



RIDGE

**GROUND CONDITION ASSESSMENT
MADDOXFORD LANE - PHASE 2**

FOREMAN HOMES LTD
January 2022



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1. INTRODUCTION

1.1. Brief

Ridge and Partners LLP (Ridge) was commissioned by Foreman Homes Ltd (the Client) to undertake a ground investigation and compile a report on the findings for a site referred to as Maddoxford Lane Phase 2, located at land south of Maddoxford Lane, Boorley Green, Southampton (hereafter referred to as “the site”). A site location plan is included as Figure 1.

The brief was to undertake a ground investigation to identify any ground condition issues that may affect redevelopment of the site in terms of geotechnical aspects. This report provides an assessment of the identified ground conditions on site, with regard to the proposed works. This report is prepared in line with the agreed brief and is subject to report conditions. At the time of reporting only three of the four proposed boreholes have been completed due to a deterioration of the site surface following significant rainfall.

This document does not form part of a Conceptual Site Model (CSM) and Contamination Risk Assessment, but a contamination screen has been carried out to assess possible contamination risks to construction workers, and to classify soils for offsite disposal.

1.2. Proposals

The proposals outlined within the Overall Site Plan (Report reference: 5015142-RGD-XX-ST-DR-C-0004 Rev: P05, dated 21st Oct 2021) comprise the construction of a residential estate to include a total of 47no. dwellings (24no. detached, 23no. semi-detached) with associated residential garages and private gardens. The proposed is to be accessed via a new entrance off Maddoxford Lane, situated centrally along the northern boundary. A second entrance is proposed to allow access to the neighbouring Forman Homes Phase 1 development which was under construction at the time of the investigation.

Hardstanding on-site is to comprise various access roads, both on street and private parking areas, in addition to various interconnecting footpaths linking the two Forman Homes developments. Proposed plans are included as Figure 2.

1.3. Report Scope and Limitation

This report is based upon a review of readily available historical and current information and the recent site investigation data detailed herein. The report presents an interpretation of the Ridge Site Investigation undertaken between November and December 2021. In addition, this report outlines the basic ground conditions encountered in the exploratory holes. This information has been collated, processed and used to provide an interpretation of the ground conditions, with recommendations on any contamination issues and geotechnical-related design for the proposed development.

The recommendations and opinions expressed in this report are based on the strata observed in the exploratory holes, the results of the site and laboratory tests, and information obtained as part of the desk study or provided by others. Ridge takes no responsibility for conditions that have not been revealed by the exploratory holes, or which occur between them or for features which may be more widespread to those found.

Whilst efforts have been made to interpret the conditions between investigation locations, such information is only indicative, and liability cannot be accepted for its accuracy. Information provided from other sources is taken in good faith and Ridge cannot guarantee its accuracy. The information contained in this report is intended for the use of **Foreman Homes Ltd** and Ridge can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

2. SITE SETTING

The following site description has been based on the investigation during November and December 2021, as well as available data sources and historical maps. Site photographs are included as Appendix 7.

2.1. Location

The site is centred on easting 451185 and northing 114265, south of Maddoxford Lane, Boorley Green, situated at approximately 15 - 20m AOD (Above Ordnance Datum), comprising roughly 3.8 hectares. The site generally slopes downwards from east to west, towards a drainage ditch which mounds much of the western edge of the site.

2.2. Description

The site can be accessed from Maddoxford Lane via an existing entrance within the north-east corner. The secured entrance provides access to a broken macadam track which formally serviced, the now abandoned structures within the southeast of the site. A second informal entrance allows access to the adjacent Forman Homes housing development for machinery and plant.

At the time of the investigation the site was secured on all sides by staked heras fencing and did not appear to be occupied. The structures onsite are considered to be abandoned and are all noted to be in a significant state of disrepair. A two-storey, former residential property, swimming pool and two car garage is situated within the southeast of the site with two large agricultural barns positioned within the south-eastern corner.

The majority of the site has a surface covering comprised soft standing, former agricultural land. Onsite hardstanding pertains to a single lane macadam track which runs parallel to the eastern site boundary, in addition to mixed macadam and concrete hardstanding immediately around the former agricultural barns within the south-east corner.

2.3. Surroundings

The site is bound to the east and south by undeveloped agricultural land. Independent residential developments were under construction within land immediate to the west and beyond Maddoxford Lane to the north of the site. A train line was noted approximately 140m south.

2.4. Site History

The site has remained relatively undeveloped throughout the reviewed historical record since the earliest available map of 1873. The majority of the site has been reserved for mixed agricultural land uses with the more recent development of agricultural barns in addition to a small residential dwelling within the south-east of the site, circa 1980s.

3. PHYSICAL SETTING

3.1. Geology and Hydrogeology

The following observations are taken from the British Geological Survey (BGS) Geology of Britain Viewer (2022). The Geology of Britain Viewer indicates that the site is likely underlain by the bedrock geology of the Wittering Formation which in turn overlays the London Clay Formation. No superficial deposits are recorded to underlie the site. The table below identifies the expected composition of the published strata and associated aquifer classification.

WITTERING FORMATION	
Unit Name	Wittering Formation
Geology Description	The Wittering Formation typically comprises, greyish brown laminated clays, often with wavy to lenticular bedded sand. Geologically limited to the Hampshire basin with a lithological thickness in order of 40 – 53m.
Aquifer Classification	Secondary (A)
Aquifer Description	Secondary A aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers.
LONDON CLAY FORMATION	
Unit Name	London Clay Formation
Geology Description	Bedrock geology comprised, bioturbated or poorly laminated silts and clays, with pockets and bands of sand which increase towards the upper boundary of the formation. Geologically limited to the London Basin, East Anglia and the Hampshire Basin with a lithological thickness up to 150m.
Aquifer Classification	Unproductive Strata
Aquifer Description	Rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Table 3.1: Geology and Hydrogeology

3.2. Hydrology

3.2.1. Surface Water Features

A drainage ditch runs immediately to the west of the site along the full length of the boundary. At the time of the site investigation running water was observed within the feature.

The River Hamble is situated approximately 440m east of the site.

3.2.2. Flooding

The site is not considered to be liable to flooding from rivers and seas and is not situated within an environment agency flood zone. The western most portions of the site are classified as having a high risk of surface water flooding. At the time of the investigation standing water was observed across the western half of the site after periods of prolonged rainfall.

3.2.3. Source Protection Zones

There are no Source Protection Zones (SPZs) within 500m of the site boundary.

4. PREVIOUS REPORTS

Two previous Ground Investigation Reports were undertaken at the study site by Soils Limited (Report reference: 16995/MIR and 17657/MIR, dated: July 2018 and July 2019 respectively). A summary of these documents is included below. The reader should refer to the relevant document for further information. Ridge does not guarantee the accuracy of reports completed by others.

4.1. Soils Limited – Ground Investigation Report (2018)

The purpose of the report was to establish the environmental and geotechnical conditions of the site mindful of the proposed residential development. This was to be achieved by the undertaking of an intrusive ground investigation and subsequent laboratory testing.

The intrusive investigation comprised a total of seven windowless sampler boreholes to 4.00mbgl, seven dynamic probe locations to 5.00mbgl and five machine excavated trial pits to a depth of between 0.80m to 2.55mbgl.

The Soils Limited investigation encountered a surface coving comprising either Topsoil or Made Ground overlaying the Wittering Formation to an average depth of 3.80mbgl. The soils of the Wittering Formation were ultimately underlain by the London Clay Formation which was observed to the full exploratory depth of 5.00mbgl. Minor Groundwater seepage was observed within trial pit walls.

The results of the dynamic probe investigation recorded SPT-N values ranging between N0 and N33 within the Wittering Formation and N12 to N33 within the London Clay Formation. A number of soft spots were recorded across the site, identified by blow counts of 0 within two of the five dynamic probe locations, these soft spots were recorded at various depths ranging from 0.20m to 4.00mbgl.

The report includes foundation recommendations which conclude that a traditional/shallow foundation scheme was unsuitable for the site owing to the encountered low strength soils and soft spots recorded at shallow depths within the Wittering Formation. The report recommended a piled solution and further investigation in order to inform the design. A mixed solution was also referenced however a piled scheme for the whole site was considered to be more economical.

4.2. Soils Limited – Ground Investigation Report (2019)

Soils Limited were commissioned to produce a supplementary ground investigation report in order to inform the design of a piled foundation solution as concluded within the previous report, dated July 2018. The supplementary investigation comprised four CPTu probe locations to a max depth of 11.80mbgl, three windowless sampler boreholes to a max depth of 5.00mbgl, two dynamic probe test locations to 7.00mbgl and two cable percussive boreholes to a depth of 25.00mbgl.

The supplementary ground investigation identified a similar stratigraphy as that of the first investigation, detailed above. Groundwater observations recorded standing levels in order of 0.85mbgl within the windowless sampler boreholes and 4.10mbgl within the cable percussive holes.

Dynamic probing and SPTs undertaken within the cable percussive boreholes identified SPT N values in line with the trend observed within 2018 investigations with N values for the Wittering Formation ranging N0 to N44 and the London Clay Formation ranging N7 and N50. The report recommendations mirrored the 2018 report in putting forward a piled foundation solution, although beyond the scope of the Soils Limited Report, a preliminary pile design was produced. Please refer to the report for further details.

5. RIDGE FIELDWORK

An investigation was required to identify the ground conditions on site to inform on the proposed development in terms of geotechnical aspects.

5.1. Site Management and Preparation

Suitably experienced Ridge staff oversaw the intrusive investigation, which was undertaken between 29th November and 3rd December 2021. Methods employed during the investigation were carried out in general accordance with statutory guidance including BS5930:2015+A1:2020 *Code of Practice for Site Investigations*, BS10175:2011+A2:2017 *Investigation of Potentially Contaminated Sites: Code of Practice* and BRE Digest 365 *Soakaway Design* (2016).

5.1.1. Utility Clearance

Ridge were provided with service drawing (Ref: XXX-XXX-XXXRevB, Date: Oct 2019) produced with reference to drawing No:WWN570182WDS-M-40618-SS by the client. Each test location was scanned with a Cable Avoidance Tool (CAT) prior to breaking ground. Furthermore, each cable percussive borehole was subject to a hand dug buried service inspection pit prior to drilling.

5.2. Rationale and Summary of Scope

The scope of works was to include advancing intrusive locations to assist with the geotechnical design and geo-environmental recommendations in relation to the proposed development. This scope was mutually agreed with Ridge and the Client (Foreman Homes Ltd) and was to be achieved with the completion of boreholes and trial pits to assess the nature of the underlying soils and groundwater conditions, along with specified in-situ testing. Samples were collected for subsequent geotechnical and environmental laboratory analysis.

The Ridge investigation was undertaken in order to meet the specific requirements as set out by the client. The objectives comprised an investigation of the southern portion of the site, previously uninvestigated by historical intrusive works. Further investigation of central and northern portions of the site was commissioned to re-assess the recommended foundation solutions set out within Soils Limited reports dated 2018 and 2019, detailed within section 4. Cable percussive boreholes were selected in order to inform pile design should the encountered ground conditions remain unsuitable for a traditional shallow foundation solution.

Overall site coverage was achieved by way of trial pits which allow for quick and clear assessment of shallow (<3.00mbgl) ground conditions and permit larger volume sampling.

5.2.1. Cable Percussive Boreholes

Three cable percussive boreholes sample boreholes (BH01 - 03) were advanced through the base of their respective inspection pits to a maximum intrusive depth of 15.00mbgl. The boreholes were completed using a Dando 3000 percussive drilling rig. The primary objective of the boreholes was to allow for the assessment of underlying ground conditions and permit in-situ Standard Penetration Testing (SPT) to provide geotechnical parameters for future use. Furthermore, they allowed for the production of detailed engineering logs and the recovery of samples for geotechnical and environmental testing. More information regarding each monitoring well construction is included as Appendix 2.

5.2.2. Trial Pits

Twenty machine excavated trial pit (TP01-20) were advanced using a KUBOTA KX080-4A across the development area, targeting proposed building footprints, carparking areas, access roads and areas of public open space. These were excavated to a maximum depth of 2.60mbgl to provide an assessment of the underlying ground conditions and also permit soil sampling. These trial pits were backfilled with arisings in reverse order and left slightly mounded to allow for subsequent settlement.

5.2.3. Dynamic Cone Penetrometer (DCP)

Twelve Dynamic Cone Penetrometer tests (DCP01-DCP12) were completed to depths <1.00mbgl, by means of a TRL DCP, for subsequent conversion into California Bearing Ratio (CBR). These tests were completed within areas of proposed road surfaces.

5.2.4. Location Rationale

The locations of the exploratory holes were generally determined to target the footprint of the proposed development. In addition, it was deemed prudent to spread the locations of the trial pits in order to provide suitable site coverage.

