5,6/7,8,9,11)				Very stiff grey silty sandy CLAY. (London Clay Formation)	14
		16.00		N=34 (5,7/7,8,9,10)					15
		17.00		N=35 (5,6/8,8,9,10)					16
		18.00		N=35 (4,6/7,8,9,11)					17
		19.00		N=36 (5,6/7,8,10,11)					18
		20.00		N=40 (6,7/7,9,11,13)	20.00				19
								End of borehole at 20.00 m	20

Remarks

Eastwood
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Borehole Log

Borehole No.
BH204
Sheet 1 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 23/10/2023 - 24/10/2023	Logged By ME

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30			TOPSOIL: Soft brown sandy CLAY.	
		1.20		N=11 (1,2/2,3,3,3)				Firm brown mottled grey sandy CLAY. (Weathered London Clay Formation)	1
		2.00		N=10 (1,2/2,2,3,3)					2
		3.00		N=15 (2,2/3,4,4,4)					3
		4.00		N=16 (2,3/3,4,4,5)	3.80			Stiff grey silty sandy CLAY. (London Clay Formation)	4
		5.00		N=17 (2,3/3,4,5,5)					5
		6.00		N=20 (2,3/4,5,5,6)					6
		7.00		N=21 (3,3/4,5,6,6)					7
		8.00		N=22 (3,4/4,5,6,7)					8
		10.00		N=25 (3,4/5,6,7,7)					10

Continued on next sheet

Remarks

Eastwood
CONSULTING ENGINEERS

Borehole Log

Borehole No.
BH204
Sheet 2 of 2

Project Name: Hogwood Farm	Project No. 41623	Co-ords: -	Hole Type CP
Location: Arborfield		Level:	Scale 1:50
Client: Legal & General Homes		Dates: 23/10/2023 - 24/10/2023	Logged By ME

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00		N=27 (4,5/6,6,7,8)					11
		12.00		N=30 (9,6/7,7,8,8)					12
		13.00		N=30 (4,5/6,7,8,9)	13.00			Very stiff grey silty sandy CLAY. (London Clay Formation)	13
		14.00		N=31 (5,5/7,7,8,9)					14
									15
		16.00		N=31 (5,6/7,8,7,9)					16
		17.00		N=33 (4,6/7,8,9,9)					17
		18.00		N=33 (5,5/6,8,9,10)					18
		19.00		N=39 (5,7/9,9,10,11)					19
		20.00		N=39 (6,7/8,9,10,12)	20.00			End of borehole at 20.00 m	20

Remarks

Appendix 3

Groundwater monitoring report

Winter 2023/24 Groundwater Monitoring Results

Eastwood&Partners
CONSULTING ENGINEERS

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

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

CAT/RAN/41623-007

21 August 2019

Dear Nick,

Hogwood Farm, Arborfield – Groundwater Monitoring Report

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

Monitoring visits

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

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

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

Monitoring Results

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

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

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

Interpretation of Results

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

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

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

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

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

Conclusion

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

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

Yours sincerely

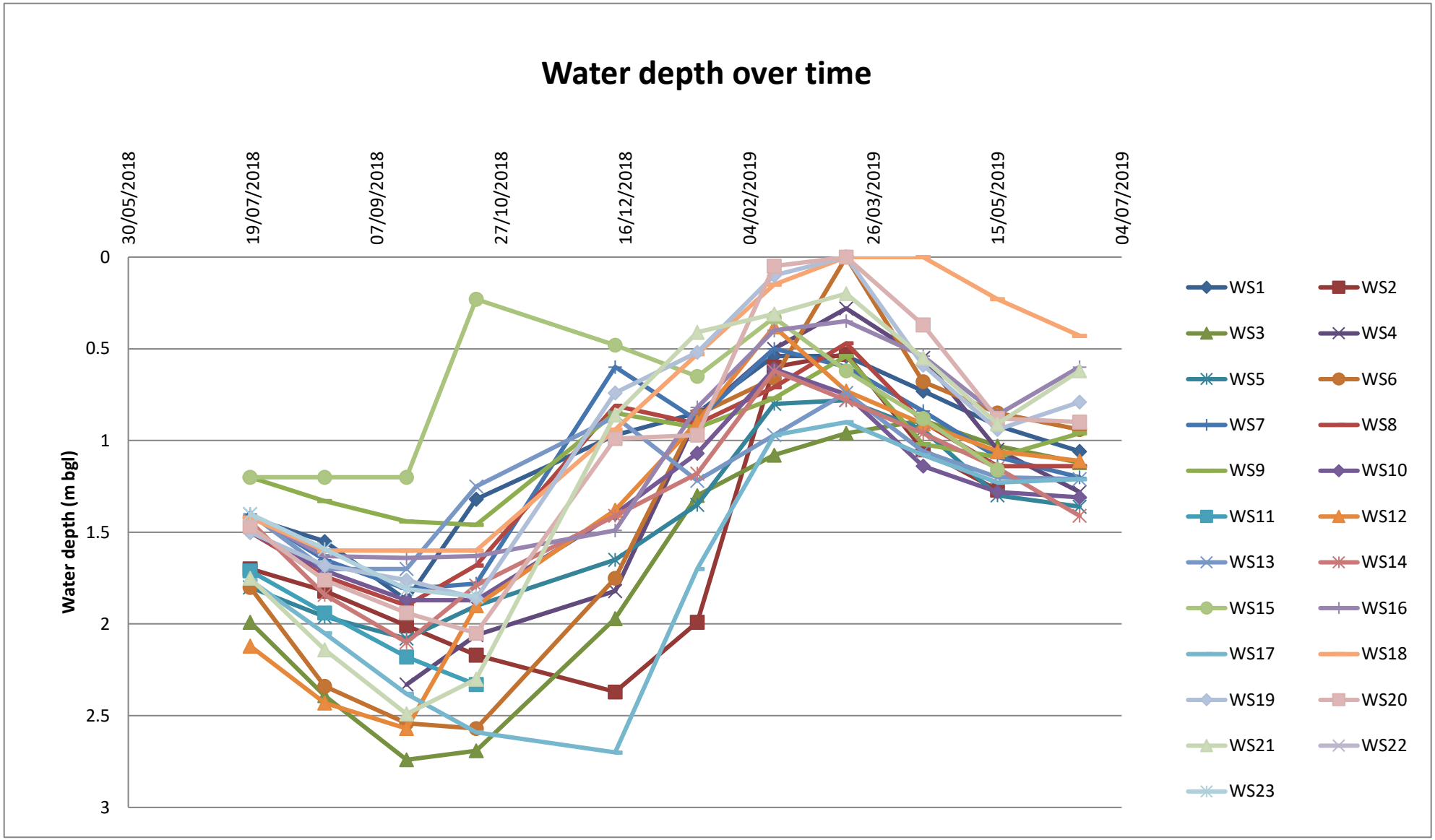
Catherine Topliss

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

Groundwater Monitoring Results Table

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

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


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

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

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

REV	DESCRIPTION	SIG	CHK	DATE
A	First Issue.			

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING LOCATIONS WITH HIGHEST WATER DEPTHS

Eastwood & Partners CONSULTING ENGINEERS

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

Tel 0114 255 4554
Fax 0114 255 4330

mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3	DRAWING STATUS
1:5000	INFORMATION

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

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

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

REV	DESCRIPTION	SIG	CHK	DATE
A	First Issue.			

