Phase 2 Ground Investigation

South Farm, Wickwar



B05313-CLK-XX-XX-RP-GT-0002

Bloor Homes South West

MULTIDISCIPLINARY ENGINEERING CONSULTANTS

Phase 2 Ground Investigation

Report No.	
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Date. 08/02/22

Project

South Farm, Wickwar

Client Name

Bloor Homes South West

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Executive Summary

Client	Bloor Homes South West
Site	South Farm, Wickwar
Location	Sodbury Road, Wickwar, GL12 8LW. NGR E372353, N187633.
Approximate area	38На
Current land use	Agricultural Farmland.
Proposed development	It is understood that the Phase 1 area is anticipated to accommodate 180 residential units as well as land for a potential new community shop.
Geology	No Superficial deposits mapped. The solid geology comprises 3 geological Formations; the Avon Group, the Westbury Formation and Cotham Member and the Langport Member and Wilmcote Limestone Member. These strata comprise a sequence of mudstones and interbedded limestones.
Radon	Basic radon protective measures are required.
Previous site investigations	Clarkebond have not been made aware of any previous investigations undertaken at this site. Phase 1 Desk Study Report by Clarkebond (ref B05313-CLK-00-XX-RP-GE-0001 April 2020). Note the Desk Study considered a larger land area than the current Phase 1 development area that forms the subject of this report.
This site Investigation	Twenty-six machine excavated trial pits Four infiltration tests within trial pits TP01, 03,04 and 05. Six TRL DCP tests
Ground conditions	No Superficial deposits were recorded during the investigation. A limited area of made ground (3 TPs) to 1.3m, comprising reworked locally derived soils was recorded. The underlying geology comprised firm gravelly clays with occasional beds of more competent limestone.
Foundations	Strip footings suitable. Bearing capacity within firm natural soils of 110kPa at 1.0m.
Shrinkable soils	Soils are high volume change potential.
Buried concrete	DS3 & AC3. FND3
Floor slabs	Suspended floors recommended.
Gas protection	No gas protection measures required. Basic radon protection measures required.
Slope stability	Site and adjacent area are generally level and therefore no risks. Gradients are considered generally stable but careful assessment of changes of elevation or construction near existing slopes would still be needed.
Pavement	Design CBR value of 3%.
Soakaways	All infiltration testing failed. The site is considered unsuitable for infiltration drainage.
Contamination Considerations	No risks to human health or groundwater have been found on site. Elevated zinc has been identified on site, although no impact on vegetation was noted. Consultation with a landscape architect is recommend. PE and PVC water supply pipes should be acceptable. No protection is required for ground gas and chemical vapours.

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Waste Categorisation for Off-site Disposal	The Made Ground has been classified as Non-hazardous. The natural soils are classified as Non-hazardous. WAC testing has been undertaken on the natural soils; these are likely to classed as Inert for disposal purposes.
Outline Strategy for Remediation & Risk Reduction	No formal remediation strategy is required based on the findings of the investigation. Discussion with a landscape architect is required to assess the significance of the raised zinc concentrations identified. Radon protection is required within all new dwellings.
Further Data and Investigation	A tree survey is recommended to inform the detailed design of foundations.

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1 Introduction

1.1 Brief

Clarkebond (UK) Limited was commissioned by Bloor Homes South West to undertake a Phase 1 & 2 Site Investigation on a site known as South Farm, Wickwar, GL12 8LW. NGR E372353, N187633.

The client's brief was to carry out a Phase 2 Ground Investigation based on the findings of the existing Clarkebond desk study to identify primarily foundation requirements and whether any significant contamination is present.

The objectives of the investigation were to determine the sub-surface conditions in respect of:

- Foundations for proposed structures.
- Design guidance for access road and car park construction.
- Floor slabs.
- Soakaway potential.
- Contamination assessment to consider potential significant pollutant linkages arising from the historic land uses on and off site.
- Assessment of near surface materials for waste classification to allow cost prediction for any off-site disposal.

1.2 Proposed Development

It is understood that the Phase 1 area is anticipated to accommodate 180 residential units as well as land for a potential new community shop.

Clarkebond previously undertook a Phase 1 Environmental Desk Study for the wider site prior to the Phase 2 investigation reference B05313-CLB-00-XX-RP-GE-0001 P01. Note the Desk Study considered a larger land area than the current Phase 1 development area that forms the subject of this report.

During the production of this report the information in that report has been reviewed. A summary of the pertinent findings are given in Section 3.

1.3 Limitations

This report is provided for the benefit only of the party to whom it is addressed and we do not accept responsibility to any third party for the whole or any part of the contents and we exercise no duty of care in relation to this report to any third party.

Where intrusive investigations have been completed, information, comments and opinions given in this report are based on the ground conditions encountered during the site work and on the results of laboratory and field tests performed during the investigation. However, subsoils are inherently variable and hidden from view such that no investigation can be exhaustive to the extent that all soil conditions are revealed. Conditions may therefore be present beneath the site that were not apparent in the data reviewed as part of this assessment. In particular, it should be noted that groundwater levels vary due to seasonal and other effects and may at times differ to those measured during the investigation.

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Unless specifically noted to the contrary, it should be assumed that this report has not been submitted to any regulatory authorities for approval. Redevelopment sites in particular may have planning conditions attached in respect of contaminated land assessment. Where we are made aware of such conditions in advance of scoping the works, we can tailor the report to the regulatory authority requirements. Where we are not made aware of any such requirements there can be no certainty that our investigation will meet any or all of the regulatory authority requirements.

2 Site Setting

Site Address:	South Farm, Wickwar, GL12 8LW
National Grid Reference:	E372353, N187633

The site is located approximately 400m south from Wickwar village centre as shown in Figure 2.1 below.



Figure 2.1 Site Location

2.1 Site Description

A site walkover survey was undertaken on the first day of the Phase 2 site works on 1st March 2021 by Clarkebond. Access to the site is gained via the main farmyard.

The site consists of four agricultural fields separated by hedgerows which cover an area of 38Ha. The site slopes gently to the north.

3 Summary of Previous Work

A Preliminary Land Contamination and Geotechnical Risk Assessment for the wider site has been undertaken by Clarkebond (UK) Limited in 2020 (Ref: B05313-CLK-00-XX-RP-GT-0001, dated April 2020).

A summary of the salient findings of that report relevant to the current Phase 1 development area is presented below.

Information published by the British Geological Survey indicated that the area of the site is expected to be underlain by three lithological units as shown in Table 3.1 below:

Table 3.1 Bedrock Geology

Formation
Avon Group – Interbedded Limestone and Mudstone
Westbury Formation and Cotham Member - Mudstone
Langport Member and Wilmcote Limestone Member – Interbedded limestone and mudstone.

The anticipated ground conditions are considered likely to be suitable for conventional strip foundations for the proposed development. No significant geotechnical risks were identified.

The Environment Agency classifies the lithological units at the site to be Secondary A and B aquifers. There are no licenced groundwater abstractions within 1km of the site. The site is not located within or near a Source Protection Zone. Despite the expected shallow depth to groundwater, the likely low permeability of the superficial deposits would suggest that groundwater would be of low sensitivity to any potential on site sources of contamination.

Surface water features in the vicinity of the site comprise two unnamed inland rivers which are believed to contain water year-round: one flows north along a length of the western boundary of the whole site before altering course and flowing west, while the other flows northwards along the western boundary of the Phase 1 area. There is also a pond present in the north east of the site. The potential sensitivity of these receptors is deemed to be high.

The site has remained greenfield since earliest available mapping and no previous or current on-site or adjacent land uses that are considered likely to present a risk of soil or groundwater contamination identified.

The Enviro Geo Insight report states that the Phase 1 area of the site is in an area where the estimated probability of homes being above the action level of 200Bqm⁻³ is between 5 and 10%. Therefore, basic radon protective measures are required in the construction of new buildings or extensions.

4 Site Investigation

The intrusive investigation was proposed by Clarkebond. No significant contamination or geotechnical risks that required specific investigation were identified from the desk study and site walkover. Consequently, the positions of the exploratory holes were intended to provide a reasonable coverage of the site for an assessment of general ground conditions.

The investigation was undertaken between 1st and 3rd of March 2021.

The intrusive works comprised the following:

- Twenty-six machine excavated trial pits.
- Four BRE soakaway tests.
- Six Dynamic Cone Penetrometer CBR Tests

The procedures followed in this site investigation are based on BS 5930:1999 + Annex 2:2010 - Code of Practice for Site Investigations. The soils and rocks encountered have been described in accordance with BS5930:1999 + Annex 2:2010 and BS EN ISO 14688-1:2002 and BS EN ISO 14689-1:2003.

The approximate positions of the exploratory holes are shown on the Exploratory Hole Location Plan in Appendix A and the exploratory hole records are included in Appendix B.

4.1 Trial Pits

Twenty-six trial pits (TP01 to TP26) were excavated to depths varying between 1.30m and 3.10m below ground level (bgl) using a wheeled backhoe excavator.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Representative samples were taken, where appropriate, for laboratory analysis. In situ hand shear vane tests were also carried out in suitable strata. Detailed descriptions of the strata encountered, groundwater observations and excavation stability notes, together with any other pertinent information observed, are included on the trial pit records, which are included in Appendix B.

4.2 Infiltration Testing

In order to determine the permeability of the ground to assess the suitability of soakaways for drainage at the site, infiltration testing was undertaken in four machine excavated trial pits (TP01, TP03, TP04 and TP05).

No infiltration was observed during the initial filling of the test pits. As such the tested were classified as failures and further testing was not undertaken.

The results of the infiltration testing are presented in Appendix C.

4.3 TRL DCP Tests

Six TRL DCP tests (DCP1 to DCP6) were undertaken along the likely route of proposed new highways in order to obtain design parameters and information for road pavement construction. The results of the TRL DCP testing are presented in Appendix D.

5 Laboratory Analysis

Samples obtained during the investigation were subjected to a range of geotechnical and chemical testing at appropriate accredited laboratories.

Samples were submitted for geotechnical laboratory testing to characterise the engineering properties of the soil. The following testing was scheduled:

- 29 x Atterberg Limits
- 1 x Particle Size Distribution
- 29 x Moisture Content
- 8 x BRE SD1 sulphate suite

Testing was carried out in accordance with the procedures outlined in BS EN ISO 14688-1:2018, 14688-2:2018 and 14689:2018 (i.e. Eurocode 7). Geotechnical laboratory test data is presented in Appendix E.

Soil samples were sent for chemical analysis to i2 Analytical laboratories to be analysed for:

- 3 x Full suite comprising arsenic, cadmium, copper, chromium, lead, mercury, nickel, selenium, zinc, Speciated PAH, speciated Total Petroleum Hydrocarbons (TPHCWG), Soil organic matter content (SOM), pH and soluble sulphate.
- 3 x Screen suite comprising arsenic, cadmium, copper, chromium, Chromium VI, lead, mercury, nickel, selenium, zinc, Speciated PAH, TPH banded, Soil organic matter content (SOM), pH and soluble sulphate.
- 2 x Waste Acceptance Criteria (Single Stage)
- 1 x Organophosphorous Pesticides and Herbicides

The chemical laboratory test results are presented in Appendix F.

6 Ground Conditions

6.1 General

The results of this investigation were consistent with the anticipated geology.

A summary of the strata encountered is presented in Table 6.1 and discussed in sections 6.2 to 6.8. For full details of the strata encountered reference should be made to the exploratory hole logs in Appendix B.

Hala	Toncoil	Made	Silty/sandy	Clay	Sandy/gravelly	Clayey	Limestone/Mudstone	Ground
поте	ropson	Ground	clay		clay	gravel	(bedrock)	water
TP01	0.10	-	1.10	-	2.10*	-	-	Seepage at base
TP02	0.10	-	1.20	-	2.70*	-	-	Seepage at base
TP03	0.10	-	1.20	2.10	2.80*	-	-	Seepage at base
TP04	0.15	-	0.70	-	1.30	2.80*	-	Seepage at base
TP05	0.20	-	1.40	-	3.10*	-	-	Seepage at base
TP06	0.10	-	0.90	-	2.50*	-	-	Seepage at base
TP07	0.10	-	1.00	-	2.70*	-	-	Seepage at base
TP08	0.10	-	1.00	-	1.40	-	1.45*	Seepage at base
TP09	0.10	-	-	0.60	2.90*	-	-	Seepage at base
TP10	0.15	-	0.70	-	2.50*	-	-	Seepage at base
TP11	0.15	-	2.50*	-	-	-	-	Seepage at base
TP12	0.15	-	2.00	-	2.80*	-	-	Seepage at base
TP13	0.15	-	1.50	-	2.50*	-	-	Seepage at base
TP14	0.15	-	0.50	-	2.50*	-	-	Seepage at base
TP15	0.15	1.30	2.10	-	2.70*	-	-	Seepage at base
TP16	-	1.10	-	-	2.80*	-	-	Seepage at base
TP17	-	0.60	-	-	2.90*	-	-	Seepage at base
TP18	0.20	-	1.25	-	-	-	1.30*	Seepage at base
TP19	0.20	-	2.30*	-	-	-	-	Seepage at base
TP20	0.15	-	-	-	2.80*	-	-	Seepage at base
TP21	0.15	-	1.40	-	-	-	1.80*	Seepage at base
TP22	0.20	-	-	-	0.80	1.30*	-	Seepage at base
TP23	0.15	-	1.60	-	2.70*	-	-	Seepage at base
TP24	0.15	-	1.90	-	2.60*	-	-	Seepage at base
TP25	0.15	-	1.60	-	2.70*	-	-	Seepage at base
TP26	0.15	-	-	-	2.60*	-	-	Seepage at base

Table 6.1 Ground Conditions

* Base of hole

6.2 Topsoil

Topsoil was encountered in all the exploratory holes to between 0.10 and 0.20m below ground level (bgl). The material generally consisted of dark brown clayey sandy silt with rootlets.

6.3 Made Ground

Made Ground materials was only encountered in TP15, TP16 and TP17 to depths ranging from 0.60m to 1.30m bgl. The materials generally comprised dark brown/orange gravelly sandy silt/clay. Anthropogenic components included brick fragments.

6.4 Weathered Westbury Formation and Cotham Member

The Topsoil/Made Ground in some areas of the site was underlain by the solid geology of the weathered Westbury Formation and Cotham Member. This lithological unit was encountered in TP02, TP03, TP04, TP12, TP13, TP16, TP19, TP20, TP24, TP25 and TP26 and generally comprised a weathered firm, becoming firm to stiff with depth, sandy and gravelly clay extending to depths between >2.3 and >2.8m bgl.

6.5 Weathered Langport Member and Wilmcote Limestone Member

The Topsoil/Made Ground in some areas of the site was underlain by the solid geology of the weathered Langport Member and Wilmcote Limestone Member. This lithological unit was encountered in TP06, TP07, TP09, TP10, TP14, TP15 and TP17 and generally comprised a weathered firm, becoming firm to stiff with depth grey gravelly/cobbly clay with gravel and cobbles of limestone extending to depths between >2.5 and >2.9m bgl.

6.6 Weathered Avon Group

The Topsoil in some areas of the site was underlain by the solid geology of the weathered Avon Group. This lithological unit was encountered in TP01, TP03, TP08, TP18, TP21, TP22, and TP23 and generally comprised a weathered firm brown to orange silty/sandy gravel clay with gravel and cobbles of limestone extending to depths between 1.25 and >2.70m bgl.

6.7 Avon Group

The weathered Avon Group was underlain by the solid bedrock of the Avon Group. This lithological unit was encountered in TP08 and TP18 and comprised a moderately strong off-white to grey limestone.

6.8 Groundwater

No groundwater was encountered during the intrusive works. Slow seepage was encountered in all exploratory holes.

6.9 Field Observations of Contamination

No visual or olfactory evidence of contamination was encountered.

6.10 Soil Strength

The results of hand shear vane tests ranged from 30kPa to 110kPa. The shear strength values are shown in Figure 6.2. The majority of the soils displayed a weathering profile, with the upper soils being firm in consistency. A gradual increase in strength was noted in most areas, but not all; localised softer bands



were occasionally noted at depth. This may be due to variation in moisture content, in turn related to a variation in the granular component of the predominately cohesive strata.

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7 Geotechnical Assessment

7.1 Proposed Development

It is understood that the Phase 1 area is anticipated to accommodate 180 residential units as well as land for a potential new community shop together with access roads, infrastructure and open spaces.

7.2 Shrinkable Soils

Cohesive soils (clay and silt) may undergo volume change when subject to changes in moisture content. This can cause ground movement of soils where seasonal changes or tree root action affect the moisture content. Where foundations are constructed in such soils these movements can lead to damage of the superstructure. These movements are greatest where trees are removed or tree root systems are severed as this allows the soils to regain their equilibrium moisture content resulting in expansion.

The NHBC (National House Building Council) has derived minimum foundation depths and other precautions relating to ground movements in shrinkable soils. These standards are set out in NHBC Chapter 4.2 "Building Near Trees" (2017) and are commonly adopted for both residential and non-residential structures.

The Modified Plasticity Index is related to volume change potential and NHBC recommended minimum foundation depths as indicated in Table 7.1.

Modified Plasticity Index	Volume Change Potential	Minimum Foundation Depth	
40% or greater	High	1.00m	
20% to <40%	Medium	0.90m	
10% to <20%	Low	0.75m	

Table 7.1 Volume Change Potential

Shrinkable soils are generally considered as clays having a modified plasticity index (l'p) of 10% or greater. The Modified Plasticity Index is defined as the Plasticity Index (lp) of the soil multiplied by the percentage of particles less than 425 μ m. Soils containing less than 35% fine particles (< 63 μ m) are non-shrinkable.

The plasticity indices of twenty-nine soil samples of the natural clay strata ranged from 14% to 64%, with the percentage of the soil <425µm ranging from 73% to 100%. The calculated modified plasticity indices ranged from 13% to 64%.

On the basis of the modified plasticity index the clay soils would therefore be considered to be of **high volume change potential** with respect to NHBC Chapter 4.2 "Building Near Trees" (NHBC, 2017). Consequently, a minimum foundation depth of 1.0m is recommended where foundations are outside the influence zone of trees.

7.3 Foundation Design

Based on the ground conditions encountered, conventional spread foundations would be suitable for the proposed structure. These should be taken down through any Topsoil, Made Ground or soft deposits and constructed within competent natural soils. To avoid seasonal ground movements associated with the shrinkable clay soils a minimum foundation depth of 1.00m should be adopted, although it is acknowledged that depths would need to be greater locally where deeper Made Ground or soft soils are present particularly around TP15, TP16 and TP17, or where foundations need to be deepened in the vicinity of trees.

Assessment of the hand shear vane measurements (Figure 6.2) indicates a characteristic undrained shear strength of 50kPa in the upper parts of the weathered natural soils. Only slight improvement with depth is noted, with minimal increase observed within the upper 2m. This value would provide a bearing capacity within the firm natural soils at 1.0m depth of 110kPa for strip foundations. Where made ground is present foundations will require to be deepened through the fill to found nominally 0.3m into the underlying firm to stiff cohesive soils.

The clay soils are shrinkable (high volume change potential) and therefore foundations will need to be deepened and heave precautions adopted within the influence zone of existing, proposed or felled trees, in accordance with NHBC Chapter 4.2.

A tree survey to determine species and height will be required to calculate foundation depths in shrinkable soils.

Where the design bearing capacity is imposed on clay strata then 15mm to 25mm of settlement may occur. There will be negligible settlements of foundations placed on bedrock. Consequently, where foundations span from clay strata to bedrock reinforcement will be required to resist differential settlements.

All foundations should be inspected by a suitably qualified and competent person to ensure that foundations are placed in competent material capable of supporting the intended loads and below any desiccated clay soils.

7.4 Floor Slabs

The underlying soils near surface soils were either shrinkable (high volume change potential) or consisted of Made Ground, therefore a suspended floor slab is recommended with an appropriate underfloor void.

Basic radon protection measures are required.

7.5 Earthworks / Cut and Fill

The site's current topography is such that a degree of re-profiling will be undertaken. The cut will predominantly be within the weathered Westbury Formation and Cotham Member and Langport Member and Wilmcote Limestone Member, which typically consist of a firm sandy/gravelly clay. It is likely these materials would meet Class 2C for earthworks materials and would be suitable for use as General Fill.

It should be noted that cohesive fills and slopes are sensitive to moisture changes, and it is important that cohesive fills are sealed using a smooth roller or covered prior to inclement weather conditions. It

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may also be necessary to remove the surface of previously compacted fills that have been exposed to inclement weather conditions prior to continuing with earthworks operations. Additional testing will be required to be carried out for the classification of the near surface materials to be re-used as engineered fill on Site. Any proposed earthworks should be carried out in accordance with an engineering specification.

7.6 Concrete Protection

Buried concrete classification is based on guidelines provided in BRE Special Digest 1 (BRE, 2005).

Chemical Analysis was undertaken on seven soil samples recovered from the natural clay strata. These soils are associated with being potentially pyritic; therefore an assessment for pyritic material was made in accordance with BRE Special Digest 1 (2005).

Three of the seven samples analysed were potentially pyritic (oxidisable sulphides of 0.79 to 1.42%). Total potential sulphate ranged from 0.04 to 1.94%. This corresponds to a design sulphate class of DS4, however, the maximum water-soluble sulphates correspond to a design class of DS2. Therefore, the total potential sulphate design class can be relaxed one class to DS3.

For low rise residential on mass concrete foundations, this corresponds to a concrete type of FND3. It is recommended that the concrete supplier confirm the necessary concrete type based on its intended use and the chemical test results in Appendix F. Specific mixes for reinforced concrete will be required.

7.7 Pavement Design

Equilibrium CBR values for various materials are given in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations (Draft HD25)" produced by the Highways Agency. Given the variable nature of the cohesive soils they may be considered to behave as silty clays, with an equilibrium CBR of 3%. It is noted that the TRL DCP values are in excess of this, potentially reflecting desiccated near surface soils. The equilibrium CBR represent the potential long term performance of the soil and as such should be used for initial design.

7.8 Excavations

Conventional mechanical backhoe excavators should prove suitable for excavation within the weathered natural soils.

When dry the cohesive soils should remain stable in the short term to allow placement of concrete and services. However, during wet weather instability may occur and temporary support may be required. Entry into shallow excavations by personnel should be minimised, and excavation stability should be assessed by suitably qualified and experienced staff and shoring used when required. Entry into deeper excavations should not be permitted unless full support is provided.

No groundwater inflow into the trial excavations was encountered during the investigation undertaken in March 2021. It should be noted however that seepage was observed during the short duration for which the pits remained open.

The low permeability of the natural clay strata is likely to result in very low inflow rates and it is likely that groundwater control can be achieved by sump pumping.

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7.9 Soakaway Drainage

Infiltration testing was undertaken in accordance with BRE 365 (2016) in four locations (TP01, TP03, TP04 and TP05). The stratum tested was the weathered horizons of the Westbury Formation and Cotham Member. The BRE test procedure is to fill the pit 3 times and monitor the infiltration over a 24 hour period. However, upon filing the pits no significant infiltration was observed during the initial filling. The ground was therefore considered to be unsuitable for infiltration and repeat testing was not undertaken.

8 Contamination Assessment

8.1 Tier 1 Generic Quantitative Risk Assessment - Soil Risks to Humans

8.1.1 General

The Phase 1 development area is to accommodate 180 residential units as well as land for a potential new community shop; therefore the analytical data has initially been compared against the relevant available guidelines residential with plant uptake end-use to identify chemicals of potential concern.

The results have been used for subsequent comparison with:

- CI:AIRE/EIC/AGS Soil Generic Assessment Criteria for Human Health Risk assessment, January 2010 and
- The LQM/CIEH S4ULs for Human Health Risk Assessment. Ref: S4UL3269, released January 2015, Land Quality Press, Nottingham and
- EA Science Report SC050021.

8.1.2 Metals

The exceeding results of the chemical analysis for heavy metal concentrations within the soil samples are summarised in Table 8.1:

Table 8.1Values for Metals in Soils

Determinant	GAC	Concentra	tion Range	UCL	No. samples	No. samples
Determinant		Min	Max		tested	exceed GAC
Arsenic	37	12	47	33	8	1

One sample taken from TP21 at 0.10m depth exceeded the GAC for Arsenic. However, the 95% UCL provides a mean value 34mg/kg which falls below the current GAC value. Arsenic concentrations are not considered a constraint to the development.

8.1.3 Organics – Soil Organic Matter

SOM tests were undertaken on three samples. A conservative figure of 1% SOM has been adopted when selecting the Generic Assessment Criteria (GAC) screening values for organics in the following sections.

8.1.4 Organics – TPH

None of the results exceeded the GAC values for residential with plant uptake end-use.

8.1.5 Organics – PAHs

None of the results exceed the GAC values for residential with plant uptake end-use.

8.1.6 Pesticides and Herbicides

A sample was screened for the presence of common pesticides and herbicides. No results above laboratory detection limit were reported, indicating an absence of significant residues associated with former agricultural use.

8.2 Soil Risks to Plants (Phytotoxicity)

Copper, nickel and zinc can inhibit plant growth. The GAC for this pollutant linkage (see Table 8.2) have been taken from Department of the Environment Publication, Code of Practice for Agricultural Use of Sewage Sludge, 1996.

Table 8.2 GAC for Phytoto	xic Risks
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Compound	Max value recorded		Generic Assessme	nt Criteria (mg/kg)	teria (mg/kg)		
	mg/kg	рН 5.0 - <5.5	рН 5.5 - <6.0	рН 6.0 - <7.0	pH >7.0		
Copper	42	80	100	135	200		
Nickel	60	50	60	75	110		
Zinc	2500	200	200	200	300		

The pH results varied from 7.7 to 8.2. Concentrations of zinc were found to exceed the screening values in seven out of eight samples tested.