A total of four boreholes were proposed within the study area, at the time of reporting only three boreholes have been completed due to a deterioration within the site surface following periods of significant rainfall. A report addendum will be issued following completion of the final borehole. An intrusive location plan is included as Figure 3.

5.3. Sampling

All intrusive locations were logged, and visual/olfactory evidence of contamination noted in accordance with best practice. Environmental samples were handled using a fresh pair of nitrile gloves. Selected samples were placed in sealable bags, sealed glass jars or plastic tubs (dependent on the exact laboratory requirement and analysis to be undertaken) and stored in a temperature-controlled environment before transit.

6. GROUND CONDITIONS

6.1. Summary of Ground Conditions

The following soil conditions were encountered during the investigation works. They are generally considered to be consistent with the published geology and previous investigation. A summary of the encountered ground strata is included within Table 6.1, with further details in subsequent report sections. Please refer to the engineering logs within Appendix 2 for more detailed descriptions.

STRATUM	DEPTH TO TOP (MBGL)	DEPTH TO BASE (MBGL)
Topsoil	Ground level	0.20 – 0.50
Made Ground	Ground Level	0.20 – 0.50
Wittering Formation	0.20 – 0.50	>2.30 – 6.00
London Clay Formation	3.50 – 6.00	>15.00

Table 6.1: Summary of Ground Conditions

6.2. Ground Conditions

6.2.1. Topsoil

Topsoil comprised the surface covering of the majority of the exploratory holes, typically comprised grass over a dark brown sandy, gravelly, clayey Silt, with frequent roots and rootlets. Two locations were noted to comprise in part some organic soils, described as peaty within the engineering logs. Topsoil was recorded to an average depth of 0.38mbgl. Slightly peaty soils were recorded within two of the twenty-seven total locations.

6.2.2. Made Ground

Material described as Made Ground, was recorded within two exploratory situated within the east of the site. The Made Ground typically comprised, dark grey gravelly, sandy, clayey Silt, with anthropogenic material including brick ash tile fragments within all pits where Made Ground was encountered. The Made Ground was encountered to an average depth of 0.35mbgl.

6.2.3. Wittering Formation

The initial natural material is considered to be representative of the Wittering Formation. Soils of the solid geology was recorded in all twenty-three of the intrusive locations and typically comprised mottled light grey and brownish orange sandy silty Clay over a light grey slightly gravelly, slightly sandy, silty Clay. All trial pits terminated within the Wittering formation at depths ranging 2.30m to 2.60mbgl with the boreholes recording the lower boundary of the lithology as between 3.50m and 6.00mbgl.

6.2.4. London Clay Formation

Soils of the London Clay Formation were encountered within all three boreholes to underly the Wittering Formation to the full exploratory depth of 15.00mbgl. The London Clay Formation typically comprised dark grey and greyish green very silty, very sandy Clay, with occasional bands of very silty and clayey glauconitic sand ranging 10mm to 0.40m in thickness and fine to cobble gravel sized pockets of dark grey clay.

6.3. Groundwater Conditions

Seepage was recorded within eight of the twenty trial pits from depth ranging 1.40m to 2.60mbgl. Seepage rates were recorded as slow to fast. Groundwater strikes were recorded within all three boreholes, the groundwater information recorded from the boreholes and trial pits is presented within table 6.2 below.

TRIAL HOLE ID	DEPTH OF STRIKE (MBGL)	STNADING TIME (MINS)	FINAL GROUNDWATER LEVEL (MBGL)
BH01	4.60	20	4.10
	9.30		7.10
BH02	4.40	20	3.90
BH03	4.90	20	4.70
	9.60		8.10
TP13	2.40	-	-
TP14	2.00	-	-
TP15	2.10	-	-
TP16	2.50	-	-
TP17	2.10	-	-
TP18	2.60	-	-
TP19	1.60	-	-
TP20	1.40	-	-

Table 6.2: Groundwater Results

6.4. Obstructions and Refusals

No obstructions or refusals were encountered, however at the time of reporting the proposed BH04 is yet to be completed due to access issues pertaining to periods of bad weather and the deterioration of the site surface.

6.5. Visual and Olfactory Observations

No significant visual and/or olfactory evidence of contamination was recorded during the investigation.

7. CONTAMINATION SCREEN

7.1. Soil Assessment

It was deemed prudent to undertake a contamination screen of soils across the site. Soil samples were obtained and submitted for laboratory analysis in order to characterise the encountered ground conditions.

7.1.1. Generic Assessment Criteria

Ridge have undertaken a screen of the soil laboratory results using generic assessment criteria. Generic assessment criteria (GAC) are conservative contaminant concentration values used for comparison purposes to assess the risk associated with contaminant concentrations found on site and are derived using non-site-specific information.

In order to assess the soil analyses results with regard to potential human health risks, Ridge has adopted published guidance criteria widely referred to by professionals within the industry, which include the following:

- Suitable 4 Use Levels (S4ULs) Generic Assessment Criteria (GAC) developed by the Chartered Institute of Environmental Health (CIEH) in partnership with Land Quality Management Ltd. (LQM).
- Category 4 Screening Levels (C4SL) for lead, produced by CL:AIRE (2014).
- The UK Soil Guideline Values (SGVs) for selected metals, BTEX and phenols, produced by the EA and Department of Environment, Food and Rural Affairs (2009).

As an initial assessment, comparisons have been made against the conservative 'Residential with Homegrown Produce' land use setting. A conservative Soil Organic Matter (SOM) value of 1% is used for organic contaminants (i.e. TPH and PAHs) as a worst-case scenario, unless otherwise stated.

7.2. Rationale

Eight soil samples collected during the Ridge investigation at various depths and locations were submitted to a UKAS accredited laboratory for analysis against a generic contamination suite. The contamination suite included heavy metals, phenols, speciated polycyclic aromatic hydrocarbons (PAHs), fractionated total petroleum hydrocarbons (TPH), BTEX and MTBE compounds and an asbestos screen. The suite was chosen to reflect commonly found contaminants. The samples were selected from the worst case Made Ground soils in addition to natural material in order to allow comparison of results.

Further to this, two samples were scheduled for Waste Acceptance Criteria (WAC) testing, and six samples submitted for a specific herbicide and pesticide screen, given the historical land use of the site. The results of the aforementioned testing is later discussed within the report. Laboratory certificates are included as Appendix 3.

7.3. Soil Results

7.3.1. Organic Matter

Organic matter values were recorded between 1.5% within TP16 at 0.60mbgl, and 35.9% within TP06 at 0.50mbgl. Elevated levels of organic matter were returned from samples obtained from both Topsoil and Made Ground which were recorded as peaty in addition to containing frequent roots and rootlets.

7.3.2. Asbestos

Asbestos was not detected within any of the tested soil samples following the asbestos screen.

7.3.3. Heavy Metals

No exceedances were recorded against the relevant GAC screening value. Furthermore, concentrations of cadmium, chromium (hexavalent), mercury, selenium and total phenols were all returned below their respective laboratory Limit of Detection (LOD) from all tested samples.

7.3.4. Polycyclic Aromatic Hydrocarbons (PAHs)

There were no exceedances of the screening criteria from any of the tested samples for all PAH determinands. Furthermore, the vast majority of PAH determinands were recorded below their respective laboratory LOD.

7.3.5. Total Petroleum Hydrocarbons (TPH)

There were no exceedances of the screening criteria from any of the tested samples for all TPH determinands. Furthermore, all TPH determinands were recorded below their respective laboratory LOD.

7.3.6. BTEX and MTBE

There were no exceedances of the screening criteria from any of the tested samples for all BTEX determinands and MTBE. Furthermore, all of BTEX and MTBE determinands were recorded below their respective laboratory LOD.

7.3.7. Herbicides and Pesticides

There were no exceedances of the screening criteria from any of the tested samples for all Organochlorine Pesticide (OCP), Organophosphorus Pesticide (OPP), and Phenoxy Herbicide, determinands. Furthermore, all OCP, OPP and Phenoxy Herbicide determinands were recorded below their respective laboratory LOD.

7.3.8. Discussion of Results

No significant levels of contaminants were recorded from any of the tested samples, furthermore all herbicide, pesticide, TPH, BTEX and MTBE determinands were recorded below their respective laboratory levels of detection. Elevated organic matter levels were recorded within a number of samples all of which were described as peaty within engineering logs.

7.4. Waste Material

Results from tested samples were input into a Soils Characterisation Tool (CAT-Waste Soil) to identify whether the materials on site have hazardous properties. Following analysis using CAT-Waste Soil, all samples reported no hazardous properties. The CAT-Waste output is presented in Appendix 4.

Results from two samples (TP04 – 0.30mbgl and TP11 – 0.40mbgl) were scheduled for Waste Acceptance Criteria (WAC) testing to help determine the waste classification, specifically which landfill category the material conforms to. The material was selected from soils characteristic of Topsoil from within proposed building footprints and garden areas, should there be a requirement to remove these soils in the future. Following review of WAC testing, the sample obtained from TP11 was recorded as **Inert**, whereas slightly elevated values of total organic carbon and loss on ignition resulted in the sample collected from TP04 being classified as **Non-Hazardous Waste**.

The Topsoil encountered within TP04 was recorded as peaty, this is anticipated to be the source of the non-hazardous classification. A description of peaty clayey Silt was only recorded within two locations, the other being TP08.

8. GEOTECHNICAL TESTING AND ASSESSMENT

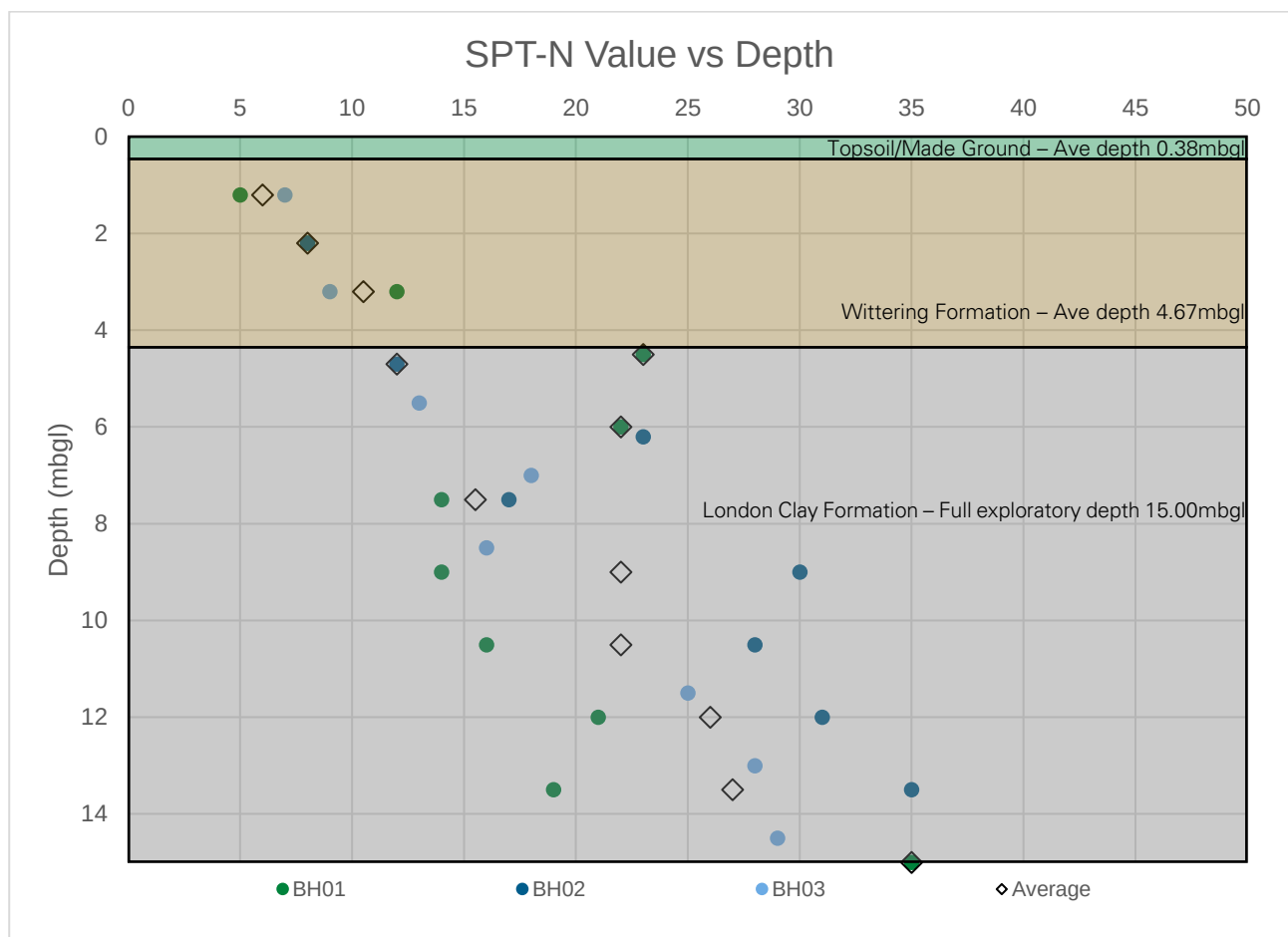
8.1. Introduction

This geotechnical assessment and the subsequent foundation design recommendations will use the findings of the investigation and the results of the in-situ and laboratory testing carried out in the boreholes, and on representative samples of the materials encountered across the site. In summary, proposals include the construction of a residential estate comprising apartment buildings and residential houses, together with associated access, parking and landscaping.