LEGAL AND GENERAL HOMES

HOGWOOD FARM, ARBORFIELD

GROUND WATER MONITORING LOCATIONS WITH LOWEST WATER DEPTHS

Eastwood & Partners CONSULTING ENGINEERS

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

Tel 0114 255 4554
Fax 0114 255 4330

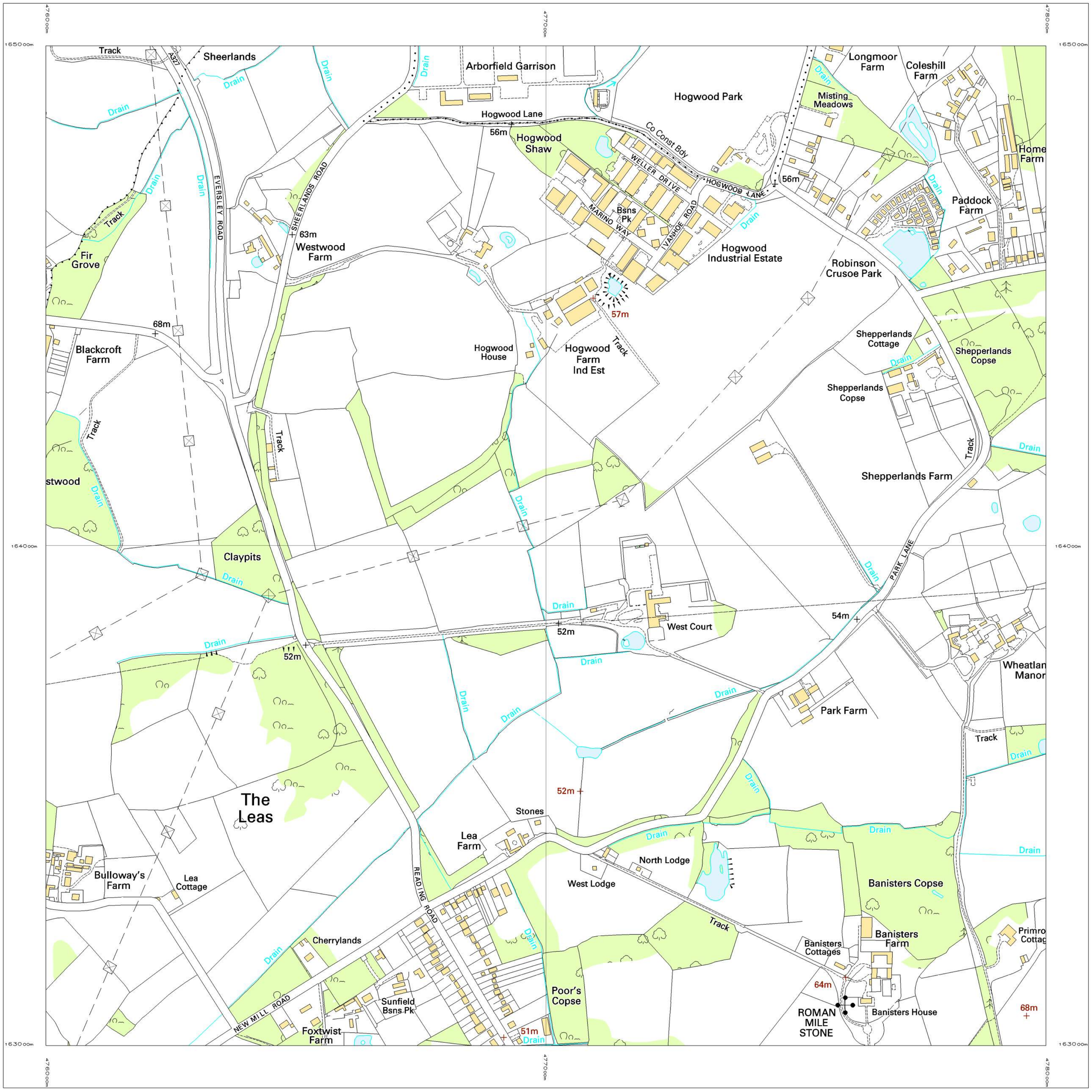
mail@eastwoodandpartners.com
www.eastwoodandpartners.com

SCALE WHEN PLOTTED AT A3	DRAWING STATUS
1:5000	INFORMATION

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

Ordnance Survey®

OS Landplan®



Plotted 06 Nov 2009 from Ordnance Survey digitally derived data.

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

Administrative boundaries revised to Oct 2008.

Additional boundaries information:

N

100 50 0 100 200 300 400 500

Metres

Scale 1:5000

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

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

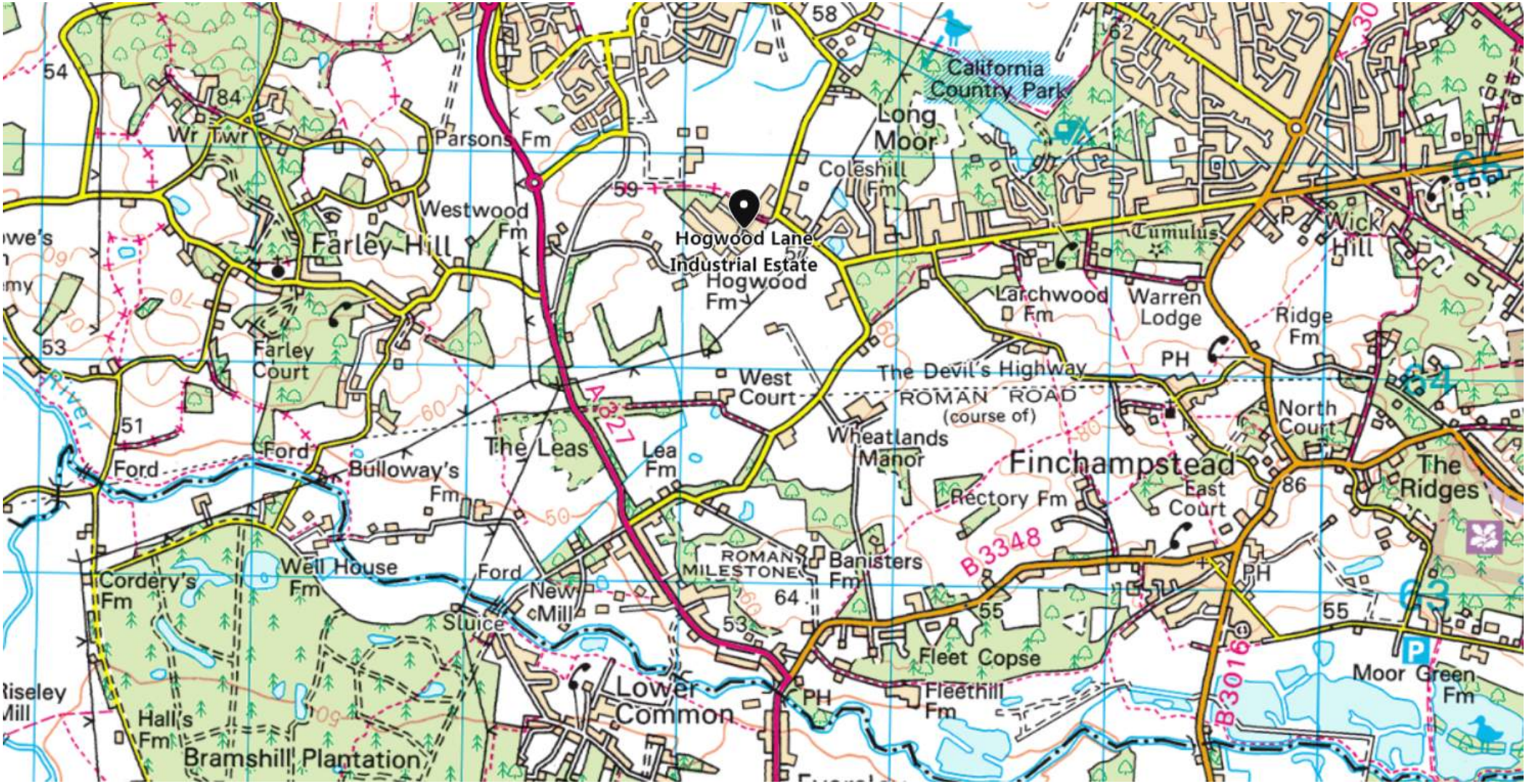
The alignment of tunnels is approximate.

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

Plot centre coordinates: 477000 164000

Supplied by: Thames Print Room

Plot serial number: 00145800

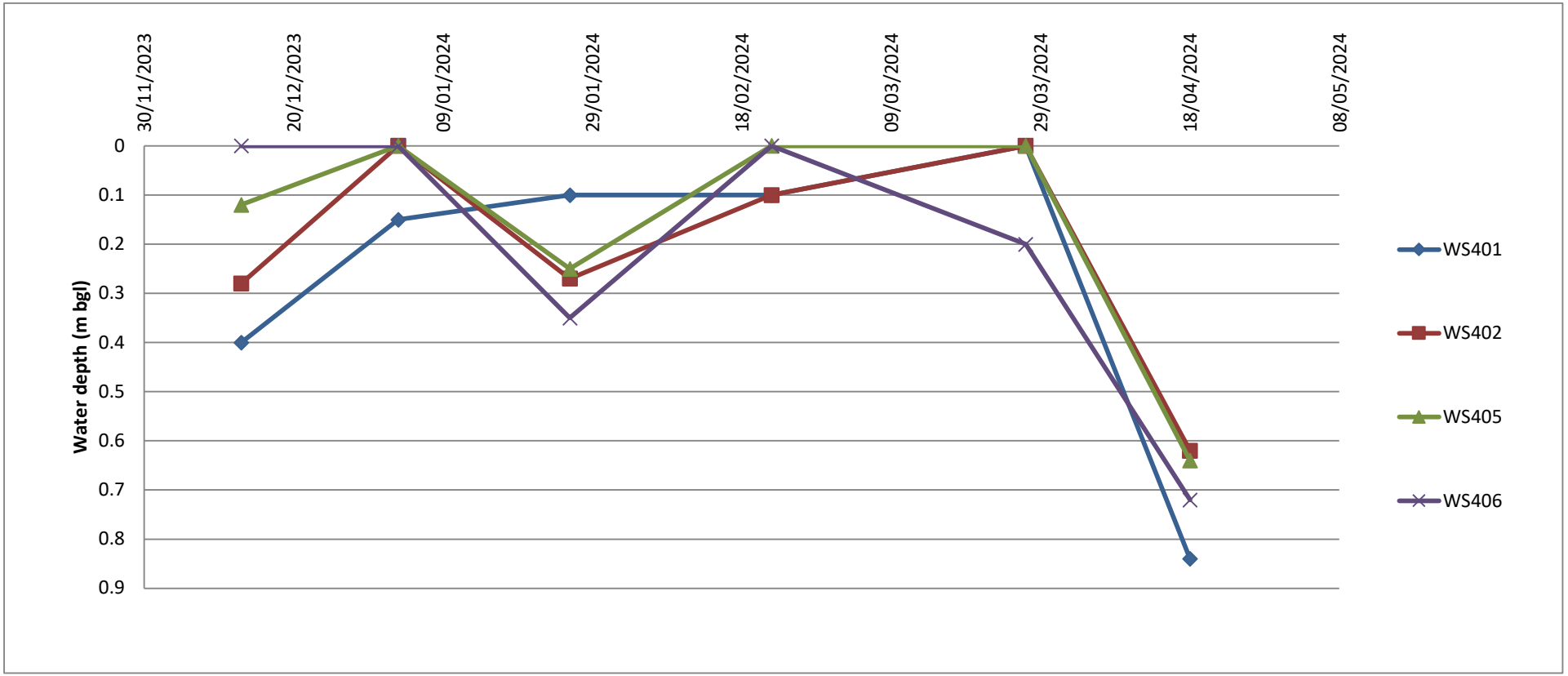

Hogwood Lane Industrial Estate
California Country Park
Long Moor
Coleshill Fm
Parsons Fm
Westwood Fm
Farley Hill
Hogwood Fm
Cumulus
Wick Hill
Larchwood Fm
Warren Lodge
Ridge Fm
PH
Farley Court
West Court
The Devil's Highway
ROMAN ROAD
(course of)
North Court
Wheatlands Manor
Finchampstead
The Ridges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