8.3 Soil Risks to Water Supply Pipes

To assess possible risks to proposed water supply pipes, the laboratory test results have been subject, to initial assessment against the GAC presented in UKWIR. Full testing has not been undertaken to determine the suitability of metallic pipe materials.

It is assumed that water pipes will be placed no deeper than 1m below existing ground level and results that relate to strata below 1m are not considered in the following table. Assessment of the results versus the GAC is summarised in Table 8.3 as follows:

GAC (mg/kg) Results exceeding the GAC (mg/kg) Parameter PE pipes **PVC** pipes PE pipes **PVC pipes** BTEX (<C11) 0.1 0.03 None None Mineral Oil C11-C20 10 Suitable None None Mineral Oil C21-C40 500 Suitable None None

 Table 8.3
 GAC for Water Supply Pipes

Other parameters within UKWIR have not been assessed since they are not potential contaminants of concern for this site. The investigation and assessment has indicated no elevated concentrations of contaminants with the potential to attack plastics and as such standard pipework may be suitable for the site. It is recommended that this assessment be given to the relevant water supply company at an early stage to confirm its requirements, which may not necessarily be the same as those recommended by UKWIR.

8.4 Tier 1 Generic Quantitative Risk Assessment – Risks to Water Resources

No sensory evidence of significant soil contamination was noted during the investigation. The site history indicated no previous industrial land use, with the ground investigations recording typically natural soils. As such, the soils and associated geochemistry is anticipated to be in keeping with local geology. The results of the chemical analysis confirm this visual assessment and consequently the ground conditions present at the site are unlikely to pose a significant risk to controlled waters.

Phase 2 Ground Investigation

9 Ground Gas Assessment

9.1 Radon

The Groundsure report states that the site is in an area where the estimated probability of homes being above the action level of 200Bqm⁻³ is between 5 and 10%. Therefore, basic radon protective measures are required in the construction of new buildings or extensions.

9.2 Landfill Gas

No current or historical landfills are known to exist within 250m of the site. No organic soils, evidence of buried biodegradable materials or other potential sources of ground gas were identified.

Consequently, the risks to end users from permeant ground gases at the site is considered to be very low and no further assessment is considered necessary. No remedial measures, other than those to address Radon, are considered necessary.

10 Conceptual Model and Risk Assessment

The site characterisation attempts to identify potential sources of contamination, both historic and existing, and both on and off site. A conceptual model is formed, that identifies sources likely to cause harm, due to pathways existing by which contaminants can reach critical receptors. The conceptual model is therefore based on a number of identified source-pathway-receptor scenarios. For land to potentially pose risks, or be at risk, significant pollutant linkages will need to be identified which will include each source/pathway/receptor component of the conceptual model. The absence or removal of a source, or interception of a pathway, will 'break' the pollutant linkage.

The conceptual model is characterised by identification of the following:

- On-site sources, which may impact on-site receptors via plausible pathways.
- On-site sources, which may impact off-site receptors via plausible pathways.
- Off-site sources, which may impact on-site receptors via plausible pathways.

In the event of a change of land use, the planning regime and the National Planning Policy Framework (NPPF) require assessment of the new site development layout within the context of the sources of risk and the potential introduction of new exposure pathways. The assessment is also used to determine if the site contains such significant risks that it would class as "contaminated land" under the definition provided by the Part 2A of the Environment Act 1990 as defined in the Environment Protection Act 1995, i.e. significant possibility of significant harm (SPOSH). Once developed, land should not be capable of being classed as "contaminated land" under Part 2A.

The method used for risk evaluation is qualitative based on interpretation of the available Geoenvironmental data in order to provide an overall impression of the potential risks present at the site. This is described in terms of two variables as follows:

- "Probability" being the likelihood that a hazard is present on site or in the surroundings.
- "Consequence" being the potential outcome of the hazard.

The combination of these is used to define the risk. Clearly if a hazard is not present there can be no consequence. Similarly hazards that are potentially present will have different degrees of potential consequence. The combination of the presence of a hazard, and the potential severity of outcome of such a hazard within any event, can be used to manage the approach to management of the risk.

The probability (likelihood) of an event can be classified on a four point system using the following terms and definitions based on CIRIA C552:

- Highly likely: The event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- Likely: It is probable that an event will occur, or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- Low likelihood: Circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term;
- Unlikely: Circumstances are such that it is improbably the event would occur even in the long term.

A fifth category has been added to the CIRIA guidance, representing conditions where no contaminant, or linkage is present, thereby negating any risk.

The consequence (severity) can be classified using a similar system, also based on CIRIA C552. The terms and definitions relating to consequence are:

- Severe: Short term (acute) risk to human health likely to result in 'significant harm'. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short term risk to an ecosystem or organism forming part of that ecosystem;
- **Medium**: Chronic damage to human health ('significant harm'), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem;
- Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings, structures or the environment; and
- Minor: Harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

The term 'significant harm' is as defined in Defra Circular on "Contaminated Land', EPA 1990 Part 2a", 01/2006, September 2006.

Once the probability of an event occurring and its consequence have been classified, a risk category can be assigned as Table 10.1.

Table 10.1 Risk Classification System (after CIRIA 552)								
Risk		Consequence	Consequence					
probability x consequence		Severe	re Medium Mild		Minor			
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Low risk			
	Likely	High risk	Moderate risk	Low risk	Very low risk			
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk			
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk			
	No Linkage		No risk					

Phase 2 Ground Investigation

Table 10.2 provides a Preliminary Conceptual Model showing the hazard (source), pathway and receptor, then probability and consequence and corresponding degree of risk.

Table 10.2 Source – Pathway – Receptor Model							
Source(s)	Possible Pathway(s)	Receptor(s)	Probability	Consequence	Risk Level		
Unrecorded Made Ground on-site containing hazardous materials derived from former land use, fly tipping or backfilled ponds.	Ingestion, inhalation or direct dermal contact	End users Site preparation workers	Low likelihood	Medium	Low		
Naturally occurring contaminants within shallow weathered soils e.g lead or arsenic	Ingestion, inhalation or direct dermal contact	End users Site preparation workers	Low likelihood	Medium	Low		
Elevated zinc within natural soils	Direct contact	Plant life	likely	Mild	Low: Current site is in agricultural use with no indication of harm to plant life observed.		
Radon	Inhalation of outdoor air/migration into structures	End users	Low likelihood	Severe	Moderate		

Phase 2 Ground Investigation

11 Outline Strategy for Risk Reduction & Remediation

Measures to overcome unacceptable risks identified in the previous section are as follows (risk references that follow refer to those in last column of tables).

11.1 Soil Risks to Humans

No significant soil risks to humans was encountered on site, therefore no remedial measures are considered necessary.

11.2 Soil Risks to Plants

Phytotoxic risk to plants was encountered in seven samples relating to high levels of zinc. The current and historic land use is not considered the source and is likely thought to be naturally occurring in the host geology. Photos of the site shown in Appendix B show the local fauna is unaffected by the elevated levels of zinc in the natural soils.

A landscape architect should be consulted to determine suitable plants for the encountered soil conditions.

11.3 Radon Risk

Basic radon protection measures are required for new buildings or extensions in the Phase 1 area.

11.4 Imported Soils Risks

All imported fill, topsoil and sub-soils shall be tested for a general suite of contaminants. If imported fill comprises demolition crush, then it shall also be screened for asbestos. The results shall be assessed for any exceedances of guidelines.

11.5 General Risks

The site investigation samples a very small portion of the overall site soils. Given the existence of Made Ground on the site, vigilance should be maintained during site clearance and construction, in case any further areas of suspected contamination are encountered. If areas are found then a suitably qualified person should undertake appropriate sampling, testing and further risk assessment.

12 Material Handling

12.1 Material Reuse

Clean and natural soils may be re-used on site as part of planned engineering works and in accordance with granted panning permissions without any materials management plan (MMP).

The Made Ground soils encountered TP15-TP17 are essentially excavated and replaced natural soils and may fall into the natural category.

Based on the GQRA carried out the soils sampled do not pose a potential risk to human or environmental receptors and would be considered to be clean and suitable for re-use.

It is recommended that confirmation is sought from the Environment Agency that any Made Ground soils are classed as 'Clean and Natural' and their re-use on site would not require an MMP. Alternatively to avoid risks of contravening waste management legislation an MMP can be undertaken.

Should the Made Ground be classed as non-natural then their re-use may be undertaken either under the Environmental Permitting Regulations 2007 (EPR), or under the CL:AIRE Voluntary Code of Practice (CoP) which is now widely accepted as an alternative regime to the EPR.

Under the CL:AIRE Voluntary Code of Practice (CoP) materials excavated on-site are not deemed contaminated if suitable for re-use at specified locations or generally within the site. The CoP regime requires that a 'Qualified Person' as defined under the CoP reviews the development of the Materials Management Plan, including review of Risk Assessments and Remediation Strategy/Design Statement together with documentation relating to Planning and Regulatory issues, and signs a Declaration which is forwarded to the Environment Agency and which confirms compliance with the CoP.

12.2 Waste Assessment

Assessment (including WAC) testing has been undertaken on soils broadly representative of the majority of site soils that might require off-site disposal. The classification was undertake using the online HazWaste screening tool; the site soils were all classified as non-hazardous waste.

To assess what category of landfill may eb able to recover the soils, should they be disposed of to landfill, Waste Acceptance Testing was undertaken. This indicated the soils to be classed as inert. It is therefore likely that a landfill licenced to receive inert waste will be permitted to accept the soils.

It is recommended that prior to offsite disposal or recovery of any waste soils; the receiving licensed treatment/landfill facility should be sent copies of all relevant chemical analysis, <u>plus exploratory hole</u> <u>logs</u> showing the engineering descriptions of the soils to which the sample depths relate. This will allow the facility to access the waste independently: as receiver of the waste they have a duty to ensure compliance with their site-specific licence conditions and must satisfy themselves that they can legally accept the waste. Demonstrating the provenance of the waste, in this case a greenfield site, will aid that determination.

Phase 2 Ground Investigation

Figures

- 6.1 Plasticity Chart
- 6.2 Shear Strength vs. Depth

Appendices

- Appendix A Exploratory Hole Plan
- Appendix B Exploratory Hole Logs and Photos
- **Appendix C** Infiltration Test Results
- Appendix D TRL DCP Test Results
- Appendix E Geotechnical Test Certificates
- **Appendix F** Chemical Test Certificates
- Appendix G Waste Classification Report

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Figures





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Appendices



Appendix A Exploratory Hole Plan



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Appendix B Exploratory Hole Logs and Photos

clarkebond					-	Trial Pit Log	Trial Pit I				
Clarkebolid											
Project Name: South Farm, Wickwar			Co-Ordinates: 372302 E 187830 N	Start:	01/03/2	2021					
Project Number: B05313					Ground Level (m OD): 83.04	End:	01/03/2	2021			
Samples and In Situ Testing		Depth	Level	Legend	Stratum Description	Í	Water	Well			
Depth (m)	Туре	Results	(m)	(m OD)				Strike	~////		
Depth (m)	Type D	Results HVR=58 HVR=62	0.10 0.10 2.10	81.94 80.94		Stratum Description Dark brown silty CLAY with occasional rootlets observed (TOPSOIL) Firm medium strength brown to orange slightly sandy C (WEATHERED AVON GROUP) Firm mottled brown to orange/grey sandy gravelly friabl CLAY. Gravel of fine to coarse sub-angular to sub-rounde limestone. (WEATHERED AVON GROUP) End of Pit at 2.10m	LAY.	Strike 	Well		
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	1.80)				General Remarks:		Loggeo	l d By:		
0						Slow seepage at the base of pit.		JY			
0.6									ea By: B		
	<u> </u>							Scal	e:		
Stability:	Stab	le				Method/Plant Lised: ICB 3CY	{	1:2 Sheet 1	5 of 1		
Shoring.	IN/A					Interiou/Fiune oscu. SOB SCA					
clarke	bor	nd				Trial Pit L	og		Trial P	it No.: TPO2	2
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Project Name:	S	outh Farm, Wick	war			Co-Ordinates:		372375 E 187776 N	Start:	01/03/2	2021
Project Numbe	er: B	05313				Ground Level (m O	D):	85.62	End:	01/03/2	2021
Sam	oles an	d In Situ Testing	Dep (m	h Leve (m O	D)		S	stratum Description		Water Strike	Well
Project Number Sam Depth (m) 0.50 1.00 1.50	er: B oles an Type	d In Situ Testing Results HVR=32 HVR=50 HVR=48	Dep (m) 0.10 1.20 1.40 2.70	 h Leve (m O) b 85.5 c 84.4 c 84.2 c 84.2 c 84.2 	2	Ground Level (m O Dark brown silty (TOPSOIL) Soft low strength brown to orange (WEATHERED WE MEMBER) Firm medium strength of fine to coarse any (WEATHERED WE MEMBER) Firm medium strength of fine to coarse firm mudstone. (WEATHERED WE MEMBER)	VD): S CLAN D bec sligh ESTB gular ESTB engt fine	85.62 Stratum Description (with occasional rootlets observe coming firm medium strength light ntly silty CLAY. URY FORMATION & COTHAM IN dark grey very gravel of fine to coar to coarse angular mudstone. URY FORMATION & COTHAM h dark grey very gravelly CLAY. Gra to coarse angular to sub-angular URY FORMATION & COTHAM	end: d. t se	01/03/: Water Strike 	Well
0.60	2.70)				General Remarks: Slow seepage at th	ne ba	se of pit.		- 3.5 	I By: ed By:
Stability:	Stab	le				_				Scal 1:2	e: 5
Stability: Stable Shoring: N/A Method/Plant Used: JCB 3CX				JCB 3CX		Sheet 1	of 1				

clarke	bor	nd			-	Trial Pit Lo	og		Trial Pi	it No.: TPO3	}
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372312 E 187715	N	Start:	01/03/2	2021
Project Numbe	er: B	05313				Ground Level (m OD): 84.42		End:	01/03/2	2021
Sam	ples ar	nd In Situ Testing	Depth (m)	Level	Legend		Stratum Description			Water Strike	Well
Depth (m)	Туре	HVR=50	0.10	84.32		Dark brown silty C (TOPSOIL) Firm medium stre (WEATHERED AVO	LAY with occasional roc ngth brown to grey sligh N GROUP)	otlets observed	J/	0.5 	
1.50		HVR=50	1.20	83.22	× × 	Firm medium stre (WEATHERED AVO	ngth grey to blue CLAY. N GROUP)			- - - - 1.5	
										 2.0	
			2.10	82.32		Soft brown to orar coarse angular to (WEATHERED AVO	nge sandy gravelly CLAY. sub-rounded limestone IN GROUP)	. Gravel of fine and mudston	e.	- - - 2.5	
			2.80	81.62			End of Pit at 2.80m			- 3.0 - 3.0 3.5 3.5 3.5 4.0 4.5 4.5 5.0	
0.60	2.70)	1			General Remarks: Slow seepage at the	base of pit.			Logged JY Approve ME	I By: d By:
						-				Scale 1.2	e:
Shoring:	N/A Method/P				Method/Plant Used	/Plant Used: JCB 3CX				1:25 Sheet 1 of 1	

clarke	bor	nd			-	Trial Pit Lo	g	Trial P	Pit No.: TPO4	1
Project Name	: S	outh Farm, Wick	war			Co-Ordinates:	372420 E 187612 N	Start:	01/03/	2021
Project Numb	er: B	805313	1			Ground Level (m OD)	: 88.28	End:	01/03/	2021
Sam Depth (m)	ples ar	nd In Situ Testing Results	Depth (m)	Level (m OD)	Legend		Stratum Description		Water Strike	Well
			0.15	88.13		Dark brown silty slig (TOPSOIL) Firm light grey to br (WEATHERED WEST MEMBER)	ghtly sandy CLAY. rown silty CLAY. rBURY FORMATION & COTHAM		- - - - - 0.5	
			0.70	87.58		Light grey to off wh fine to coarse sub-a (WEATHERED WEST MEMBER)	ite silty gravelly friable CLAY. Gra angular to sub-rounded limeston BURY FORMATION & COTHAM	vel of e.	- - - - - 1.0	
			1.30	86.98		Dark grey clayey GR angular mudstone. (WEATHERED WEST MEMBER)	RAVEL of fine to coarse angular to	sub-	- 1.5 	
	2.80	0	2.80	85.48		General Remarks:	End of Pit at 2.80m		- 3.0 - 3.0 	d By:
0.60	2.01	-				Slow seepage at the b	base of pit.		Approve ME Scal	ed By: 3 e:
Stability:	Stab	le				-			1:2	5
Shoring:	Stable N/A					Method/Plant Used:	JCB 3CX		Sheet 1	L of 1

olorius	bar	d			-	Trial Pit Log	Į	Trial Pi		
Clarke	bor	id l					,	ļ	1 803	
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372292 E 187542 N	Start:	01/03/2	2021
Project Numbe	er: B	05313		1		Ground Level (m OD):	88.05	End:	01/03/2	2021
Sam	oles ar	d In Situ Testing	Depth (m)	Level (m OD)	Legend	S	Stratum Description		Water Strike	Well
Depth (m)	туре	Results	()	(Brown silty CLAY with	occasional rootlets observed.			
			0.20	87.85		(TOPSOIL)			_	
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			1.40	86.65	<u> </u>	Firm medium strengt	h brown to orange sandy CLAY		_	
1.50		HVR=55				(WEATHERED WESTB	URY FORMATION & COTHAM		— 1.5 —	
						MEMBER)			-	
	2 00 HVR=50				* <u>*</u> ***	Firm medium strengt	h dark grey very gravelly CLAY. Gra	vel	_	
2.00		HVR=50				of fine to coarse angu (WEATHERED WESTB	llar to sub-angular mudstone. URY FORMATION & COTHAM		2.0	
						MEMBER)			_	
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Project Name:	: S	outh Farm, Wick	war			Co-Ordinates:	372332 E 187513 N	Sta	art:	01/03/	2021
Project Numb	er: B	05313				Ground Level (m OD): 88.92	En	d:	01/03/	2021
Sam	ples an	nd In Situ Testing	Depth	Level						Water	
Depth (m)	Туре	Results	(m)	(m OD)	Legend		Stratum Description			Strike	Well
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					×	(WEATHERED LAN	GPORT MEMBER & WILMCO	TE		-	
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			0.90	88.02	<u>×</u>	Firm modium strou	noth aroute eroom conductio	htly grouply		-	
1.00	D	HVR=70				CLAY. Gravel of fine	e to coarse sub-angular to su	htly gravelly b-rounded	′	- 1.0	
1.00						limestone.				-	
							GPORT MEMBER & WILMCO BER)	IE	-	-	
			1.40	87.52		Stiff dark grey very	y gravelly CLAY. Gravel of fine	to coarse		-	
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Project Name:	S	outh Farm, Wicky	war			Co-Ordinates:	372313 E 187421 N	Star	t: 01/03/	2021
Project Numb	er: B	05313				Ground Level (m Ol	D): 89.48	End	01/03/	2021
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Depth (m)	Туре	Results	(m)	(m OD)	Legena		Strutum Description		Strike	Wein
0.50 1.00 1.10	D	HVR=60 HVR=58 HVR=58	0.10	89.38		Dark brown silty s (TOPSOIL) Firm medium stree (WEATHERED LAN LIMESTONE MEM gravelly CLAY. Gra mudstone. (WEATHERED LAN LIMESTONE MEM	sandy CLAY. ength brown to grey silty CL/ IGPORT MEMBER & WILMC IBER) ength mottled brown to orar vel of fine to coarse angular IGPORT MEMBER & WILMC IBER)	AY. OTE nge/grey sandy to sub-angular OTE	- 0.5 	
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						Slow seepage at the	e base of pit.		JY Approve	ed By:
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								Trial Pi	t No.:	
clarke	re: South Farm, Wickwar					Trial Pit Log	5	-	ГРО	8
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372253 E 187460 N	Start:	01/03/2	2021
Project Numbe	er: B	05313				Ground Level (m OD):	88.38	End:	01/03/2	2021
Sam	ples an	nd In Situ Testing	Depth	Level	Legend	S	Stratum Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)					Strike	×//××/
Depth (m) 0.05 0.50 1.00 1.00 1.00 1.00	Type E D E	Results HVR=32	Deptri (m) 0.10 1.00 1.40 1.45	88.28 87.38 86.98 86.93	Legend	Soft low strength bro (TOPSOIL) Soft low strength bro (WEATHERED AVON C Firm medium strengt (WEATHERED AVON C Moderately strong of (AVON GROUP)	Stratum Description by CLAY. wn to grey silty CLAY. GROUP) h brown to orange sandy CLAY. GROUP) f white to grey LIMESTONE. End of Pit at 1.45m		Vater Strike 	Well
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	2.70)				General Remarks:			Logged	l By:
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0.6									<u>Me</u>	3 Dy.
	C+~+								Scale	e:
Stability: Shoring:	N/A					Method/Plant Used:	JCB 3CX		Sheet 1	. of 1
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							F	Trial Pi	t No.:	
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Project Name:	S	outh Farm, Wick	war			Co-Ordinates: 372380 E 187380 N	9	Start:	01/03/2	2021
Project Numb	er: B	05313				Ground Level (m OD): 90.48	E	End:	01/03/2	2021
Sam	ples an	d In Situ Testing	Depth	Level	Legend	Stratum Description			Water	Well
Depth (m)	Туре	Results	(m)	(m OD)	Legend				Strike	
			0.10	90.38		Dark brown silty sandy CLAY.			-	
						Firm medium strength light brown to light grey	/ CLAY.		_	
						LIMESTONE MEMBER)	IE		-	
0.50		HVR=55	0.60	89.88					— 0.5 -	
						Stiff high strength grey to off white very silty g CLAY. Gravel of fine to coarse sub-angular to su	ravelly frial ub-roundec	ble d	-	
						limestone.	TE	-	_	
1.00	D	HVR=80			×	LIMESTONE MEMBER)	12		1.0	
1.00					×				_	
									_	
1.50	D	HVR=80							- - 1.5	
1.50					×				_	
					× <u>×</u> ×				_	
2.00	-		2.00	00 10	××			-	- 20	
2.00			2.00	00.40		Stiff dark grey very gravelly CLAY. Gravel of fine	to coarse		_	
						(WEATHERED LANGPORT MEMBER & WILMCO	ΤE		_	
						LIMESTONE MEMBER)			_	
2.50	D								— 2.5 _	
									_	
			2.90	87.58	· · · · ·	5 - 1 - (B ¹ - 1 - 0 - 0			_	
						End of Pit at 2.90m			3.0	
									_	
									_	
									- - 3.5	
									-	
									_	
									- 10	
									ч.v -	
									_	
									_	
									- 4.5	
									_	
									_	
									— 5.0	
	2.80)	I	1	1	General Remarks: Slow seenage at the base of pit			Logged	l By:
0.60						Siow seepage at the base of pit.			Approve	ed By:
						_				8 e:
Stability:	Stab	le							1:2	5
Shoring:	N/A					Method/Plant Used: JCB 3CX			Sheet 1	. of 1