8.2. In-Situ Testing

8.2.1. Standard Penetration Testing (SPT)

SPT was completed throughout the drilling of all boreholes initially at 1.00m centres to a depth of 5.00mbgl and 1.50m centres thereafter. SPT is an *in-situ* dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test is completed using a 63.5kg drop hammer weight, over a 750mm drop, measuring the blow counts for six 75mm increments. The first two values are recorded as seating blows, with the remaining four values added together to provide an 'N-value'. Refusal is encountered when an N-value of $N \geq 50$ is encountered. The results are displayed in the graph below. It is recommended to review the engineering logs within Appendix 2 for further information.



Graph 8.1: SPT Results

8.2.2. Dynamic Cone Penetrometer Testing

Twelve Dynamic Cone Penetrometer tests (DCP01-DCP12) were completed to depths <1.00mbgl, by means of a TRL DCP, for subsequent conversion into California Bearing Ratio (CBR). These tests were completed within areas of proposed road surfaces. The table below draws on the whole dataset and shows equivalent CBR range at selected depths below ground surface. DCP logs showing the full test results are included in Appendix 5.

DEPTH (MBGL)	~CBR % RANGE
0.30	3 – 13 (Average – 7.75)
0.50	3 – 16 (Average – 9.75)
0.70	3 – 16 (Average – 10.75)

Table 8.1: Equivalent CBR% value at selected depths

8.3. Laboratory Testing

Soil samples collected during the Ridge investigation from various depths and locations were submitted to UKAS accredited laboratories. Details of the test procedures are shown in the table below, with the geotechnical test certificates included as Appendix 3. Further laboratory testing will be carried out following the completion of the fourth cable percussive borehole.

TEST	STANDARD (BS1377:1990) UNLESS OTHERWISE INDICATED	SCHEDULED	COMPLETED
Moisture Content	Part 2: 3.2	19	19
Atterberg Limits	Part 2: 3.2, 4.3 and 5.3	19	18
PSD	Part 2: 9.2	1	1
pH	Part 3: 9.5	22	22
Sulphate Testing	Part 3: 5.3	22	22
Lab CBR	Part 4: 7	2	2
DD OMC	Part 4: 3.4	2	2
Undrained Triaxial	Part 7: 8	5	5

Table 8.2: Summary of geotechnical testing

8.3.1. Atterberg tests

Nineteen samples of the encountered cohesive soils underwent Atterberg Testing to determine their plasticity indices. The results are shown below.

LOCATION	DEPTH (MBGL)	STRATA	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	PLASTICITY INDEX (%)	PASSING 425 MICRON SIEVE (%)	MODIFIED PLASTICITY INDEX (%)	VOLUME CHANGE POTENTIAL
TP01	1.50	Sandy Silty CLAY	39	68	22	46	78	36	Medium
TP03	2.40		32	61	19	42	80	34	Medium
TP06	2.10		40	91	30	61	80	49	High
TP10	0.80		49	103	29	74	82	61	High
TP13	0.50		38	91	30	61	80	49	High
TP15	1.70		41	86	22	64	81	52	High
TP19	1.00		35	70	22	48	80	38	Medium
BH01	2.20		22	57	17	40	75	30	Medium
BH01	3.20	Clayey SAND	25	55	29	26	79	21	Medium
BH01	7.50		32	61	18	43	80	34	Medium
BH01	9.00		32	-	NP	-	65	-	-
BH02	1.65	Sandy Clayey SILT	44	77	44	33	82	27	Medium
BH02	2.70	Clayey SILT	46	86	47	39	100	39	Medium
BH02	5.40		40	75	41	34	100	34	Medium
BH02	8.40	Sandy Clayey SILT	40	60	42	18	94	17	Medium
BH03	1.70	Clayey SILT	50	81	44	37	100	37	Medium
BH03	2.65	Gravelly Clayey SILT	49	74	39	35	92	32	Medium
BH03	3.15	Sandy Clayey SILT	51	59	32	27	88	24	Medium
BH03	6.20		26	57	33	24	89	21	Medium

Table 8.3: Consistency limits

Following analysis, testing returned plasticity index values ranging 18 - 74%, with liquid limits reported as 55 - 103%. These values correspond to soils with High to Extremely high plasticity. The samples returned values of between 65 and 100% for fines passing a 425µm sieve, thus the modified plasticity index values range between 17 – 61% In accordance with NHBC, the underlying soils are considered to have a low to high volume change potential. One sample was recorded as non-plastic owing to a high sand content within the tested sample.

8.3.2. Sulphate Testing

Twenty-two representative samples of the exploratory holes underwent pH/ water soluble sulphate 2:1 extract testing to determine the pH level and sulphate content of the soils. The results are shown in the table below.

LOCATION	DEPTH (MBGL)	PH VALUE	2:1 SULPHATE EXTRACT (MG/L)	CONCRETE CLASSIFICATION DESIGN CLASS	AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE CLASS
TP03	0.70	5.5	24	DS-1	AC-1s
TP05	2.20	7.6	12	DS-1	AC-1
TP07	1.40	7.7	<10	DS-1	AC-1s
TP09	2.10	7.8	14	DS-1	AC-1
TP11	1.40	5.8	44	DS-1	AC-1s
TP13	0.50	5.7	42	DS-1	AC-1s
TP15	0.90	5.5	28	DS-1	AC-1s
TP16	1.60	6.7	21	DS-1	AC-1s
TP18	2.60	5.9	55	DS-1	AC-1
TP20	1.60	5.2	159	DS-1	AC-1s
BH01	3.70	5.4	116	DS-1	AC-2z
BH01	6.00	5.9	104	DS-1	AC-1
BH01	10.50	6.3	84	DS-1	AC-1
BH01	13.50	6.2	46	DS-1	AC-1
BH02	2.20	6.0	52	DS-1	AC-1
BH02	4.70	5.7	47	DS-1	AC-1
BH02	9.20	5.4	301	DS-1	AC-2z
BH02	13.70	5.5	579	DS-2	AC-3z

LOCATION	DEPTH (MBGL)	PH VALUE	2:1 SULPHATE EXTRACT (MG/L)	CONCRETE CLASSIFICATION DESIGN CLASS	AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE CLASS
BH03	3.20	5.4	86	DS-1	AC-2z
BH03	6.20	4.9	236	DS-1	AC-2z
BH03	6.60	6.6	78	DS-1	AC-1
BH03	7.00	7.0	56	DS-1	AC-1

Table 8.4: pH/Sulphate results

Based on the results, Table C1 of BRE SD1 gives a worst-case Design Sulphate Classification of DS-2 and an Aggressive Chemical Environment for Concrete (ACEC) Class of AC-3z assuming mobile groundwater conditions above the groundwater table and using a worst-case soluble sulphate value of 579mg/l and a pH of 4.9. Please note the design classification of DS-2 was only reported from one sample collected at 13.70mbgl within BH02.

8.3.3. Particle Size Distribution

One sample obtained from a granular band of the London Clay Formation was tested to determine the composition and clast percentage. The results are presented in the table below.

LOCATION	DEPTH (MBGL)	SILT AND CLAY (%)	SAND (%)	GRAVEL (%)	COBBLE (%)
BH03	12.00	19	81	0	0

Table 8.5: PSD wet sieve

The sample was reported as a silty/clayey, fine to coarse SAND. The sample was collected at a depth of 12.00mbgl within BH03. The composition of the tested sample aligns with the sandy beds of the London Clay Formation, as recoded within borehole logs.

8.3.4. Laboratory CBR Testing

Two samples were submitted for Remoulded Laboratory California Bearing Ratio Testing, to determine an indicative CBR value. Two of the tested samples were mixed with lime to a concentration of 5% to achieve an immediate reaction by significantly strengthening the soil. The results are presented in the table below.

LOCATION	DEPTH (MBGL)	MOISTURE CONTENT (%)	CBR VALUE (%)
TP07	1.40	43	0.72
TP15	0.90	44	0.73

Table 8.6: Laboratory CBR

Both samples returned similar CBR values of 0.72% and 0.73% from TP07 and TP15 respectively.

8.3.5. Dry Density / Moisture Content Relationship

Two samples of the underlying natural soils were submitted for testing to determine their respective dry density and optimum moisture contents. The results are presented in the table below.

LOCATION	DEPTH (MBGL)	INITIAL MOISTURE CONTENT (%)	MAXIMUM DRY DENSITY (MG/M ³)	OPTIMUM MOISTURE CONTENT (%)
TP04	1.50	34	1.67	16
TP12	2.30	42	1.66	14

Table 8.7: Dry Density/Moisture Content Relationship

Following analysis, testing returned optimum moisture content values of 14 to 16%.

8.3.6. Undrained Triaxial

Five samples underwent multi-stage unconsolidated undrained triaxial tests to allow assessment of undrained shear strength. Results are presented in the table below.

LOCATION	DEPTH (MBGL)	CELL PRESSURES (KPA)	UNDRAINED SHEAR STRENGTH (KPA)	FAILURE STRAIN (%)
BH02	1.20	45, 90, 180	24, 28, 32	4.3, 5.7, 7.2
BH02	3.20	75, 150, 300	25, 28, 31	4.3, 5.8, 7.2
BH03	2.20	45, 90, 180	27, 30, 32	4.3, 6.3, 7.7
BH03	2.70	75, 150, 300	37, 46, 53	4.3, 5.8, 7.2
BH03	4.20	105, 210, 420	71, 89, 109	5.3, 7.2, 8.7

Table 8.8: Undrained Triaxial

8.4. Soil Characteristics

The stratigraphy revealed during the ground investigation comprised Topsoil and/or Made Ground over an initial natural lithology comprise the Wittering Formation which was ultimately underlain by the bedrock geology of the London Clay Formation.

8.4.1. Topsoil

Topsoil was generally recorded as grass over dark brown sandy, gravelly, clayey Silt, with frequent roots and rootlets. Two locations were noted to comprise in part some organic soils, described as peaty within the engineering logs. Topsoil was recorded to an average depth of 0.38mbgl. The above soils are considered unsuitable as a founding layer.

8.4.2. Made Ground

Material described as Made Ground, was recorded within two trial pit locations TP05 and TP10. The Made Ground, typically comprised, dark grey gravelly, sandy, clayey Silt, with anthropogenic material including brick ash tile fragments. The Made Ground was encountered to an average depth of 0.35mbgl. The above soils are considered unsuitable as a founding layer.

8.4.3. Wittering Formation

Soils recorded as the Wittering Formation were recorded within all intrusive locations to underlie the surface covering of Topsoil and/or Made Ground. The largely cohesive material typically comprised, mottled light grey and brownish orange sandy silty Clay over a light grey slightly gravelly, slightly sandy, silty Clay. The Wittering Formation was recorded to an average depth of 4.67mbgl.

Atterberg testing of these soils returned modified plasticity index results ranging 21 – 61% and liquid limit results of 55 - 103%, indicative of high to extremely high plasticity soils. In accordance with NHBC, these soils are considered to have a medium to high volume change potential. A significant difference is observed within results returned from samples obtained from above and below a general depth of 2.50mbgl. When considering samples tested at a depth >2.50mbgl the soils are recorded as high to very high plasticity with a medium volume change potential.

Standard Penetration testing within this material returned SPT-N values ranging N5 to N12, thus classifying the soils as low to medium strength. Please note, the only SPT test to return an 'N60' value in correspondence to a medium strength classification was recorded at a depth >2.00mbgl. Multi-stage undrained triaxial testing of the Wittering Formation reported undrained shear strength values ranging 24 – 53kPa. Shear strength was generally recorded to increase with depth.

When considering the results, the upper 2.00m of the above soils are considered unsuitable as a founding layer.

8.4.4. London Clay Formation

Soils considered representative of the London Clay Formation were recorded directly below the Wittering Formation and encountered to the full exploratory depth of 15.00mbgl. The bedrock geology comprised typically comprised dark grey and greyish green very silty, very sandy Clay, with occasional bands of very silty and clayey glauconitic sand ranging 10mm to 0.40m in thickness and fine to cobble gravel sized pockets of dark grey clay.