Eastwood
CONSULTING ENGINEERS

CALA Homes Thames and Legal & General Homes Limited
Parcel 4, Hogwood Farm, Finchwood Park Development

Winter Groundwater Monitoring Results

Monitoring well	Water level (mbgl)						Depth (m bgl)	Final depth (m bgl)
	13/12/2023	03/01/2024	26/01/2024	22/02/2024	27/03/2024	18/04/2024		
WS401	0.4	0.15	0.1	0.1	0	0.84	3	2.96
WS402	0.28	0	0.27	0.1	0	0.62	3	2.87
WS405	0.12	0	0.25	0	0	0.64	4	2.85
WS406	0	0	0.35	0	0.2	0.72	4	3.99



Appendix 4

Chemical Test Results (23-64744 and 17-19872).

Table of Assessment Values – Residential with homegrown produce

Mel Ebling
Eastwood Consulting Engineers
St Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS

t: 0114 255 4554
f: 0114 2554330
e: mel.ebling@eastwoodce.com

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

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-64744

Project / Site name:	Finchwood Park	**Samples received on:**	25/10/2023
Your job number:	41623	**Samples instructed on/ Analysis started on:**	25/10/2023
Your order number:	41623	**Analysis completed by:**	01/11/2023
Report Issue Number:	1	**Report issued on:**	01/11/2023
Samples Analysed:	26 soil samples		

Signed: [redacted]

Joanna Szwagrzak
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856889	2856890	2856891	2856892	2856893
Sample Reference				TP703	TP704	TP705	TP715	TP715
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.35	0.35	0.20	0.80-1.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	11	11	15	17
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.2
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	-	8	7.8
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	0.014
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	0.0194
Total Sulphur	%	0.005	MCERTS	-	-	-	-	0.009
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	7	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	21	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	11	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	26	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	9.2	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	38	49
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	-	-	-	-
o-xylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856889	2856890	2856891	2856892	2856893
Sample Reference				TP703	TP704	TP705	TP715	TP715
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.35	0.35	0.20	0.80-1.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856889	2856890	2856891	2856892	2856893
Sample Reference				TP703	TP704	TP705	TP715	TP715
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.35	0.35	0.20	0.80-1.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Pesticides								
Alachlor	µg/kg	10	NONE	-	-	-	-	-
Aldrin	µg/kg	10	NONE	-	-	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Azinphos-methyl	µg/kg	10	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-	-	-	-	-
BHC-beta	µg/kg	10	NONE	-	-	-	-	-
BHC-delta	µg/kg	10	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-	-	-	-	-
Bifenthrin	µg/kg	10	NONE	-	-	-	-	-
Carbophenothion	µg/kg	10	NONE	-	-	-	-	-
Chlordane-cis	µg/kg	10	NONE	-	-	-	-	-
Chlordane-trans	µg/kg	10	NONE	-	-	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	-	-	-	-	-
Chlorothalonil	µg/kg	20	NONE	-	-	-	-	-
Chlorpyrifos	µg/kg	10	NONE	-	-	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
DDD-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDD-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-p,p'	µg/kg	10	NONE	-	-	-	-	-
Deltamethrin	µg/kg	10	NONE	-	-	-	-	-
Demeton-O	µg/kg	10	NONE	-	-	-	-	-
Demeton-S	µg/kg	10	NONE	-	-	-	-	-
Diazinon	µg/kg	10	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	-	-	-	-
Dichlorvos	µg/kg	10	NONE	-	-	-	-	-
Dieldrin	µg/kg	10	NONE	-	-	-	-	-
Dimethoate	µg/kg	10	NONE	-	-	-	-	-
Dimethylvinphos	µg/kg	10	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	-	-	-	-	-
Endrin	µg/kg	20	NONE	-	-	-	-	-
Endrin aldehyde	µg/kg	10	NONE	-	-	-	-	-
Endrin ketone	µg/kg	10	NONE	-	-	-	-	-
Ethion	µg/kg	10	NONE	-	-	-	-	-
Etrimfos	µg/kg	10	NONE	-	-	-	-	-
Fenitrothion	µg/kg	10	NONE	-	-	-	-	-
Fenthion	µg/kg	10	NONE	-	-	-	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	-	-	-	-	-
Heptachlor	µg/kg	10	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	-	-	-	-	-
Isodrin	µg/kg	20	NONE	-	-	-	-	-
Malathion	µg/kg	10	NONE	-	-	-	-	-
Methacrifos	µg/kg	10	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856889	2856890	2856891	2856892	2856893
Sample Reference				TP703	TP704	TP705	TP715	TP715
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.35	0.35	0.35	0.20	0.80-1.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Mevinphos, E+Z	µg/kg	10	NONE	-	-	-	-	-
Omethoate	µg/kg	20	NONE	-	-	-	-	-
Parathion	µg/kg	10	NONE	-	-	-	-	-
Parathion-methyl	µg/kg	10	NONE	-	-	-	-	-
Pendimethalin	µg/kg	10	NONE	-	-	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	-	-	-	-	-
Phorate	µg/kg	10	NONE	-	-	-	-	-
Phosalone	µg/kg	10	NONE	-	-	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	-	-	-	-	-
Propetamphos	µg/kg	10	NONE	-	-	-	-	-
Propyzamide	µg/kg	10	NONE	-	-	-	-	-
Tecnazene	µg/kg	10	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-	-	-	-	-
Trifluralin	µg/kg	10	NONE	-	-	-	-	-

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

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856894	2856895	2856896	2856897	2856898
Sample Reference				TP717	TP717	TP718	TP718	TP719
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.20	0.20	1.10	0.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	17	19	17	20
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.2	0.3

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	7.8	8.2	7.3	7.6
Total Sulphate as SO4	%	0.005	MCERTS	-	0.009	-	0.011	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0216	-	0.0358	-
Total Sulphur	%	0.005	MCERTS	-	0.008	-	0.007	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.07	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.15	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.13	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.08	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.11	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.07	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.2	12	10	10	9.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	40	36	38	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.8	15	63	13	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	12	26	10	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.5	31	17	28	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	33	51	120	43	40

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	-	-	-	-
o-xylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856894	2856895	2856896	2856897	2856898
Sample Reference				TP717	TP717	TP718	TP718	TP719
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.20	0.20	1.10	0.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856894	2856895	2856896	2856897	2856898
Sample Reference				TP717	TP717	TP718	TP718	TP719
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.20	0.20	1.10	0.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Pesticides								
Alachlor	µg/kg	10	NONE	-	-	-	-	-
Aldrin	µg/kg	10	NONE	-	-	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Azinphos-methyl	µg/kg	10	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-	-	-	-	-
BHC-beta	µg/kg	10	NONE	-	-	-	-	-
BHC-delta	µg/kg	10	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-	-	-	-	-
Bifenthrin	µg/kg	10	NONE	-	-	-	-	-
Carbophenothion	µg/kg	10	NONE	-	-	-	-	-
Chlordane-cis	µg/kg	10	NONE	-	-	-	-	-
Chlordane-trans	µg/kg	10	NONE	-	-	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	-	-	-	-	-
Chlorothalonil	µg/kg	20	NONE	-	-	-	-	-
Chlorpyrifos	µg/kg	10	NONE	-	-	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
DDD-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDD-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-p,p'	µg/kg	10	NONE	-	-	-	-	-
Deltamethrin	µg/kg	10	NONE	-	-	-	-	-
Demeton-O	µg/kg	10	NONE	-	-	-	-	-
Demeton-S	µg/kg	10	NONE	-	-	-	-	-
Diazinon	µg/kg	10	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	-	-	-	-
Dichlorvos	µg/kg	10	NONE	-	-	-	-	-
Dieldrin	µg/kg	10	NONE	-	-	-	-	-
Dimethoate	µg/kg	10	NONE	-	-	-	-	-
Dimethylvinphos	µg/kg	10	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	-	-	-	-	-
Endrin	µg/kg	20	NONE	-	-	-	-	-
Endrin aldehyde	µg/kg	10	NONE	-	-	-	-	-
Endrin ketone	µg/kg	10	NONE	-	-	-	-	-
Ethion	µg/kg	10	NONE	-	-	-	-	-
Etrimfos	µg/kg	10	NONE	-	-	-	-	-
Fenitrothion	µg/kg	10	NONE	-	-	-	-	-
Fenthion	µg/kg	10	NONE	-	-	-	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	-	-	-	-	-
Heptachlor	µg/kg	10	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	-	-	-	-	-
Isodrin	µg/kg	20	NONE	-	-	-	-	-
Malathion	µg/kg	10	NONE	-	-	-	-	-
Methacrifos	µg/kg	10	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856894	2856895	2856896	2856897	2856898
Sample Reference				TP717	TP717	TP718	TP718	TP719
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.15	1.20	0.20	1.10	0.20
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Mevinphos, E+Z	µg/kg	10	NONE	-	-	-	-	-
Omethoate	µg/kg	20	NONE	-	-	-	-	-
Parathion	µg/kg	10	NONE	-	-	-	-	-
Parathion-methyl	µg/kg	10	NONE	-	-	-	-	-
Pendimethalin	µg/kg	10	NONE	-	-	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	-	-	-	-	-
Phorate	µg/kg	10	NONE	-	-	-	-	-
Phosalone	µg/kg	10	NONE	-	-	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	-	-	-	-	-
Propetamphos	µg/kg	10	NONE	-	-	-	-	-
Propyzamide	µg/kg	10	NONE	-	-	-	-	-
Tecnazene	µg/kg	10	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-	-	-	-	-
Trifluralin	µg/kg	10	NONE	-	-	-	-	-