							Trial Pi	it No.:	
clarke	bor	nd			-	Trial Pit Log		ΓΡ10)
Project Name:	S	outh Farm, Wickv	var			Co-Ordinates: 372430 E 187443 N	Start:	01/03/2	2021
Project Numb	er: B	05313				Ground Level (m OD): 89.78	End:	01/03/2	2021
Sam	ples ar	id In Situ Testing	Depth	Level	Logond	Stratum Description		Water	Wall
Depth (m)	Туре	Results	(m)	(m OD)	Legenu	Stratum Description		Strike	vven
			0.15	00.00		Dark brown silty sandy CLAY.	-	_	
			0.15	89.63	<u>× </u>	Firm medium strength light brown to orange silty CLAY.	1	_	
						(WEATHERED LANGPORT MEMBER & WILMCOTE		_	
0.50	D	HVR=45			<u> </u>			— 0.5	
0.50			0.70	89.08	×			_	
						Firm medium strength light grey to orange sandy slight gravelly CLAY. Gravel of fine to coarse sub-angular to su	ly ıb-	_	
1.00		HVR=50				rounded limestone.		- 1.0	
1.00		1111-30				(WEATHERED LANGPORT MEMBER & WILMCOTE LIMESTONE MEMBER)		-	
								_	
								_	
1.50	D	HVR=60						— 1.5	
1.50								_	
								_	
2.00		HVR=45					-	- 2.0	
								_	
			2 30	87.48				_	
			2.50	07.40		Stiff dark grey very gravelly CLAY. Gravel of fine to coars	ie .	_	
2.50	D		2.50	87.28	<u> </u>	(WEATHERED LANGPORT MEMBER & WILMCOTE		- 2.5	\$1/733\$1/
						LIMESTONE MEMBER) End of Pit at 2.50m	/	_	
								-	
								— — 3.0	
								_	
								_	
								_	
								— 3.5 —	
								_	
							-	_	
							-	4.0	
								-	
								_	
								_	
								— 4.5 —	
								_	
								_	
								— 5.0	
	2.60)		1	1	General Remarks: Slow seepage at the base of pit.		Loggeo JY	l By:
0.60								Approve	ed By:
								ME Scal	e:
Stability:	Stab	le						1:2	5
Shoring:	N/A					Method/Plant Used: JCB 3CX		Sheet 1	. ot 1

clarke	bor	nd			-	Trial Pit Lo	2	Trial P	it No.: TP11	L
Project Name:	S	outh Farm, Wickv	war			Co-Ordinates:	372414 E 187341 N	Start:	02/03/2	2021
Project Numb	er: B	05313		-		Ground Level (m OD):	90.18	End:	02/03/2	2021
Sam Depth (m)	ples ar	nd In Situ Testing Results	Depth (m)	Level (m OD)	Legend		Stratum Description		Water Strike	Well
0.50	D	HVR=40	0.15	90.03		Dark brown sandy sl rootlets observed. (TOPSOIL) Firm medium streng (WEATHERED LANGF LIMESTONE MEMBE	ightly clayey SILT with occasional of th brown to orange silty CLAY. PORT MEMBER & WILMCOTE R)	/	- - - - 0.5	
1.00 1.00	D	HVR=40	0.80	89.38		Firm medium streng CLAY with occasiona (WEATHERED LANGF LIMESTONE MEMBE	th light brown to grey slightly sand I brown to orange sandy pockets. PORT MEMBER & WILMCOTE R)	γ	- - 	
1.50 1.50	D	HVR=50							- - 1.5 -	
2.00 2.00 2.00	D E	HVR=50	1.80	88.38		Firm medium streng slightly sandy CLAY. (WEATHERED LANGF LIMESTONE MEMBE	th becoming stiff high strength gre PORT MEMBER & WILMCOTE R)	ŝλ	- 2.0 	
2.50 2.50	D	HVR=110	2.50	87.68		-	End of Pit at 2.50m		- - 2.5 - -	
									- 3.0 -	
									- - 3.5 - -	
									- - 4.5 -	
	3.10)				General Remarks: Slow seepage at the h	ase of pit.		Loggeo JY	d By:
0.60								Approve ME Scal	ed By: 3 e:	
Stability:	itability: Stable						Mathad/Diant Lload: JCD 2CV			
Shoring:	N/A					Method/Plant Used:	JCB 3CX		Sheet 1	. ot 1

olorko	bor	d			-	Trial Pit L	og		Trial P	it No.: TD1 7)
Clarke											-
Project Name:	5	outh Farm, Wickwa	ar			Co-Ordinates:	372448	3 E 187684 N	Start:	02/03/	2021
Project Numbe	er: B	05313				Ground Level (m (DD): 87.95		End:	02/03/	2021
Sam	ples an	d In Situ Testing	Depth	Level	Legend		Stratum [Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)						Strike	×////
			0.15	87.80		Brown sandy slig observed.	ghtly sandy CL	AY with occasional roo	otlets	_	
									/	_	
						Firm medium st	rength light bi /ESTBURY FOR	rown to grey silty CLAY MATION & COTHAM		_	
0.50		HVR=50			× <u>×</u>	MEMBER)				— 0.5	
					<u>× </u>	×				_	
										_	
1.00	р	HVR=60	1.00	86.95	×						
1.00	5		1.00	00.55		Firm medium st	rength becom	iing soft low strength r ~I AY	nottled	-	
						(WEATHERED W	ESTBURY FOR	MATION & COTHAM		_	
						MEMBER)				_	
1.50		HVR=30				-				— 1.5	
										_	
						-				-	
2.00		111/12-70	2.00							-	
2.00		HVK=70	2.00	85.95		Firm medium st	rength dark gr	rey very gravelly CLAY.	Gravel	- 2.0	
						(WEATHERED W	ESTBURY FOR	MATION & COTHAM		_	
						MEMBER)				_	
2.50	D	HVR=70				-				— 2.5	
2.50										-	
			2.80	85.15		-	End of P	it at 2.80m		_	
							Endorr	it at 2.0011		_	
										— 3.0 —	
										_	
										_	
										— 3.5	
										_	
										_	
										_	
										4.0	
										-	
										-	
										- - 4.5	
										_	
										_	
										_	
										— 5.0	
	3.00)	I		1	General Remarks: Slow seenage at t	he base of nit			Loggeo JY	d By:
0.60										Approve	ed By:
										ME Scal	3 e:
Stability:	Stab	le								1:2	5
Shoring:	N/A					Method/Plant Use	ed: JCB 3CX			Sheet 1	l of 1

clarke	bor	nd			-	Trial Pit Lo	g		Trial P	it No.: TP13	8
Project Name:	S	outh Farm, Wickv	var			Co-Ordinates:	372392	2 E 187699 N	Start:	02/03/	2021
Project Numbe	er: B	05313				Ground Level (m OD)): 86.79		End:	02/03/	2021
Sam	ples an	d In Situ Testing	Depth (m)	Level (m OD)	Legend		Stratum I	Description		Water Strike	Well
0.50		HVR=55	0.15	86.64		Brown sandy slight observed. (TOPSOIL) Firm medium stren (WEATHERED WES MEMBER)	ly sandy Cl ngth grey to TBURY FOF	AY with occasional rootle b brown slightly silty CLAY. MATION & COTHAM	ts/	- - - - - - -	
1.00 1.00 1.00	D E	HVR=60								1.0 	
1.50		HVR=40	1.50 1.80	85.29 84.99		Firm medium stren gravelly CLAY. Grave rounded limestone (WEATHERED WES	ngth mottle el of fine to TBURY FOF	d grey/brown to orange s o coarse sub-angular to su MATION & COTHAM	andy b-	— 1.5 — —	
2.00 2.00	D	HVR=50				\MEMBER) Firm medium stren (WEATHERED WES MEMBER)	ngth blue to TBURY FOF	o grey sandy CLAY. MATION & COTHAM]	- 	
			2.50	84.29		-	End of P	it at 2.50m		- 2.5 - - - 3.0 -	
										- 3.5 	
										- 4.5 - 4.5 	
99.	2.90)			<u> </u>	General Remarks: Slow seepage at the	base of pit			Loggeo JY Approve	d By: ed By:
0										ME	, 3 e:
Stability:	Stab	le				-				1:2	c. 5
Shoring:	ability: Stable noring: N/A			/A					Sheet 1 of 1		of 1

							Trial P	it No.:	
clarke	oject Name: South Farm, Wickwa				-	Trial Pit Log		TP14	1
Project Name:	S	outh Farm, Wick	war			Co-Ordinates: 372383 E 187512 N	Start:	02/03/	2021
Project Numb	er: B	05313				Ground Level (m OD): 88.50	End:	02/03/	2021
Sam	ples an	d In Situ Testing	Depth	Level	Legend	Stratum Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)				Strike	Wein
			0.15	88 35		Brown sandy slightly sandy CLAY with occasional re observed.	ootlets	-	
			0.15	00.00		(TOPSOIL)	/		
						Firm medium strength brown to grey slightly sand (WEATHERED LANGPORT MEMBER & WILMCOTE	/ CLAY.	_	
0.50 0.50	D	HVR=50				LIMESTONE MEMBER)		- 0.5	
								_	
			0.90	87.60		-		-	
1.00		HVR=45				Firm medium strength mottled light brown/grey to gravelly sandy CLAY with occasional brown to oran	orange ge sandy	1.0	
						pockets. Gravel of fine to coarse sub-angular to su	o-rounded	-	
						(WEATHERED LANGPORT MEMBER & WILMCOTE		_	
1.50	D	HVR=60				LIMESTONE MEMBER)		- 1.5	
1.50			1.60	86.90		Stiff high strength light grey gravelly friable CLAY.		-	
						(WEATHERED LANGPORT MEMBER & WILMCOTE		-	
								-	
2.00		HVR=100)					- 2.0	
								-	
			2.40	86.10				-	
2.50	D		2.50	86.00	· · · · · · ·	Stiff dark grey gravelly CLAY. Gravel of fine to coars to sub-angular mudstone.	e angular	- 2.5	
						(WEATHERED LANGPORT MEMBER & WILMCOTE		_	
						End of Pit at 2.50m]	_	
								- 3.0	
								_	
								_	
								-	
								- 3.5	
								_	
								_	
								4.0	
								_	
								-	
								- 4.5	
								_	
								F	
								-	
	3.10)				General Remarks:		Logge	d By:
99.						Slow seepage at the base of pit.		Approve	ed By:
0								M	3 e:
Stability:	Stab	le						1:2	5
Shoring:	N/A					Method/Plant Used: JCB 3CX		Sheet 1	L of 1

							Trial Pit	t No.:	
clarke	bor	nd			-	Trial Pit Log		FP15	5
Project Name	: S	outh Farm, Wickw	ar			Co-Ordinates: 372368 E 187548 N	Start:	02/03/2	2021
Project Numb	er: B	05313				Ground Level (m OD): 87.90	End:	02/03/2	2021
Sam	ples ar	nd In Situ Testing	Depth	Level	Legend	Stratum Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)	Legena			Strike	wen
			0.15	97 75		Brown sandy slightly sandy clay with occasional rootlets	-	-	
			0.15	87.75		(TOPSOIL - MADE GROUND)	/	-	
						Reworked brown to grey slightly sandy clay.		-	
0.00	_		0.50	87.40		Reworked brown to orange sandy gravelly clay. Gravel of	F	- 0.5	
0.60	E					limestone.	-	-	
						(MADE GROUND)	-	-	
								- 1.0	
							-	-	
			1.30	86.60				_	
			1.00		<u>×</u>	Firm medium strength light grey to brown silty CLAY.	-	-	
1.50 1.50	D	HVR=55			×	LIMESTONE MEMBER)		- 1.5 -	
						Ā	-	-	
								-	
2.00	D	HVR=70			<u> </u>		-	- 2.0	
2.00			2.10	85.80		Firm medium strength dark grey gravelly CLAY. Gravel of	fine	-	
						to coarse angular to sub-angular mudstone.		-	
						LIMESTONE MEMBER)	-	-	
2.50		HVR=65					-	- 2.5 -	
			2.70	85.20	<u></u>	End of Pit at 2.70m		-	
							-	-	
							-	— 3.0	
								-	
							-	-	
								- 3.5	
							-	-	
							-	-	
							-	-	
							-	- 4.0	
							-	-	
							-	-	
							-	- - 4.5	
							-	-	
								-	
							-	-	
							-	— 5.0	
	3.10)	I	I		General Remarks:	-+	Logged	l By:
09						Slow seepage at the base of pit.	ŀ	JY Approve	ed Bv:
0.6								ME	3 3
Stability:	Stah	le				-		Scal 1:2	e: 5
Shoring:	N/A					Method/Plant Used: JCB 3CX		Sheet 1	of 1
1									

					_			Tri	al Pit	t No.:	
clarke	ject Name: South Farm, Wickwar					Irial Pit L	og		٦	ΓΡ16	5
Project Name	: S	outh Farm, Wickw	var			Co-Ordinates:	372370 E 187611 N	Sta	irt:	02/03/	2021
Project Numb	er: B	05313				Ground Level (m C	DD): 86.90	En	d:	02/03/	2021
Sam	ples ar	nd In Situ Testing	Depth	Level	Legend		Stratum Description			Water	Well
Depth (m)	Туре	Results	(m)	(m OD)	****				\square	Strike	<u></u>
						Reworked dark b limestone.	rown sandy gravelly silt. Gi	ravel of		-	
			0.20	86.70		(MADE GROUND) aliahthu arawallu alaw Crawa	l of limestone	_/	-	
						and brick fragme	ents.	i oi iimestone	+	-	
0.50	E					(MADE GROUND)			- 0.5 -	
									+	-	
										_	
									-	— 1.0	
			1.10	85.80		Firm medium str	ength dark grey to blue gra	velly friable CLA	٩Y	_	
						with medium col	bble content. Gravel of fine	to coarse sub-	-	_	
1.50						(WEATHERED WI	ESTBURY FORMATION & CC	THAM	-	-	
1.50 1.50	1.50 D HVR=60 1.50				MEMBER)			- 1.5 -			
						-			-	-	
						-				-	
2.00		HVR=50				-			+	2.0	
						-			ļ	-	
						-			+	-	
2.50		LI\/D=4E			· · · · · · · · · · · · · · · · · · ·	-			ŀ	- 25	
2.50		HVK=45				-			-	- 2.5	
			2.00	04.10	<u> </u>	-			ŀ	-	
			2.80	84.10			End of Pit at 2.80m		-	_	
									ŀ	3.0	
										-	
									-	-	
										- - 3.5	
									+	-	
									ļ	-	
									+	-	
										- 4.0	
									+	-	
									ŀ	-	
									-	- - 4.5	
									-	-	
									ļ	-	
									-	-	
									F	— 5.0	
	2.90)	I	1		General Remarks:			+	Logge	d By:
00						Slow seepage at th	ne base of pit.		ŀ	JY	ed Bv
0.6										M	3 3
Stability:	Stah	le								Scal 1:2	e: 5
Shoring:	N/A					Method/Plant Use	d: JCB 3CX		\pm	Sheet 1	L of 1
1											

					-	Trial Pit Log	Trial Pi	t No.:	,
clarke	bor	nd						141/	
Project Name:	S	outh Farm, Wickv	var			Co-Ordinates: 372326 E 187613 N	Start:	02/03/2	2021
Project Numb	er: B	05313				Ground Level (m OD): 87.36	End:	02/03/2	2021
Sam	ples an	d In Situ Testing	Depth	Level	Legend	Stratum Description		Water	Wall
Depth (m)	Туре	Results	(m)	(m OD)	Legenu	Stratum Description		Strike	vven
						Dark brown gravelly sandy silty. Gravel of limestone and brick fragments. (MADE GROUND)	-	-	
0.40	E							- 05	
			0.60	86.76		Firm medium strength grey to blue gravelly CLAY with medium cobble content. Gravel of fine to coarse sub- angular to sub-rounded limestone. Cobbles of limestone (WEATHERED LANGPORT MEMBER & WILMCOTE		- - -	
1.00 1.00	D	HVR=55				LIMESTONE MEMBER)	-	1.0 	
1.50		HVR=50					-	- 1.5 - - -	
2.00 2.00	D	HVR=60					-	2.0 - - -	
			2.60	84.76		Stiff dark grey gravelly CLAY. Gravel of fine to coarse angu to sub-angular mudstone. (WEATHERED LANGPORT MEMBER & WILMCOTE LIMESTONE MEMBER)	ular	- 2.5 - - -	
						End of Pit at 2.90m		— 3.0 - - - - 3.5	
							-	- - - 	
							-	- - - 4.5 -	
							-	- 5.0	
0.60	2.80)				General Remarks: Slow seepage at the base of pit.	-	Logged JY Approve	l By: ed By:
							-	Scale	, e:
Stability:	Stab	e						1:2	5
Shoring:	N/A					Method/Plant Used: JCB 3CX		Sheet 1	ot 1

clarkebond					-	Trial Pit Log	5	Trial Pit No.: TP18		
clarke	bor	ld					>			6
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372276 E 187579 N	Start:	02/03/2	2021
Project Numb	er: B	05313		1		Ground Level (m OD):	87.23	End:	02/03/2	2021
Sam	ples ar	d In Situ Testing	Depth (m)	Level (m OD)	Legend	9	Stratum Description		Water Strike	Well
Depth (m)	Type	Results	(117)			Brown clayey SILT wit	th occasional rootlets observed.			
0.50 0.50	D	HVR=40	0.20	87.03		(TOPSOIL) Firm medium strengt (WEATHERED AVON (h brown to grey sandy CLAY. GROUP)		 0.5	
1.00 1.00 1.00	D E	HVR=50	1 25	85.08					 1.0 	
			1.23	85.93		Moderately strong of (AVON GROUP)	f white to grey LIMESTONE. End of Pit at 1.30m	/	- 1.5	
									- - 2.5 -	
									 3.0 	
									3.5 	
									4.0 	
									 4.5 	
0.60	2.60	J				General Remarks: Slow seepage at the ba	ise of pit. Refusal on bedrock.		Logged JY Approve MR	i By: ed By:
									Scale	2:
Stability:	Stab N/A	le				Method/Plant Used·	JCB 3CX		1:25 Sheet 1	of 1
	11/1									

					Trial Pit Log				it No.:	
clarke	bor	nd			-	Trial Pit Lo)g		TP19)
Project Name:	S	outh Farm, Wickv	var			Co-Ordinates:	372312 E 187664 N	Start:	02/03/	2021
Project Numb	er: B	05313		•		Ground Level (m OD): 85.41	End:	02/03/	2021
Sam	ples ar	nd In Situ Testing	Depth	Level	Legend		Stratum Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)	Legena				Strike	Wen
Depth (m)	D D D	Results Results HVR=50 HVR=60 HVR=65	Depth (m) 0.20 1.40	Level (m OD) 85.21 84.01 83.11		Brown clayey SILT of (TOPSOIL) Firm medium streer (WEATHERED WEST MEMBER) Firm medium streer (WEATHERED WEST MEMBER)	Stratum Description with occasional rootlets observed ngth brown to grey sandy CLAY. TBURY FORMATION & COTHAM ngth dark grey to brown slightly sil TBURY FORMATION & COTHAM End of Pit at 2.30m	ty CLAY.	Water Strike	Well
									- 4.5 - - -	
									5.0	
	2.80)				General Remarks:			Logged	d By:
60						Slow seepage at the	base of pit.		JY Approve	ed Bv:
0									ME	3
Stability:	Stab	le				-			Scal 1:2	e: 5
Shoring:	N/A					Method/Plant Used:	: JCB 3CX		Sheet 1	L of 1

									Trial Pi	it No.:	
clarke	bor	nd			-	Trial Pit L	.og		-	TP20)
Project Name	S	outh Farm, Wick	war			Co-Ordinates:	3	72347 E 187645 N	Start:	02/03/	2021
Project Numb	er: B	05313				Ground Level (m C	DD): 8	6.61	End:	02/03/	2021
Sam	ples an	d In Situ Testing	Depth	Level	Logond		C+r	tum Decorintion		Water	Wall
Depth (m)	Туре	Results	(m)	(m OD)	legend		Stra	atum Description		Strike	vven
Sam Depth (m) 0.50 0.50 1.00 1.00 1.00 1.50 2.00 2.50	ples an Type D E D	d In Situ Testing Results HVR=40 HVR=65 HVR=55 HVR=55	Depth (m) 0.15 2.20	Level (m OD) 86.46 84.41 83.81		Brown clayey SIL (TOPSOIL) Firm medium str Gravel of angular (WEATHERED WI MEMBER) Stiff dark grey to sub-angular muc (WEATHERED WI MEMBER)	Stra T with o rength k r to sub ESTBUR	atum Description occasional rootlets observed. prown to grey gravelly sandy CL p-rounded limestone and mudst Y FORMATION & COTHAM ravelly CLAY. Gravel of angular t Y FORMATION & COTHAM nd of Pit at 2.80m	AY. tone.	Water Strike	Well
090	2.80					General Remarks: Slow seepage at th	he base	of pit.		- 3.5 - 3.5 	d By: ed By: get By: g
Stability: Shoring:	N/A	IE				Method/Plant Use	ed: JCF	3 3CX		1:2 Sheet 1	o Lof 1
	.,										

alarkaband						Trial Dit Lag			Trial Pit No.:		
clarke	bor	nd			-	Trial Pit Log	5	-	TP21		
Project Name:	S	outh Farm, Wickw	/ar			Co-Ordinates:	372477 E 187834 N	Start:	03/03/2	2021	
Project Numbe	er: B	05313				Ground Level (m OD):	85.59	End:	03/03/2	2021	
Sam	ples an	id In Situ Testing	Depth	Level	Logond		Stratum Description		Water	Mall	
Depth (m)	Туре	Results	(m)	(m OD)	Legenu	-			Strike	wen	
0.10	E		0.15	85.44		Brown to grey sandy limestone and brick f (MADE GROUND)	gravelly slightly clayey SILT. Gravel fragments.	of	-		
0.50 0.50	D	HVR=55				(WEATHERED AVON (GROUP)		 0.5 		
110	6		1.00	84.59	× ×	Firm medium strengt	th dark grey to brown slightly silty	CLAY.	 1.0		
1.10	D	HVR=45	1.40	84.19		(WEATHERED AVON	GROUP)		-		
1.50	E					Moderately strong gr as a sandy GRAVEL. (WEATHERED AVON	rey to off-white LIMESTONE recove	ered	— 1.5 —		
			1.80	83.79		-	End of Pit at 1.80m		_	<u> </u>	
									2.0 2.5		
									- - - 		
									— 3.5 — —		
									4.0 		
									 4.5 		
									 5.0		
09	3.00)				General Remarks: Slow seepage at the ba	ase of pit. Refusal on bedrock.		Loggeo JY	d By:	
0									ME	3	
Stability:	Stab	le							5cal 1:2	e. 5	
, Shoring:	N/A					Method/Plant Used:	JCB 3CX		Sheet 1	of 1	

a la riva h an d							Trial I	Pit No.:	
clarke	bor	nd			-	Trial Pit Log		TP22	2
Project Name:	S	outh Farm, Wick	war			Co-Ordinates: 372413 E 187830 N	Start:	03/03/	2021
Project Numbe	er: B	05313				Ground Level (m OD): 85.73	End:	03/03/	2021
Sam	ples an	d In Situ Testing	Depth	Level	1	Starture Description		Water	\
Depth (m)	Туре	Results	(m)	(m OD)	Legend	Stratum Description		Strike	vveii
Sam Depth (m)	D B E	d In Situ Testing Results HVR=50	Depth (m) 0.20 0.80 1.30	Level (m OD) 85.53 84.93 84.43	Legend	Stratum Description Dark brown sandy slightly clayey SILT with occasio rootlets observed. (TOPSOIL) Firm medium strength brown to orange gravelly C of fine to coarse sub-angular to sub-rounded limes (WEATHERED AVON GROUP) Brown/grey to orange clayey sandy GRAVEL with r cobble content. Gravel of fine to coarse sub-angular rounded limestone. Cobbles of limestone. (WEATHERED AVON GROUP) End of Pit at 1.30m	AY. Gravel tone.	Water Strike	Well
								- - - - - - - - - - - - - - - - - - -	
	2 5 6							10000	
0.60	2.50	<u>,</u>				General Remarks: Slow seepage at the base of pit. Refusal on bedrock.		Logged JY Approve	а ву: эd Ву: З
Stability:	Stab	le						Scal	e: 5
Shoring:	N/A					Method/Plant Used: JCB 3CX		Sheet 1	of 1
						-		-	

								Trial Pi	t No.:	
clarke	bor	nd				Trial Pit Log		-	FP2 3	8
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372312 E 187762 N	Start:	03/03/2	2021
Project Numb	er: B	05313				Ground Level (m OD):	83.94	End:	03/03/2	2021
Sam	ples an	id In Situ Testing	Depth	Level	Legend	St	tratum Description		Water	Well
Depth (m)	Туре	Results	(m)	(m OD)	Legenia				Strike	vvcn
0.10	E		0.15	07 70		Dark brown clayey slig	ghtly sandy SILT with occasional		_	
			0.15	05.79		(TOPSOIL)		/	-	
						Firm medium strength	n mottled brown/grey to orange s brown to orange sandy pockets	andy	_	
0.50		HVR=50				(WEATHERED AVON G	ROUP)		— 0.5	
									_	
									_	
1.00		HVR=60								
1.00									-	
									_	
									_	
1.50		HVR=45							— 1.5	
			1.60	82.34		Firm brown to grey gr	avelly sandy CLAY with medium c	obble	_	
						rounded limestone. Co	obbles of limestone.		_	
2.00	D					(WEATHERED AVON G	ROUP)		- 2.0	
									_	
									_	
									_	
									- 2.5	
			2.70	81.24			End of Pit at 2.70m		_	
									-	
									- 3.0	
									-	
									_	
									_	
									- 3.5	
									_	
									-	
									- 4.0	
									-	
									_	
									_	
									- 4.5	
									_	
									-	
									- 5.0	
	2.50)		I		General Remarks:			Loggeo	l d By:
00						Slow seepage at the bas	se of pit.		JY	nd Rv.
0.6									ME	3 3
Stability:	Stah	le							Scal 1.2	e:
Shoring:	N/A					Method/Plant Used: J	CB 3CX		Sheet 1	 0f 1

					-		Trial F	vit No.:	
clarke	bor	nd				Irial Pit Log		TP24	ŀ
Project Name:	S	outh Farm, Wickv	war			Co-Ordinates: 372371 E 187740 N	Start:	03/03/2	2021
Project Numbe	er: B	05313				Ground Level (m OD): 85.89	End:	03/03/2	2021
Sam	ples an	d In Situ Testing	Depth	Level	Legend	Stratum Description		Water	W/oll
Depth (m)	Туре	Results	(m)	(m OD)	legenu	Stratum Description		Strike	vven
Depth (m) 0.50 1.00 1.50 2.00 2.00 2.00 2.50	D D D D E	Results HVR=45 HVR=60 HVR=80	Depth (m) 0.15 1.90 2.40 2.60	Level (m OD) 85.74 83.99 83.49 83.29		Stratum Description Dark brown clayey slightly sandy SILT with occasion rootlets. (TOPSOIL) Firm medium strength mottled brown/grey to ora CLAY with occasional brown to orange sandy pool (WEATHERED WESTBURY FORMATION & COTHAN MEMBER) Firm blue to grey sandy gravelly CLAY with occasion sandy bands. Gravel of fine to coarse angular to s mudstone. (WEATHERED WESTBURY FORMATION & COTHAN MEMBER) Stiff dark grey gravelly CLAY. Gravel of fine to coarse to sub-angular mudstone. (WEATHERED WESTBURY FORMATION & COTHAN MEMBER) End of Pit at 2.60m	onal inge sandy (ets. 1 onal yellow ub-angular 1 se angular 1	Water Strike 	Well
								- - - 5.0	
	2.80)	<u> </u>	1	1	General Remarks:		Logged	I By:
0						Slow seepage at the base of pit.		JY	d Dvi
0.6								MB	.u by. }
	C+~+							Scale	e:
Stability: Shoring:	Stab N/A	IE				Method/Plant Used: JCB 3CX		Sheet 1	of 1
0.	, / .								