Atterberg testing of these soils returned modified plasticity index results ranging 17 - 34% and liquid limit results of 18 - 42%, indicative of high plasticity soils. In accordance with NHBC, these soils are considered to have a low to medium volume change potential. Granular beds of the London Clay Formation were reported to have a sand content of ~80% with silt and clay making up the remaining portion.

Standard Penetration testing within this material returned SPT-N values ranging N12 to N35, thus classifying the soils as medium to very high strength. Multi-stage undrained triaxial testing of the London Clay Formation reported undrained shear strength values ranging 71 – 109kPa. The London Clay Formation is considered a suitable founding stratum.

8.5. Discussion

8.5.1. Foundations

Proposals comprise the construction of a residential development, to comprise a total of 47no. dwellings (24no. detached, 23no. semi-detached) with associated residential garages and private gardens. The selection and design of foundations is beyond the scope of current instruction and is the responsibility of the designers of the proposed building. The following recommendations, deriving from observations made during the investigation and testing, are provided to support the design process.

The ground condition assessment comprised a number of aims. The assessment of the previously uninvestigated southern site extents, the additional investigation of central and northern portions to allow the re-evaluation of historical foundation recommendations and the undertaking of deep cable percussive boreholes to inform pile design should a piled solution be required.

The investigation of the southern section by way of trial pits identified ground conditions consistent with the other portions of the site, as recorded within this, and previous investigatory reports.

The results from the investigation across all sections of the site align with the findings of Soils Limited's Ground investigations dated 2018 and 2019. The ground conditions identified are largely unsuitable for traditional shallow foundations owing to the low strength, extremely plastic soils of the Wittering Formation encountered to depths in order of 2.00m - 2.50mbgl. In addition to shallow ground water levels recorded at depths as shallow as 1.40mbgl. A piled foundation solution founding within the underlying London Clay Formation is considered appropriate. A mixed foundation scheme is considered uneconomical.

The soils of the London Clay Formation are considered to be consistent in nature across the development area with regards to in-situ and laboratory testing, please refer to section 8.4.5. for area specific geotechnical information summaries. In the case of a piled solution, the foundations should be extended through the overlying Wittering Formation and at least 150mm into the largely cohesive soils of the London Clay Formation. This is particularly pertinent within regions of softer/looser shallow soils 1. Furthermore, any particularly soft or cohesive spots in the near surface will likely require removal and subsequently replaced with engineered fill.

Shrinkable clay has been proved across the entirety of the site. The design of all piled foundations should specify precautions for cohesive soils where volume changes can occur, in accordance with NHBC or similar guidance. Care should be taken to ensure that the bond of beams to piers and piles is in accordance with the design and is adequate. Test loading of piles should be undertaken when required. The builder is to obtain written confirmation that the piles are suitable for their design load.

A nominal number of mature trees are located along the perimeter of the site. Heave mitigation measures should consider trees with high-water demand. Appropriate advice from a suitably qualified Arboriculturist should be taken in relation to trees that are due to be kept on site in proximity to proposed excavations or the raising of levels.

8.5.2. Floor Slabs

Owing to the presence of shrinkable clay it is recommended that fully suspended ground floor slabs are adopted for the new buildings. The void between the underside of floor slab and ground is dependent upon the shrinkage potential and should be specified accordingly.

8.5.3. Buried Concrete

The results of laboratory testing have indicated a 'worst case' design class of DS-2 and subclass AC-3z. Of the twenty-two tested samples only one (BH02 -13.70mbgl) recorded as design classification of DS-2. In accordance with SD1 paragraph C 5.1.1, a data set containing ten or more results the mean of the highest 20% of the water-soluble sulphate values should be taken as a characteristic value. When considering a mean value of 318mg/l, rounded to 300mg/l from the highest 20%, a design class of DS-1 and subclass AC-2z is considered appropriate.

8.5.4. Trench Stability

It is unlikely that excavations to depths of 1.50m will require support and shoring, based on the investigation to date. Excavations into which personnel are to enter will require individual risk assessment and appropriate shoring and support provided in order to satisfy statutory safety regulations.

8.5.5. Groundwater and Surface Water

Groundwater strikes were recorded within all three of the currently completed boreholes BH01 – 03 at depths ranging between 4.40m and 4.90mbgl. Groundwater was observed to rise to a level of between 3.90m to 4.70mbgl over a 20-minute time period. A second strike was recorded within boreholes BH01 and 03 at 9.30m and 9.60m respectively, rising to 7.10m and 8.10mbgl over the same 20-minute period.

Seepage was recorded within eight of the twenty trial pit locations at depth ranging 1.40m to 2.60mbgl, flow rates were noted as slow to fast. Groundwater levels are dependent upon seasonal variations and levels may change after periods of heavy rainfall or prolonged drought. Where groundwater is encountered within any excavations during the construction phase it should be dealt with appropriately and removed using good engineering practices.

8.5.6. Paved Area Design

TRL DCP testing was undertaken on site and returned CBR results ranging from 3% to 16%, although almost half of the tests returned indicative CBR values $\leq 10\%$. In addition to the in-situ testing, remoulded laboratory CBR testing returned CBR values of 0.72 and 0.73% respectively. Please note that laboratory CBR testing is undertaken on a remoulded sample of disturbed material and not necessarily representative of in-situ conditions.

Based on the in-situ TRL DCP testing a conservative CBR value of 3.0% should be used for preliminary pavement design. This should be confirmed with in-situ tests by way of plate load testing at formation level at the appropriate time. The capping system employed below new pavements should be selected on the basis of the encountered soils.

8.5.7. Earthworks

Some raising of levels and associated earthworks are likely to be required across the site Ridge can provide further advice regarding suitability of site-won material at a later date once this has been excavated and stockpiled. Advice should be taken regarding raising of ground levels in proximity to protected trees. Testing was undertaken on selected samples to determine the optimum moisture content of the shallow cohesive soils of the Wittering Formation. The testing returned optimum moisture content values of 14 to 16%.

9. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations have been made based on the investigation undertaken to date in light of the outlined proposals. Any alterations to the proposals may warrant a reassessment.

9.1. Geotechnical

A piled foundation solution is recommended for all of the proposed buildings at the site to ultimately found within soils of the London Clay formation, extending through the overlaying Wittering Formation into the more competent bedrock geology. Some dewatering of shallow excavations associated with the proposed works on-site pits should be expected given the recorded depth to groundwater being recorded as shallow as 1.40mbgl within the development area. Buried concrete should be specified to comply with a design class of DS-1 and subclass AC-2z.

Foundations within cohesive materials will require appropriate heave/shrinkage mitigation measures. Heave mitigation measures should consider trees with high-water demand. It is recommended that fully suspended ground floor slabs are adopted for the new buildings.

The design of all piled foundations should specify precautions for cohesive soils where volume changes can occur, in accordance with NHBC or similar guidance. Care should be taken to ensure that the bond of beams to piers and piles is in accordance with the design and is adequate. Test loading of piles should be undertaken when required. The builder is to obtain written confirmation that the piles are suitable for their design load.

A conservative CBR value of 3% should be used for preliminary pavement design based on the testing undertaken. This should be confirmed with in-situ tests at formation level at the appropriate time. Any capping material should be suitably compacted in accordance with the design and verified to validate it has been compacted correctly.

Excavations in which personnel will enter will require individual risk assessment and should be shored as necessary to support their faces in order to conform to statutory safety regulations, particularly if these are to be left open for nominal periods of time.

Groundwater strikes were recorded within all three of the boreholes undertaken to date BH01 to BH03 at depths ranging between 4.40m and 4.90mbgl. A second strike was recorded within boreholes BH01 and 03 at 9.30m and 9.60m respectively. Seepage was recorded within eight of the twenty trial pit locations at depth ranging 1.40m to 2.60mbgl.

Where groundwater or surface water is encountered within any excavations during the construction phase it should be dealt with appropriately and removed using good engineering practices. Groundwater levels are dependent upon seasonal variations and levels may change after periods of heavy rainfall or prolonged drought. The investigation, undertaken during winter months recorded a significant deterioration within the site surfacing following periods of rainfall resulting in access issues for any vehicles with the exception of tracked and large wheeled plant.

Some raising of levels and associated earthworks are likely to be required across the site. Advice should be taken regarding raising of ground levels in proximity to protected trees.

9.2. Waste Removal

Following review of WAC testing, the two tested samples returned a waste classification of **Inert** and **Non-Hazardous** respectively. The non-hazardous classification is attributed purely to the high organic content of the sampled soils within TP04. Only one other intrusive location (TP08) encountered the peaty soils, as such it is considered likely that any organic soils encountered during the earthworks of the proposed development can be segregated, thus allowing the remainder of the arisings to be disposed of under the appropriate Inert classification.

All waste materials will need to be properly handled and disposed of in accordance with the Landfill Directive and other relevant legislation. It may be possible to cheaply dispose of clean natural arisings from foundation or drainage excavations via the DoWCoP initiative and donor site register. Further advice can be provided in this regard, as necessary.

9.3. Contamination

A contamination screening exercise was carried out to allow an initial assessment of potential risks to groundworkers during ground preparation works. A full contamination risk assessment was outside the scope of this project.

No significant levels of contaminants were recorded from any of the tested samples, furthermore all herbicide, pesticide, TPH, BTEX and MTBE determinands were recorded below their respective laboratory levels of detection. Elevated organic matter levels were recorded within a number of samples all of which were described as peaty within engineering logs.

According to contaminated land related planning conditions 18 and 19, a full phased contamination risk assessment is required, which will likely include the following:

- Preliminary Risk Assessment (Desk Top Study) – this will be used to inform a targeted contamination Site Investigation
- Chemical and ground gas monitoring if necessary, based on the outcomes of the Preliminary Risk Assessment
- Remediation Method Statement (if required)
- Validation Report (if required)

Condition 20 also states that any contamination identified shall be assessed in relation to the risk to the surface water quality and impacts on the Hamble River Solent Complex.

9.3.1. Watching Brief and Discovery Strategy

A Watching Brief should be maintained on site during development works by the Site Manager/Supervisor. This must be undertaken in the instance that there are any previously identified areas of contamination. If any material is noted to show visual and/ or olfactory evidence of contamination, in the first instance this material should be stockpiled separately on plyboard or sheeting. An Environmental Consultant such as Ridge should be contacted to advise what further work is required but this would likely involve characterisation of soils through laboratory analysis prior to removal off site. Local Authorities will be notified, and a future plan of action will be agreed.

9.3.2. Health and Safety

In order to mitigate generic risks associated with development works the following mitigation measures are recommended:

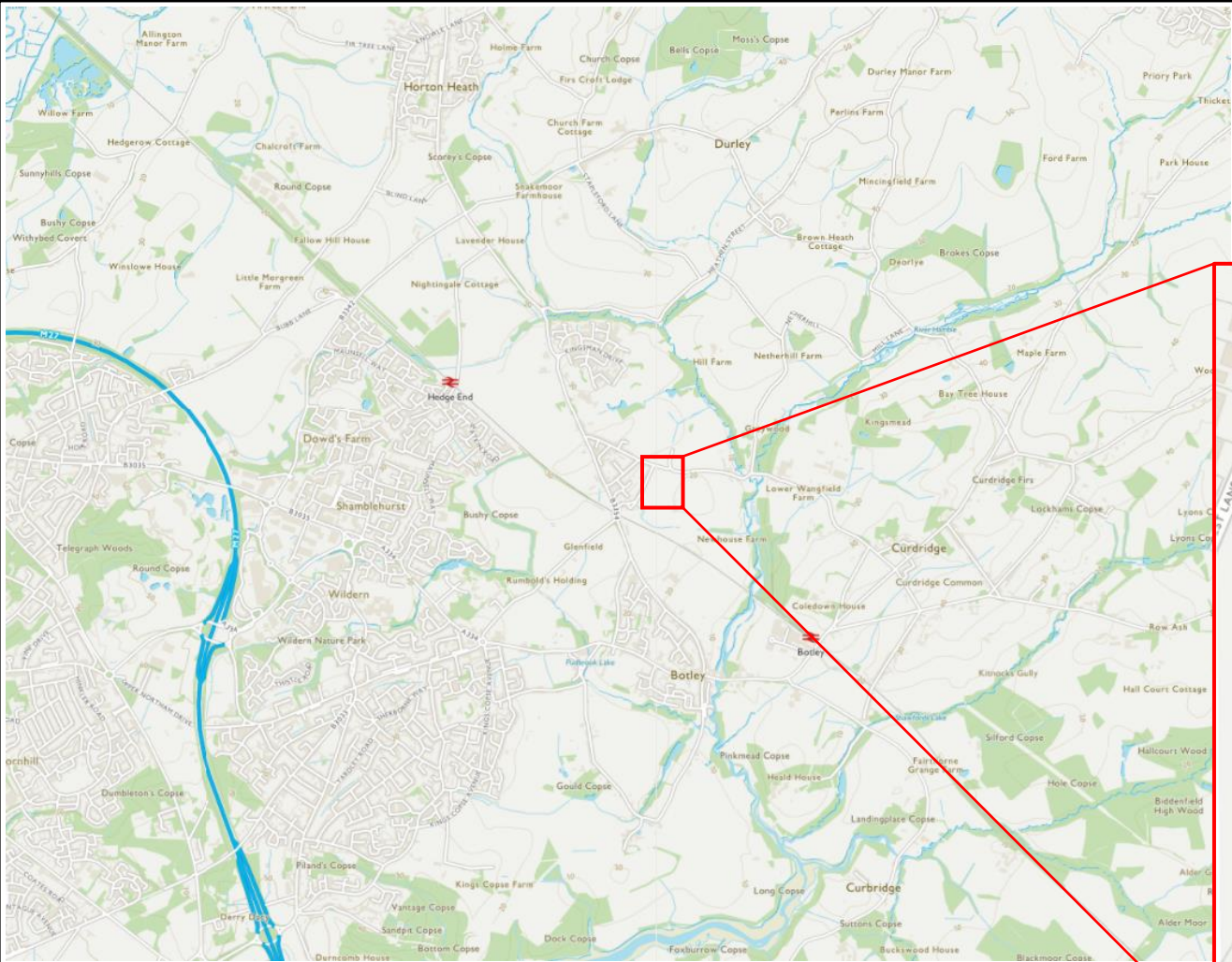
- Compliance with relevant Health and Safety procedures during construction works
- Contractors on site should wear appropriate PPE to mitigate any risks from chemical and physical impacts of Made Ground at the site
- Adhere to Discovery Strategy as detailed above