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

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856899	2856900	2856901	2856902	2856903
Sample Reference				TP719	TP720	TP720	TP722	TP722
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.30	1.50	0.20	1.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	16	17	17	17
Total mass of sample received	kg	0.001	NONE	0.3	0.2	0.3	0.3	0.2
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.6	7.5	7.6	8.1	7.6
Total Sulphate as SO4	%	0.005	MCERTS	0.01	-	0.007	-	0.012
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0208	-	0.0097	-	0.0114
Total Sulphur	%	0.005	MCERTS	0.009	-	0.005	-	0.005
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.1	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05	0.07	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.16	< 0.05	0.07	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.07	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.08	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	5.8	11	7.9	11
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41	18	36	22	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	12	14	14	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	21	11	23	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	6.8	31	8.9	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	38	43	53	44
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	-	< 5.0	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	< 5.0	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	< 5.0	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	-	-	< 5.0	-	< 5.0
o-xylene	µg/kg	5	MCERTS	-	-	< 5.0	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856899	2856900	2856901	2856902	2856903
Sample Reference				TP719	TP720	TP720	TP722	TP722
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.30	1.50	0.20	1.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-	-	< 0.020	-	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-	-	< 0.020	-	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-	-	< 0.050	-	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	< 8.0	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	< 10	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-	-	< 0.010	-	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-	-	< 0.010	-	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-	-	< 0.050	-	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	< 2.0	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	< 10	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	< 10	-	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	< 10	-	< 10

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856899	2856900	2856901	2856902	2856903
Sample Reference				TP719	TP720	TP720	TP722	TP722
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.30	1.50	0.20	1.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Pesticides								
Alachlor	µg/kg	10	NONE	-	-	-	-	-
Aldrin	µg/kg	10	NONE	-	-	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Azinphos-methyl	µg/kg	10	NONE	-	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-	-	-	-	-
BHC-beta	µg/kg	10	NONE	-	-	-	-	-
BHC-delta	µg/kg	10	NONE	-	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-	-	-	-	-
Bifenthrin	µg/kg	10	NONE	-	-	-	-	-
Carbophenothion	µg/kg	10	NONE	-	-	-	-	-
Chlordane-cis	µg/kg	10	NONE	-	-	-	-	-
Chlordane-trans	µg/kg	10	NONE	-	-	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	-	-	-	-	-
Chlorothalonil	µg/kg	20	NONE	-	-	-	-	-
Chlorpyrifos	µg/kg	10	NONE	-	-	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	-	-	-	-	-
DDD-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDD-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDE-p,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-o,p'	µg/kg	10	NONE	-	-	-	-	-
DDT-p,p'	µg/kg	10	NONE	-	-	-	-	-
Deltamethrin	µg/kg	10	NONE	-	-	-	-	-
Demeton-O	µg/kg	10	NONE	-	-	-	-	-
Demeton-S	µg/kg	10	NONE	-	-	-	-	-
Diazinon	µg/kg	10	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	-	-	-	-
Dichlorvos	µg/kg	10	NONE	-	-	-	-	-
Dieldrin	µg/kg	10	NONE	-	-	-	-	-
Dimethoate	µg/kg	10	NONE	-	-	-	-	-
Dimethylvinphos	µg/kg	10	NONE	-	-	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	-	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	-	-	-	-	-
Endrin	µg/kg	20	NONE	-	-	-	-	-
Endrin aldehyde	µg/kg	10	NONE	-	-	-	-	-
Endrin ketone	µg/kg	10	NONE	-	-	-	-	-
Ethion	µg/kg	10	NONE	-	-	-	-	-
Etrimfos	µg/kg	10	NONE	-	-	-	-	-
Fenitrothion	µg/kg	10	NONE	-	-	-	-	-
Fenthion	µg/kg	10	NONE	-	-	-	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	-	-	-	-	-
Heptachlor	µg/kg	10	NONE	-	-	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	-	-	-	-	-
Isodrin	µg/kg	20	NONE	-	-	-	-	-
Malathion	µg/kg	10	NONE	-	-	-	-	-
Methacrifos	µg/kg	10	NONE	-	-	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-	-	-	-	-

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Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856899	2856900	2856901	2856902	2856903
Sample Reference				TP719	TP720	TP720	TP722	TP722
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.30	1.50	0.20	1.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Mevinphos, E+Z	µg/kg	10	NONE	-	-	-	-	-
Omethoate	µg/kg	20	NONE	-	-	-	-	-
Parathion	µg/kg	10	NONE	-	-	-	-	-
Parathion-methyl	µg/kg	10	NONE	-	-	-	-	-
Pendimethalin	µg/kg	10	NONE	-	-	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	-	-	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	-	-	-	-	-
Phorate	µg/kg	10	NONE	-	-	-	-	-
Phosalone	µg/kg	10	NONE	-	-	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	-	-	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	-	-	-	-	-
Propetamphos	µg/kg	10	NONE	-	-	-	-	-
Propyzamide	µg/kg	10	NONE	-	-	-	-	-
Tecnazene	µg/kg	10	NONE	-	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-	-	-	-	-
Trifluralin	µg/kg	10	NONE	-	-	-	-	-

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

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Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856904	2856905	2856906	2856907	2856908
Sample Reference				TP721	TP723	TP724	TP725	TP726
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.15	0.15	0.15	0.15
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	12	14	13	16
Total mass of sample received	kg	0.001	NONE	0.3	0.2	0.3	0.3	0.2

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.1	6.6	6.9	6.8
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	0.06	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	0.06	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.3	7.3	6	6	6.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	20	20	18	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	26	6.3	13	9	8.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	25	19	21	19	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	6.4	5.4	5.2	5.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	84	29	26	28	30

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	-	-	-	-
o-xylene	µg/kg	5	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-

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Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856904	2856905	2856906	2856907	2856908
Sample Reference				TP721	TP723	TP724	TP725	TP726
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.15	0.15	0.15	0.15
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856904	2856905	2856906	2856907	2856908
Sample Reference				TP721	TP723	TP724	TP725	TP726
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.15	0.15	0.15	0.15
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Pesticides								
Alachlor	µg/kg	10	NONE	-	< 10	-	-	-
Aldrin	µg/kg	10	NONE	-	< 10	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	-	< 10	-	-	-
Azinphos-methyl	µg/kg	10	NONE	-	< 10	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-	< 10	-	-	-
BHC-beta	µg/kg	10	NONE	-	< 10	-	-	-
BHC-delta	µg/kg	10	NONE	-	< 10	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-	< 10	-	-	-
Bifenthrin	µg/kg	10	NONE	-	< 10	-	-	-
Carbophenothion	µg/kg	10	NONE	-	< 10	-	-	-
Chlordane-cis	µg/kg	10	NONE	-	< 10	-	-	-
Chlordane-trans	µg/kg	10	NONE	-	< 10	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	-	< 10	-	-	-
Chlorothalonil	µg/kg	20	NONE	-	< 20	-	-	-
Chlorpyrifos	µg/kg	10	NONE	-	< 10	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-	< 10	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	< 10	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	-	< 10	-	-	-
DDD-o,p'	µg/kg	10	NONE	-	< 10	-	-	-
DDD-p,p'	µg/kg	10	NONE	-	< 10	-	-	-
DDE-o,p'	µg/kg	10	NONE	-	< 10	-	-	-
DDE-p,p'	µg/kg	10	NONE	-	< 10	-	-	-
DDT-o,p'	µg/kg	10	NONE	-	< 10	-	-	-
DDT-p,p'	µg/kg	10	NONE	-	< 10	-	-	-
Deltamethrin	µg/kg	10	NONE	-	< 10	-	-	-
Demeton-O	µg/kg	10	NONE	-	< 10	-	-	-
Demeton-S	µg/kg	10	NONE	-	< 10	-	-	-
Diazinon	µg/kg	10	NONE	-	< 10	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	< 10	-	-	-
Dichlorvos	µg/kg	10	NONE	-	< 10	-	-	-
Dieldrin	µg/kg	10	NONE	-	< 10	-	-	-
Dimethoate	µg/kg	10	NONE	-	< 10	-	-	-
Dimethylvinphos	µg/kg	10	NONE	-	< 10	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	< 10	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	< 10	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	-	< 10	-	-	-
Endrin	µg/kg	20	NONE	-	< 20	-	-	-
Endrin aldehyde	µg/kg	10	NONE	-	< 10	-	-	-
Endrin ketone	µg/kg	10	NONE	-	< 10	-	-	-
Ethion	µg/kg	10	NONE	-	< 10	-	-	-
Etrimfos	µg/kg	10	NONE	-	< 10	-	-	-
Fenitrothion	µg/kg	10	NONE	-	< 10	-	-	-
Fenthion	µg/kg	10	NONE	-	< 10	-	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	-	< 10	-	-	-
Heptachlor	µg/kg	10	NONE	-	< 10	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-	< 10	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	-	< 10	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	-	< 10	-	-	-
Isodrin	µg/kg	20	NONE	-	< 20	-	-	-
Malathion	µg/kg	10	NONE	-	< 10	-	-	-
Methacrifos	µg/kg	10	NONE	-	< 10	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-	< 20	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856904	2856905	2856906	2856907	2856908
Sample Reference				TP721	TP723	TP724	TP725	TP726
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.15	0.15	0.15	0.15
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Mevinphos, E+Z	µg/kg	10	NONE	-	< 10	-	-	-
Omethoate	µg/kg	20	NONE	-	< 20	-	-	-
Parathion	µg/kg	10	NONE	-	< 10	-	-	-
Parathion-methyl	µg/kg	10	NONE	-	< 10	-	-	-
Pendimethalin	µg/kg	10	NONE	-	< 10	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	-	< 10	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	-	< 10	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	-	< 10	-	-	-
Phorate	µg/kg	10	NONE	-	< 10	-	-	-
Phosalone	µg/kg	10	NONE	-	< 10	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	-	< 10	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	-	< 10	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	-	< 10	-	-	-
Propetamphos	µg/kg	10	NONE	-	< 10	-	-	-
Propyzamide	µg/kg	10	NONE	-	< 10	-	-	-
Tecnazene	µg/kg	10	NONE	-	< 10	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-	< 10	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-	< 10	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-	< 10	-	-	-
Trifluralin	µg/kg	10	NONE	-	< 10	-	-	-