					_				Trial Pi	it No.:	
clarke	bor	nd				Trial Pit Lo	og		-	TP25	5
Project Name:	: S	outh Farm, Wickv	war			Co-Ordinates:	372360 E 187829 N		Start:	03/03/2	2021
Project Numb	er: B	05313				Ground Level (m OI	D): 85.21		End:	03/03/2	2021
Sam	ples an	nd In Situ Testing	Depth	Level	Legend		Stratum Description			Water	Well
Depth (m)	Туре	Results	(m)	(m OD)						Strike	×///× </td
			0.15	85.06		Dark brown clayey rootlets.	y slightly sandy SILT with	occasional		_	
						(TOPSOIL)	wath mattlad brown (area	+		_	
						CLAY with occasio	mal brown to orange sand	dy pockets.	nuy	_	
0.50		HVR=50				(WEATHERED WES MEMBER)	STBURY FORMATION & C	MAHTC		— 0.5 —	
										_	
						-				_	
1.00	D	HVR=40								— 1.0	
1.00						-				_	
						-				_	
1.50	D	HVR=45				-				- - 1.5	
1.50			1.60	83.61		Stiff dark grey to b	blue very gravelly CLAY. G	ravel of fine t	0	_	
						coarse angular to	sub-angular mudstone.			_	
						MEMBER)		JINAIVI		_	
					· · · · · · · ·	-				— 2.0 —	
										_	
						-				_	
2.50	D					1				— 2.5	
			2.70	82.51		-	End of Pit at 2 70m			-	
										_	
										- 3.0	
										_	
										_	
										-	
										— 3.5 —	
										_	
										-	
										4.0	
										-	
										_	
										- - 4.5	
										_	
										_	
										_	
										5.0	
	2.90)	I	•		General Remarks:	e hase of nit			Loggeo	d By:
0.60						Siow Scepage at the				Approve	ed By:
										ME Scal	3 e:
Stability:	Stab	le								1:2	5
Shoring:	N/A					Method/Plant Used	I: JCB 3CX			Sheet 1	of 1

clarke	bor	nd			-	Trial Pit Log		Trial P	Trial Pit No.: TP26		
Project Name:	S	outh Farm, Wick	war			Co-Ordinates:	372340 E 187792 N	Start:	03/03/2	2021	
Project Number: B05313					Ground Level (m OD):	84.37	End:	03/03/2	2021		
Sam	ples an	nd In Situ Testing	Depth (m)	Level (m OD)	Legend		Stratum Description		Water Strike	Well	
0.50	D	HVR=60	0.15	84.22		Dark brown clayey sl rootlets. (TOPSOIL) Firm medium streng fine to coarse sub-ar (WEATHERED WESTE	lightly sandy SILT with occasional th blue to grey gravelly CLAY. Grave ngular to sub-rounded mudstone. BURY FORMATION & COTHAM	el of	 0.5		
0.50 1.00 1.00	D E	HVR=60				MEMBER)			- - - 1.0		
1.00		HVR=50	1.50	82.87		Firm medium streng Gravel of fine to coa (WEATHERED WESTE	th dark grey to blue very gravelly C rse angular to sub-angular mudsto BURY FORMATION & COTHAM	CLAY. ne.	- - - 1.5 -		
2.00 2.00	D E					MEMBER)			- - - 2.0 - -		
			2.60	81.77	<u>,</u>	-	End of Pit at 2.60m		- 2.5 - -		
									- 3.0 		
									- 3.5 		
									4.0 		
									- 4.5 - -		
									5.0		
2.80						General Remarks: Slow seepage at the base of pit.			Logged By:		
									Approved By: MB Scale:		
Stability: Stable									1:2	5	
Shoring: N/A						Method/Plant Used:	JCB 3CX		Sheet 1 of 1		









Plate 15 (TP08)

Plate 16 (TP08 Arisings)















Plate 17 (First field from Farmyard facing south)

Plate 18 (First field from Farmyard facing south)



Plate 17 (Second field facing east)

Plate 18 (Second field facing east)





Plate 17 (Third field facing east)

Plate 18 (Third field facing west)






Appendix C Infiltration Test Results









Phase 2 Ground Investigation



Appendix D TRL DCP Test Results

Project :South Farm, WickwarProject No :B05313Client :Bloor Homes South



Blows No.	Blows Total	Reading (mm)	Corr. depth	mm / blow	CBR % (TRRL)
0	0	130	0	-	-
1	1	230	100	100	2
1	2	240	110	10	26
1	3	330	200	90	3
1	4	370	240	40	6
1	5	410	280	40	6
1	6	450	320	40	6
1	7	480	350	30	8
1	8	510	380	30	8
1	9	530	400	20	13
1	10	560	430	30	8
1	11	580	450	20	13
1	12	610	480	30	8
1	13	630	500	20	13
2	15	650	520	10	26
2	17	700	570	25	10
2	19	720	590	10	26
2	21	760	630	20	13
2	23	800	670	20	13
2	25	830	700	15	17
2	27	860	730	15	17
2	29	900	770	20	13
2	31	920	790	10	26
2	33	960	830	20	13
2	35	970	840	5	55
				I	

Remarks :

Log10(CBR) = 2.48 – 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.

 Date :
 08 Mar 2021

 Operator :
 JY

 Test Location :
 DCP1

Project : South Farm, Wickwar Project No: B05313 Client : **Bloor Homes South**



08 Mar 2021	Date :
JY	Operator :
DCP2	Test Location :

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	- 90 40 30 40 30 30 30	- 3 6 8
1 1 250 90 1 2 290 130 1 3 320 160 1 4 360 200 1 4 360 200 1 5 390 230 1 6 420 260 1 6 420 260 1 7 450 290 2 9 500 340 2 11 550 390 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	90 40 30 40 30 30	3 6 8
1229013013 320 16014 360 200 15 390 230 16 420 260 17 450 290 29 500 340 211 550 390 213 600 440 114 640 480 216 680 520 220 750 590 222 790 630 224 820 660	40 30 40 30 30	6 8 6
1 3 320 160 1 4 360 200 1 5 390 230 1 6 420 260 1 7 450 290 2 9 500 340 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	30 40 30 30	8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	40 30 30	6
1 5 390 230 1 6 420 260 1 7 450 290 2 9 500 340 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	30 30	U U
1 6 420 260 1 7 450 290 2 9 500 340 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	30	8
1 7 450 290 2 9 500 340 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660		8
2 9 500 340 2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 24 820 660	30	8
2 11 550 390 2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	25	10
2 13 600 440 1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	25	10
1 14 640 480 2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	25	10
2 16 680 520 2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	40	6
2 18 720 560 2 20 750 590 2 22 790 630 2 24 820 660	20	13
2 20 750 590 2 22 790 630 2 24 820 660	20	13
2 22 790 630 2 24 820 660	15	17
2 24 820 660	20	13
	15	17
2 26 860 700	20	13
2 28 900 740	20	13
2 30 920 760	10	26
2 32 940 780	10	26
2 34 980 820	20	13

Remarks :

Log10(CBR) = 2.48 – 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.

Project : South Farm, Wickwar Project No: B05313 Client : **Bloor Homes South**



08 Mar 2021	Date :
JY	Operator :
DCP3	Test Location :

	Blows No.	Blows Total	Reading (mm)	Corr. depth	mm / blow	CBR % (TRRL)
٦	0	0	90	0	-	-
	1	1	170	80	80	3
	1	2	220	130	50	5
_	2	4	300	210	40	6
	2	6	350	260	25	10
	2	8	400	310	25	10
	2	10	430	340	15	17
	2	12	470	380	20	13
	2	14	500	410	15	17
	2	16	525	435	13	21
_	2	18	540	450	8	36
	2	20	560	470	10	26
	3	23	590	500	10	26
	3	26	610	520	7	41
	10	36	630	540	2	145
4						
1						
-						
-						
		-	-		-	

Remarks :

Log10(CBR) = 2.48 – 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.

Project : South Farm, Wickwar Project No: B05313 Client : **Bloor Homes South**



08 Mar 2021	Date :
JY	Operator :
DCP1	Test Location :

	Blows No.	Blows Total	Reading (mm)	Corr. depth	mm / blow	CBR % (TRRL)
	0	0	100	0	-	-
	1	1	160	60	60	4
	1	2	210	110	50	5
	2	4	280	180	35	7
	2	6	330	230	25	10
	2	8	370	270	20	13
	2	10	410	310	20	13
	2	12	450	350	20	13
	2	14	470	370	10	26
	3	17	510	410	13	20
	3	20	530	430	7	41
	3	23	580	480	17	15
	3	26	510	410	-23	#NUM!
7	3	29	640	540	43	6
	3	32	680	580	13	20
	5	37	730	630	10	26
	10	47	750	650	2	145
%						

Remarks :

Log10(CBR) = 2.48 – 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.

Project : South Farm, Wickwar Project No: B05313 Client : **Bloor Homes South**



08 Mar 2021	Date :
JY	Operator :
DCP5	Test Location :

Blows No.	Blows Total	Reading (mm)	Corr. depth	mm / blow	CBR % (TRRL)
0	0	210	0	-	-
1	1	260	50	50	5
1	2	360	150	100	2
2	4	450	240	45	5
2	6	510	300	30	8
2	8	550	340	20	13
2	10	610	400	30	8
2	12	640	430	15	17
2	14	670	460	15	17
2	16	700	490	15	17
2	18	740	530	20	13
3	21	770	560	10	26
3	24	800	590	10	26
3	27	840	630	13	20
3	30	860	650	7	41
3	33	890	680	10	26
3	36	920	710	10	26

Remarks :

Log10(CBR) = 2.48 – 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.

Project : South Farm, Wickwar Project No: B05313 Client : **Bloor Homes South**



Date : 08 Mar 2021 Operator : Test Location : DCP6

JY



Remarks :

Log10(CBR) = 2.48 - 1.057 x Log10(mm/blow) as defined in Interim Advice Note 73/06 "Design Guidance for Road Pavement Foundations" published by the Highways Agency.







Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Job Nu Date San Date Rec Date Tr Sample Depth To Depth Bas Sample 40	mber: 21-61985 npled: 01/03/2021 eived: 04/03/2021 ested: 17/03/2021 ed By: Client p [m]: 0.50 e [m]: Not Given Type: D % Passing 425µm BS Test Sieve 100
Plasticity Index [Ip]% 40	p [m]: 0.50 e [m]: 0.50 e [m]: Not Given Type: D % Passing 425µm BS Test Sieve 100
Sample Depth To Depth Bas Sample Plasticity Index [Ip] % 40	ed By: Client p [m]: 0.50 e [m]: Not Given Type: D % Passing 425µm BS Test Sieve 100
Depth To Depth Bas Sample	p [m]: 0.50 re [m]: Not Given Type: D % Passing 425µm BS Test Sieve 100
Depth To Depth Bas Sample	p [m]: 0.50 ee [m]: Not Given Type: D % Passing 425µm BS Test Sieve 100
Plasticity Index [Ip] % 40	Market Constraints of the second seco
Plasticity Index [Ip]% 40	% Passing 425µm BS Test Sieve 100
Plasticity Index [Ip] % 40	% Passing 425µm BS Test Sieve 100
Plasticity Index [Ip]% 40 U	% Passing 425µm BS Test Sieve 100
Plasticity Index [Ip]% 40 U	% Passing 425µm BS Test Sieve 100
	100
CIV	line
	line A line
	line A line
	line A line
	A line
Cv	A line
, civ	A line
, cv	A line
CIV	A line
	A line
siv	
 	
70 80	90 100
- Identification and class	sification of soil
identification and class	
	al(eg CIHO)
ication for organic materi	
ication for organic materi	
-	70 80 – Identification and class

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2021



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

ite A iestin	ddres	ss: ried out at i2	South Fa	arm, V a <i>l Lim</i>	Vickwar <i>ited, ul. Pi</i>	onier	row S	39, 41	-711 Ruda	Slasl	a, Polanc	d			Sample	d By: (Client	_ '
abor lole I amp oil D	atory No.: Ile Ref Iescrip	Reference: ference: ption: eparation:	1799576 TP07 Not Give Brown to Tested i	s en o grey n natu	slightly sa	ndy (on	CLA	Y						Dep S	epth Top oth Base ample 1	о [m]: 2 е [m]: 1 Гуре: 1	2.00 Not Giver ⊃	١
As	Rece Cont	eived Moisti tent [W] %	ure		Liquid Lin [WL] %	nit 6			Plast [W	ic Lir /p]%	nit		Plasti [icity Index Ip]%		%	Passin BS Test	g 425µn t Sieve
		33			58				-	30			-	28			10	0
	80	1																
	70															line		
	60																	
EX	50											-				A lin	e	_
ICITY IND	40										С	н		, ;	sv			
PLAST	30	-					_ (/	СІМ									
	20				CI	-					S	н						
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	0	0	10	2	0	30		4	10	50	6	50	70) :	B0	9	0	 100
		Logond bo	and an D		100 1469	0.0.00	010	Casta	LIQU	ID LI	MIT	tooting	Idont	ification on		ficatio	n of ooil	
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						H V	Hig Vei	n ry hig	h	e	xceeding	j 70						

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Szczepan Bielatowicz PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien Clien Conta Site A Testi	t: t Addro act: Addres ng can	ress: ss: rried out at i	Clarkebon 129 Cumb BS1 6UY Josh Your South Fan 2 Analytical	d erland Road, ig n, Wickwar <i>Limited, ul. P</i>	Bristol,⊡ ionierow 3	39, 41-7	nd	Client Reference: B05313 Job Number: 21-61985 Date Sampled: 01/03/2021 Date Received: 04/03/2021 Date Tested: 17/03/2021 Sampled By: Client					
Test Labor Hole Samp Soil D	ratory No.: ole Re Descrip	ults: Reference: ference: ption: eparation:	1799577 TP08 Not Given Brown to g Tested in 1	yrey CLAY natural condit	on					Depth Depth F Sam	Top [m]: 3ase [m]: ple Type:	1.00 Not Given D	
As	s Rece Cont	eived Mois tent [W] %	ure	Liquid Li [WL] ⁽	mit %		Plastic [Wp	Limit	Pla	asticity Index [lp] %	0	% Passing BS Test	∣ 425µm Sieve
		31		71			3	5		36		100)
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 						CIM		SIH	CIV SIV	U line		
		U Legend, b	10 ased on BS CI Clay Si Silt	20 EN ISO 1468 /	3U 8 2:2018 (Plasticity L Lov M Me H Hig V Ver O Org	40 Geotecl w dium gh ry high ganic	hnical inve	D LIMIT stigation and Liquid Lir below 35 35 to 50 50 to 70 exceedin append t	ο∪ I testing – Id mit g 70 o classificati	70 80 entification and cl	g lassificatio iterial (eg	on of soil CIHO)	100

Remarks:

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Olivert	Clark	hand			D05242			
Client:	Clarke	epond						
Client Address:	129 C	umberland Road_Bristol □		Job Numbe	er: 21-61985			
	BS1 6			Date Sample	ed: 01/03/2021			
	0010	01		Date Receive	d: 04/03/2021			
Contact:	Josh `	Young		Date Teste	d: 17/03/2021			
Site Address:	South	Farm, Wickwar		Sampled E	By: Client			
Testing carried out at i2	2 Analy	tical Limited, ul. Pionierow 39	, 41-711 Ruda Slaska, Poland					
Test Results:								
Laboratory Reference:	17995	78		Depth Top [r	n]: 1.50			
Hole No.:	TP09			Depth Base [m]: Not Given				
Sample Reference:	Not G	iven		Sample Type: D				
Soil Description:	Light g	grey slightly gravelly slightly s	andy CLAY					
•			-					
Sample Preparation:	Teste	d after washing to remove >42	25um					
As Received Moist	ure	Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µm			
Content [W] %		[WL] %	[Wp] %	[lp] %	BS Test Sieve			
22		52	25	27	96			



CI Si	Clay Silt	

Low Medium High Very high Organic

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below 35 35 to 50 50 to 70 exceeding 70 append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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for and on behalf of i2 Analytical Ltd



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TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

91



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Tested at	fter washing to remove >4	25um				
Brown to	grey slightly gravelly sligh	tly sandy CLAY				
Not Giver	n		Sample 1	īуре: D		
TP11			Depth Base [m]: Not Given			
1799579			Depth Top	o [m]: 1.00		
? Analytica	al Limited, ul. Pionierow 39), 41-711 Ruda Slaska, Poland				
South Fa	irm, Wickwar		Sample	d By: Client		
Josh You	ing		Date Te	sted: 17/03/2021		
631 001			Date Rece	ived: 04/03/2021		
129 Cum	berland Road, Bristol,		Date Sam	pled: 02/03/2021		
			Job Nun	nber: 21-61985		
Clarkebo	nd		Client Refere	ence: B05313		
	Clarkebo 129 Cum BS1 6UY Josh You South Fa Analytica 1799579 TP11 Not Give Brown to Tested a	Clarkebond 129 Cumberland Road, Bristol, BS1 6UY Josh Young South Farm, Wickwar Analytical Limited, ul. Pionierow 39 1799579 TP11 Not Given Brown to grey slightly gravelly slight Tested after washing to remove >4	Clarkebond 129 Cumberland Road, Bristol, □ BS1 6UY Josh Young South Farm, Wickwar Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland 1799579 TP11 Not Given Brown to grey slightly gravelly slightly sandy CLAY Tested after washing to remove >425um	Clarkebond Client Reference 129 Cumberland Road, Bristol, □ Job Nun BS1 6UY Date Sam Josh Young Date Rece Josh Young Date Te South Farm, Wickwar Date Samples Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland Depth Top 1799579 Depth Top TP11 Depth Base Not Given Sample T Brown to grey slightly gravelly slightly sandy CLAY Tested after washing to remove >425um		

21



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing - Identification and classification of soil

CI Si	Clay Silt	

Plasticity Low Medium High Very high Organic

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Liquid Limit below 35 35 to 50 50 to 70 exceeding 70 append to classification for organic material (eg CIHO)

29

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

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for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2021



Content [W]%

[WL]%

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

BS Test Sieve



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

As Received Moist	ure Liquid Limit	Plastic Limit	Plasticity Index	% Passing 425µn			
Sample Preparation:	Tested after washing to remove >425um						
Soil Description:	Brown to grey slightly gravelly slightly san	dy CLAY					
Sample Reference:	Not Given		Sample Type:	D			
Hole No.:	TP11		Depth Base [m]: Not Given				
Laboratory Reference:	1799580		Depth Top [m]:	2.00			
Test Results:							
Testing carried out at is	2 Analytical Limited, ul. Pionierow 39, 41-73	11 Ruda Slaska, Poland					
Site Address:	South Farm, Wickwar		Sampled By:	Client			
Contact:	Josh Young		Date Tested:	17/03/2021			
			Date Received:	04/03/2021			
	BS1 6UY		Date Sampled:	02/03/2021			
Client Address:	129 Cumberland Road, Bristol □	Job Number:	21-61985				
Client:	Clarkebond		Client Reference:	B05313			

[Wp]%



CI Si	Clay Silt	

Low Medium High Very high Organic

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V

0

below 35 35 to 50 50 to 70 exceeding 70 append to classification for organic material (eg CIHO)

[lp]%

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

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Date Reported: 23/03/2021



Client:

Clarkebond

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

Client Reference: B05313



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

lient	Addre	SS:	129 Cumberland Road, Bristol,⊟ BS1 6UY								Job Number: 21-61985 Date Sampled: 02/03/2021 Date Received: 04/03/2021						
Conta Site A	ct: ddress	s:	Josh You South Fa	ung arm, V	Vickwar			Date Tested: 17/03/2021 Sampled By: Client									
estin	g carri	ied out at i2	Analytica	al Lim	ited, ul. P	ionier	ow 39,	41-71	1 Ruda	Slaska, P	oland						
est l abora ole N ampl oil De	Resul atory F lo.: le Refe escript	Its: Reference: erence: tion:	1799581 TP12 Not Give Brown to	1799581 TP12 Not Given Brown to grey slightly sandy CLAY							Depth Top [m]: 1.00 Depth Base [m]: Not Given Sample Type: D						
ampl	le Prep	paration:	Tested ir	n natu	ıral condit	on											
As	Recei Conte	ved Moistu ent [W] %	ire		Liquid Li [WL]	mit %			Plasti [W	c Limit p]%		Pla	sticity Ir	ndex	% F B	Passing 4 S Test Si	25µm ieve
		30	59					29			30			100			
	80 -																_
																/	
	70 -														line		-
	60 -																
	50 -											/		CIV	A line	\square	_
NDEX	40										-						
	40 -								/		СІН			siv			
PLAST	30 -						_	C	M		/						
	20 -										SIH						-
	10 -						\downarrow										-
	0 -		CIL -	SiL	Si	Ĺ		Si	M								
	0)	10	20	0	30		40		50	60		70	80	90	1	.00
									LIQU	ID LIMIT							
	I	Legend, ba	sed on B	S EN	ISO 1468	8 2:20 Plast	018 Ge icity	otechr	nical inve	estigation Liquio	and test d Limit	ting – Ide	entificatio	on and class	sification	of soil	
			Si S	ilt		M	Mediu	ım		35 to	50						
						H V	High Verv ^J	hiah		50 to	70 dina 70						
						ò	Organ	ngri									

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

onta te A estin	act: address: ag carried out at	Josh You South Far i2 Analytical	ng m, Wickwa I <i>Limited, u</i> l	r . Pionie	erow 39, 4	1-711 Ruda	Slaska, Poland	1	Date Sam	e Tested: pled By:	17/03/2021 Client	
est abor ole N amp oil D	Results: atory Reference No.: le Reference: bescription:	: 1799582 TP12 Not Giver Brownish	799582 P12 lot Given rownish grey to dark grey CLAY						Depth Depth E Samp	Top [m]: Base [m]: ble Type:	2.50 Not Given D	
amp As	le Preparation: Received Mois	Tested in	natural cor Liquic	ndition I Limit		Plast	ic Limit	Pla	asticity Index		% Passing 4	425µm
	Content [W] 9	%	[WL] %			[W	/p]% 33		[lp] % 37	+	BS Test S 100	ieve
	80 70 60									U line		
	50						C	H	civ	A li	ne	_
	30				-	СІМ			siv			_
	10	CIL - S	SiL	CIL		SiM	S	H				
	0 0 Legend, b	10 based on BS CI Cla Si Sil	20 EN ISO 14 y t	30 1688 2:2 Plas L M H V O	2018 Gec sticity Low Mediur High Very h Organi	40 LIQU technical inv n gh c	50 60 ID LIMIT estigation and to Liquid Limi below 35 35 to 50 50 to 70 exceeding append to	0 esting – Id it 70 classificati	70 80 entification and cl	assificati terial (ec	90 1 on of soil	⊣ ∟00

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i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien Clien Conta Site A Testi	t: t Addro act: Addres ng can	ess: ss: ried out at i	Clarkebond 129 Cumbe BS1 6UY Josh Young South Farm 2 Analytical L	rland Road, Bri , Wickwar <i>imited, ul. Pion</i>	stol,□ ierow 39, 4	1-711 Ruda	Slaska, Polanc	d	Client Refe Job No Date Sa Date Rec Date T Sampl	erence: B05313 umber: 21-61985 mpled: 02/03/202 ceived: 04/03/202 rested: 17/03/202 led By: Client	1 1 1
Test Labor Hole Samp Soil I Samp	Resu ratory No.: ble Ref Descrip ble Pre	ults: Reference: ference: ption: eparation:	1799583 TP13 Not Given Brown to gro Tested in na	ey CLAY					Depth To Depth Ba Sample	op [m]: 2.00 se [m]: Not Given e Type: D	
As	Rece Cont	eived Moist tent [W] %	ure	Liquid Limi [WL] %	t	Plasti [W	c Limit p] %	Pla	sticity Index [lp] %	% Passing BS Test	425µm Sieve
		33		63		:	31		32	100)
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 			CIL		CIM	C	IH IH	CIV	J line A line	
Notor	Moiet	0 Legend, ba	10 ased on BS E CI Clay Si Silt	20 3 N ISO 14688 2 Pla L M H V O	0 :2018 Geol asticity Low Medium High Very hig Organic	40 LIQU technical invo n gh	50 6 ID LIMIT estigation and Liquid Lim below 35 35 to 50 50 to 70 exceeding append to	i0 7 testing – Ide it 70 classificatio	70 80 ntification and clas	90 ssification of soil rial (eg CIHO)	100

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Date Reported: 23/03/2021



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Client Conta Site A	t: t Address: act: Address:	Clark 129 (BS1) Josh South	ebond Cumberland I 6UY Young n Farm, Wicł <i>trical Limit</i> eo	Road, Bristo war	ow 39, <i>4</i> 1.	Client Reference: B05313 Job Number: 21-61985 Date Sampled: 02/03/2021 Date Received: 04/03/2021 Date Tested: 17/03/2021 Sampled By: Client					
Test Labor Hole I Samp Soil D	Results ratory Refe No.: De Refere Description	: erence: 1799 TP14 nce: Not C n: Brow	584 Siven nish grey CL	AY				4	Depth T Depth Ba Sampl	op [m]: 0.50 ase [m]: Not Give e Type: D	n
As	Received Content	d Moisture [W] %	Liq	uid Limit WL] %		Plastic [Wp	Limit] %	Plas	sticity Index [lp] %	% Passin BS Tes	g 425µm t Sieve
	48	3	94)		64	10	00
PLASTICITY INDEX	80 70 60 50 40 30 20 10					CIM	C S	н	CIV SIV	J line	
	0 I	10 gend, based or Cl Si	20 n BS EN ISC Clay Silt	30 9 14688 2:20 Plast L M H V O	18 Geote icity Low Medium High Very high Organic	0 5 LIQUII chnical inves	50 6 D LIMIT stigation and Liquid Lim below 35 35 to 50 50 to 70 exceeding append to	i0 7 testing – Ider it 70 classification	0 80 ntification and clar	90 ssification of soil erial (eg CIHO)	100