9.4. Further Investigation

Given the significant deterioration of the surface conditions encountered at the site over the period of the intrusive investigation, only three of the four cable percussive boreholes were completed. It will be necessary for the fourth location be advanced once the site surface has improved and better access is available.

Further investigation of the currently inaccessible southern areas of the site is recommended. At the time of the investigation, existing farm buildings, a residential property and earth bund were recorded within the south-east and south-west of the site. In light of the site proposals, an investigation comprised both environmental and geotechnical elements is considered necessary.

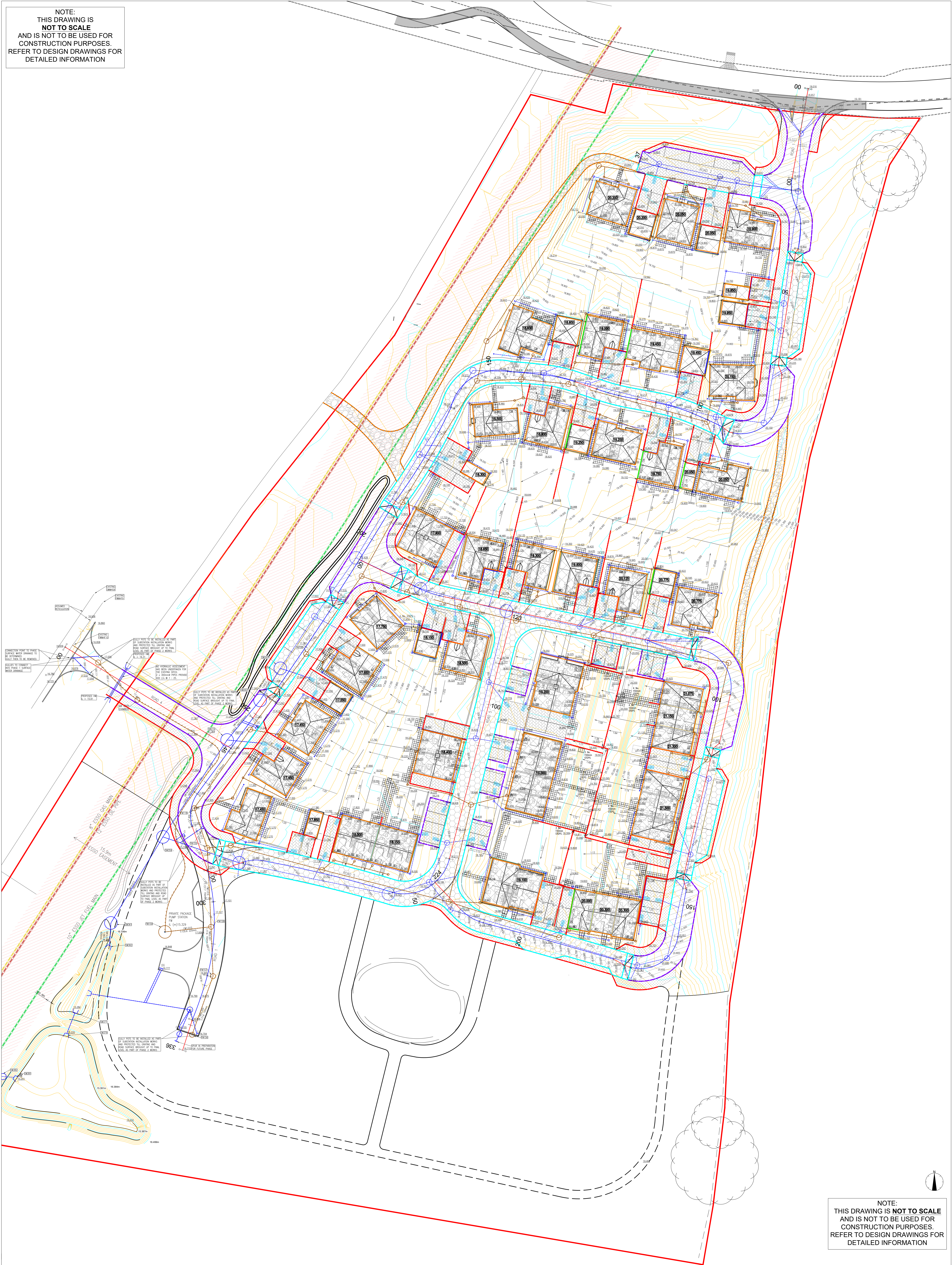
FIGURE 1 – SITE LOCATION PLAN



Project:	Maddoxford Ln Phase 2			Title:	Site Location Plan	
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Drawing:	5015142-Fig1	Revision:	-			
Drawn:	RM	Date:	January 2021			
Checked by:	RJH	Scale:	NTS			

FIGURE 2 – SITE PLANS

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CON REGULATIONS 2015

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REV	DESCRIPTION	DATE	DRAWN
P05	UPDATE IN ACCORDANCE WITH CLIENT'S COMMENTS	21/10/2021	JM
P04	UPDATE IN ACCORDANCE WITH CLIENT'S COMMENTS	11/10/2021	RML
P03	ISSUED FOR INFORMATION	22/09/2021	CL
P02	ISSUED FOR INFORMATION	07/09/2021	CL
P01	ISSUED FOR INFORMATION	26/08/2021	CL

CLIENT:

IN ASSOCIATION WITH:

PROJECT:

MADDOXFORD LANE
BOORLEY GREEN
PHASE 2

TITLE:

OVERALL SITE PLAN

ENG: CSE: KSE: SCALE: NOT TO SCALE @ A0

STATUS:

INITIAL ISSUE: AUGUST 2021

INFORMATION

DRAWING NO: 5015142 RDG XX ST DR C 0004 P05

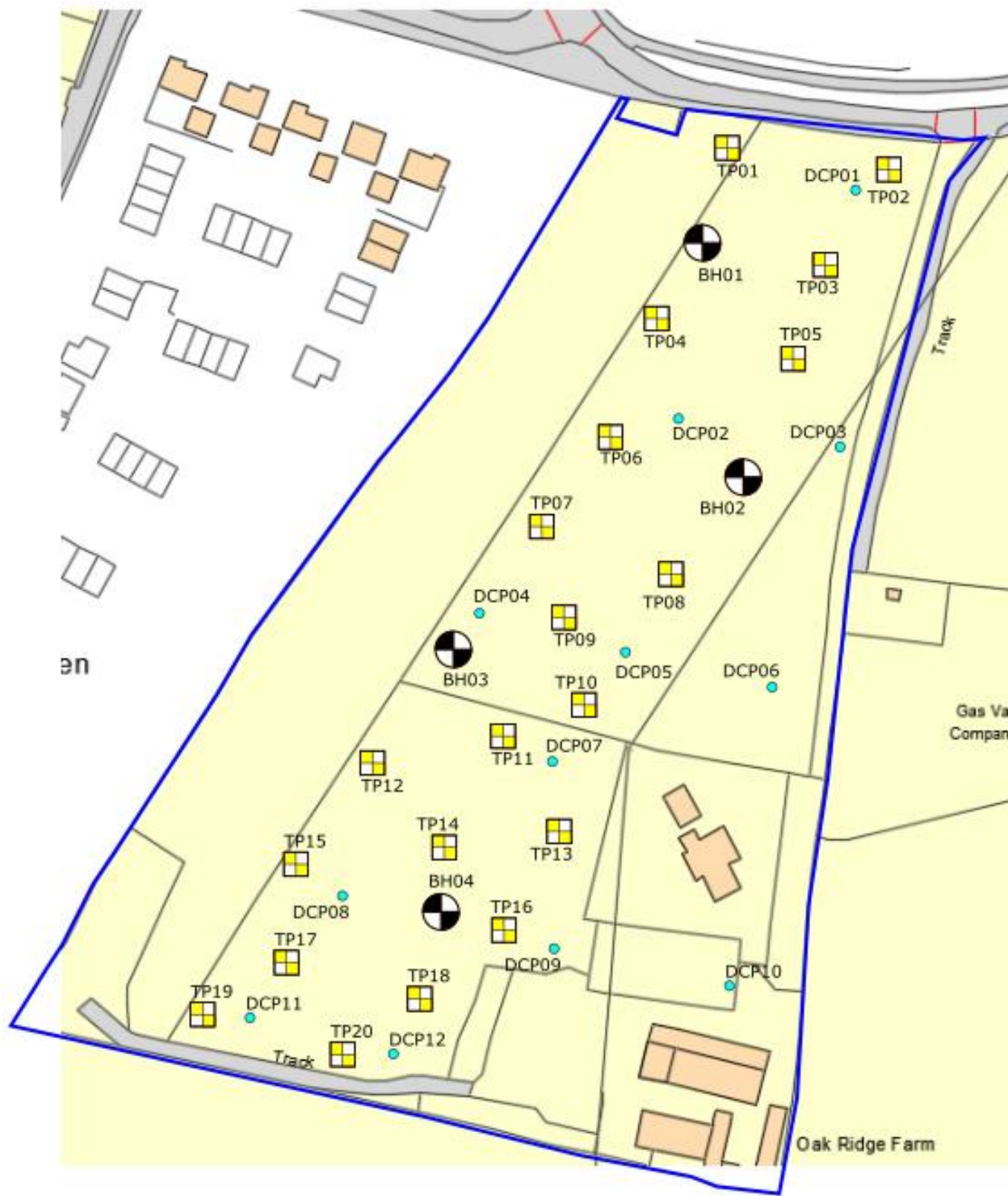
ORIGINATOR:

RIDGE
PROPERTY & CONSTRUCTION CONSULTANTS

PARTNERSHIP HOUSE
MOORSIDE ROAD
WINCHESTER
SO22 7RX

TEL: 01962 834400
WWW.RIDGE.CO.UK

FIGURE 3 – SITE INVESTIGATION PLAN



Project		Maddoxford Ln Phase 2		Title	Trial Hole Location Plan
Job Number	5015142	Client	Foreman Homes Ltd	 Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Drawing	5015142-Fig2	Revision	-		
Drawn	RM	Date	January 2021		
Checked by	RJH	Scale	NTS	Ridge and Partners LLP www.ridge.co.uk	
				TEL: 01962 834300	

APPENDIX 1 – REPORT CONDITIONS

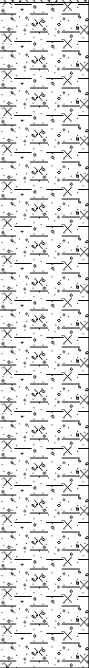
This report is produced solely for the benefit of **Foreman Homes Ltd** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the Site.

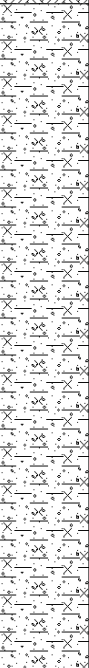
This report is based on a visual Site inspection, study of readily accessible referenced historical records, information supplied by those parties noted in the text and preliminary discussions with local and Statutory Authorities. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground contamination is suspected but no physical Site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the Site. Where test results undertaken by others have been made available these can only be regarded as a limited sample. The possibility of the presence of contaminants, not revealed by this research cannot be discounted.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, being subject to risk analysis, we are unable to give categoric assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ridge and Partners LLP. In time improved practices or amended legislation may necessitate a re-assessment.