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

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856909	2856910	2856911	2856912	2856913
Sample Reference				TP727	TP723	TP721	TP722	TP724
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	1.00	0.90	0.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	16	17	17	18
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.2	0.3	0.2
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.1	7.3	7.1	7.1	7.1
Total Sulphate as SO4	%	0.005	MCERTS	-	0.012	0.015	0.009	0.013
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0027	0.0084	0.0073	0.0029
Total Sulphur	%	0.005	MCERTS	-	0.006	< 0.005	< 0.005	0.008
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6	11	11	8.3	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	35	34	30	43
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	9.3	14	8.9	8.1
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	10	12	9.7	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.6	11	28	13	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	35	33	48	31	39
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
o-xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856909	2856910	2856911	2856912	2856913
Sample Reference				TP727	TP723	TP721	TP722	TP724
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	1.00	0.90	0.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-	< 0.020	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-	< 0.020	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-	< 0.050	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-	< 0.010	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-	< 0.010	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-	< 0.050	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-	< 10	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856909	2856910	2856911	2856912	2856913
Sample Reference				TP727	TP723	TP721	TP722	TP724
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	1.00	0.90	0.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Pesticides								
Alachlor	µg/kg	10	NONE	< 10	-	-	-	-
Aldrin	µg/kg	10	NONE	< 10	-	-	-	-
Azinphos-ethyl	µg/kg	10	NONE	< 10	-	-	-	-
Azinphos-methyl	µg/kg	10	NONE	< 10	-	-	-	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	< 10	-	-	-	-
BHC-beta	µg/kg	10	NONE	< 10	-	-	-	-
BHC-delta	µg/kg	10	NONE	< 10	-	-	-	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-	-	-	-
Bifenthrin	µg/kg	10	NONE	< 10	-	-	-	-
Carbophenothion	µg/kg	10	NONE	< 10	-	-	-	-
Chlordane-cis	µg/kg	10	NONE	< 10	-	-	-	-
Chlordane-trans	µg/kg	10	NONE	< 10	-	-	-	-
Chlorfenvinphos	µg/kg	10	NONE	< 10	-	-	-	-
Chlorothalonil	µg/kg	20	NONE	< 20	-	-	-	-
Chlorpyrifos	µg/kg	10	NONE	< 10	-	-	-	-
Cyfluthrin (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	< 10	-	-	-	-
Cypermethrin (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
DDD-o,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDD-p,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDE-p,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDT-o,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDT-p,p'	µg/kg	10	NONE	< 10	-	-	-	-
Deltamethrin	µg/kg	10	NONE	< 10	-	-	-	-
Demeton-O	µg/kg	10	NONE	< 10	-	-	-	-
Demeton-S	µg/kg	10	NONE	< 10	-	-	-	-
Diazinon	µg/kg	10	NONE	< 10	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	< 10	-	-	-	-
Dichlorvos	µg/kg	10	NONE	< 10	-	-	-	-
Dieldrin	µg/kg	10	NONE	< 10	-	-	-	-
Dimethoate	µg/kg	10	NONE	< 10	-	-	-	-
Dimethylvinphos	µg/kg	10	NONE	< 10	-	-	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-	-	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-	-	-	-
Endosulfan sulfate	µg/kg	10	NONE	< 10	-	-	-	-
Endrin	µg/kg	20	NONE	< 20	-	-	-	-
Endrin aldehyde	µg/kg	10	NONE	< 10	-	-	-	-
Endrin ketone	µg/kg	10	NONE	< 10	-	-	-	-
Ethion	µg/kg	10	NONE	< 10	-	-	-	-
Etrimfos	µg/kg	10	NONE	< 10	-	-	-	-
Fenitrothion	µg/kg	10	NONE	< 10	-	-	-	-
Fenthion	µg/kg	10	NONE	< 10	-	-	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
Heptachlor	µg/kg	10	NONE	< 10	-	-	-	-
Heptachlor exo-epoxide	µg/kg	10	NONE	< 10	-	-	-	-
Hexachlorobenzene	µg/kg	10	NONE	< 10	-	-	-	-
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-	-	-	-
Isodrin	µg/kg	20	NONE	< 20	-	-	-	-
Malathion	µg/kg	10	NONE	< 10	-	-	-	-
Methacrifos	µg/kg	10	NONE	< 10	-	-	-	-
Methoxychlor, p,p'-	µg/kg	20	NONE	< 20	-	-	-	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856909	2856910	2856911	2856912	2856913
Sample Reference				TP727	TP723	TP721	TP722	TP724
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.30	1.00	0.90	0.50
Date Sampled				23/10/2023	23/10/2023	23/10/2023	23/10/2023	23/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-	-	-	-
Omethoate	µg/kg	20	NONE	< 20	-	-	-	-
Parathion	µg/kg	10	NONE	< 10	-	-	-	-
Parathion-methyl	µg/kg	10	NONE	< 10	-	-	-	-
Pendimethalin	µg/kg	10	NONE	< 10	-	-	-	-
Pentachlorobenzene	µg/kg	10	NONE	< 10	-	-	-	-
Permethrin, Cis-	µg/kg	10	NONE	< 10	-	-	-	-
Permethrin, Trans-	µg/kg	10	NONE	< 10	-	-	-	-
Phorate	µg/kg	10	NONE	< 10	-	-	-	-
Phosalone	µg/kg	10	NONE	< 10	-	-	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-	-	-	-
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-	-	-	-
Propetamphos	µg/kg	10	NONE	< 10	-	-	-	-
Propyzamide	µg/kg	10	NONE	< 10	-	-	-	-
Tecnazene	µg/kg	10	NONE	< 10	-	-	-	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	< 10	-	-	-	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	< 10	-	-	-	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	< 10	-	-	-	-
Trifluralin	µg/kg	10	NONE	< 10	-	-	-	-

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

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856914
Sample Reference				TP726
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				23/10/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	0.3

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.9
Total Sulphate as SO4	%	0.005	MCERTS	0.021
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0277
Total Sulphur	%	0.005	MCERTS	0.008

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	10
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	37

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-
Toluene	µg/kg	5	MCERTS	-
Ethylbenzene	µg/kg	5	MCERTS	-
p & m-xylene	µg/kg	5	MCERTS	-
o-xylene	µg/kg	5	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856914
Sample Reference				TP726
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				23/10/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	-
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856914
Sample Reference				TP726
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				23/10/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Pesticides				
Alachlor	µg/kg	10	NONE	-
Aldrin	µg/kg	10	NONE	-
Azinphos-ethyl	µg/kg	10	NONE	-
Azinphos-methyl	µg/kg	10	NONE	-
BHC-alpha (benzene hexachloride)	µg/kg	10	NONE	-
BHC-beta	µg/kg	10	NONE	-
BHC-delta	µg/kg	10	NONE	-
BHC-gamma (Lindane, gamma HCH)	µg/kg	10	NONE	-
Bifenthrin	µg/kg	10	NONE	-
Carbophenothion	µg/kg	10	NONE	-
Chlordane-cis	µg/kg	10	NONE	-
Chlordane-trans	µg/kg	10	NONE	-
Chlorfenvinphos	µg/kg	10	NONE	-
Chlorothalonil	µg/kg	20	NONE	-
Chlorpyrifos	µg/kg	10	NONE	-
Cyfluthrin (Sum)	µg/kg	10	NONE	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-
Cypermethrin (Sum)	µg/kg	10	NONE	-
DDD-o,p'	µg/kg	10	NONE	-
DDD-p,p'	µg/kg	10	NONE	-
DDE-o,p'	µg/kg	10	NONE	-
DDE-p,p'	µg/kg	10	NONE	-
DDT-o,p'	µg/kg	10	NONE	-
DDT-p,p'	µg/kg	10	NONE	-
Deltamethrin	µg/kg	10	NONE	-
Demeton-O	µg/kg	10	NONE	-
Demeton-S	µg/kg	10	NONE	-
Diazinon	µg/kg	10	NONE	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-
Dichlorvos	µg/kg	10	NONE	-
Dieldrin	µg/kg	10	NONE	-
Dimethoate	µg/kg	10	NONE	-
Dimethylvinphos	µg/kg	10	NONE	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	-
Endosulfan sulfate	µg/kg	10	NONE	-
Endrin	µg/kg	20	NONE	-
Endrin aldehyde	µg/kg	10	NONE	-
Endrin ketone	µg/kg	10	NONE	-
Ethion	µg/kg	10	NONE	-
Etrimfos	µg/kg	10	NONE	-
Fenitrothion	µg/kg	10	NONE	-
Fenthion	µg/kg	10	NONE	-
Fenvalerate (Sum)	µg/kg	10	NONE	-
Heptachlor	µg/kg	10	NONE	-
Heptachlor exo-epoxide	µg/kg	10	NONE	-
Hexachlorobenzene	µg/kg	10	NONE	-
Hexachlorobutadiene	µg/kg	10	NONE	-
Isodrin	µg/kg	20	NONE	-
Malathion	µg/kg	10	NONE	-
Methacrifos	µg/kg	10	NONE	-
Methoxychlor, p,p'-	µg/kg	20	NONE	-