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Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Client Conta Site A Testir	t: Addre Addres	Clarkebond ress: 129 Cumberland Road, Bristol,□ BS1 6UY Josh Young ss: South Farm, Wickwar rried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Pola ults: D f = 1720525								Client Reference: B05313 Job Number: 21-61985 Date Sampled: 02/03/2021 Date Received: 04/03/2021 Date Tested: 17/03/2021 Sampled By: Client					21 21 21
Test Labor Hole I Samp Soil D	Resu ratory No.: ble Ref Descrip	ults: Reference ference: otion: eparation:	: 1799 TP14 Not (Brow Test	9585 4 Given /nish grej ed in nati	y CLAY ural conditior	1						Depth ⁻ Depth B Samp	Top [m]: ase [m]: le Type:	1.50 Not Giver D	١
As	Rece	eived Mois	sture		Liquid Lim	it		Plastic	Limit		Plasticity	ndex	9	6 Passing	g 425µm Siovo
	Cont	43	70		75		╈	3	1		44	70		10	0
PLASTICITY INDEX	 80 70 60 50 40 30 30 20 10 0 				CIL SiL			CIM		CH		CIV SIV	U line		
		0 Legend, I	10 pased o Cl Si	2 n BS EN Clay Silt	0 3 ISO 14688 2 P L M H V O	2:2018 C lasticity Low Med Higl Ver Org	40 Geotec v dium h y high ganic) <u>5</u> LIQUII	50 D LIMIT stigation an Liquid L below 3: 35 to 50 50 to 70 exceedii append	60 d testing imit 5 ng 70 to classi	70 – Identifica fication for c	80 tion and cla organic mat	9 assificatio erial (eg	0 n of soil CIHO)	100
Note:	Moist	ure Conte	nt by B	5 1377-2	: 1990: Clau	se 3.2									

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i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client: Client Address Contact: Site Address <i>Testing carrie</i>	es: : ed out at i2	Clarkeb 129 Cu BS1 6U Josh Yo South F	oond mberland Road, Bri IY Dung Farm, Wickwar cal <i>Limited, ul. Pion</i>	stol,□ ierow 39, 41	-711 Ruda S	laska, Poland		Client Jo Date Date Sa	Reference: bb Number: e Sampled: e Received: ate Tested: ampled By:	B05313 21-61985 02/03/2021 04/03/2021 17/03/2021 Client	
Test Resul Laboratory R Hole No.: Sample Refe Soil Descripti Sample Prep	ts: eference: rence: ion: aration:	179958 TP15 Not Giv Grey to Tested	6 en brown slightly grav after washing to rer	elly CLAY nove >425u	n			Dep Depth Sai	th Top [m]: n Base [m]: mple Type:	2.00 Not Given D	
As Receiv Conte	ved Moistu nt [W] %	ure	Liquid Limi [WL] %	t 🛛	Plastic [Wp	Limit] %	Plas	ticity Index [lp] %		% Passing 425µm BS Test Sieve	
	30		71		33	3		38		98	
80 - 70 - 60 - 50 - 50 - 50 - 50 - 50 - 50 - 5					CIM	CI		Cr Si	V A li	ne	

40 С siv 30 CIM 20 SIH ČIL 10 SiM CIL - Sil SiL 0 0 10 20 30 40 50 60 70 80 90 100

LIQUID LIMIT

Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing - Identification and classification of soil

CI Si	Clay Silt	

Plasticity Low Medium High Very high Organic

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V 0 Liquid Limit below 35 35 to 50 50 to 70 exceeding 70 append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien	t:		Clarkebond						Client R	eference:	B05313	
Clien	t Addr	ress:	129 Cumbe BS1 6UY	rland Road, Br	istol,□				Job Date	Number: Sampled:	21-61985 02/03/2021	
Conta Site / Testi	act: Addres <i>ng car</i>	ss: rried out at i	Josh Young South Farm 2 Analytical L) , Wickwar <i>imited, ul. Pior</i>	ierow 39, 4 [.]	1-711 Ruda S	Slaska, Polano	1	Date i Dat Sar	re Tested: mpled By:	17/03/2021 Client	
Test Labo Hole Sam Soil [ratory No.: ple Re Descrip	ults: Reference: ofference: ption: eparation:	1799587 TP16 Not Given Brown to gr	ey slightly grav r >425um remo	elly CLAY	d	inecia, roman		Depth Depth Sam	n Top [m]: Base [m]: ple Type:	1.50 Not Given D	
As	s Rece Cont	eived Moist tent [W] %	ure	Liquid Limi [WL 1 %	t	Plastic [Wp	Limit	Plas	sticity Index	%	√ Passing 4 BS Test S	425µm Jieve
		30	<u> </u>	66		3	0		36		99	
ASTICITY INDEX	80 70 60 50 40 30						C	H	CIV	U line	Ie	
Ы	20			,			s	н				_
	10		CIL - Si			SiM						_
	0	ļ	10	20 3	0	40 "	50 6	0 7	70 80	Q	0 1	100
		Ŭ	-0		- ·	LIQUI	D LIMIT	. /		5		
		Legend, b	ased on BS E	N ISO 14688 2 PI	2:2018 Geoto asticity	echnical inve	stigation and t Liquid Limi	esting – Ide it	ntification and c	lassificatio	n of soil	



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Low

High

Medium

Very high

Organic

below 35 35 to 50 50 to 70 exceeding 70 append to classification for organic material (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Si

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Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien Clien Conta Site A Testi	t: t Addro act: Addres ng can	ess: ss: ried out at l	Clarkebond 129 Cumb BS1 6UY Josh Youn South Farr 2 Analytical	d erland Road, Bri g n, Wickwar <i>Limited, ul. Pion</i>	stol,⊡ ierow 39, 4	1-711 Ruda .	Slaska, Polanc	1	Client Refe Job Nu Date Sar Date Rec Date T Sampl	rence: B05313 umber: 21-61985 mpled: 02/03/2021 seived: 04/03/2021 'ested: 17/03/2021 ed By: Client
Test Labo Hole Sam Soil [ratory No.: Die Ref Descrip	ults: Reference: ference: otion: eparation:	1799588 TP17 Not Given Brown to g Tested in r	rey CLAY natural condition					Depth To Depth Bas Sample	op [m]: 1.00 se [m]: Not Given Type: D
As	Rece Cont	eived Mois tent [W] %	ture	Liquid Limit [WL] %	t	Plasti [W	c Limit o] %	Plas	sticity Index [lp] %	% Passing 425µm BS Test Sieve
		33		72		3	33		39	100
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 					CIM	C	H H		A line
Nata	Maint	U Legend, b	10 ased on BS I CI Clay Si Silt	20 30 EN ISO 14688 2 Pla L M H V O	2018 Geot asticity Low Medium High Very hig Organic	4U LIQUI echnical inve	50 6 D LIMIT Estigation and 1 Liquid Lim below 35 35 to 50 50 to 70 exceeding append to	U 7 testing – Ide it 70 classificatio	rU 80 ntification and clas n for organic mater	90 100 sification of soil ial (eg CIHO)

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Szczepan Bielatowicz PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2021



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Client Conta Site A Testii	t: t Addro act: Addres ng can	ess: ss: ried out at l	Clarkebond 129 Cumbe BS1 6UY Josh Youn South Farr 2 Analytical	d erland Road, Br g n, Wickwar <i>Limited, ul. Pior</i>	istol,□ nierow 39, 4	41-711 Ruda	Slaska, Polanc	d	Client Refe Job Nu Date Sar Date Rec Date To Sample	rence: B05313 Imber: 21-61985 npled: 02/03/202 eived: 04/03/202 ested: 17/03/202 ed By: Client	21 21 21
Test Labor Hole Samp Soil D	Resu ratory No.: ble Ref Descrip	ults: Reference: ference: ption:	1799589 TP18 Not Given Brown to g	rey CLAY					Depth To Depth Bas Sample	op [m]: 0.50 se [m]: Not Giver Type: D	1
Samp As	Rece Cont	eparation: eived Mois tent [W] %	ture	Liquid Limi	it	Plast [W	ic Limit p]%	Plas	ticity Index [Ip] %	% Passing BS Test	g 425µm Sieve
		31		70		-	28		42	10	0
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 					CIM	C S	н		A line	
		0 Legend, b	10 ased on BS I CI Clay Si Silt	20 3 EN ISO 14688 2 Pl L M H V O	2:2018 Geo asticity Low Mediuu High Very h Organi	40 LIQU technical inv n gh c	50 6 ID LIMIT estigation and Liquid Lim below 35 35 to 50 50 to 70 exceeding append to	i0 7 testing – Ider it 70 classificatior	0 80 ntification and class	90 sification of soil ial (eg CIHO)	100

Remarks:

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

lient:		Clarkeb	ond						Cli	ient Refere	nce: B05313	3
lient /	Address:	129 Cur BS1 6U	mberland Roa Y	ad, Brist	ol,⊡				1	Job Num Date Samp Date Recei	ber: 21-619 bled: 02/03/2 ved: 04/03/2	85 2021 2021
ontac	ot:	Josh Yo	oung							Date Tes	sted: 17/03/2	2021
ite Ad	ddress:	South F	arm, Wickwa	r						Sampleo	By: Client	
esting	g carried out a	t i2 Analytic	al Limited, ul	. Pionie	row 39, 4	41-711 Ruda	Slaska, Pol	land				
est F	Results:											
abora	atory Reference	e: 1799590	0							Depth Top	[m]: 1.00	
ole N	lo.:	TP18							D	epth Base	[m]: Not Giv	/en
ample	e Reference:	Not Give	en							Sample T	ype: D	
oil De	escription:	Brown to	o grey CLAY									
ample	e Preparation:	Tested i	in natural con	dition								
As F	Received Mo Content [W]	isture %	Liquid [WL	Limit] %		Plast [W	ic Limit p]%		Plasticity Ind [lp] %	ex	% Pass BS Te	ing 425µm est Sieve
	30		7	1			27		44			100
PLASTICITY INDEX	70 60 50 40 30 20					CIM		СН	•		A line	
			1	ČIL								
	10				\checkmark	0.14						
		CIL	- SiL			SIM						
	0											
	0	10	20	30		40	50	60	70	80	90	100
	Ū	10	20	50		LIQU	ID LIMIT		, 0		50	100
	Legend,	based on B	BS EN ISO 14	688 2:2	018 Gec	technical inv	estigation a	nd testing –	Identification	and classif	fication of so	il
			lav	Plas			Liquid below '	Limit 35				
		Si Si	Silt	M	Mediur	n	35 to 5	0				
		5, 6		Н	High		50 to 7	0				
				V	Very h	igh	exceed	ling 70				

Remarks:

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien	t:		Clarkeb	ond								Clier	nt Refere	ence: B	05313	
Clien	t Addr	ess:	129 Cun BS1 6U`	nberla Y	nd Road, Bi	ristol,□						Da	Job Nun ate Sam ite Rece	nber: 2 ⁻ pled: 02 ived: 04	1-61985 2/03/202 ² 4/03/202	1
Conta	act:		Josh Yo	ung								00	Date Te	sted: 17	7/03/202	1
Site A	Addres	s: ried out at i'	South Fa	arm, V al Lim	Vickwar	nierow 3	0 11	711 Puda	Slaska Pi	hand			Sample	d By: C	lient	
Test	Resi	ults:	Analylic	ai Liin	ileu, ul. Fioi		9, 41	-777 Ruua	3183NA, F	Jianu						
Labo	ratory	Reference:	1799591	1								De	epth Top	[m]: 2.	00	
Hole	No.:	foronool	TP19									Dej	oth Base	e [m]: N	ot Given	
Sam Soil E	Descrij	ption:	Black to	browr	nish grey CL	AY.							ample	уре. D		
Samp	ole Pre	eparation:	Tested i	n natu	iral conditior	ı										
As	Rece Cont	eived Moist tent [W] %	ure		Liquid Lim [WL] %	it		Plast [W	c Limit p]%		Pla	sticity Inde> [lp] %	(%	Passing 3S Test S	425µm Sieve
		32			68			:	34			34			100	I
	80	1														
	70													line		_
	60	-										/				_
													VIV		/	1
	50	-												A line		_
Ĕ										_						
DN	40								1	CIF	-					_
Ę								-	Ĩ							
STIC	30						-	-				`				_
PLA								СІМ								
	20								1	SiF	4					_
					CIL											
	10	-			/								_			_
			CIL -	SiL				SiM								
	0				SiL											
	Ū	0	10	20	0 3	80	4	0	50	60) 7	70	80	90		100
								LIQU	ID LIMIT							
		Legend, ba	sed on B	S EN	ISO 14688	2:2018 G	Geote	chnical inv	estigation	and te	esting – Ide	ntification ar	nd classi	fication	of soil	
				lov	P	lasticity			Liquic	Limit						
			Si S	Silt	M	Med	, dium		35 to	50						
					Н	High	h		50 to	70						
					V	Very	y high anic	ו	excee	eding 7	70 Jassificatio	n for organic	materia	al (en C		
					0	Olg	anic		apper		กลออกเปล่นไป	n lor organic	materia			
Nete	Mairi	turo Carata d		0.77.0	1000- 01											
INOTE:	IVIOIS	ure Content	DA P2 13	511-2:	1990: Claus	se 3.2										

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i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client	t:		Clarke	bond								Client	Refere	nce: B05	313	
Client	t Addre	ess:	129 Cu	ımberla	and Road, Br	istol,□						J	ob Num	ber: 21-6	1985	
			BS1 6l	JY								Da	e Samp e Recei	ved: 02/0	3/2021	
Conta	act:		Josh Y	oung								E	ate Tes	sted: 17/0	3/2021	
Site A	Addres	s:	South I	Farm, V	Wickwar							S	Sampleo	By: Clier	nt	
Testir	ng cari	ried out at i2	2 Analyti	ical Lim	nited, ul. Pion	ierow 39,	, 41-71	11 Ruda S	laska, Polai	nd						
Test	Resu	ults:														
Labor	ratory	Reference:	179959	92								De	oth Top	[m]: 2.50	Ciucan	
Hole I	NO.:	foronoo	TP20 Not Giv	ion								Depi	n Base	[m]: Not	Given	
Soil F)escrir	otion.	Black	o browi	n CLAY							30	ampie i	ype. D		
Samp	ole Pre	eparation:	Tested	in natu	ural condition											
As	Rece	eived Moist	ure		Liquid Limi	t	1	Plastic	Limit		Plas	sticity Index		% Pa	ssing 42	5µm
	Cont	ent [W] %			[₩L]%			[Wp]%			[lp]%		BS	Test Sie	ve
		42			78			3	2			46			100	
	80	-							1							
	70													ine		
	60	-														
	50											C	IV I r			
	50													Allne		
ЭEX									1							
Z	40	-								сін						
Ě								/	1				N/			
DI	30							_				3	v			
LAS	50						C	IM								
Δ.						-										
	20					e				sн						
					CIL											
	10		_													
			CII	- Sil			s	iM								
					SiL											
	0	+	+						+		_	<u> </u>	-			-
		0	10	2	0 3	0	40	:	50	60	7	0 8	0	90	10	0
								LIQUI	D LIMIT							
		Legend, ba	sed on l	BS EN	ISO 14688 2	2:2018 Ge	eotech	nical inve	stigation and	d testing	g – Idei	ntification and	d classif	ication of	soil	
				Clay	PI	asticity			Liquid Li	mit						
			Si	Silt	L	Low Mediu	um		35 to 50)						
			0	5	Н	High			50 to 70							
					V	Very	high		exceedin	ng 70						
					0	Orgai	nic		append t	to class	ificatio	n for organic	materia	l (eg ClH	0)	
Note:	Moist	ure Content	by BS 1	1377-2.	1990 [.] Claus	e 3.2										
.0.0.	10131		5,00	2.		0.2										

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Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien Clien Conta Site A Testia	t: t Addro act: Addres ng can	ess: ss: ried out at i	Clarkebond 129 Cumbo BS1 6UY Josh Youn South Farr 2 Analytical	d erland Road, Br g n, Wickwar <i>Limited, ul. Pion</i>	istol,□ nierow 39, 4	1-711 Ruda	Slaska, Polanc	d	Client Refer Job Nu Date Sar Date Rec Date To Sample	rence: B05313 mber: 21-6198 npled: 03/03/20 eived: 04/03/20 ested: 17/03/20 ed By: Client	5 21 121 121
Test Labor Hole Samp Soil [Resu ratory No.: ble Ref Descrip	ults: Reference: ference: ption:	1799593 TP21 Not Given Brown to g	rey CLAY					Depth To Depth Bas Sample	p [m]: 1.10 æ [m]: Not Give Type: D	n
Samp As	Rece	eived Mois	ture	Liquid Limi	t	Plast ſW	ic Limit	Plas	ticity Index	% Passir BS Tes	ıg 425µm t Sieve
		34	<u> </u>	74		,	29		45	1(00
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 					CIM		н			
Note	Moiet	Legend, b	ased on BS I CI Clay Si Silt	EN ISO 14688 2 Pla L M H V O	2:2018 Geo asticity Low Mediun High Very hi Organic	LIQU technical inv n gh	ID LIMIT estigation and Liquid Lim below 35 35 to 50 50 to 70 exceeding append to	testing – Iden it 170 classification	ntification and class	sification of soil	100

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i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Clien Clien Conta Site A Testi	t: t Addro act: Addres <i>ng can</i>	ess: ss: ried out at a	Clarkebo 129 Cum BS1 6UY Josh You South Fa 2 <i>Analytica</i>	nd berland Roa ng rm, Wickwar <i>I Limited, ul</i> .	d, Bristo <i>Pionier</i>	ol,□ row 39, 4	41-711 Ruda	Slaska, Po	land		Client Refer Job Nur Date Sam Date Rece Date Te Sample	ence: B05313 mber: 21-619 npled: 03/03/2 eived: 04/03/2 ested: 17/03/2 ed By: Client	3 85 2021 2021 2021
Test Labor Hole Samp Soil [Resu ratory No.: ole Ref Descrip	ults: Reference: ference: ption:	1799594 TP22 Not Giver Brown to	n grey CLAY	dition						Depth To Depth Base Sample	p [m]: 0.50 e [m]: Not Giv Type: D	/en
As	Rece	eived Mois tent [W] %	ture	Liquid	Limit		Plast [W	ic Limit /p] %		Plasticity [lp]	Index %	% Pass BS Te	ing 425µm est Sieve
		33		- 63	- }		-	28		35			100
PLASTICITY INDEX	 80 70 60 50 40 30 20 10 0 						CIM		CIH			A line	
		0 Legend, b	10 ased on BS CI Cla Si Si	20 5 EN ISO 146 ay It	30 588 2:20 Plass L M H V O	018 Gec ticity Low Mediur High Very hi Organi	40 LIQU technical inv n gh c	50 ID LIMIT estigation a Liquid below 35 to 5 50 to 7 exceed appen	60 and testing Limit 35 50 70 ding 70 d to classif	70 – Identificat	80 tion and class rganic materi	90 ification of so al (eg CIHO)	100 il

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for and on behalf of i2 Analytical Ltd



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

[m]: 1.00 [m]: Not Given ype: D
% Passing 425µm
95
ine
A line

SiM

50

LIQUID LIMIT Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

60

Liquid Limit below 35

exceeding 70

35 to 50

50 to 70

70

40

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

ŚiL

30

Plasticity

Low

High Very high

Medium

Organic

L

Μ

Н

V 0

Remarks:

10

0 + 0

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CIL - Sil

20

10

CI

Si

Clay

Silt



PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

80

90

100

Date Reported: 23/03/2021

Szczepan Bielatowicz

append to classification for organic material (eg CIHO)



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

21		41	27	14	90
As Received Mois Content [W] %	ture ő	Liquid Limit [WL]%	Plastic Limit [Wp] %	Plasticity Index [lp]%	% Passing 425µm BS Test Sieve
Sample Preparation:	Testeo	d after washing to remove >4	25um		
Soil Description:	Brown	ish grey slightly gravelly san	dy CLAY		
Sample Reference:	Not G	iven		Sample	Туре: D
Hole No.:	TP23			Depth Bas	e [m]: Not Given
Laboratory Reference:	17995	97		Depth To	p [m]: 2.00
Testing carried out at i	2 Analy	tical Limited, ul. Pionierow 39	9, 41-711 Ruda Slaska, Poland		
Sile Address.	South Amatur			Sample	ed by. Chem
Contact.	South	Form Wickwar		Date Te	ad By: Client
Contact	loch \	loung		Date Rece	eived: 04/03/2021
	BS1 6	UMberland Road, Bristol,⊡ UY		Date San	npled: 03/03/2021
Client Address:	100.0	unabandan d Daard, Driatal 🗆		Job Nu	mber: 21-61985
Client:	Clarke	bond		Client Refer	ence: B05313
Client:	Clarke	bond		Client Refer	ence: B05313



Very high

Organic

V 0

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

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exceeding 70

PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

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append to classification for organic material (eg CIHO)



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Client	:: Addre	ess:	Clark 129 (BS1	ebond Cumberla 6UY	and Road	l, Bris	stol,⊡							Cli I	ent R Job Date S	eferenc Numbe Sample	e: B05 er: 21-6 d: 03/0 d: 04/0	313 31985 3/2021 3/2021	
Conta Site A <i>Festin</i>	act: \ddres ng cari	s: ried out at ii	Josh Soutl 2 <i>Anal</i>	Young h Farm, ' <i>ytical Lin</i>	Wickwar hited, ul.	Pionie	erow 3	39, 41	-711 Rud	da Sla	aska, Polai	nd		L	Dat Sar	e Teste npled B	d: 17/0 y: Clie)3/2021 nt	
F est aboration lole N Samp Soil D Samp	Resu ratory No.: ole Ref Descrip	ults: Reference: ference: otion: eparation:	1799 TP24 Not 0 Brow	598 Given In to grey	/ CLAY ural cond	ition								l D	Depth epth I Sam	n Top [n Base [n ple Typ	n]: 1.50 n]: Not e: D) Given	
As	Rece Cont	eived Moist ent [W] %	ure		Liquid I [WL]	imit %			Pla [stic Wp]	Limit	Т	Plas	sticity Inde	ex		% Pa BS	assing 4 Test Si	25µm ieve
		35			71				•	27				44				100	
	80	1																	7
	70	-													_	U lin	e		
	60	_																	
~	50 ·	-											/		CIV	A	line		
TY INDE)	40									_ 1		сін		•					-
PLASTICI	30	-							СІМ						SiV				
	20	-			- C	;iL	_			/	;	SiH							
	10	-	C	IL - SiL					SiM	_									
	0	0	10	2	.0	30	,	4	10	5()	60	7	0	80		90	1	.00
		Legend, ba	ased o	n BS EN	ISO 146	88 2:2	2018	Geote	LIC echnical i	QUID nvest	LIMIT	l testing	ı – Ider	ntification	and c	lassifica	ation of	soil	
			CI Si	Clay Silt		Plas L M H V O	sticity Lov Me Hig Ver Org	w dium gh ry higl ganic	h		Liquid Lin below 35 35 to 50 50 to 70 exceedin append t	nit g 70 o classi [:]	ficatior	n for orgar	nic ma	aterial (eg CIH	0)	

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i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Client Conta Site A	t: t Address: act: Address:	Clark 129 (BS1 (Josh Soutt	ebond Cumberland F SUY Young 1 Farm, Wick	Road, Bristo war	ol,⊡	711 Ruda S	laska Polan	d	Client J Dat Dat S	Reference ob Number e Sampled e Received pate Tested campled By	B05313 21-61985 03/03/202 04/03/202 17/03/202 Client	1 1 1
Test Labor Hole I Samp Soil D	Results ratory Refe No.: Die Refere Description	erence: 1799 TP25 nce: Not G n: Brow	599 Siven n to grey CLA	AY condition	58 53, 41 -		iaska, i oran	<u>u</u>	Dep Dept Sa	oth Top [m] h Base [m] ample Type	: 1.00 : Not Given : D	
As	Receive	d Moisture	Liqu	uid Limit		Plastic	Limit	Pla	sticity Index		% Passing	∣ 425µm Siovo
	Content 38	[VV] % 8		85		L VV D 33] %		52		100)
PLASTICITY INDEX	80 70 60 50 40 30 20 10 0			CIL		CIM	S	H H	C S	V A li	ne	
	U	gend, based or Cl Si	20 n BS EN ISO Clay Silt	30 14688 2:20 Plasti L M H V O)18 Geoted icity Low Medium High Very high Organic	LIQUIE	D LIMIT stigation and Liquid Lin below 35 35 to 50 50 to 70 exceeding append to	testing – Ide hit g 70 o classificatio	on for organic	U I classificat material (e	90 ion of soil g CIHO)	100