The report is necessarily limited to those aspects of land contamination specifically reported on and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents that may occur. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the Site and adjacent Sites. The report concentrates on the Site as defined in the report and provides an opinion on surrounding Sites. If migrating pollution or contamination (past or present) exists this can only practically be better assessed following extensive on and off Site intrusive investigations and monitoring.

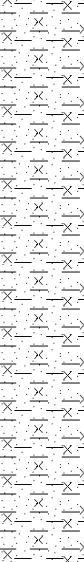
APPENDIX 2 – SOIL LOGS

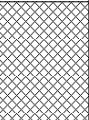
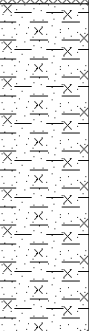
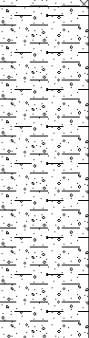
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP01 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451217.00 N114386.00		Level: 18.78m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.30 1 2 3 4 5		18.78		TOPSOIL: Turf over gravelly, sandy, silty, CLAY. Sand is fine grained. Gravel is sub-angular to sub-rounded, fine to medium, flint. Frequent roots and rootlets.		0.20	ES		
		18.48		Soft to firm, grey and light brownish orange mottled, slightly gravelly, sandy, silty CLAY. Sand is fine grained. Gravel is sub-angular to sub-rounded, fine flint. Frequent grey sandy laminations.		1.50	B		
				End of Borehole at 2.500m					
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.50	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.50mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

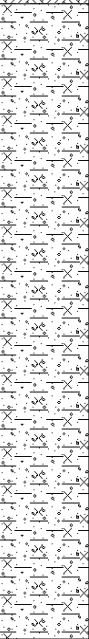
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP02 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.60m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451267.00 N114381.00		Level: 19.27m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 1 2 3 4 5	19.27 18.87	 	TOPSOIL: Turf over, dark brown, slightly gravelly sandy, very silty, CLAY. Sand is fine to medium. Gravel is sub-angular to sub-rounded, fine to medium flint. Frequent roots and rootlets.		1.00 2.00	D D			
			Soft to firm, light grey and brownish orange mottled, slightly gravelly, very sandy, very silty CLAY. Sand is fined grained. Gravel is sub-angular to rounded, fine to medium flint. Frequent grey silty sand lenses. Sand content decreased with depth.						
			End of Borehole at 2.600m						
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length 1.40		Pit Width 0.50		Test Number	Date Test	Depth Start	Depth End	Duration	
Remarks									
Trial pit machine excavated to a final depth of 2.60mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

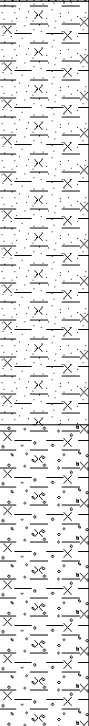


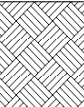
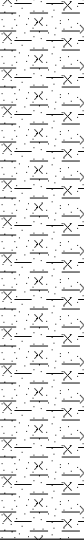
RIDGE Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP03 Sheet 1 of 1			
Project Name: Maddoxford Ln - Phase 2			Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM		
Location: Maddoxford Ln, Boorley Green, Southampton			Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP		
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451252.00 N114349.00		Level: 19.68m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.30 0.80 1 2 3 4 5		19.68		TOPSOIL: Turf over, dark brown, slightly gravelly sandy, very clayey, SILT. Sand is fine to medium. Gravel is sub-angular to sub-rounded, fine to medium flint. Frequent roots and rootlets.		0.20	ES		
		19.38		Soft, light yellowish grey, slightly sandy silty CLAY. Sand is fine grained.		0.70	D		
		18.88		Soft to firm, light grey and orange mottled, very sandy, very silty, CLAY. Rare fine flint gravel. Occasional sandy silt lenses.					
	2.40		End of Borehole at 2.400m			2.40	B		
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.40	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.40mbgl. No Groundwater encountered. Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP04 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.30m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451194.00 N114346.00		Level: 18.56m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 1 2 3 4 5	0.40 1 2 3 4 5	18.56		TOPSOIL: Dark grey, slightly gravelly, slightly sandy, peaty, very clayey, SILT. Sand is fine. Gravel is sub-angular to sub-rounded, fine to coarse flint. Frequent roots and rootlets.		0.30	ES		
		18.16							Soft to firm, light grey and orange mottled, sandy, very silty, CLAY. Rare fine flint gravel. Occasional sandy silt lenses.
		2.30	End of Borehole at 2.300m						
Dimensions		Soakage Test Information				Trial Pit Support			
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.50	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.30mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP05 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.60m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451240.00 N114330.00		Level: 19.76m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 1.50 2.60	0.40 1.50 2.60	19.76		MADE GROUND: Dark brown and grey, slightly gravelly slightly sandy, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint and brick fragments. Frequent roots and rootlets.		1.20	D		
		19.36		Soft to firm mottled grey, and light orangish brown, sandy, silty CLAY. Sand is fine grained. Rare fine flint gravel.					
		18.26		Firm, light grey, slightly sandy, slightly gravelly, CLAY. Sand is fine grained. Gravel is sub-angular to sub-rounded, fine flint.					
				End of Borehole at 2.600m					
Dimensions		Soakage Test Information				Trial Pit Support			
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.60	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.60mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

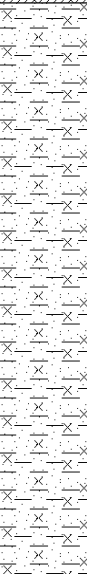
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP06 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451182.00 N114317.00		Level: 18.49m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 18.09 18.49	0.40 1.00 2.00 2.50 3.00 4.00 5.00	18.49 18.09	 	TOPSOIL: Dark brown and grey, slightly gravelly slightly sandy, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.		0.50	ES		
				Firm, locally stiff, yellowish grey and brownish orange, mottled, sandy, slightly gravelly silty, CLAY. Occasional very sandy laminations and lenses, up to 20mm thickness.					
				End of Borehole at 2.500m					
Dimensions		Soakage Test Information					Trial Pit Support		
Pit Length 1.50	Pit Width 0.60	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability Stable		Shoring Used None
Remarks Trial pit machine excavated to a final depth of 2.50mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP07 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.60m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451168.00 N114295.00		Level: 18.30m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.20 1.60 2.60		18.30		TOPSOIL: Dark brown and grey, slightly gravelly slightly sandy, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.					
	18.10								
	16.70		Firm, light yellowish grey, occasionally mottled brown, slightly gravelly, sandy silty CLAY. Sand is fine grained. Gravel is fine to medium, angular to sub-rounded, flint.						
				End of Borehole at 2.600m					
Dimensions		Soakage Test Information				Trial Pit Support			
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.60	0.50						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.60mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

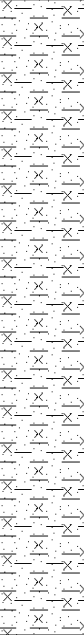
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP08 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451209.00 N114287.00		Level: 19.44m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 1 2 3 4 5		19.44		TOPSOIL: Dark grey, slightly gravelly, slightly sandy, peaty, very clayey, SILT. Sand is fine. Gravel is sub-angular to sub-rounded, fine to coarse flint. Frequent roots and rootlets.		0.30	ES		
	0.40	19.04		Soft to firm, mottled grey and light brownish orange, sandy silty CLAY. Sand is fine to medium grained. Occasional grey silty sandy laminations. Rare fine gravel flint.					
	2.20	17.24		Soft to firm, grey, very sandy silty CLAY. Sand is fine grained. Rare extremely weak grey siltstone.		2.40	B		
	2.50			End of Borehole at 2.500m					
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length 1.50		Pit Width 0.50		Test Number	Date Test	Depth Start	Depth End	Duration	
Remarks Trial pit machine excavated to a final depth of 2.50mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

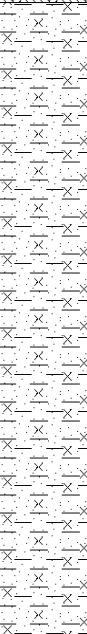
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP09 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451176.00 N114274.00		Level: 18.87m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.30	18.87		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.		0.20	ES		
		18.57		Soft to firm, locally very soft, mottled light grey and brownish orange. Slightly gravelly, very sandy, very silty CLAY. Sand is fine grained. Gravel is sub-angular to sub-rounded, fine to medium flint. Becoming firm to stiff from 2.30mbgl.					
2	2.40					2.10	D		
				End of Borehole at 2.400m					
3									
4									
5									
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.60	0.50						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.40mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

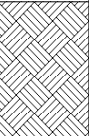
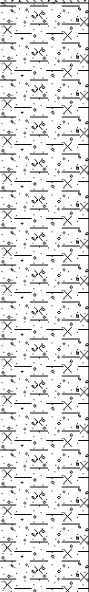
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP10 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP	
Project ID: 5015142		Date: 01/12/2021		Co-ords: E451178.00 N114245.00		Level: 18.34m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.20	18.34		MADE GROUND: Dark grey, slightly gravelly, sandy clayey SILT. Sand is fine to medium grained. Gravel is angular to sub-rounded, fine to medium, flint, brick and tile frags. Frequent roots and rootlets. Soft to firm, mottled grey and light brownish orange, sandy silty CLAY. Sand is fine to medium grained. Rare grey silty sandy laminations. Rare fine gravel flint.		0.10	ES		
		18.14				0.80	D		
	1.60	16.74		Firm, locally stiff, light grey, slightly sandy, very silty, CLAY. Sand is fine grained. Occasional, very to extremely weak reddish grey siltstone.		2.00	B		
2.50	End of Borehole at 2.500m								
3									
4									
5									
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.60	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.50mbgl. No Groundwater encountered.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP11 Sheet 1 of 1		
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM		
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP		
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451162.00 N114243.00		Level: 18.16m AoD		Scale: 1:25		
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing				
						Depth (m)	Type	Results		
0.50 1 2 3 4 5		18.16		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.						
	0.50	17.66		Soft to very soft, light grey and brown mottled, sandy very silty CLAY. Sand is fine grained. Occasional Orange very sandy pockets from 1.70mbgl. Rare fine sub-angular gravel flint and ironstone.		0.60	D			
	2.40			End of Borehole at 2.400m		2.30	B			
Dimensions			Soakage Test Information				Trial Pit Support			
Pit Length 1.50		Pit Width 0.60		Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability Stable	Shoring Used None
Remarks Trial pit machine excavated to a final depth of 2.40mbgl. No Groundwater encountered.										
Logged in general accordance with BS 5930: Code of practice for ground investigations.										

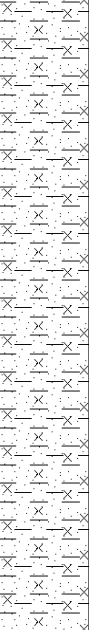


 Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP12 Sheet 1 of 1		
Project Name: Maddoxford Ln - Phase 2			Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton			Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021	Co-ords: E451133.00 N114241.00		Level: 17.30m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing		
						Depth (m)	Type	Results
0.40		17.30		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.		0.60	D	
		16.90		Soft to firm light grey and brownish orange, slightly sandy very silty CLAY. Sand is fine grained. Becoming stiff from 1.60mbgl.				
2.50				End of Borehole at 2.500m		2.30	B	
1 2 3 4 5								
Dimensions		Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used
1.60	0.60						Stable	None
Remarks Trial pit machine excavated to a final depth of 2.50mbgl. No Groundwater encountered.								
Logged in general accordance with BS 5930: Code of practice for ground investigations.								