Analytical Report Number: 23-64744
Project / Site name: Finchwood Park
Your Order No: 41623

Lab Sample Number				2856914
Sample Reference				TP726
Sample Number				None Supplied
Depth (m)				0.70
Date Sampled				23/10/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Mevinphos, E+Z	µg/kg	10	NONE	-
Omethoate	µg/kg	20	NONE	-
Parathion	µg/kg	10	NONE	-
Parathion-methyl	µg/kg	10	NONE	-
Pendimethalin	µg/kg	10	NONE	-
Pentachlorobenzene	µg/kg	10	NONE	-
Permethrin, Cis-	µg/kg	10	NONE	-
Permethrin, Trans-	µg/kg	10	NONE	-
Phorate	µg/kg	10	NONE	-
Phosalone	µg/kg	10	NONE	-
Phosphamidon (Sum)	µg/kg	10	NONE	-
Pirimiphos-ethyl	µg/kg	10	NONE	-
Pirimiphos-methyl	µg/kg	10	NONE	-
Propetamphos	µg/kg	10	NONE	-
Propyzamide	µg/kg	10	NONE	-
Tecnazene	µg/kg	10	NONE	-
Tetrachlorobenzene, 1,2,4,5-	µg/kg	10	NONE	-
Trichlorobenzene, 1,2,3-	µg/kg	10	NONE	-
Trichlorobenzene, 1,3,5-	µg/kg	10	NONE	-
Trifluralin	µg/kg	10	NONE	-

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

Analytical Report Number : 23-64744
Project / Site name: Finchwood Park

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2856889	TP703	None Supplied	0.35	Brown sand with gravel.
2856890	TP704	None Supplied	0.35	Brown sand with gravel.
2856891	TP705	None Supplied	0.35	Brown sand with gravel.
2856892	TP715	None Supplied	0.2	Brown loam and clay with gravel and vegetation.
2856893	TP715	None Supplied	0.80-1.20	Brown clay.
2856894	TP717	None Supplied	0.15	Brown loam and clay with gravel and vegetation.
2856895	TP717	None Supplied	1.2	Brown clay and sand.
2856896	TP718	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2856897	TP718	None Supplied	1.1	Brown clay and sand with gravel.
2856898	TP719	None Supplied	0.2	Brown clay and sand with gravel.
2856899	TP719	None Supplied	0.7	Brown clay and sand.
2856900	TP720	None Supplied	0.3	Brown clay and loam with gravel and vegetation.
2856901	TP720	None Supplied	1.5	Brown clay and sand.
2856902	TP722	None Supplied	0.2	Brown clay and sand with gravel.
2856903	TP722	None Supplied	1.5	Brown sandy clay with gravel.
2856904	TP721	None Supplied	0.2	Brown sandy clay with gravel.
2856905	TP723	None Supplied	0.15	Brown clay and sand with gravel.
2856906	TP724	None Supplied	0.15	Brown clay and sand with gravel.
2856907	TP725	None Supplied	0.15	Brown clay and sand with gravel and vegetation.
2856908	TP726	None Supplied	0.15	Brown clay and sand with gravel and vegetation.
2856909	TP727	None Supplied	0.2	Brown clay and sand with gravel and vegetation.
2856910	TP723	None Supplied	1.3	Brown sandy clay with gravel.
2856911	TP721	None Supplied	1	Brown sandy clay with gravel.
2856912	TP722	None Supplied	0.9	Brown sandy clay with gravel.
2856913	TP724	None Supplied	0.5	Brown sandy clay with gravel.
2856914	TP726	None Supplied	0.7	Brown sandy clay with gravel.

Analytical Report Number : 23-64744
Project / Site name: Finchwood Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation.	In-house method with silica gel split/clean up.	L088/76-PL	D	MCERTS
Pesticides by GC-MS/MS	Detemination of Pesticides in soil by GC MS/MS	In-house method	L055B-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 23-64744
Project / Site name: Finchwood Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

Final Report

Report No.:	17-19872-1
Initial Date of Issue:	07-Aug-2017
Client	Eastwood & Partners
Client Address:	St. Andrews House 23 Kingfield Road Sheffield South Yorkshire S11 9AS
Contact(s):	Geo Stefani Ellis
Project	41623 Hogwood Farm, Arborfield

Quotation No.:		**Date Received:**	31-Jul-2017
Order No.:	41623/RN/SAE	**Date Instructed:**	31-Jul-2017
No. of Samples:	25		
Turnaround (Wkdays):	5	**Results Due:**	04-Aug-2017
Date Approved:	07-Aug-2017		

Approved By:

[redacted]

Details: Robert Monk, Technical Development Chemist

Chemtest
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Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners					**Chemtest Job No.:**	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:					**Chemtest Sample ID.:**	490582	490583	490584	490585	490586	490588	490589	490590	490591
					Client Sample ID.:	TP2	TP3	TP6	TP7	TP11	TP14	TP17	TP18	TP20
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.70	0.10	0.10	0.10	0.10	0.10	0.10	0.80	0.20
					Date Sampled:	25-Jul-2017	25-Jul-2017	25-Jul-2017	27-Jul-2017	25-Jul-2017	26-Jul-2017	26-Jul-2017	26-Jul-2017	26-Jul-2017
					Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY			COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**										
ACM Type	U	2192		N/A			-	-	-			-		-
Asbestos Identification	U	2192	%	0.001			No Asbestos Detected	No Asbestos Detected	No Asbestos Detected			No Asbestos Detected		No Asbestos Detected
Moisture	N	2030	%	0.020	16	14	14	14	15	13	15	15	15	
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	
Other Material	N	2040		N/A	NONE	NONE	Roots	Roots	NONE	Roots	Stones	NONE	Stones	
Soil Texture	N	2040		N/A	Clay	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	
pH	M	2010		N/A	7.5	7.1	5.8	5.9		4.3	6.3	7.2	6.9	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010							< 0.010		
Total Sulphur	M	2175	%	0.010	< 0.010							< 0.010		
Sulphate (Acid Soluble)	M	2430	%	0.010	< 0.010							< 0.010		
Arsenic	M	2450	mg/kg	1.0	15	10	8.2	8.3		5.4	7.2	13	6.8	
Cadmium	M	2450	mg/kg	0.10	< 0.10	0.11	< 0.10	< 0.10		< 0.10	0.11	< 0.10	0.11	
Chromium	M	2450	mg/kg	1.0	29	19	18	21		18	20	42	20	
Copper	M	2450	mg/kg	0.50	15	8.1	8.6	9.7		7.4	9.2	15	9.2	
Mercury	M	2450	mg/kg	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	39	10	8.1	9.1		7.9	9.0	22	9.1	
Lead	M	2450	mg/kg	0.50	13	17	17	19		20	21	13	23	
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20		< 0.20	< 0.20	< 0.20	< 0.20	
Zinc	M	2450	mg/kg	0.50	46	28	28	33		28	33	46	37	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50	
Naphthalene	M	2800	mg/kg	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	
Acenaphthene	M	2800	mg/kg	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	
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 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	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 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	
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	
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	
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0	

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners			**Chemtest Job No.:**		17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:			**Chemtest Sample ID.:**		490582	490583	490584	490585	490586	490588	490589	490590	490591
			Client Sample ID.:		TP2	TP3	TP6	TP7	TP11	TP14	TP17	TP18	TP20
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.70	0.10	0.10	0.10	0.10	0.10	0.10	0.80	0.20
			Date Sampled:		25-Jul-2017	25-Jul-2017	25-Jul-2017	27-Jul-2017	25-Jul-2017	26-Jul-2017	26-Jul-2017	26-Jul-2017	26-Jul-2017
			Asbestos Lab:			COVENTRY	COVENTRY	COVENTRY			COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
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				
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				