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Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client	:		Clarkebo	ond							Client Ref	erence:	B05313	
Client	Addro	ess:	129 Cun	nberla	nd Road, Br	istol,□					Job N Date Sa	lumber: ampled:	21-61985 03/03/202	1
			BS1 60	Y							Date Re	eceived:	04/03/202	1
Conta	act:		Josh Yo	ung							Date	Tested:	17/03/202	1
Site A	ddres	ss:	South Fa	arm, V	Vickwar						Sam	oled By:	Client	
Testir	ng car	ried out at i	2 Analytic	al Lim	ited, ul. Pior	ierow	39, 41	-711 Ruda S	laska, Polan	d				
Test	Resu	ults:												
Labor	atory	Reference:	1799600)							Depth 1	Гор [m]:	2.50	
Hole	No.:		TP25								Depth Ba	ase [m]:	Not Given	
Samp	le Re	ference:	Not Give	en							Sampl	e Type:	D	
Soil D)escrip	otion:	Black to	brow	n CLAY									
Samp	le Pre	eparation:	Tested i	n natu	ral condition	l								
As	Rece Cont	eived Moist ent [W] %	ure		Liquid Limi	t		Plastic [Wr	Limit	Pla	sticity Index [lp] %	%	6 Passing BS Test	, 425µm Sieve
		29			65			3	3		32		100)
.														
	80	1												
	70											U line		
	60	-												_
														1
	50										Civ			
	50													
ĔX									1					
Z	40								6	<u>ин</u>				_
≿									Ĭ					
D											Siv			
AST	30	1												-
PL							<u></u>	CIM						
	20													
	20								S	SIH				
					CIL									
	10		_											_
			CIL -	SiL	$ \longrightarrow $			SiM						
	_				SiL									
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		0	10	2	0 3	0	4	-0	50 6	60	70 80	9	0	100
								LIQUI	D LIMIT					
		Legend, ba	sed on B	S EN	ISO 14688 2	2:2018	Geote	chnical inve	stigation and	testing – Ide	ntification and cla	ssificatio	n of soil	
		0 /			PI	asticity	/		Liquid Lin	nit				
			CI C	lay	L	Lo	W		below 35					
			Si S	Silt	М	Me	edium		35 to 50					
					H	Hi	gh mar Eirei	h	50 to 70	~ 70				
					V	Ve Or	ery higi rappie	n	exceeding	y /U A classificatio	n for organia mat	arial (ac		
					0	Or	yanic		append to	o classificatio	n for organic mate	enai (eg		
Note:	Moist	ure Content	by BS 13	<u>377</u> -2:	1990: Claus	e 3.2								

Remarks:

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PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

Szczepan Bielatowicz



Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client	:		Clarke	ebond									CI	ent Ref	erence:	B05313		
Client	Addre	SS:	129 C BS1 6	umberla iUY	and Road	, Bris	stol,□							Job N Date Sa	umber: ampled:	21-6198 03/03/20	5 21 21	
Conta	act [.]		Josh	Youna									l	Date Re	Ceivea: Tested	17/03/20	21	
Site A	ddress		South	Farm.	Wickwar									Samr	led By:	Client		
Testir	na carri	ied out at i2	Analv	, tical Lin	nited. ul.	Pioni	erow 39	. 41-	-711 Ruda	Slaska. Po	oland							
Test	Resu	lts:			,	-	,	,										
Labor	atory F	Reference:	17996	601										Depth T	op [m]:	0.50		
Hole	No.:		TP26										C	, epth Ba	ise [m]:	Not Give	n	
Samp	le Refe	erence:	Not G	iven										Sample	e Type:	D		
Soil D	escript	tion:	Brown	i to grey	/ CLAY													
Samp	ole Prep	paration:	Teste	d in nati	ural cond	ition												
As	Recei Conte	ved Moist ent [W] %	ure		Liquid I [WL]	imit %			Plast [W	c Limit p] %		Plas	sticity Ind [Ip] %	ex	o ,	% Passir BS Tes	ig 425µm t Sieve	n
		36			62					30			32			1(00	
PLASTICITY INDEX	80 - 70 - 60 - 50 - 40 - 30 -						, _ [CIM		CI			civ	J line	ne		
					ć	IL												
	10 -						\checkmark		SiM	-								
				L - SIL		iL			CIIII									
	0 -					-		_						-				
	(כ	10	2	0	30)	4	0	50	60) 7	70	80	g	90	100	
									LIQU	ID LIMIT								
	I	Legend, ba	sed on Cl Si	BS EN Clay Silt	ISO 146	88 2: Pla L M H V O	2018 Ge sticity Low Mediu High Very Orga	eote um high nic	chnical inv	estigation Liquic below 35 to 50 to excee apper	and te I Limit 35 50 70 eding ⁻ nd to c	esting – Ide t 70 classificatio	ntification n for organ	and clas	ssificatic erial (eg	on of soil CIHO)		
Note:	Moistu	ire Content	by BS	1377-2	: 1990: C	lause	e 3.2											

Remarks:

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PL Deputy Head of Geotechnical Section

for and on behalf of i2 Analytical Ltd

Szczepan Bielatowicz



Client:

Clarkebond

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

Client Reference: B05313



Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client Conta Site A Testir	t Addre act: Addres:	ess: s: ried out at i/	129 Cumberl BS1 6UY Josh Young South Farm,	and Road, Bri Wickwar	stol,□ ierow 39_4	1-711 Ruda .	Slaska Poland		Job Nun Date Sam Date Rece Date Te Sample	nber: 21-61985 pled: 03/03/2021 vived: 04/03/2021 sted: 17/03/2021 d By: Client
Test Labor Hole Samp Soil D	Resu ratory F No.: ble Ref Descrip	i lts: Reference: erence: ition:	1799602 TP26 Not Given Brownish gre	y to dark grey	CLAY		51000, Y 01010		Depth Top Depth Base Sample 1) [m]: 2.00 ≱ [m]: Not Given Гуре: D
Samp	ole Pre	paration:	Tested in nat	ural condition	. .	Planti	o Limit	Plaatiai	tu Indox	% Descing 425um
AS	Conte	ent [W] %	ure	[WL]%	L	Plasu [Wi	o]%	Plastici [lp] %	BS Test Sieve
		31		71		3	31	4	.0	100
PLASTICITY INDEX	 80 70 60 50 50 40 30 20 					CIM	C	H	CIV	A line
	10 -		CIL - SIL	SiL		SiM				
	0 -	 0	10 3	+		+ 10	50 60		80	90 100
		Legend, ba	sed on BS EN	I ISO 14688 2 Pla	:2018 Geoto asticity	LIQUI echnical inve	D LIMIT estigation and to Liquid Limi	esting – Identific t	cation and classi	ification of soil
			Si Silt	L M H V O	Low Medium High Very hig Organic	h	35 to 50 50 to 70 exceeding append to	70 classification for	⁻ organic materia	al (eg CIHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Szczepan Bielatowicz PL Deputy Head of Geotechnical Section

SUMMARY REPORT

Summary of Classification Test Results

Tested in Accordance with:

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

Client Reference: B05313

Job Number: 21-61985

Date Received: 04/03/2021

Sampled By: Client

Date Tested: 17/03/2021

Date Sampled: 01/03 - 02/03/2021



 Client:
 Clarkebond
 Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN

 Client Address:
 129 Cumberland Road, Bristol,□
 T7892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

 Contact:
 Josh Young

Site Address: South Farm, Wickwar Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

			Sample	9				ntent	tent		Atte	rberg			Density		#	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	Moisture Co [W]	Water Cont [W]	% Passing 425um	WL	Wp	lp	bulk	dry	PD	Total Porosity	
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%	
1799575	TP06	Not Given	0.50	Not Given	D	Light brown to brown CLAY	Atterberg 1 Point	30		100	66	26	40					
1799576	TP07	Not Given	2.00	Not Given	D	Brown to grey slightly sandy CLAY	Atterberg 1 Point	33		100	58	30	28					
1799577	TP08	Not Given	1.00	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	31		100	71	35	36					
1799578	TP09	Not Given	1.50	Not Given	D	Light grey slightly gravelly slightly sandy CLAY	Atterberg 1 Point	22		96	52	25	27					
1799579	TP11	Not Given	1.00	Not Given	D	Brown to grey slightly gravelly slightly sandy CLAY	Atterberg 1 Point	20		91	50	21	29					
1799580	TP11	Not Given	2.00	Not Given	D	Brown to grey slightly gravelly slightly sandy CLAY	Atterberg 1 Point	24		73	53	23	30					
1799581	TP12	Not Given	1.00	Not Given	D	Brown to grey slightly sandy CLAY	Atterberg 1 Point	30		100	59	29	30					
1799582	TP12	Not Given	2.50	Not Given	D	Brownish grey to dark grey CLAY	Atterberg 1 Point	33		100	70	33	37					
1799583	TP13	Not Given	2.00	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	33		100	63	31	32					
1799584	TP14	Not Given	0.50	Not Given	D	Brownish grey CLAY	Atterberg 1 Point	48		100	94	30	64					

Note: # Non accredited; NP - Non plastic

Comments:

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Szczepan Bielatowicz

PL Deputy Head of Geotechnical Section

SUMMARY REPORT

Summary of Classification Test Results

Tested in Accordance with:

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

Client Reference: B05313

Job Number: 21-61985

Date Received: 04/03/2021

Sampled By: Client

Date Tested: 17/03/2021

Date Sampled: 02/03 - 03/03/2021



 Client:
 Clarkebond
 Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN

 Client Address:
 129 Cumberland Road, Bristol,□
 T7892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

 Contact:
 Josh Young

Site Address: South Farm, Wickwar Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

			Sample	9				ntent	tent		Atte	rberg			Density		#	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	Moisture Co [W]	Water Cont [W]	% Passing 425um	WL	Wp	lp	bulk	dry	PD	Total Porosity	
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%	1
1799585	TP14	Not Given	1.50	Not Given	D	Brownish grey CLAY	Atterberg 1 Point	43		100	75	31	44					
1799586	TP15	Not Given	2.00	Not Given	D	Grey to brown slightly gravelly CLAY	Atterberg 1 Point	30		98	71	33	38					
1799587	TP16	Not Given	1.50	Not Given	D	Brown to grey slightly gravelly CLAY	Atterberg 1 Point	30		99	66	30	36					
1799588	TP17	Not Given	1.00	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	33		100	72	33	39					
1799589	TP18	Not Given	0.50	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	31		100	70	28	42					
1799590	TP18	Not Given	1.00	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	30		100	71	27	44					
1799591	TP19	Not Given	2.00	Not Given	D	Black to brownish grey CLAY	Atterberg 1 Point	32		100	68	34	34					
1799592	TP20	Not Given	2.50	Not Given	D	Black to brown CLAY	Atterberg 1 Point	42		100	78	32	46					
1799593	TP21	Not Given	1.10	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	34		100	74	29	45					
1799594	TP22	Not Given	0.50	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	33		100	63	28	35					

Note: # Non accredited; NP - Non plastic

Comments:

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Szczepan Bielatowicz

PL Deputy Head of Geotechnical Section

SUMMARY REPORT

Summary of Classification Test Results

Tested in Accordance with:

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB

Client Reference: B05313

Job Number: 21-61985

Date Sampled: 03/03/2021

Date Received: 04/03/2021

Sampled By: Client

Date Tested: 17/03/2021



Client: Clarkebond Client Address: Clarkebond Road, Bristol, D BS1 6UY Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Contact:Josh YoungSite Address:South Farm, WickwarTesting carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

			Sample	e				ntent	tent		Atte	rberg			Density		#	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	Moisture Co [W]	Water Cont [W]	% Passing 425um	WL	Wp	lp	bulk	dry	PD	Total Porosity	
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%	
1799596	TP23	Not Given	1.00	Not Given	D	Brown to grey slightly gravelly CLAY	Atterberg 1 Point	35		95	62	27	35					
1799597	TP23	Not Given	2.00	Not Given	D	Brownish grey slightly gravelly sandy CLAY	Atterberg 1 Point	21		90	41	27	14					
1799598	TP24	Not Given	1.50	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	35		100	71	27	44					
1799599	TP25	Not Given	1.00	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	38		100	85	33	52					
1799600	TP25	Not Given	2.50	Not Given	D	Black to brown CLAY	Atterberg 1 Point	29		100	65	33	32					
1799601	TP26	Not Given	0.50	Not Given	D	Brown to grey CLAY	Atterberg 1 Point	36		100	62	30	32					
1799602	TP26	Not Given	2.00	Not Given	D	Brownish grey to dark grey CLAY	Atterberg 1 Point	31		100	71	31	40					

Note: # Non accredited; NP - Non plastic

Comments:

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Szczepan Bielatowicz

PL Deputy Head of Geotechnical Section



Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



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Tes	sting c	arried o	out at i	2 An	alytic	cal Limi	ted,	ul. Pi	ionie	eron	/ 39, 4	41-7	11 F	Ruda	a Sl	ask	a, Po	olan	d																	
Te	st Re	sults:																																		
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for and on behalf of i2 Analytical Ltd

PL Deputy Head of Geotechnical Section

GF 100.20

Date Reported: 23/03/2021

Szczepan Bielatowicz

Sengun Guldan

Signed:

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Remarks:

0.063

62 Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	91		
0.6	82		
0.425	78		
0.3	74		
0.212	70		
0.15	67	1	





Appendix F Chemical Test Certificates



Josh Young Clarkebond 129 Cumberland Road Bristol BS1 6UY



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

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

e: joshyoung@clarkebond.com

Analytical Report Number : 21-60996

Proiect / Site name:	South Farm	Samples received on:	04/03/2021
Your job number:	B05313	Samples instructed on/ Analysis started on:	08/03/2021
Your order number:	PO9735	Analysis completed by:	18/03/2021
Report Issue Number:	1	Report issued on:	18/03/2021
Samples Analysed:	15 soil samples		

Durado Signed:

Joanna Wawrzeczko Technical Reviewer (Reporting Team) 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
eachates	- 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: 21-60996 Project / Site name: South Farm

Your Order No: PO9735

Lab Sample Number				1794100	1794101	1794102	1794103	1794104
Sample Reference				TP06	TP07	TP08	TP13	TP15
Sample Number				None Supplied				
Depth (m)				0.05	2.00	1.00	1.00	0.60
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				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	27	21	19	19	24
Total mass of sample received	kg	0.001	NONE	0.30	0.40	0.40	0.40	0.30

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.6	7.2	7.6	7.4	7.4
Total Sulphate as SO4	%	0.005	MCERTS	-	1.08	0.025	0.038	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.041	0.18	0.042	0.089	0.016
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	176	42.3	89.2	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	2.2	< 0.5	4.2	-
Total Sulphur	%	0.005	MCERTS	-	0.436	0.012	0.020	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	1.5	1.6	< 0.5	-
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	0.15	0.16	< 0.05	-
Organic Matter	%	0.1	MCERTS	8.7	-	-	-	3.8
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	< 2.0	< 2.0	< 2.0	-

Speciated PAHs

TS < 0.05	- - - - - - -	- - - - - - - - -	- - - - - - - - -	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
TS < 0.05 TS < 0.05		- - - - - - -	- - - - - - -	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
< 0.05 TS < 0.05	- - - - -	- - - - -	- - - - -	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05
TS < 0.05 TS < 0.05	- - - - - -	- - - - -	- - - -	< 0.05 < 0.05 < 0.05 < 0.05
TS < 0.05 TS < 0.05 TS < 0.05 TS < 0.05 TS < 0.05	- - -	- - - -		< 0.05 < 0.05 < 0.05
TS < 0.05 TS < 0.05 TS < 0.05	- - -		-	< 0.05 < 0.05
TS < 0.05 TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	. 0.05
TS < 0.0F			-	< 0.05
< 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
TS < 0.05	-	-	-	< 0.05
ג ז ז ז	KTS < 0.05 RTS < 0.05	KTS < 0.05 - KTS < 0.05	XTS < 0.05 - - XTS < 0.05	KTS < 0.05 - - RTS < 0.05

Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	-	-	-	< 0.80





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: PO9735

Lab Sample Number

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Sample Reference				TP06	TP07	TP08	TP13	TP15
Sample Number				None Supplied				
Depth (m)				0.05	2.00	1.00	1.00	0.60
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	-	-	-	20
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	-	-	-	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	-	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	-	-	-	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	-	-	-	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	73	-	-	-	57
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	-	-	-	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	-	-	-	300
		_						
Magnesium (water soluble)	mg/kg	5	NONE	-	21	30	22	-
Magnesium (leachate equivalent)	mg/I	2.5	NONE	-	10	15	11	-
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-

1794100

1794101

1794102

1794103

TPH C6 - C40 mg/kg 10 NONE < 10 mg/kg 0.001 MCERTS < 0.001 TPH-CWG - Aliphatic >EC5 - EC6 ---0.001 MCERTS TPH-CWG - Aliphatic >EC6 - EC8 mg/kg < 0.001 _ -TPH-CWG - Aliphatic >EC8 - EC10 mg/kg 0.001 MCERTS < 0.001 ---mg/kg MCERTS TPH-CWG - Aliphatic >EC10 - EC12 1 < 1.0 TPH-CWG - Aliphatic >EC12 - EC16 mg/kg 2 MCERTS < 2.0 -MCERTS TPH-CWG - Aliphatic >EC16 - EC21 mg/kg 8 _ ---< 8.0 TPH-CWG - Aliphatic >EC21 - EC35 mg/kg 8 MCERTS < 8.0 NONE mg/kg 8.4 TPH-CWG - Aliphatic > EC35 - EC44 -< 8.4 MCERTS mg/kg 10 TPH-CWG - Aliphatic (EC5 - EC35) < 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	< 10





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

l ah Sample Number				1794100	1794101	1794102	1794103	1794104
Sample Reference				TP06	TP07	TP08	TP13	TP15
Sample Number				None Supplied				
Denth (m)				0.05	2 00	1 00	1 00	0.60
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				None Supplied				
		E		None Supplied				
Analytical Parameter (Soil Analysis)	Units	mit of detection	Accreditation Status					
Pesticides		-						
Alachlor	ua/ka	10	NONE	< 10	_	_	_	_
	ua/ka	10	NONE	< 10	-	_	-	-
Azinnhos-ethyl	ua/ka	10	NONE	< 10				
Azinphos-eetiyi	ua/ka	10	NONE	< 10				
BHC-alpha (benzene bevachloride)	ua/ka	10	NONE	< 10	_			
BHC-beta	ua/ka	10	NONE	< 10	_			
	ua/ka	10	NONE	< 10	-	-	-	-
BHC gamma (Lindano, gamma HCH)	µg/kg	10	NONE	< 10	-	-	-	-
Bifenthrin	µg/kg	10	NONE	< 10				
Carbonhenothion	ug/ka	10	NONE	< 10	_	-	-	-
Chlordane-cis	۲۳/۳9 ۱۱۵/ka	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
Chiordane-trans	µg/kg	10	NONE	< 10	-	-	-	-
Chloretheleril	µg/kg	20	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 20	-	-	-	-
Chiorpyritos	µg/kg	10	NONE	< 10	-	-	-	-
Cynuthrin (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
Cynaiothrin (Lambda)	µg/kg	10	NONE	< 10	-	-	-	-
Cypermetnrin (Sum)	µg/kg	10	NONE	< 10	-	-	-	-
DDD-0,p	µу/ку	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
DDE-o,p'	µg/kg	10	NONE	< 10	-	-	-	-
DDE-p,p	µу/ку	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
DDT-p,p	µg/kg	10	NONE	< 10	-	-	-	-
Deitametrin	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	-	-	-	-
Dieidrin	µg/kg	10	NONE	< 10	-	-	-	-
Dimethoate	µg/kg	10	NONE	< 10	-	-	-	-
Dimensions	µg/kg	10	NONE	< 10	-	-	-	-
Endosulfan I (apna isomer)	µg/kg	10	NONE	< 10	-	-	-	-
Endocultan II (Deta Isomer)	µg/Kg	10	NONE	< 10	-	-	-	-
	µg/kg	20	NONE	< 10	-	-	-	-
Enarin Endrin eldebude	µg/kg	10	NONE	< 20	-	-	-	-
Endrin aldenyde	µg/kg	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
Ethion	µg/kg	10	NONE	< 10	-	-	-	-
Etrimitos	µg/kg	10	NONE	< 10	-	-	-	-
	µy/ky	10	NONE	< 10	-	-	-	-
	µg/Kg	10	NONE	< 10	-	-	-	-
renvalerate (SUIII)	µg/Kg	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
	µy/Kg	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
	µg/kg	10	NONE	< 10	-	-	-	-
ISOURIN	µg/kg	20	NONE	< 20	-	-	-	-
Indiau II/UT	μg/Kg	10	NONE	< 10	-	-	-	-
Methoxychlor p.n'-	ug/ka	20	NONE	< 10	-	-	-	-





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

Lab Sample Number				1794100	1794101	1794102	1794103	1794104
Sample Reference			TP06	TP07	TP08	TP13	TP15	
Sample Number Depth (m) Date Sampled Time Taken Analytical Parameter (Soil Analysis) Image: Constraint of the second seco				None Supplied				
Depth (m)				0.05	2.00	1.00	1.00	0.60
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				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	-	-	-	-
Herbicides								
Aldicarb	µg/kg	10	NONE	< 10	-	-	-	-
Aldicarb Sulfone	µg/kg	10	NONE	< 10	-	-	-	-
		50	NONE					4

Aldicarb	µg/kg	10	NONE	< 10	-	-	-	-
Aldicarb Sulfone	µg/kg	10	NONE	< 10	-	-	-	-
Aldicarb Sulfoxide	µg/kg	50	NONE	< 50	-	-	-	-
Atrazine	µg/kg	10	NONE	< 10	-	-	-	-
Carbaryl	µg/kg	10	NONE	< 10	-	-	-	-
Carbofuran	µg/kg	10	NONE	< 10	-	-	-	-
Carbofuran, 3-OH	µg/kg	20	NONE	< 20	-	-	-	-
Chlortoluron	µg/kg	10	NONE	< 10	-	-	-	-
Cyanazine	µg/kg	10	NONE	< 10	-	-	-	-
Diflubenzuron	µg/kg	50	NONE	< 50	-	-	-	-
Diuron	µg/kg	10	NONE	< 10	-	-	-	-
Fluometuron	µg/kg	10	NONE	< 10	-	-	-	-
Isoproturon	µg/kg	10	NONE	< 10	-	-	-	-
Linuron	µg/kg	20	NONE	< 20	-	-	-	-
Methiocarb	µg/kg	10	NONE	< 10	-	-	-	-
Methomyl	µg/kg	10	NONE	< 10	-	-	-	-
Oxamyl	µg/kg	10	NONE	< 10	-	-	-	-
Prometryn	µg/kg	10	NONE	< 10	-	-	-	-
Propazine	µg/kg	10	NONE	< 10	-	-	-	-
Propoxur	µg/kg	10	NONE	< 10	-	-	-	-
Siduron	µg/kg	10	NONE	< 10	-	-	-	-
Simazine	µg/kg	10	NONE	< 10	-	-	-	-
Tebuthiuron	µg/kg	10	NONE	< 10	-	-	-	-
Terbuthylazine	µg/kg	10	NONE	< 10	-	-	-	-
Terbutryn	µg/kg	10	NONE	< 10	-	-	-	-
Thiadiazuron	µg/kg	10	NONE	< 10	-	-	-	-
Trietazine	µg/kg	10	NONE	< 10	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample





Analytical Report Number: 21-60996 Project / Site name: South Farm

Your Order No: PO9735

Lab Sample Number				1794105	1794106	1794107	1794108	1794109
Sample Reference				TP16	TP17	TP18	TP20	TP21
Sample Number Depth (m) Date Sampled Fime Taken				None Supplied				
Depth (m)				0.50	0.40	1.00	1.00	0.10
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				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	22	17	20	21	21
Total mass of sample received	kg	0.001	NONE	0.70	0.40	0.30	0.30	0.30

General Inorganics

-								
pH - Automated	pH Units	N/A	MCERTS	7.4	7.5	7.6	-	6.6
Total Sulphate as SO4	%	0.005	MCERTS	-	-	0.051	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.033	0.028	0.16	-	0.018
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	158	-	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	1.8	-	-
Total Sulphur	%	0.005	MCERTS	-	-	0.027	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	< 0.5	-	-
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	< 0.05	-	-
Organic Matter	%	0.1	MCERTS	5.1	6.4	-	-	7.5
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	< 2.0	-	-