Chemtest
The right chemistry to deliver results

Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners				**Chemtest Job No.:**	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:				**Chemtest Sample ID.:**	490592	490593	490594	490595	490596	490597	490598	490599	490600
				Client Sample ID.:	TP21	TP23	TP25	TP27	TP27	TP29	TP30	TP31	TP35
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.70	0.10	0.30	0.10	0.60	1.30	0.10	0.40	0.10
				Date Sampled:	26-Jul-2017	26-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017
				Asbestos Lab:	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A				-			-		
Asbestos Identification	U	2192	%	0.001				No Asbestos Detected			No Asbestos Detected		
Moisture	N	2030	%	0.020	13	16	14	18	15	18	17	8.9	17
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Clay	Clay	Sand	Sand	Sand
pH	M	2010		N/A	7.2	6.6	6.6	6.3	6.6	7.4	6.7	7.2	6.0
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010		< 0.010		< 0.010	< 0.010		< 0.010	
Total Sulphur	M	2175	%	0.010	< 0.010		0.026		< 0.010	< 0.010		< 0.010	
Sulphate (Acid Soluble)	M	2430	%	0.010	< 0.010		< 0.010		< 0.010	< 0.010		< 0.010	
Arsenic	M	2450	mg/kg	1.0	9.9	9.0	2.5	5.7	7.7	7.9	4.2	4.2	4.7
Cadmium	M	2450	mg/kg	0.10	< 0.10	0.12	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2450	mg/kg	1.0	32	22	8.9	16	19	23	7.7	10	14
Copper	M	2450	mg/kg	0.50	13	9.5	4.6	6.3	6.4	9.7	8.4	2.1	8.7
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	26	8.9	4.1	6.6	8.6	30	3.5	5.3	6.1
Lead	M	2450	mg/kg	0.50	11	17	9.1	15	9.7	8.3	22	6.8	23
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	43	34	16	23	23	27	36	14	33
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
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	0.16	< 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	< 0.10	< 0.10	< 0.10	< 0.10	0.94	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.20	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.7	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.5	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	0.73	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.10	< 0.10	< 0.10	0.70	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.98	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.24	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.79	< 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	0.45	< 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	0.48	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	9.0	< 2.0	< 2.0

Chemtest
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Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners			**Chemtest Job No.:**		17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:			**Chemtest Sample ID.:**		490592	490593	490594	490595	490596	490597	490598	490599	490600
			Client Sample ID.:		TP21	TP23	TP25	TP27	TP27	TP29	TP30	TP31	TP35
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.70	0.10	0.30	0.10	0.60	1.30	0.10	0.40	0.10
			Date Sampled:		26-Jul-2017	26-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
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									
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									

Chemtest
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Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners			**Chemtest Job No.:**		17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:			**Chemtest Sample ID.:**		490601	490602	490603	490604	490605	490606	490607
			Client Sample ID.:		TP36	TP37	TP39	TP41	TP42	TP43	TP45
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	0.10	0.10	0.20	1.00	0.10	0.70
			Date Sampled:		27-Jul-2017	26-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type	U	2192		N/A	-			-			
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected			No Asbestos Detected			
Moisture	N	2030	%	0.020	15	16	20	17	19	13	15
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	NONE	Stones	Stones	NONE	NONE	NONE, 490W06
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Clay	Sand	Clay
pH	M	2010		N/A	6.0	6.3		7.2	7.3	6.4	7.1
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010					< 0.010		< 0.010
Total Sulphur	M	2175	%	0.010					0.010		< 0.010
Sulphate (Acid Soluble)	M	2430	%	0.010					< 0.010		< 0.010
Arsenic	M	2450	mg/kg	1.0	7.7	6.2		8.3	31	5.3	13
Cadmium	M	2450	mg/kg	0.10	0.11	< 0.10		0.30	0.12	0.18	< 0.10
Chromium	M	2450	mg/kg	1.0	22	18		22	24	15	40
Copper	M	2450	mg/kg	0.50	7.4	7.7		20	13	14	16
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10		0.11	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	7.7	7.8		9.4	53	8.5	19
Lead	M	2450	mg/kg	0.50	24	17		23	9.9	20	16
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20		< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	31	28		49	43	33	49
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	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
Acenaphthene	M	2800	mg/kg	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
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 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		< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 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
Dibenz(a,h)Anthracene	N	2800	mg/kg	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
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0

Chemtest
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Results - Soil

Project: 41623 Hogwood Farm, Arborfield

Client: Eastwood & Partners			**Chemtest Job No.:**		17-19872	17-19872	17-19872	17-19872	17-19872	17-19872	17-19872
Quotation No.:			**Chemtest Sample ID.:**		490601	490602	490603	490604	490605	490606	490607
			Client Sample ID.:		TP36	TP37	TP39	TP41	TP42	TP43	TP45
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	0.10	0.10	0.20	1.00	0.10	0.70
			Date Sampled:		27-Jul-2017	26-Jul-2017	26-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017	27-Jul-2017
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
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				
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				

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.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2820	Organophosphorus (O-P) Pesticides in Soils by GC-MS	Organophosphorus pesticide representative suite including Parathion, Malathion etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2840	Organochlorine (O-Cl) Pesticides in Soils by GC-MS	Organochlorine pesticide representative suite including DDT and its metabolites, 'drins' and HCH etc, plus client specific determinands	Dichloromethane extraction / GC-MS

Report Information

Key

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

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

Sample Retention and Disposal

All soil samples will be retained for a period of 45 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.co.uk

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

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

Prepared	KB	Checked	RAN	Date	27.09.2022	Job No	41623

Eastwood
CONSULTING ENGINEERS

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

Tel: (0114) 255 4554 Fax: (0114) 255 4330

PARCEL 15 HOGWOOD FARM (FINCHWOOD PARK)

CALA HOMES THAMES AND LEGAL & GENERAL HOMES LIMITED

ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE

Contaminant	Phytotoxicity			
	pH 5.0 to 5.5	pH 5.5 to 6.0	pH 6.0 to 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*'.

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.

Prepared	KB	Checked	RAN	Date	27.09.2022	Job No	41623

Eastwood
CONSULTING ENGINEERS

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

Tel: (0114) 255 4554 Fax: (0114) 255 4330

PARCEL 15 HOGWOOD FARM (FINCHWOOD PARK)

CALA HOMES THAMES AND LEGAL & GENERAL HOMES LIMITED

ASSESSMENT CRITERIA – RESIDENTIAL WITH HOMEGROWN PRODUCE

Appendix 5

Geotechnical Test Results (GEO/39228)

GEOLABS Limited
Bucknalls Lane
Garston
Watford
Hertfordshire
WD25 9XX
Tel: +44(0) 1923 892 190
Fax: +44(0) 1923 892 191
email: admin@geolabs.co.uk
web: www.geolabs.co.uk

Eastwood and Partners (Consulting Engineers) Limited
Gander Down Barns
Rodfield Lane
Ovington
Alresford
SO24 0HS

22 November 2023
Report No : GEO/39228/01

For the attention of Ms M Ebling

Date samples received	06/11/2023
Date written instructions received	06/11/2023
Date testing commenced	07/11/2023
Date of sample disposal	**20/12/2023**

Our ref **GEO / 39228**
Your Ref **41623**

Project **FINCHAMPSTEAD - PARCEL 4 AND 10**

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	~	Geotechnical Test Summary
2	~	Liquid & Plastic Limits Summary
	11	Water Content
	11	Liquid & Plastic Limits
3	7	Unconsolidated Undrained Triaxial Compression
4	~	Geochemical Test Summary
~	10	BRE SD1 Suite B - Natural ground + pyrite

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. The results reported are applicable only to the test items received by the laboratory.

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

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

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

S Burke
Senior Technician

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
BH203	5.00		D																BRE Suite B
BH203	6.00-6.45		U	Very stiff dark brown clayey SILT with rare shell fragments.	21.1					2.11	1.74	Undisturbed	120	327	164				BRE Suite B
BH203	12.00-12.45		U	Very stiff dark brown clayey SILT.	21.7					2.10	1.73	Undisturbed	240	541	271				BRE Suite B
BH204	9.00-9.45		U	Very stiff dark brown silty CLAY with rare shell fragments.	22.3					2.13	1.74	Undisturbed	180	386	193				BRE Suite B
BH204	15.00-15.45		U	Very stiff dark brown mottled dark grey silty CLAY.	25.9					2.07	1.64	Undisturbed	300	311	155				BRE Suite B
BH205	6.50		D																BRE Suite B
BH205	12.00-12.45		U	Very stiff dark brown silty CLAY.	24.1					2.08	1.68	Undisturbed	240	426	213				BRE Suite B
BH205	15.00		D																BRE Suite B
BH206	8.00-8.45		U	Very stiff dark brown silty CLAY.	22.1					2.11	1.73	Undisturbed	160	481	241				BRE Suite B
BH206	16.00-16.45		U	Very stiff dark brown silty CLAY.	27.7					2.05	1.60	Undisturbed	320	315	157				BRE Suite B

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10
41623

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
TP720	1.50		D	Brown mottled brownish grey silty CLAY.	23.5	45	19	26	100										
TP721	1.00		D	Brown mottled brownish grey and orangish brown silty CLAY.	24.3	44	20	24	100										
TP721	2.10		D	Brown mottled orangish brown silty CLAY.	23.2	40	19	21	100										
TP722	0.90		D	Brown mottled orangish brown silty CLAY.	24.3	45	20	25	100										
TP723	1.30		D	Brown mottled orangish brown greyish brown slightly sandy silty CLAY. Sand is fine.	22.3	46	17	29	100										
TP723	2.10		D	Brown silty CLAY.	25.2	39	21	18	100										
TP724	1.10		D	Brown mottled brownish grey orangish brown silty CLAY with rare fine to medium gravel.	23.2	45	18	27	100										
TP724	2.50		D	Brown silty CLAY.	24.7	37	19	18	100										
TP725	0.90		D	Brown mottled orangish brown brownish grey silty CLAY.	24.3	40	20	20	100										
TP726	1.00		D	Brown mottled greyish brown silty CLAY.	23.3	47	19	28	100										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10
41623

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC %	LL %	PL %	PI %	<425 µm %	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 g/L	W/S Mg mg/L	
TP727	2.60		D	Brown brownish grey orangish brown silty CLAY.	24.6	41	19	22	100										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10
41623

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BS EN ISO 17892-12 : 2018+A2:2022

SUMMARY OF LIQUID AND PLASTIC LIMIT TESTS

Location	Depth m	Sample Ref	Sample Type	Description	Water Content BS EN ISO 17892-1 : 2014 +A1:2022 %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Percentage Passing 425µm %	Atterberg Classification	Test Type	Sample Condition
TP720	1.50		D	Brown mottled brownish grey silty CLAY.	23.5	45	19	26	100	CI	2	1
TP721	1.00		D	Brown mottled brownish grey and orangish brown silty CLAY.	24.3	44	20	24	100	CI	2	1
TP721	2.10		D	Brown mottled orangish brown silty CLAY.	23.2	40	19	21	100	CI	2	1
TP722	0.90		D	Brown mottled orangish brown silty CLAY.	24.3	45	20	25	100	CI	2	1
TP723	1.30		D	Brown mottled orangish brown greyish brown slightly sandy silty CLAY. Sand is fine.	22.3	46	17	29	100	CI	2	1
TP723	2.10		D	Brown silty CLAY.	25.2	39	21	18	100	CI	2	1
TP724	1.10		D	Brown mottled brownish grey orangish brown silty CLAY with rare fine to medium gravel.	23.2	45	18	27	100	CI	2	1
TP724	2.50		D	Brown silty CLAY.	24.7	37	19	18	100	CI	2	1
TP725	0.90		D	Brown mottled orangish brown brownish grey silty CLAY.	24.3	40	20	20	100	CI	2	1
TP726	1.00		D	Brown mottled greyish brown silty CLAY.	23.3	47	19	28	100	CI	2	1
TP727	2.60		D	Brown brownish grey orangish brown silty CLAY.	24.6	41	19	22	100	CI	2	1

Test Type: 2 - 4 point 80g / 30° fall cone method.

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

Checked and Approved by:

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

GEOLABS®

UKAS TESTING 1982

Client : Eastwood and Partners (Consulting Engineers) Limited, Gander Down Barns, Rodfield Lane, Ovington, Alresford, SO24 0HS (Ref 1701949519)

1240 - Chemical Test Summary - 39228.XLSM

SUMMARY OF CHEMICAL TESTS ON SOIL

Location	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO4 %	Water Soluble Sulphate as SO4 2:1 Water:Soil Extract g/l	Total Sulphur %	Water Soluble Chloride g/l	Water Soluble Nitrate g/l	Magnesium g/l	Organic Content %	Mass Loss on Ignition %	Carbonate Content %
BH203	5.00		D	8.3	0.14	0.47	0.49	-	-	-	-	-	-
BH203	6.00-6.45		U	8.2	0.13	0.42	0.52	-	-	-	-	-	-
BH203	12.00-12.45		U	8.3	0.11	0.20	0.84	-	-	-	-	-	-
BH204	9.00-9.45		U	8.5	0.13	0.30	0.81	-	-	-	-	-	-
BH204	15.00-15.45		U	8.1	0.20	0.64	0.84	-	-	-	-	-	-
BH205	6.50		D	7.9	0.25	0.58	2.1	-	-	-	-	-	-
BH205	12.00-12.45		U	8.5	0.10	0.27	0.80	-	-	-	-	-	-
BH205	15.00		D	8.2	0.19	0.40	1.1	-	-	-	-	-	-
BH206	8.00-8.45		U	8.5	0.11	0.20	1.3	-	-	-	-	-	-
BH206	16.00-16.45		U	8.8	0.24	0.090	0.75	-	-	-	-	-	-

Tested by Eurofins Chemtest Ltd : MCERTS / UKAS No 2183

Checked and Approved by:

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

GEOLABS®

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH203
Depth (m)	6.00-6.45
Sample Type	U

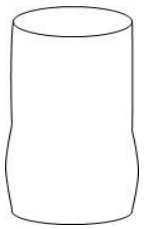
Description:

Very stiff dark brown clayey SILT with rare shell fragments.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.7
Diameter	(mm)	101.9
Water content	(%)	21.1
Bulk density	(Mg/m³)	2.11
Dry density	(Mg/m³)	1.74
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.7
Membrane correction	(kPa)	0.5
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	120
Strain at failure	(%)	7.5
Maximum deviator stress	(kPa)	327
Shear Stress Cu	(kPa)	164

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	70

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH203
Depth (m)	12.00-12.45
Sample Type	U

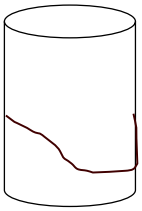
Description:

Very stiff dark brown clayey SILT.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.0
Diameter	(mm)	101.9
Water content	(%)	21.7
Bulk density	(Mg/m³)	2.10
Dry density	(Mg/m³)	1.73
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.0
Membrane correction	(kPa)	0.4
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	240
Strain at failure	(%)	6.0
Maximum deviator stress	(kPa)	541
Shear Stress Cu	(kPa)	271

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	60

[redacted]

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

GEOLABS® UKAS TESTING 1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH204
Depth (m)	9.00-9.45
Sample Type	U

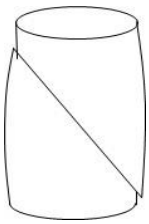
Description:

Very stiff dark brown silty CLAY with rare shell fragments.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.7
Diameter	(mm)	101.7
Water content	(%)	22.3
Bulk density	(Mg/m³)	2.13
Dry density	(Mg/m³)	1.74
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.7
Membrane correction	(kPa)	0.8
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	180
Strain at failure	(%)	13.5
Maximum deviator stress	(kPa)	386
Shear Stress Cu	(kPa)	193

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	80

Tested by PS
Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

GEOLABS

UKAS TESTING 1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH204
Depth (m)	15.00-15.45
Sample Type	U

Description:

Very stiff dark brown mottled dark grey silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.0
Diameter	(mm)	102.1
Water content	(%)	25.9
Bulk density	(Mg/m³)	2.07
Dry density	(Mg/m³)	1.64
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.0
Membrane correction	(kPa)	1.1
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	300
Strain at failure	(%)	19.9
Maximum deviator stress	(kPa)	311
Shear Stress Cu	(kPa)	155

Mode of failure

Orientation of the sample	Vertical
Distance from top of tube mm	80

Tested by PS
Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

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UKAS TESTING 1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH205
Depth (m)	12.00-12.45
Sample Type	U

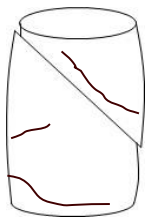
Description:

Very stiff dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	200.7
Diameter	(mm)	102.2
Water content	(%)	24.1
Bulk density	(Mg/m³)	2.08
Dry density	(Mg/m³)	1.68
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	200.7
Membrane correction	(kPa)	0.8
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	240
Strain at failure	(%)	12.5
Maximum deviator stress	(kPa)	426
Shear Stress Cu	(kPa)	213

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	180

Tested by PS
Checked and Approved by

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

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UKAS TESTING 1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH206
Depth (m)	8.00-8.45
Sample Type	U

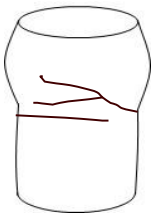
Description:

Very stiff dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.0
Diameter	(mm)	101.7
Water content	(%)	22.1
Bulk density	(Mg/m³)	2.11
Dry density	(Mg/m³)	1.73
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.0
Membrane correction	(kPa)	1.0
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	160
Strain at failure	(%)	16.9
Maximum deviator stress	(kPa)	481
Shear Stress Cu	(kPa)	241

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	90

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

GEOLABS® UKAS TESTING 1982

BS EN ISO 17892-8 : 2018

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location	BH206
Depth (m)	16.00-16.45
Sample Type	U

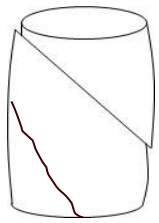
Description:

Very stiff dark brown silty CLAY.

Specimen Details

Specimen conditions		Undisturbed
Length	(mm)	201.0
Diameter	(mm)	101.8
Water content	(%)	27.7
Bulk density	(Mg/m³)	2.05
Dry density	(Mg/m³)	1.60
Test Details		
Latex membrane thickness	(mm)	0.3
Specimen height prior to shearing	(mm)	201.0
Membrane correction	(kPa)	0.7
Mean rate of shear	(%/min)	2.0
Cell pressure	(kPa)	320
Strain at failure	(%)	10.0
Maximum deviator stress	(kPa)	315
Shear Stress Cu	(kPa)	157

Mode of failure



Orientation of the sample	Vertical
Distance from top of tube mm	80

Tested by PS

[redacted]

S Burke - Senior Technician
07/12/2023

Project Number:

GEO / 39228

Project Name:

FINCHAMPSTEAD - PARCEL 4 AND 10

41623

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UKAS TESTING 1982

Eastwood

CONSULTING ENGINEERS

St Andrew's House
23 Kingfield Road
Sheffield, S11 9AS
mail@eastwoodce.com
0114 255 4554
eastwoodce.com