Speciated PAHs

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

Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	-	-	< 0.80





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: PO9735

Lab Sample Number

Sample NumberJone SuppliedNone	Sample Reference		TP16	TP17	TP18	TP20	TP21		
Depth (m)UNICAL0.500.401.001.000.10Date SampledUNICAL02/03/202102/03/202102/03/202102/03/202102/03/202102/03/2021Date SampledUNICALNone SuppiledNone SuppiledNone SuppiledNone SuppiledNone SuppiledNone SuppiledNone SuppiledTime TakenFrightSightSightSightSightNone SuppiledNone SuppiledNone SuppiledNone SuppiledNone SuppiledAnalytical Parameter (Soil Analysis)SightFrightSightSightSightNone SuppiledNone SuppiledNone SuppiledNone SuppiledNone SuppiledHeavy Metals / MetalloidsImageImageNone SuppiledNone Suppiled <th< th=""><th>Sample Number</th><th></th><th></th><th></th><th>None Supplied</th><th>None Supplied</th><th>None Supplied</th><th>None Supplied</th><th>None Supplied</th></th<>	Sample Number				None Supplied				
Date SampledUSU/03/202102/03/202102/03/202102/03/202102/03/202102/03/2021Time TakenVNone SuppliedNone Sup	Depth (m)				0.50	0.40	1.00	1.00	0.10
Time TakenvertNone SuppliedNone Supplied	Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Analytical Parameter (Soil Analysis) Fr br Soil Analysis) Fr br Soil Analysis Fr Br Br Br Br Br Br Br Br Br Br Br Br Br	Time Taken				None Supplied				
Heavy Metals / Metalloids Image Arsenic (aqua regia extractable) mg/kg 1 MCERTS 2.2 1.7 - 3.3 47 Broon (water soluble) mg/kg 0.2 MCERTS - - 0.6 - Cadmium (aqua regia extractable) mg/kg 0.2 MCERTS < 0.2 1.3 - < 0.2 < 0.2 Chromium (hexavalent) mg/kg 1 MCERTS 2.4.0 < 4.0 - < 4.0 < 4.0 Chromium (aqua regia extractable) mg/kg 1 MCERTS 2.9 40 - < 4.0 31 Lead (aqua regia extractable) mg/kg 1 MCERTS 2.9 40 - < 0.3 < 0.3 Nckel (aqua regia extractable) mg/kg 1 MCERTS 2.8 2.4 - < 0.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0 < 1.0	Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Arsenic (aqua regia extractable) mg/kg 1 MCRTS 22 17 - 33 47 Boron (water soluble) mg/kg 0.2 MCRTS - - 0 0.0 - Cadmium (aqua regia extractable) mg/kg 0.2 MCRTS < 0.2 1.3 < <<0.2 <0.2 Chromium (hexavalent) mg/kg 1 MCRTS 2,4.0 <4.0 < <<0.2 <0.2 <0.2 Chromium (aqua regia extractable) mg/kg 1 MCRTS 2,9 4,0 < 4,2 31 Lad (aqua regia extractable) mg/kg 1 MCRTS 2,9 4,0 4,2 31 Lad (aqua regia extractable) mg/kg 1 MCRTS 2,40 6,6 350 Mercury (aqua regia extractable) mg/kg 1 MCRTS <1,00 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0 <1,0	Heavy Metals / Metalloids								
Boron (water soluble) mg/kg 0.2 MCERTS - - - - 0.6 - Cadmium (aqua regia extractable) mg/kg 0.2 MCERTS < 0.2	Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	17	-	33	47
Cadmium (aqua regia extractable) mg/kg 0.2 MCERTS < 0.2 1.3 - < 0.2 < 0.2 Chromium (hexavalent) mg/kg 4 MCERTS 3.0 - - < 4.0	Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	0.6	-
Chromium (hexavalent) mg/kg 4 MCERTS < < 4.0 < 4.0 - . < < 4.0 Chromium (aqua regia extractable) mg/kg 1 MCERTS 39 30 - 41 27 Copper (aqua regia extractable) mg/kg 1 MCERTS 29 40 - 42 31 Led (aqua regia extractable) mg/kg 1 MCERTS 29 40 - 42 31 Led (aqua regia extractable) mg/kg 1 MCERTS <0.3	Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.3	-	< 0.2	< 0.2
Chromium (aqua regia extractable) mg/kg 1 MCERTS 39 30 - 41 27 Copper (aqua regia extractable) mg/kg 1 MCERTS 29 40 - 42 31 Lead (aqua regia extractable) mg/kg 1 MCERTS 140 97 - 630 350 Mercury (aqua regia extractable) mg/kg 0.3 MCERTS <0.3	Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	-	-	< 4.0
Copper (aqua regia extractable) mg/kg 1 MCERTS 29 40 - 42 31 Lead (aqua regia extractable) mg/kg 1 MCERTS 140 97 - 556 350 Mercury (aqua regia extractable) mg/kg 0.3 MCERTS <0.3	Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	30	-	41	27
Lead (aqua regia extractable) mg/kg 1 MCERTS 140 97 - 56 350 Mercury (aqua regia extractable) mg/kg 0.3 MCERTS <0.3	Copper (aqua regia extractable)	mg/kg	1	MCERTS	29	40	-	42	31
Mercury (aqua regia extractable) mg/kg 0.3 MCERTS < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3 < 0.3	Lead (aqua regia extractable)	mg/kg	1	MCERTS	140	97	-	56	350
Nickel (aqua regia extractable) mg/kg 1 MCERTS 28 24 - 60 13 Selenium (aqua regia extractable) mg/kg 1 MCERTS <1.0	Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	< 0.3
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 450 430 - 2500 300 Magnesium (water soluble) mg/kg 5 NONE - - 664 - - Magnesium (leachate equivalent) mg/l 2.5 NONE - - 32 - - Monoaromatics & Oxygenates mg/kg 1 MCERTS <1.0	Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	24	-	60	13
Zinc (aqua regia extractable) mg/kg 1 MCERTS 450 430 - 2500 300 Magnesium (water soluble) mg/kg 5 NONE - - 64 - - Magnesium (leachate equivalent) mg/l 2.5 NONE - - 32 - - Monoaromatics & Oxygenates mg/kg 1 MCERTS <1.0 <1.0 - <td>Selenium (aqua regia extractable)</td> <td>mg/kg</td> <td>1</td> <td>MCERTS</td> <td>< 1.0</td> <td>< 1.0</td> <td>-</td> <td>< 1.0</td> <td>< 1.0</td>	Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Magnesium (water soluble) mg/kg 5 NONE - - 64 - - Magnesium (leachate equivalent) mg/l 2.5 NONE - 32 - - Monoaromatics & Oxygenates Momeanum MCERTS < 1.0 < 1.0 -	Zinc (aqua regia extractable)	mg/kg	1	MCERTS	450	430	-	2500	300
Magnesium (leachate equivalent) mg/l 2.5 NONE - 32 - - Monoaromatics & Oxygenates Benzene μg/kg 1 MCERTS <1.0	Magnesium (water soluble)	mg/kg	5	NONE	-	-	64	-	-
Monoaromatics & Oxygenates Benzene μg/kg 1 MCERTS < 1.0	Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	32	-	-
Benzene μg/kg 1 MCERTS < 1.0	Monoaromatics & Oxygenates	_							
Toluene μg/kg 1 MCERTS < 1.0 < 1.0 - <td>Benzene</td> <td>µg/kg</td> <td>1</td> <td>MCERTS</td> <td>< 1.0</td> <td>< 1.0</td> <td>-</td> <td>-</td> <td>-</td>	Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
μg/kg 1 MCERTS < 1.0 < -	Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
μg/kg 1 MCERTS < 1.0 -	Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
φg/kg 1 MCERTS < 1.0 - 49 - - 49 - - - - - - - 49 - - - - - - - - - - 10 <th10< th=""> <th10< th=""></th10<></th10<>	p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether) μg/kg 1 MCERTS < 1.0 < - 49 - - - - - - 49 - <t< td=""><td>o-xylene</td><td>µg/kg</td><td>1</td><td>MCERTS</td><td>< 1.0</td><td>< 1.0</td><td>-</td><td>-</td><td>-</td></t<>	o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Petroleum Hydrocarbons TPH C10 - C40 mg/kg 10 MCERTS - - 49	MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
TPH C10 - C40 mg/kg 10 MCERTS _ _ _ _ 49	Petroleum Hydrocarbons								
	TPH C10 - C40	mg/kg	10	MCERTS	-	-	-	-	49

1794105

1794106

1794107

1794108

TPH C10 - C40	mg/kg	10	MCERTS	-	-	-	-	49			
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	-	-	-	-	49			
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	-			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	-			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	-			
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	-			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-	-	-			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	-			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	-	-	-			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	-	-	-			
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	-	-	-			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-	-	-			





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

Lab Sample Number		1794105	1794106	1794107	1794108	1794109		
Sample Reference				TP16	TP17	TP18	TP20	TP21
Sample Number				None Supplied				
Denth (m)					0.40	1.00	1.00	
Depth (iii)				0.30	02/02/2021	02/02/2021	02/02/2021	0.10
Date Sampleu Time Taken				Nono Supplied				
	-	-		None Supplied				
		limi	Ac					
Analytical Parameter	ç	tof	St					
(Soil Analysis)	nits	det	dita					
		ect	s					
		ion	n					
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	ua/ka	10	NONE	-	-	-	-	-
Chlordane-trans	ua/ka	10	NONE	-	-	-	-	-
Chlorfenvinnhos	ua/ka	10	NONE	_	-	-	-	-
Chlorothalonil	ua/ka	20	NONE	_	-	_	_	_
Chlorovrifos	ua/ka	10	NONE				-	
Cullor Pyrillos	ua/ka	10	NONE	_	_	_	_	_
Cyhlathin (Sall)	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
DDT-p,p"	µg/kg	10	NONE	-	-	-	-	-
Deitametrin	µg/kg	10	NONE	-	-	-	-	-
Demeton-O	µу/ку	10	NONE	-	-	-	-	-
Demeton-S	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
Dichlorobenzonitrile, 2,6-	µg/kg	10	NONE	-	-	-	-	-
Dichlorvos	µд/кд	10	NONE	-	-	-	-	-
Dieldrin	µд/кд	10	NONE	-	-	-	-	-
Dimethoate	µд/кд	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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Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

Lab Sample Number				1794105	1794106	1794107	1794108	1794109
Sample Reference				TP16	TP17	TP18	TP20	TP21
Sample Number				None Supplied				
Depth (m)				0.50	0.40	1.00	1.00	0.10
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
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	-	-	-	-	-

Herbicides

Aldicarb	µg/kg	10	NONE	-	-	-	-	-
Aldicarb Sulfone	µg/kg	10	NONE	-	-	-	-	-
Aldicarb Sulfoxide	µg/kg	50	NONE	-	-	-	-	-
Atrazine	µg/kg	10	NONE	-	-	-	-	-
Carbaryl	µg/kg	10	NONE	-	-	-	-	-
Carbofuran	µg/kg	10	NONE	-	-	-	-	-
Carbofuran, 3-OH	µg/kg	20	NONE	-	-	-	-	-
Chlortoluron	µg/kg	10	NONE	-	-	-	-	-
Cyanazine	µg/kg	10	NONE	-	-	-	-	-
Diflubenzuron	µg/kg	50	NONE	-	-	-	-	-
Diuron	µg/kg	10	NONE	-	-	-	-	-
Fluometuron	µg/kg	10	NONE	-	-	-	-	-
Isoproturon	µg/kg	10	NONE	-	-	-	-	-
Linuron	µg/kg	20	NONE	-	-	-	-	-
Methiocarb	µg/kg	10	NONE	-	-	-	-	-
Methomyl	µg/kg	10	NONE	-	-	-	-	-
Oxamyl	µg/kg	10	NONE	-	-	-	-	-
Prometryn	µg/kg	10	NONE	-	-	-	-	-
Propazine	µg/kg	10	NONE	-	-	-	-	-
Propoxur	µg/kg	10	NONE	-	-	-	-	-
Siduron	µg/kg	10	NONE	-	-	-	-	-
Simazine	µg/kg	10	NONE	-	-	-	-	-
Tebuthiuron	µg/kg	10	NONE	-	-	-	-	-
Terbuthylazine	µg/kg	10	NONE	-	-	-	-	-
Terbutryn	µg/kg	10	NONE	-	-	-	-	-
Thiadiazuron	µg/kg	10	NONE	-	-	-	-	-
Trietazine	µg/kg	10	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample





Analytical Report Number: 21-60996 Project / Site name: South Farm

Your Order No: PO9735

Lab Sample Number	Sample Number					1794112	1794113	1794114
Sample Reference				TP21	TP23	TP24	TP26	TP26
Sample Number				None Supplied				
Depth (m)	1.50	0.10	2.00	1.00	2.00			
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
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	24	16	17	21	18
Total mass of sample received	kg	0.001	NONE	0.30	0.30	0.40	0.30	0.30

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.3	6.7	6.4	-	6.8
Total Sulphate as SO4	%	0.005	MCERTS	0.263	-	1.41	-	1.52
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.055	0.42	2.1	-	2.1
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	54.9	-	2120	-	2090
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.3	-	4.4	-	4.5
Total Sulphur	%	0.005	MCERTS	0.104	-	0.399	-	0.645
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	1.0	-	4.5	-	1.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	0.10	-	0.45	-	0.15
Organic Matter	%	0.1	MCERTS	-	7.0	-	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	-	< 2.0	-	< 2.0

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	MCERTS	-	< 0.05	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	< 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 MCERTS < 0.80</td> <





TP26

Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: PO9735

Lab Sample Number

Sample Reference

Sample Number				None Supplied				
Depth (m)				1.50	0.10	2.00	1.00	2.00
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids					-			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	20	-	36	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	0.7	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Chromium (hexavalent)	mg/kg	4	MCERTS	-	< 4.0	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	35	-	30	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	34	-	40	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	160	-	64	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	20	-	59	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	350	-	2400	-
Magnosium (water coluble)	ma/ka	5	NONE	15		70		120
Magnesium (water soluble)	ma/l	2.5	NONE	74		30		50
	5,			7.4	_	55	_	39
Monoaromatics & Oxygenates	ualka	1	MCEDTC					
Benzene	µy/kg	1	MCERTS	-	-	-	-	-
	µg/кд	1	MCEDIC	-	-	-	-	-
Ethylbenzene	µд/кд	1	MCEDIC	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERIS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERIS	-	-	-	-	-

1794110

TP21

1794111

TP23

1794112

TP24

1794113

TP26

TPH C10 - C40	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH C6 - C40	mg/kg	10	NONE	-	< 10	-	-	-
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	-	-	-	-





Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

Lab Sample Number		1794110	1794111	1794112	1794113	1794114		
Sample Reference				TP21	TP23	TP24	TP26	TP26
Sample Number				None Supplied				
Denth (m)				1 50	0.10	2 00	1 00	2 00
Depth (iii)				02/02/2021	0.10	02/02/2021	02/02/2021	02/02/2021
Date Sampleu Time Taken				Nono Supplied				
		-		None Supplied				
		limi	Ac					
Analytical Parameter	ç	tof	St					
(Soil Analysis)	nits	det	dita					
		ect	s					
		ion	n					
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	µq/kq	10	NONE	-	-	-	-	-
BHC-delta	ua/ka	10	NONE	_	_	-	-	-
BHC-gamma (Lindane, gamma HCH)	ua/ka	10	NONE	-	-	-	-	-
Bifenthrin	ua/ka	10	NONE	-	-	-	-	-
Carbonhenothion	µg/ka	10	NONE	-	-	-	-	-
Chlordane-cis	ug/ka	10	NONE	_	_	-	-	-
Chlordane-trans	ua/ka	10	NONE				_	
Chlorfonvinnhos	µg/kg	10	NONE	_	_	_	-	_
Chloriethelenil	µg/kg	20	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
	µg/kg	10	NONE	-	-	-	-	-
Cyfluthrin (Sum)	µу/ку	10	NONE	-	-	-	-	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	-	-	-
Cypermethrin (Sum)	µд/кд	10	NONE	-	-	-	-	-
DDD-o,p'	µд/кд	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/kq	10	NONE	-	-	-	-	-
Isodrin	µa/ka	20	NONE	-	-	-	-	-
Malathion	µq/ka	10	NONE	-	-	-	-	-
Methacrifos	µg/ka	10	NONE	-	-	-	-	-
Methoxychlor. p.p'-	µq/ka	20	NONE	-	-	-	-	-

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Analytical Report Number: 21-60996 Project / Site name: South Farm Your Order No: P09735

Lab Sample Number				1794110	1794111	1794112	1794113	1794114
Sample Reference				TP21	TP23	TP24	TP26	TP26
Sample Number				None Supplied				
Depth (m)				1.50	0.10	2.00	1.00	2.00
Date Sampled				02/03/2021	02/03/2021	02/03/2021	02/03/2021	02/03/2021
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	-	-	-	-	-

Herbicides

Aldicarb	µg/kg	10	NONE	-	-	-	-	-
Aldicarb Sulfone	µg/kg	10	NONE	-	-	-	-	-
Aldicarb Sulfoxide	µg/kg	50	NONE	-	-	-	-	-
Atrazine	µg/kg	10	NONE	-	-	-	-	-
Carbaryl	µg/kg	10	NONE	-	-	-	-	-
Carbofuran	µg/kg	10	NONE	-	-	-	-	-
Carbofuran, 3-OH	µg/kg	20	NONE	-	-	-	-	-
Chlortoluron	µg/kg	10	NONE	-	-	-	-	-
Cyanazine	µg/kg	10	NONE	-	-	-	-	-
Diflubenzuron	µg/kg	50	NONE	-	-	-	-	-
Diuron	µg/kg	10	NONE	-	-	-	-	-
Fluometuron	µg/kg	10	NONE	-	-	-	-	-
Isoproturon	µg/kg	10	NONE	-	-	-	-	-
Linuron	µg/kg	20	NONE	-	-	-	-	-
Methiocarb	µg/kg	10	NONE	-	-	-	-	-
Methomyl	µg/kg	10	NONE	-	-	-	-	-
Oxamyl	µg/kg	10	NONE	-	-	-	-	-
Prometryn	µg/kg	10	NONE	-	-	-	-	-
Propazine	µg/kg	10	NONE	-	-	-	-	-
Propoxur	µg/kg	10	NONE	-	-	-	-	-
Siduron	µg/kg	10	NONE	-	-	-	-	-
Simazine	µg/kg	10	NONE	-	-	-	-	-
Tebuthiuron	µg/kg	10	NONE	-	-	-	-	-
Terbuthylazine	µg/kg	10	NONE	-	-	-	-	-
Terbutryn	µg/kg	10	NONE	-	-	-	-	-
Thiadiazuron	µg/kg	10	NONE	-	-	-	-	-
Trietazine	µg/kg	10	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample





Analytical Report Number : 21-60996

Project / Site name: South Farm

* 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 *
1794100	TP06	None Supplied	0.05	Brown loam and clay with gravel and vegetation.
1794101	TP07	None Supplied	2	Grey clay with gravel.
1794102	TP08	None Supplied	1	Grey clay with gravel.
1794103	TP13	None Supplied	1	Grey clay with gravel.
1794104	TP15	None Supplied	0.6	Brown clay and sand with gravel.
1794105	TP16	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
1794106	TP17	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
1794107	TP18	None Supplied	1	Grey clay.
1794108	TP20	None Supplied	1	Brown loam and clay with gravel and vegetation.
1794109	TP21	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
1794110	TP21	None Supplied	1.5	Grey clay.
1794111	TP23	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
1794112	TP24	None Supplied	2	Grey clay with gravel.
1794113	TP26	None Supplied	1	Light brown clay.
1794114	TP26	None Supplied	2	Grey clay with gravel.





Analytical Report Number : 21-60996 Project / Site name: South Farm

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name Analytical Method Description A		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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	w	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
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.	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
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC- MS.	In-house method based on USEPA8260	L088-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	w	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	w	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Pesticides by GC-MS/MS	Detemination of Pesticides in soil by GC MS/MS	In-house method	L055B-PL	w	NONE
Herbicides by LC-MS	Detemination of Herbicides in soil by LC MS	In-house method	L056B-PL	W	NONE





Analytical Report Number : 21-60996 Project / Site name: South Farm

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-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
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
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method.	L076-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN- 82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.



Josh Young Clarkebond 129 Cumberland Road Bristol BS1 6UY



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

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

e: joshyoung@clarkebond.com

Analytical Report Number : 21-61000

Project / Site name:	South Farm, Wickwar	Samples received on:	04/03/2021
Your job number:	B05313	Samples instructed on/ Analysis started on:	08/03/2021
Your order number:	PO9735	Analysis completed by:	15/03/2021
Report Issue Number:	1	Report issued on:	15/03/2021
Samples Analysed:	2 10:1 WAC samples		

Signed: Keroline Harel

Karolina Marek PL Head of Reporting Team 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.





i2 Analytical

7 Woodshots Meadow Croxley Green Business Park Watford, WD18 8YS Telephone: 01923 225404 Fax: 01923 237404 email:reception@i2analytical.com

Waste Acceptance Criteria Analytical	Results						
Report No:		21-6	1000				
					Client:	CLARKEBON	D
Location		South Farm	n, Wickwar				
Lab Reference (Sample Number)		1701101	1701105		Landfill	Waste Acceptanc	e Criteria
		1794134 /	1794135			Limits	
Sampling Date		02/03	/2021			Stable Non-	
Sample ID Depth (m)		1.	00		Inert Waste Landfill	HAZARDOUS waste in non- hazardous Landfill	Hazardous Waste Landfill
Solid Waste Analysis							
TOC (%)**	0.8				3%	5%	6%
Loss on Ignition (%) **	4.1						10%
BTEX (µg/kg) **	< 10	-		-	6000		
Sum of PCBs (mg/kg) **	< 0.007				1		
Mineral Oli (mg/kg)	< 10				500		
net (unito)**	1.53			-	100		
pri (units)***	8.2			-		>0	
Acid Neutralisation Capacity (mol / kg)	3.0					To be evaluated	To be evaluated
Eluate Analysis	10.1			10.1	Limit valu	es for compliance le	eaching test
(BS EN 12457 - 2 preparation utilising end over end leaching	10.1			10.1	using BS EN	12457-2 at L/S 10	l/kg (mg/kg)
procedure)	mg/l			mg/kg			
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0251			0.199	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.0060			0.048	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0052			0.0413	0.5	10	30
Nickel *	0.0024			0.019	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0067			0.053	4	50	200
Chloride *	1.6			13	800	15000	25000
Fluoride	0.58			4.6	10	150	500
Sulphate *	49			390	1000	20000	50000
TDS*	110			860	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	8.66			68.9	500	800	1000
Leach Test Information		<u> </u>		<u> </u>		1	
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.30						
Dry Matter (%)	79						
Moisture (%)	21	<u> </u>		<u> </u>		1	
		<u> </u>		<u> </u>		1	
		<u> </u>		<u> </u>		1	
		1	İ	1		1	
Results are expressed on a dry weight basis, after correction for m	oisture content wh	ere applicable.	1		*= UKAS accredi	ted (liquid eluate an	alysis only)
Stated limits are for guidance only and i2 cannot be held responsit	ole for any discrepa	ncies with current l	egislation		** = MCERTS acc	credited	· ·

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.





i2 Analytical

7 Woodshots Meadow Croxley Green Business Park Watford, WD18 8YS Telephone: 01923 225404 Fax: 01923 237404 email:reception@i2analytical.com

Waste Acceptance Criteria Analytical	Results						
Report No:		21-6	1000				
					Client:	CLARKEBON	D
Location		South Farr	n, Wickwar				
Lab Reference (Sample Number)		1704126	4704407		Landfill	Waste Acceptanc	e Criteria
		1794136,	/ 1/9413/			Limits	
Sampling Date		03/03	8/2021			Stable Non-	
Sample ID Depth (m)		1.	00		Inert Waste Landfill	HAZARDOUS waste in non- hazardous Landfill	Hazardous Waste Landfill
Solid Waste Analysis							
TOC (%)**	0.4				3%	5%	6%
Loss on Ignition (%) **	4.1		-				10%
BTEX (µg/kg) **	< 10			-	6000		
Sum of PCBs (mg/kg) **	< 0.007			-	1		
Mineral Oil (mg/kg)	< 10				500		
Iotal PAH (WAC-17) (mg/kg)	< 0.85				100		
pri (units)***	1.1		-			>0	
Acid Neutralisation Capacity (mol / kg)	1.1					To be evaluated	To be evaluated
Eluate Analysis	10.1			10.1	Limit valu	es for compliance le	eaching test
(BS EN 12457 - 2 preparation utilising end over end leaching	10:1			10.1	using BS EN	12457-2 at L/S 10	l/kg (mg/kg)
procedure)	mg/l			mg/kg		1	
Arsenic *	0.0014			0.0103	0.5	2	25
Barium *	0.0140			0.105	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0011			0.0086	0.5	10	70
Copper *	0.0073			0.055	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0053			0.0396	0.5	10	30
Nickel *	0.0035			0.026	0.4	10	40
Lead *	0.0054			0.040	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Zing *	< 0.0040			< 0.040	0.1	0.5	7
Zilic *	0.010			0.12	900	15000	200
Elucrido	0.25			9.5	10	15000	25000
Sulphate *	24			1.9	1000	20000	50000
TDS*	51			380	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	15.3			114	500	800	1000
I							
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.30						<u> </u>
Dry Matter (%)	79						
Moisture (%)	21						
		1	1	1	1	1	
		1		1		1	
Results are expressed on a dry weight basis, after correction for m	oisture content wh	nere applicable.	•	•	*= UKAS accredi	ted (liquid eluate an	alysis only)
Stated limits are for guidance only and i2 cannot be held responsit	ole for any discrept	encies with current l	egislation		** = MCERTS acc	credited	

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.





Analytical Report Number : 21-61000 Project / Site name: South Farm, Wickwar

* 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 *
1794134	TP20	None Supplied	1	Brown loam and clay with gravel and vegetation.
1794136	TP26	None Supplied	1	Light brown clay.





Analytical Report Number : 21-61000 Project / Site name: South Farm, Wickwar

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name Analytical Method Description A		Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	w	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	w	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 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.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	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
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	w	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025





Analytical Report Number : 21-61000 Project / Site name: South Farm, Wickwar

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.





Appendix G Waste Classification Report



Waste Classification Report



Job name			
South Farm, Wickwar			
Description/Comme	nts		
Project			
B05313			
Site			
South Farm, Wickwar			
Related Documents			
# Name		Description	
None			
Waste Stream Temp	late		
CB 2019			
Classified by			
Name: Nick Edwards Date: 12 Apr 2021 08:42 GMT Telephone: 07714 524 021	Company: Clarkebond (UK) Ltd 129 Cumberland Road Bristol BS1 6UY	HazWasteOnline™ Training Record: Course Hazardous Waste Classification Advanced Hazardous Waste Classification	Date - -

Report

Created by: Nick Edwards Created date: 12 Apr 2021 08:42 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	TP06	0.05	Non Hazardous		2
2	TP15	0.6	Non Hazardous		4
3	TP16	0.5	Non Hazardous		6
4	TP17	0.4	Non Hazardous		8
5	TP21	0.1	Non Hazardous		10
6	TP23	0.1	Non Hazardous		12

rage
14
15
15



HazWasteOnline[™] Report created by Nick Edwards on 12 Apr 2021

Classification of sample: TP06

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	
in the List of Waste	

Sample details

Cample Name: P06 Cample Depth: .05 m Moisture content: .7% no correction)	LoW Code: Chapter: Entry:	 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 27% No Moisture Correction applied (MC)

#		CLP index number	Determinand EC Number	CAS Number	CLP Note	User entered	data	Conv. Factor	Compound	conc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxid	<mark>le</mark> } -481-4	1327-53-3		12	mg/kg	1.32	15.844	mg/kg	0.00158 %		
2	4	cadmium { cadmium su 048-010-00-4 215-	Ilfide }	1306-23-6	1	0.7	mg/kg	1.285	0.9	mg/kg	0.00007 %		
3	4	chromium { chromium(\ 024-001-00-0 215-	<mark>VI) oxide</mark> } -607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<lod< td=""></lod<>
4	4	copper { dicopper oxide 029-002-00-X 215-	<mark>e; copper (I) oxic</mark> -270-7	<mark>de</mark> } 1317-39-1		28	mg/kg	1.126	31.525	mg/kg	0.00315 %		
5	4	lead {	ids with the exce t <mark>his Annex</mark> }	eption of those	1	73	mg/kg		73	mg/kg	0.0073 %		
6	4	mercury { mercury dich 080-010-00-X 231-	<mark>Iloride</mark> } -299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	4	nickel { nickel dihydroxid 028-008-00-X 235- 234-	<mark>de</mark> } -008-5 [1] -348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		19	mg/kg	1.579	30.01	mg/kg	0.003 %		
8	4	selenium { selenium co cadmium sulphoselenic in this Annex } 034-002-00-8	mpounds with the and those sp	he exception of ecified elsewhere		<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { zinc oxide }	-222-5	1314-13-2		180	mg/kg	1.245	224.049	mg/kg	0.0224 %		
10		naphthalene 601-052-00-2 202-	-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
11	۲	acenaphthylene 205-	-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
12		acenaphthene 201-	-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
13	۵	fluorene 201-	-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
14	۲	phenanthrene 201-	-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>

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clarkebond

HazWasteOnline[™] Report created by Nick Edwards on 12 Apr 2021

#		CLP index number	Determinand EC Number	CAS Number	P Note	User entere	d data	Conv. Factor	Compound conc.	Classification value	C Applied	Conc. Not Used
					ō						ž	
15	۲	anthracene	04.074.4	400.40.7	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2 1	204-371-1	120-12-7	-							
16	۲	fluorantnene	005 040 4	000.44.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	205-912-4	206-44-0	_						-	
17	۲	pyrene		400.00.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		P	204-927-3	129-00-0	_						-	
18		benzo[a]anthracene		150 FF 0		< 0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9	200-280-6	56-55-3	_						-	
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-034-00-4	205-911-9	205-99-2								
21		benzo[k]fluoranthen	e			<0.05	<0.05 mg/kg		<0.05 mg/kg	g <0.000005 %		<lod< td=""></lod<>
		601-036-00-5	205-916-6	207-08-9								
22		benzo[a]pyrene; ber	zo[a]pyrene; benzo[def]chrysene			< 0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-032-00-3	200-028-5	50-32-8								
23	۲	indeno[123-cd]pyrene			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>	
		2	205-893-2	193-39-5								
24		dibenz[a,h]anthracene				< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-041-00-2 2	200-181-8	53-70-3			ing/itg					
25	۲	benzo[ghi]perylene	benzo[ghi]perylene			<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		2	205-883-8	191-24-2			mg/kg					
26	۲	рН	рН			6.6	ъН		66 nH	6.6 pH		
				PH		0.0	pri		5.5 pri	0.0 PH		
							Total	0.0385 %	1			

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><th>Below limit of detection</th></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



HazWasteOnline[™] Report created by Nick Edwards on 12 Apr 2021

Classification of sample: TP15

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	

Sample details

Sample Name: LoW Code: TP15 Chapter: Sample Depth: 0.6 m Entry: Moisture content: 24%	 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 24% No Moisture Correction applied (MC)

#		CLP index number E	Determinand	CAS Number	CLP Note	User entered	l data	Conv. Factor	Compound o	conc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxide	<mark>9</mark> } 481-4	1327-53-3	Ĩ	20	mg/kg	1.32	26.407	mg/kg	0.00264 %		
2	4	cadmium { cadmium sul 048-010-00-4 215-	l <mark>fide</mark> } 147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<lod< th=""></lod<>
3	4	chromium { chromium(\ 024-001-00-0 215-	<mark>/I) oxide</mark>	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<lod< th=""></lod<>
4	4	copper { dicopper oxide 029-002-00-X 215-	<mark>; copper (I) oxic</mark> 270-7	<mark>le</mark> } 1317-39-1		28	mg/kg	1.126	31.525	mg/kg	0.00315 %		
5	~	lead { lead compound specified elsewhere in t 082-001-00-6	ds with the exce his Annex }	eption of those	1	57	mg/kg		57	mg/kg	0.0057 %		
6	4	mercury { mercury dichl 080-010-00-X 231-	<mark>oride</mark> } 299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	4	nickel { nickel dihydroxic 028-008-00-X 235- 234-	<mark>le</mark> } 008-5 [1] 348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		42	mg/kg	1.579	66.339	mg/kg	0.00663 %		
8	~	selenium { selenium cor cadmium sulphoselenid in this Annex } 034-002-00-8	npounds with t e and those sp	he exception of ecified elsewhere		<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { zinc oxide } 030-013-00-7 215-	222-5	1314-13-2		300	mg/kg	1.245	373.414	mg/kg	0.0373 %		
10		naphthalene 601-052-00-2 202-	049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
11	۲	acenaphthylene	917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
12	۲	acenaphthene	469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
13	۵	fluorene 201-	695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
14	0	phenanthrene 201-	581-5	85-01-8	-	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>

Page 4 of 16
#		CLP index number	Determinand EC Number	CAS Number	P Note	User entere	d data	Conv. Factor	Compound conc.	Classification value	C Applied	Conc. Not Used
					ō						ž	
15	۲	anthracene	04.074.4	400.40.7	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
<u> </u>		2	204-371-1	120-12-7	-							
16	۲	fluorantnene	005 040 4	000.44.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	205-912-4	206-44-0	_						-	
17	۲	pyrene		400.00.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		P	204-927-3	129-00-0	_						-	
18		benzo[a]anthracene		150 FF 0		<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9 P	200-280-6	56-55-3								
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-034-00-4	205-911-9	205-99-2								
21		benzo[k]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-036-00-5	205-916-6	207-08-9								
22		benzo[a]pyrene; benzo[def]chrysene			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>	
		601-032-00-3 2	200-028-5	50-32-8								
23	۲	indeno[123-cd]pyrer	ne			<0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		2	205-893-2	193-39-5								
24		dibenz[a,h]anthrace	ne			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-041-00-2 2	200-181-8	53-70-3								
25	۲	benzo[ghi]perylene				<0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<1.0D
		2	205-883-8	191-24-2					<0.05 mg/kg			
26	۲	рН	pH			74	nH		7.4 nH	74 pH		
				PH		7.4	pri		ин рп			
									Total	0.0565 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><th>Below limit of detection</th></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



Classification of sample: TP16

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	
---	--

Sample details

Sample Name: L TP16 C Sample Depth: 0.5 m E Moisture content: 22% (no correction)	oW Code: Chapter: Entry:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 22% No Moisture Correction applied (MC)

#		CLP index number	Determinand EC Number	CAS Number	CLP Note	User entered	l data	Conv. Factor	Compound o	conc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxic 033-003-00-0 215	<mark>de</mark> } 5-481-4	1327-53-3		22	mg/kg	1.32	29.047	mg/kg	0.0029 %		
2	4	cadmium { cadmium si 048-010-00-4 215	ulfide } 5-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<lod< th=""></lod<>
3	4	chromium { chromium(024-001-00-0 215	(<mark>VI) oxide</mark> } 5-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<lod< th=""></lod<>
4	4	copper { dicopper oxid 029-002-00-X 215	l <mark>e; copper (I) oxic</mark> 5-270-7	<mark>le</mark> } 1317-39-1		29	mg/kg	1.126	32.651	mg/kg	0.00327 %		
5	~	lead { lead compounds specified elsewhere in 082-001-00-6	nds with the exce this Annex }	eption of those	1	140	mg/kg		140	mg/kg	0.014 %		
6	4	mercury { mercury dicl 080-010-00-X 231	<mark>hloride</mark> } 1-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	4	nickel { nickel dihydrox 028-008-00-X 235 234	<mark>(ide</mark> } 5-008-5 [1] 4-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		28	mg/kg	1.579	44.226	mg/kg	0.00442 %		
8	4	selenium { selenium co cadmium sulphoseleni in this Annex 034-002-00-8	ompounds with th ide and those spo	ne exception of ecified elsewhere		<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { zinc oxide } 030-013-00-7 215	5-222-5	1314-13-2		450	mg/kg	1.245	560.121	mg/kg	0.056 %		
10		naphthalene 601-052-00-2 202	2-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
11	0	acenaphthylene	5-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
12	۲	acenaphthene	1-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
13	۲	fluorene 201	1-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
14		phenanthrene 201	1-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>

#		CLP index number	Determinand	CAS Number	P Note	User entere	d data	Conv. Factor	Compound conc.	Classification value	C Applied	Conc. Not Used
			201101100		<u></u>						ž	
15	۲	anthracene	04.074.4	400.40.7	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	204-371-1	120-12-7	-							
16	۲	fluorantnene	005 040 4	000.44.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	205-912-4	206-44-0	_						-	
17	۲	pyrene		400.00.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		P	204-927-3	129-00-0	_						-	
18		benzo[a]anthracene		150 FF 0		<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9	200-280-6	56-55-3	_						-	
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-034-00-4	205-911-9	205-99-2								
21		benzo[k]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-036-00-5	205-916-6	207-08-9								
22		benzo[a]pyrene; benzo[def]chrysene			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>	
		601-032-00-3 2	200-028-5	50-32-8								
23	۲	indeno[123-cd]pyrer	ne			<0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		2	205-893-2	193-39-5								
24		dibenz[a,h]anthrace	ne			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-041-00-2 2	200-181-8	53-70-3								
25	۲	benzo[ghi]perylene				<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		<1.0D
		2	205-883-8	191-24-2					<0.03 mg/kg			
26	۲	pН	pH			74	nH		74 nH	7.4 pH		
				PH		/	P		, pri			
									Total	0.0817 %	1	

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><th>Below limit of detection</th></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



Classification of sample: TP17

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	
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Sample details

17% (no correction)	Sample Name: TP17 Sample Depth: 0.4 m Moisture content: 17% (no correction)	LoW Code: Chapter: Entry:	 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
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Hazard properties

None identified

Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#		Determinand CLP index number EC Number	CAS Number	CLP Note	User entered	d data	Conv. Factor	Compound	conc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxide } 033-003-00-0 215-481-4	1327-53-3		17	mg/kg	1.32	22.446	mg/kg	0.00224 %		
2	4	cadmium { cadmium sulfide } 048-010-00-4 215-147-8	1306-23-6	1	1.3	mg/kg	1.285	1.671	mg/kg	0.00013 %		
3	4	chromium { chromium(VI) oxide } 024-001-00-0 215-607-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<lod< th=""></lod<>
4	4	copper { dicopper oxide; copper (I) c 029-002-00-X 215-270-7	xide }		40	mg/kg	1.126	45.036	mg/kg	0.0045 %		
5	4	lead { <pre>lead compounds with the e specified elsewhere in this Annex } 082-001-00-6</pre>	xception of those	1	97	mg/kg		97	mg/kg	0.0097 %		
6	4	mercury { mercury dichloride } 080-010-00-X 231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	4	nickel { nickel dihydroxide } 028-008-00-X 235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		24	mg/kg	1.579	37.908	mg/kg	0.00379 %		
8	4	selenium { selenium compounds wit cadmium sulphoselenide and those in this Annex } 034-002-00-8	h the exception of specified elsewhere		<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { zinc oxide } 030-013-00-7 215-222-5	1314-13-2		430	mg/kg	1.245	535.227	mg/kg	0.0535 %		
10		naphthalene 601-052-00-2 202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
11	۲	acenaphthylene 205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
12	۲	acenaphthene 201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
13	۲	fluorene 201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
14	۲	phenanthrene 201-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>

#		CLP index number	Determinand EC Number	CAS Number	P Note	User entere	d data	Conv. Factor	Compound conc.	Classification value	C Applied	Conc. Not Used
			201101100		<u></u>						ž	
15	۲	anthracene	04.074.4	400.40.7	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2 1	204-371-1	120-12-7	-							
16	۲	fluorantnene	005 040 4	000.44.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	205-912-4	206-44-0	_						-	
17	۲	pyrene		400.00.0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		P	204-927-3	129-00-0	_						-	
18		benzo[a]anthracene		150 FF 0		<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9	200-280-6	56-55-3	_						-	
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-034-00-4	205-911-9	205-99-2	-							
21		benzo[k]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-036-00-5	205-916-6	207-08-9								
22		benzo[a]pyrene; benzo[def]chrysene			< 0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>	
		601-032-00-3	200-028-5	50-32-8								
23	۲	indeno[123-cd]pyrer	ne			<0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		2	205-893-2	193-39-5								
24		dibenz[a,h]anthrace	ne			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-041-00-2 2	200-181-8	53-70-3								
25	۲	benzo[ghi]perylene				<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		2	205-883-8 191-24-2					<0.00 mg/kg				
26	۲	рН	pH			7.5	nН		7.5 nH	7.5 pH		
				PH		,	P. I					
									Total	0.0749 %	1	

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><td>Below limit of detection</td></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



Classification of sample: TP21

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	
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Sample details

Sample Name: LoW Code: TP21 Chapter: Sample Depth: 0.1 m Entry: Moisture content: 21% (no correction)	17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
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Hazard properties

None identified

Determinands

Moisture content: 21% No Moisture Correction applied (MC)

#		Determinand CLP index number EC Number CAS N	umber	CLP Note	User entered	data	Conv. Factor	Compound co	nc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxide } 033-003-00-0 215-481-4 1327-53-3	}		47	mg/kg	1.32	62.055	mg/kg	0.00621 %		
2	4	cadmium { cadmium sulfide } 048-010-00-4 215-147-8 1306-23-6	6	1	<0.2	mg/kg	1.285	<0.257 1	mg/kg	<0.00002 %		<lod< td=""></lod<>
3	4	chromium {)		<4	mg/kg	1.923	<7.692 ı	mg/kg	<0.000769 %		<lod< td=""></lod<>
4	4	copper { dicopper oxide; copper (I) oxide } 029-002-00-X 215-270-7 1317-39-1			31	mg/kg	1.126	34.903 ı	mg/kg	0.00349 %		
5	4	lead { exception of the exception of the exception of the specified elsewhere in this Annex } 082-001-00-6	nose	1	350	mg/kg		350 ı	mg/kg	0.035 %		
6	4	mercury { mercury dichloride } 080-010-00-X 231-299-8 7487-94-7	7		<0.3	mg/kg	1.353	<0.406 1	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	Inickel { nickel dihydroxide } 028-008-00-X 235-008-5 [1] 12054-48-7 [1] 124-348-1 [2] 11113-74-9 [2]				13	mg/kg	1.579	20.533 1	mg/kg	0.00205 %		
8	4	selenium { selenium compounds with the excepti cadmium sulphoselenide and those specified els in this Annex } 034-002-00-8	on of ewhere		<1	mg/kg	1.405	<1.405 I	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { <mark>zinc oxide</mark> })		300	mg/kg	1.245	373.414 ı	mg/kg	0.0373 %		
10		naphthalene 601-052-00-2 202-049-5 91-20-3	-		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
11	8	acenaphthylene 205-917-1 208-96-8			<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
12		acenaphthene 201-469-6 83-32-9			<0.05	mg/kg		<0.05 1	mg/kg	<0.000005 %		<lod< td=""></lod<>
13	۲	fluorene 201-695-5 86-73-7			<0.05	mg/kg		<0.05 1	mg/kg	<0.000005 %		<lod< td=""></lod<>
14	8	phenanthrene 201-581-5 85-01-8			<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>

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#		CLP index number	Determinand EC Number	CAS Number	LP Note	User entered	d data	Conv. Factor	Compound conc.	Classification value	IC Applied	Conc. Not Used
		anthracene			0						2	
15		2	204-371-1	120-12-7	-	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
16	۲	fluoranthene				<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		
10		2		<0.05	iiig/kg		<0.00 mg/kg	<0.000003 /8				
17	۲	pyrene				<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		
		2	204-927-3	129-00-0			ing/kg		<0.00 mg/ng			~200
18		benzo[a]anthracene	1			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9 2	200-280-6	56-55-3								
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthen	e	005 00 0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
	-	bonzo[k]fluoronthon	05-911-9	205-99-2	-						\vdash	
21				007.00.0	-	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		bonzo[o]pyropo; bor	200-910-0	207-08-9	-							
22		601-032-00-3	200-028-5	50-32-8	-	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
	-	indeno[123-cd]pyrer	100-020-3	50-52-0	\vdash							
23			205-893-2	193-39-5	-	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
-		dibenz[a,h]anthrace	ne									
24		601-041-00-2	200-181-8	53-70-3	-	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
05		benzo[ghi]perylene 205-883-8 191-24-2		İ.	0.05			0.05 //	0.000005.0/		1.05	
25				-	<0.05	тд/кд		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>	
26	۲	pН		·		6.6			66 24	66.04		
26				PH		0.0	рп		ο.ο ρπ	0.0 PH		
									Total	0.0851 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
0	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><td>Below limit of detection</td></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



Classification of sample: TP23

Non Hazardous Waste Classified as 17 05 04 in the List of Waste	

Sample details

Sample Name: FP23 Sample Depth: 0.1 m Moisture content: 6% no correction)	LoW Code: Chapter: Entry:	 17: Construction and Demolition Wastes (including excavated soil from contaminated sites) 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16% No Moisture Correction applied (MC)

#		CLP index number EC	erminand Number	CAS Number	CLP Note	User entered	d data	Conv. Factor	Compound	conc.	Classification value	MC Applied	Conc. Not Used
1	4	arsenic { arsenic trioxide } 033-003-00-0 215-48	1-4	1327-53-3		20	mg/kg	1.32	26.407	mg/kg	0.00264 %		
2	4	cadmium { cadmium sulfid 048-010-00-4 215-14	<mark>le</mark> } 7-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<lod< td=""></lod<>
3	4	chromium { chromium(VI) 024-001-00-0 215-60	<mark>oxide</mark> } 7-8	1333-82-0		<4	mg/kg	1.923	<7.692	mg/kg	<0.000769 %		<lod< td=""></lod<>
4	4	copper { dicopper oxide; c 029-002-00-X 215-27	<mark>opper (I) oxic</mark> 0-7	<mark>de</mark> } 1317-39-1		34	mg/kg	1.126	38.28	mg/kg	0.00383 %		
5	4	lead { lead compounds specified elsewhere in this 082-001-00-6	with the exc Annex }	eption of those	1	160	mg/kg		160	mg/kg	0.016 %		
6	4	mercury { mercury dichlori 080-010-00-X 231-29	<mark>ide</mark> } 9-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<lod< td=""></lod<>
7	nickel { nickel dihydroxide } 028-008-00-X 235-008-5 [1] 12054-48-7 [1] 234-348-1 [2] 11113-74-9 [2]					20	mg/kg	1.579	31.59	mg/kg	0.00316 %		
8	4	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<lod< th=""></lod<>
9	4	zinc { zinc oxide } 030-013-00-7 215-22	2-5	1314-13-2		350	mg/kg	1.245	435.65	mg/kg	0.0436 %		
10		naphthalene 601-052-00-2 202-04	9-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
11	8	acenaphthylene 205-91	7-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< th=""></lod<>
12	٠	acenaphthene 201-46	9-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
13	۲	fluorene 201-69	5-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>
14	۲	phenanthrene 201-58	1-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<lod< td=""></lod<>

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#		CLP index number	Determinand	CAS Number	P Note	User entere	d data	Conv. Factor	Compound conc.	Classification value	C Applied	Conc. Not Used
			2011011001		<u></u>						ž	
15	۲	anthracene	04.074.4	400.40.7	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	204-371-1	120-12-7								
16	۲	fluorantnene	005 040 4	000 44 0	_	<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		2	205-912-4	206-44-0	-						-	
17	۲	pyrene		400.00.0		<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		P	204-927-3	129-00-0	-						-	
18		benzo[a]anthracene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-033-00-9	200-280-6	56-55-3	-						_	
19		chrysene				<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-048-00-0	205-923-4	218-01-9								
20		benzo[b]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		601-034-00-4	205-911-9	205-99-2								
21		benzo[k]fluoranthen	e			<0.05	mg/kg		<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-036-00-5	205-916-6	207-08-9								
22		benzo[a]pyrene; benzo[def]chrysene				< 0.05	mg/kg	1	<0.05 mg/kg	<0.000005 %		<lod< th=""></lod<>
		601-032-00-3 2	200-028-5	50-32-8								
23	۲	indeno[123-cd]pyrer	ne			<0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		2	205-893-2	193-39-5								
24		dibenz[a,h]anthrace	ne			< 0.05	ma/ka		<0.05 ma/ka	<0.000005 %		<lod< th=""></lod<>
		601-041-00-2 2	200-181-8	53-70-3								
25	۲	benzo[ghi]perylene				<0.05	ma/ka		<0.05 mg/kg	<0.000005 %		<lod< td=""></lod<>
		2	205-883-8	191-24-2								
26	۲	pН				67	nH		67 pH	67 pH		
				PH		0.7	P. I		5.7 pri	5.7 pr		
									Total	0.0702 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
0	Determinand defined or amended by HazWasteOnline (see Appendix A)
4	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<lod< th=""><th>Below limit of detection</th></lod<>	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification



Report created by Nick Edwards on 12 Apr 2021

Appendix A: Classifier defined and non CLP determinands

Iead compounds with the exception of those specified elsewhere in this Annex

CLP index number: 082-001-00-6

Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following CLP protocols, considers many simple lead compounds to be Carcinogenic category 2 Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP) Additional Hazard Statement(s): Carc. 2 H351 Reason for additional Hazards Statement(s): 03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium

www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

• acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 17 Jul 2015 Hazard Statements: Acute Tox. 4 H302, Acute Tox. 1 H330, Acute Tox. 1 H310, Eye Irrit. 2 H319, STOT SE 3 H335, Skin Irrit. 2 H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 17 Jul 2015 Hazard Statements: Eye Irrit. 2 H319, STOT SE 3 H335, Skin Irrit. 2 H315, Aquatic Acute 1 H400, Aquatic Chronic 1 H410, Aquatic Chronic 2 H411

^e fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 06 Aug 2015 Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4 H302, Eye Irrit. 2 H319, STOT SE 3 H335, Carc. 2 H351, Skin Sens. 1 H317, Aquatic Acute 1 H400, Aquatic Chronic 1 H410, Skin Irrit. 2 H315

• anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 17 Jul 2015 Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 21 Aug 2015 Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014 Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 21 Aug 2015 Hazard Statements: Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335, Aquatic Acute 1 H400, Aquatic Chronic 1 H410

• indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 06 Aug 2015 Hazard Statements: Carc. 2 H351



benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015 Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database Data source date: 23 Jul 2015 Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• pH (CAS Number: PH)

Description/Comments: Appendix C4 Data source: WM3 1st Edition 2015 Data source date: 25 May 2015 Hazard Statements: None.

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

chromium {chromium(VI) oxide}

Worst case species based on risk phrases

copper {dicopper oxide; copper (I) oxide}

Most likely common species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Hexavalent Chromium <4, therefore lead chromate will not be present.

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on risk phrases

zinc {zinc oxide}

Hexavalent chromium is not present.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018 HazWasteOnline Classification Engine Version: 2021.77.4714.9046 (18 Mar 2021) HazWasteOnline Database: 2021.77.4714.9046 (18 Mar 2021)





Report created by Nick Edwards on 12 Apr 2021

This classification utilises the following guidance and legislation: WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018 CLP Regulation - Regulation 1272/2008/EC of 16 December 2008 1st ATP - Regulation 790/2009/EC of 10 August 2009 2nd ATP - Regulation 286/2011/EC of 10 March 2011 3rd ATP - Regulation 618/2012/EU of 10 July 2012 4th ATP - Regulation 487/2013/EU of 8 May 2013 Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013 5th ATP - Regulation 944/2013/EU of 2 October 2013 6th ATP - Regulation 605/2014/EU of 5 June 2014 WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014 Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014 7th ATP - Regulation 2015/1221/EU of 24 July 2015 8th ATP - Regulation (EU) 2016/918 of 19 May 2016 9th ATP - Regulation (EU) 2016/1179 of 19 July 2016 10th ATP - Regulation (EU) 2017/776 of 4 May 2017 HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017 13th ATP - Regulation (EU) 2018/1480 of 4 October 2018 14th ATP - Regulation (EU) 2020/217 of 4 October 2019 15th ATP - Regulation (EU) 2020/1182 of 19 May 2020 The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2019 - UK: 2019 No. 720 of 27th March 2019 The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020 The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020 POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019



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