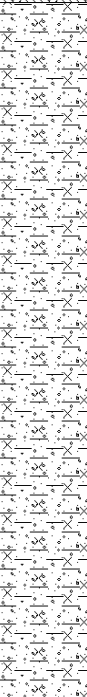
		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP13 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451185.00 N114217.00		Level: 18.66m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.30	18.66		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.		0.50	D		
		18.36		Firm, locally stiff, light grey and brownish orange mottled, sandy silty CLAY. Sand is fine grained. Occasional orange sandy laminations and lenses. Rare fine ironstone nodules.					
2	2.40			End of Borehole at 2.400m		2.00	D		
3									
4									
5									
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.70	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.40mbgl. Groundwater encountered at 2.40mbgl, slow flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP14 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451157.00 N114222.00		Level: 17.89m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.45	17.89		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to sub-rounded, fine to coarse, flint. Frequent roots and rootlets.		0.40	ES		
		17.44		Firm, locally soft, mottled light grey and brownish orange, slightly gravelly, sandy silty CLAY. Sand is fine grained. Gravel is sub-angular to rounded, fine, flint.		1.00	D		
2	2.40			End of Borehole at 2.400m	▼				
3									
4									
5									
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.50	0.50						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.40mbgl. Groundwater encountered at 2.00mbgl, fast flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

RIDGE		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP15 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.40m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451119.00 N114216.00		Level: 17.22m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.50	17.22		TOPSOIL: Dark brown and grey, slightly sandy, gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.			0.90	B	
		16.72		Soft to firm, locally soft, mottled light grey and brownish orange, slightly gravelly, sandy silty CLAY. Sand is fine grained. Gravel is sub-angular to rounded, fine, flint. Frequent orange sandy pockets.					
2	2.40			End of Borehole at 2.400m			1.70	D	
3									
4									
5									
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.50	0.60						Stable	None	
Remarks									
Trial pit machine excavated to a final depth of 2.40mbgl. Groundwater encountered at 2.10mbgl, steady flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP16 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.60m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451177.00 N114195.00		Level: 18.02m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.50 1 2 3 4 5	18.02 17.52	 	TOPSOIL: Dark brown and grey, slightly sandy, slightly gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.	0.60 1.60 ▼	0.60 1.60	ES D			
			Firm orangish brown and light grey mottled sandy silty CLAY. Sand is fine. Occasional orange silty sand pockets. Rare fine to medium flint.						
			End of Borehole at 2.600m						
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length 1.60	Pit Width 0.50	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability Stable		Shoring Used None
Remarks Trial pit machine excavated to a final depth of 2.60mbgl. Groundwater encountered at 2.50mbgl, steady flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP17 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.30m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451118.00 N114193.00		Level: 16.80m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.40 1 2 3 4 5	0.40 1 2 3 4 5	16.80		TOPSOIL: Dark brown and grey, slightly sandy, slightly gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.	▼	0.30 2.10	ES B		
		16.40		Soft to firm, locally soft, mottled light grey and brownish orange, slightly gravelly, sandy silty CLAY. Sand is fine grained. Gravel is sub-angular to rounded, fine, flint. Occasional grey sandy pockets.					
				End of Borehole at 2.300m					
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.60	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.30mbgl. Groundwater encountered at 2.10mbgl, fast flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP18 Sheet 1 of 1	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: KUBOTA KX080-4A		Depth: 2.60m		Hole Type: TP	
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451158.00 N114183.00		Level: 17.56m AoD		Scale: 1:25	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
0.30 1 2 3 4 5		17.56		TOPSOIL: Dark brown and grey, slightly sandy, slightly gravelly, clayey SILT. Sand is fine to coarse grained . Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.					
		17.26		Soft to firm, locally soft, mottled light grey and brownish orange, slightly gravelly, sandy silty CLAY. Sand is fine grained. Gravel is sub-angular to rounded, fine, flint. Occasional grey sandy pockets.					
				End of Borehole at 2.600m		2.60	D		
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.70	0.60						Stable	None	
Remarks Trial pit machine excavated to a final depth of 2.60mbgl. Groundwater encountered at 2.60mbgl, slow flow rate.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

RIDGE			Ridge and Partners LLP www.ridge.co.uk			Trial Pit Log			Trial Pit No. TP19 Sheet 1 of 1					
Project Name: Maddoxford Ln - Phase 2						Client: Foreman Homes Ltd			Contractor: LAS Site Investigation Ltd			Logged By: RM		
Location: Maddoxford Ln, Boorley Green, Southampton						Equipment: KUBOTA KX080-4A			Depth: 2.50m			Hole Type: TP		
Project ID: 5015142			Date: 02/12/2021			Co-ords: E451091.00 N114171.00			Level: 16.38m AoD			Scale: 1:25		
	Depth (m)	Level (mAOD)	Legend	Stratum Description					Water Strikes	Sample and In Situ Testing				
										Depth (m)	Type	Results		
0.40	16.38	15.98		TOPSOIL: Dark brown and grey, slightly sandy, slightly gravelly, clayey SILT. Sand is fine to coarse grained. Gravel is sub-angular to rounded, fine to medium, flint. Frequent roots and rootlets.						1.00	D			
				Firm locally stiff orangish brown and light grey mottled sandy silty CLAY. Sand is fine. Occasional orange silty sand pockets. Rare fine to medium flint.										
2.50				End of Borehole at 2.500m										
Dimensions			Soakage Test Information							Trial Pit Support				
Pit Length		Pit Width		Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability		Shoring Used			
1.60		0.60							Stable		None			
Remarks														
Trial pit machine excavated to a final depth of 2.50mbgl. Groundwater encountered at 1.60mbgl, slow flow rate.														
Logged in general accordance with BS 5930: Code of practice for ground investigations.														

RIDGE Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP20 Sheet 1 of 1		
Project Name: Maddoxford Ln - Phase 2		Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM		
Location: Maddoxford Ln, Boorley Green, Southampton		Equipment: KUBOTA KX080-4A		Depth: 2.50m		Hole Type: TP		
Project ID: 5015142		Date: 02/12/2021		Co-ords: E451134.00 N114164.00		Scale: 1:25		
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing		
						Depth (m)	Type	Results
0.40		16.91		TOPSOIL: Dark brown and grey, slightly sandy, slightly gravelly, clayey SILT. Sand is fine to medium grained. Gravel is sub-angular to sub-rounded, fine to medium, flint. Frequent roots and rootlets.		0.20	ES	
		16.51		Firm locally stiff orangish brown and light grey mottled sandy silty CLAY. Sand is fine. Occasional orange silty sand pockets. Rare fine to medium flint.		1.60	B	
2.50				End of Borehole at 2.500m				
Dimensions		Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used
1.50	0.50						Stable	None
Remarks								
Trial pit machine excavated to a final depth of 2.50mbgl. Groundwater encountered at 1.40mbgl, slow flow rate.								
Logged in general accordance with BS 5930: Code of practice for ground investigations.								

RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH01 Sheet 1 of 2			
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM			
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP			
Project ID: 5015142		Date: 30/11/2021 - 01/12/2021		Co-cords: E451200.00 N114356.00		Level: 18.58m AoD		Scale: 1:50			

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	D	N=5 (1,1/1,1,1,2)	0.40	18.18		TOPSOIL: Turf over dark greyish brown, sandy, gravelly SILT. Sand is fine to medium grained. Gravel is sub-angular to sub-rounded, fine to coarse, flint. Frequent roots and rootlets.	1
	1.20	D						Soft to firm, locally very soft, orangish brown and grey mottled, sandy silty CLAY. Sand is fine to medium grained. Sand content reduces with depth.	
	1.20	SPT							
			1.70	D					2
			2.20	D	N=8 (1,1/2,2,2,2)				
			2.20	SPT					
			2.70	B					
			3.20	D	N=12 (2,2/2,3,3,4)				3
			3.20	SPT					
			3.70	D					
		4.50	D	N=23 (4,4/5,5,6,7)	3.50	15.08	Firm, dark grey, very silty, very sandy CLAY. Sand is fine grained.	4	
		4.50	SPT						
		5.20	D						
		6.00	D	N=22 (3,3/5,5,6,6)	5.00	13.58	Medium dense, dark grey, clayey, very silty, SAND. Sand is fine grained. Occasional bands of dark grey clay.	5	
		6.00	SPT						
		7.50	D						
		7.50	SPT	N=14 (3,4/3,3,4,4)	7.50	11.08	Firm, dark grey to black, very sandy, very silty CLAY. Sand is fine grained.	6	
		8.20	B						
		9.00	D						
		9.00	SPT	N=14 (2,2/2,3,4,5)				7	
								8	
								9	
								10	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		3.70 15.00	200 150								

Remarks:

DRAFT Borehole Logs. Updated with in-situ data.

Logged in general accordance with BS 5930: Code of practice for ground investigations.

RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH01 Sheet 2 of 2	
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM	
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP	
Project ID: 5015142		Date: 30/11/2021 - 01/12/2021		Co-cords: E451200.00 N114356.00		Level: 18.58m AoD		Scale: 1:50	

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.50 10.50	D SPT	N=16 (3,2/2,3,4,7)	10.50	8.08		Firm, dark grey to black, very sandy, very silty CLAY. Sand is fine grained.	11
								Medium dense, dark greenish grey, very silty SAND. Sand is fine to medium grained.	
		12.00 12.00	D SPT	N=21 (3,3/4,6,6,5)	12.00	6.58		Medium dense dark greyish green, silty SAND. Sand is fine to medium. Becoming dark grey to black at 15.00mbgl.	12
		13.50 13.50	D SPT	N=19 (2,2/4,4,5,6)					13
		15.00	SPT	N=35 (8,8/8,9,9,9)	15.00	3.58		End of Borehole at 15.000m	15
									16
									17
									18
									19
									20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		3.70 15.00	200 150								

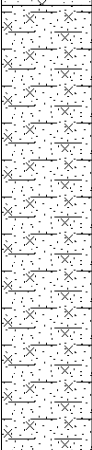
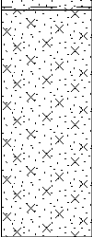
Remarks:

DRAFT Borehole Logs. Updated with in-situ data.

Logged in general accordance with BS 5930: Code of practice for ground investigations.

RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH02 Sheet 1 of 2			
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM			
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP			
Project ID: 5015142		Date: 01/12/2021 - 02/12/2021		Co-cords: E451221.00 N114302.00		Level: 19.44m AoD		Scale: 1:50			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		0.20	B	N=8 (1,1/2,2,2,2)	0.40	19.04		TOPSOIL: Turf over dark greyish brown, sandy, very gravelly SILT. Sand is fine grained. Gravel is sub-angular to sub-rounded, fine to coarse, flint. Frequent roots and rootlets.			
		1.00	U					Firm to stiff, light grey and orangish brown mottled, sandy, silty CLAY. Sand is fine to medium. Rare fine flint gravel. Occasional orange and grey pockets of silty sand.			
		1.70	D								
		2.20	D								
		2.20	SPT								
		2.70	U								
		3.70	D		Rare ironstone from 3.70mbgl.						
		4.70	D	N=12 (2,2/3,3,3,3)	5.00	14.44		Soft, light grey and orangish brown mottled, silty CLAY. Rare fine flint gravel.			
		4.70	SPT								
		5.40	D								
6.20	D	N=23 (5,4/5,6,6,6)	6.00	13.44		Soft to firm, dark grey, very sandy, very silty CLAY. Sand is fine grained. Occasional bands of dark greenish grey sand.					
6.20	SPT										
6.90	B										
7.70	D	N=17 (3,2/3,4,4,6)									
7.70	SPT										
9.20	D	N=30 (6,6/8,8,7,7)									
9.20	SPT										
Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		4.70 15.00	200 150								
Remarks:										AGS	
DRAFT Borehole Logs. Updated with in-situ data.											
Logged in general accordance with BS 5930: Code of practice for ground investigations.											

RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH02 Sheet 2 of 2			
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM			
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP			
Project ID: 5015142		Date: 01/12/2021 - 02/12/2021		Co-cords: E451221.00 N114302.00		Level: 19.44m AoD		Scale: 1:50			

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.70 10.70	D SPT	N=28 (5,5/6,6,7,9)	10.50	8.94		Soft to firm, dark grey, very sandy, very silty CLAY. Sand is fine grained. Occasional bands of dark greenish grey sand.	
		12.20 12.20	D SPT	N=31 (4,4/8,7,8,8)				Loose to medium dense, dark greyish green, slightly clayey, very silty, SAND. Sand is fine to medium grained.	11
		13.70 13.70	D SPT	N=35 (6,6/7,9,9,10)	13.50	5.94		Medium dense dark grey to black, silty SAND. Sand is fine to medium grained. Frequent clayey pockets.	12
					15.00	4.44		End of Borehole at 15.000m	13
									14
									15
									16
									17
									18
									19
									20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		4.70 15.00	200 150								

Remarks:

DRAFT Borehole Logs. Updated with in-situ data.

Logged in general accordance with BS 5930: Code of practice for ground investigations.



RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH03 Sheet 1 of 2			
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM			
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP			
Project ID: 5015142		Date: 03/12/2021		Co-cords: E451139.00 N114256.00		Level: 17.77m AoD		Scale: 1:50			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		0.50	D	N=7 (1,1/1,2,2,2)	0.30	17.47		TOPSOIL: Turf over dark greyish brown, slightly sandy, gravelly, clayey SILT. Sand is fine to medium grained. Gravel is sub-angular to sub-rounded, fine to medium, flint. Frequent roots and rootlets.	1		
		1.20	D								
		1.20	SPT								
		1.70	D						2		
		2.20	U								
		2.70	D								
		3.20	D	N=9 (2,1/2,2,2,3)					3		
		3.20	SPT								
		4.20	U								
		4.65	D		4.50	13.27		Soft to firm, dark grey, very silty, very sandy CLAY. Sand is fine grained. Occasional sandy laminations.	5		
		4.70	U								
		5.50	D								
		5.50	SPT	N=13 (2,2/3,3,3,4)					6		
		6.20	D								
		7.00	D								
		7.00	SPT	N=18 (4,3/4,4,4,6)					7		
7.50	B										
8.50	D										
8.50	SPT	N=16 (2,3/3,4,4,5)	8.50	9.27		Loose to medium dense, dark grey, clayey, very silty, SAND. Sand is fine grained. Occasional bands of dark grey clay.	9				
10.00	D										

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		4.20 15.00	200 150								

Remarks:

DRAFT Borehole Logs. Updated with in-situ data.

Logged in general accordance with BS 5930: Code of practice for ground investigations.

AGS

RIDGE Ridge and Partners LLP www.ridge.co.uk				Cable Percussive Borehole Log				Borehole No. BH03 Sheet 2 of 2			
Project Name: Maddoxford Ln - Phase 2				Client: Foreman Homes Ltd		Contractor: LAS Site Investigation Ltd		Logged By: RM			
Location: Maddoxford Ln, Boorley Green, Southampton				Equipment: Dando 3000		Depth: 15.00m		Hole Type: CP			
Project ID: 5015142		Date: 03/12/2021		Co-cords: E451139.00 N114256.00		Level: 17.77m AoD		Scale: 1:50			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		10.00	SPT	N=25 (4,4/6,6,6,7)	11.50	6.27		Loose to medium dense, dark grey, clayey, very silty, SAND. Sand is fine grained. Occasional bands of dark grey clay.	11		
	11.50	D	N=25 (5,7/5,7,7,6)	Medium dense dark greyish green, silty SAND. Sand is fine to medium.				12			
	11.50	SPT									
	12.00	B									
	13.00	D	N=28 (4,4/6,6,8,8)	Becoming dark grey to black at 13.50mbgl.	13						
13.00	SPT										
14.50	D	N=29 (5,6/6,7,7,9)	End of Borehole at 15.000m	15							
14.50	SPT										
					15.00	2.77			16		
									17		
									18		
									19		
									20		
Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		4.20 15.00	200 150								
Remarks:											
DRAFT Borehole Logs. Updated with in-situ data.											
Logged in general accordance with BS 5930: Code of practice for ground investigations.											

APPENDIX 3 – LABORATORY CERTIFICATES



Rob Milligan
Ridge
Partnership House
Moorside Road
Winchester
SO23 7RX

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-14410

Site Reference: Maddoxford

Project / Job Ref: 5015142

Order No: 5015142 - 17342

Sample Receipt Date: 06/12/2021

Sample Scheduled Date: 06/12/2021

Report Issue Number: 1

Reporting Date: 22/12/2021

Authorised by:

A handwritten signature in dark ink, appearing to read "Dave Ashworth", is written over a light blue horizontal line.

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 21-14410	Date Sampled	01/12/21	01/12/21	01/12/21	01/12/21	01/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP03	TP06	TP09	TP11	TP14
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS	TS	TS
Order No: 5015142 - 17342	Depth (m)	0.20	0.50	0.20	0.40	0.40
Reporting Date: 22/12/2021	DETS Sample No	578060	578061	578062	578063	578064

Determinand	Unit	RL	Accreditation						
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-TP (fenoprop) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Clodpyralid ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCP ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Subcontracted analysis ^(S)



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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 21-14410	Date Sampled	01/12/21				
Ridge	Time Sampled	None Supplied				
Site Reference: Maddoxford	TP / BH No	TP17				
Project / Job Ref: 5015142	Additional Refs	TS				
Order No: 5015142 - 17342	Depth (m)	0.30				
Reporting Date: 22/12/2021	DETS Sample No	578065				

Determinand	Unit	RL	Accreditation				
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4,5-TP (fenoprop) ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1			
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Clodpyralid ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCP ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1			

Subcontracted analysis ^(S)



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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 21-14410	
Ridge	
Site Reference: Maddoxford	
Project / Job Ref: 5015142	
Order No: 5015142 - 17342	
Reporting Date: 22/12/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
578060	TP03	TS	0.20	17.9	Brown clay
578061	TP06	NAT	0.50	22.5	Light brown clay
578062	TP09	TS	0.20	21.2	Brown clay
578063	TP11	TS	0.40	19.7	Brown clay
578064	TP14	TS	0.40	23.8	Brown clay
578065	TP17	TS	0.30	18.7	Brown clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

Unsuitable Sample ^{u/s}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-14410

Ridge

Site Reference: Maddoxford

Project / Job Ref: 5015142

Order No: 5015142 - 17342

Reporting Date: 22/12/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



Rob Milligan
Ridge
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SO23 7RX

Derwentside Environmental Testing Services Ltd
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t: 01622 850410

DETS Report No: 21-14391

Site Reference: Maddoxford

Project / Job Ref: 5015142

Order No: 5015142-17342

Sample Receipt Date: 06/12/2021

Sample Scheduled Date: 06/12/2021

Report Issue Number: 1

Reporting Date: 14/12/2021

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	01/12/21	01/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP01	TP03	TP04	TP06	TP08
Project / Job Ref: 5015142	Additional Refs	TS	TS	TS	NAT	TS
Order No: 5015142-17342	Depth (m)	0.20	0.20	0.30	0.50	0.30
Reporting Date: 14/12/2021	DETS Sample No	577988	577989	577990	577991	577992

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected		Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	6.3		6.5	4.7	6.7
Total Cyanide	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2
Organic Matter (SOM)	%	< 0.1	MCERTS	19.6		20.8	35.9	27.3
Arsenic (As)	mg/kg	< 2	MCERTS	3		7	4	7
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	15		18	10	19
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	13		12	8	17
Lead (Pb)	mg/kg	< 3	MCERTS	33		39	18	52
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	5		7	4	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 3		< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	37		43	24	42
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	02/12/21	02/12/21	02/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP09	TP10	TP11	TP14	TP16
Project / Job Ref: 5015142	Additional Refs	TS	MG	TS	TS	NAT
Order No: 5015142-17342	Depth (m)	0.20	0.10	0.40	0.40	0.60
Reporting Date: 14/12/2021	DETS Sample No	577993	577994	577995	577996	577997

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025		Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS		7.0	6.9	6.3
Total Cyanide	mg/kg	< 2	NONE		< 2	< 2	< 2
Organic Matter (SOM)	%	< 0.1	MCERTS		2.8	4.5	1.5
Arsenic (As)	mg/kg	< 2	MCERTS		5	6	8
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS		16	16	25
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		9	12	11
Lead (Pb)	mg/kg	< 3	MCERTS		28	38	18
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		6	6	5
Selenium (Se)	mg/kg	< 2	MCERTS		< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS		34	56	37
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-14391	Date Sampled	02/12/21	02/12/21			
Ridge	Time Sampled	None Supplied	None Supplied			
Site Reference: Maddoxford	TP / BH No	TP17	TP20			
Project / Job Ref: 5015142	Additional Refs	TS	TS			
Order No: 5015142-17342	Depth (m)	0.30	0.20			
Reporting Date: 14/12/2021	DETS Sample No	577998	577999			

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025		Not Detected		
pH	pH Units	N/a	MCERTS		7.1		
Total Cyanide	mg/kg	< 2	NONE		< 2		
Organic Matter (SOM)	%	< 0.1	MCERTS		1.8		
Arsenic (As)	mg/kg	< 2	MCERTS		6		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS		18		
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2		
Copper (Cu)	mg/kg	< 4	MCERTS		8		
Lead (Pb)	mg/kg	< 3	MCERTS		24		
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS		7		
Selenium (Se)	mg/kg	< 2	MCERTS		< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS		43		
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	01/12/21	01/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP01	TP04	TP06	TP08	TP10
Project / Job Ref: 5015142	Additional Refs	TS	TS	NAT	TS	MG
Order No: 5015142-17342	Depth (m)	0.20	0.30	0.50	0.30	0.10
Reporting Date: 14/12/2021	DETS Sample No	577988	577990	577991	577992	577994

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.24	0.14	< 0.1	0.20	0.13
Pyrene	mg/kg	< 0.1	MCERTS	0.20	0.14	< 0.1	0.17	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.14	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.14	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.19	0.14	< 0.1	< 0.1	0.14
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-14391	Date Sampled	02/12/21	02/12/21	02/12/21		
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Maddoxford	TP / BH No	TP11	TP16	TP20		
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS		
Order No: 5015142-17342	Depth (m)	0.40	0.60	0.20		
Reporting Date: 14/12/2021	DETS Sample No	577995	577997	577999		

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	01/12/21	01/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP01	TP04	TP06	TP08	TP10
Project / Job Ref: 5015142	Additional Refs	TS	TS	NAT	TS	MG
Order No: 5015142-17342	Depth (m)	0.20	0.30	0.50	0.30	0.10
Reporting Date: 14/12/2021	DETS Sample No	577988	577990	577991	577992	577994

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-14391	Date Sampled	02/12/21	02/12/21	02/12/21		
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Maddoxford	TP / BH No	TP11	TP16	TP20		
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS		
Order No: 5015142-17342	Depth (m)	0.40	0.60	0.20		
Reporting Date: 14/12/2021	DETS Sample No	577995	577997	577999		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21		
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21		
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42		



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	01/12/21	01/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP01	TP04	TP06	TP08	TP10
Project / Job Ref: 5015142	Additional Refs	TS	TS	NAT	TS	MG
Order No: 5015142-17342	Depth (m)	0.20	0.30	0.50	0.30	0.10
Reporting Date: 14/12/2021	DETS Sample No	577988	577990	577991	577992	577994

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-14391	Date Sampled	02/12/21	02/12/21	02/12/21		
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Maddoxford	TP / BH No	TP11	TP16	TP20		
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS		
Order No: 5015142-17342	Depth (m)	0.40	0.60	0.20		
Reporting Date: 14/12/2021	DETS Sample No	577995	577997	577999		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	02/12/21	02/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP03	TP06	TP09	TP11	TP14
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS	TS	TS
Order No: 5015142-17342	Depth (m)	0.20	0.50	0.20	0.40	0.40
Reporting Date: 14/12/2021	DETS Sample No	577989	577991	577993	577995	577996

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 21-14391	Date Sampled	02/12/21				
Ridge	Time Sampled	None Supplied				
Site Reference: Maddoxford	TP / BH No	TP17				
Project / Job Ref: 5015142	Additional Refs	TS				
Order No: 5015142-17342	Depth (m)	0.30				
Reporting Date: 14/12/2021	DETS Sample No	577998				

Determinand	Unit	RL	Accreditation				
Aldrin	mg/kg	< 0.02	NONE	< 0.02			
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02			
beta-HCH	mg/kg	< 0.02	NONE	< 0.02			
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02			
delta-HCH	mg/kg	< 0.02	NONE	< 0.02			
Dieldrin	mg/kg	< 0.02	NONE	< 0.02			
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02			
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02			
Endrin	mg/kg	< 0.02	NONE	< 0.02			
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02			
Heptachlor	mg/kg	< 0.02	NONE	< 0.02			
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02			
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02			
Isodrin	mg/kg	< 0.02	NONE	< 0.02			
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02			
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02			
p,p' - DDE	mg/kg	< 0.02	NONE	0.02			
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02			
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02			
Trifluralin	mg/kg	< 0.02	NONE	< 0.02			



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 21-14391	Date Sampled	01/12/21	01/12/21	01/12/21	02/12/21	02/12/21
Ridge	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Maddoxford	TP / BH No	TP03	TP06	TP09	TP11	TP14
Project / Job Ref: 5015142	Additional Refs	TS	NAT	TS	TS	TS
Order No: 5015142-17342	Depth (m)	0.20	0.50	0.20	0.40	0.40
Reporting Date: 14/12/2021	DETS Sample No	577989	577991	577993	577995	577996

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, E	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 21-14391	Date Sampled	02/12/21				
Ridge	Time Sampled	None Supplied				
Site Reference: Maddoxford	TP / BH No	TP17				
Project / Job Ref: 5015142	Additional Refs	TS				
Order No: 5015142-17342	Depth (m)	0.30				
Reporting Date: 14/12/2021	DETS Sample No	577998				

Determinand	Unit	RL	Accreditation				
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1			
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1			
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1			
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1			
Diazinon	mg/kg	< 0.1	NONE	< 0.1			
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1			
Dimethoate	mg/kg	< 0.1	NONE	< 0.1			
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1			
Fenthion	mg/kg	< 0.1	NONE	< 0.1			
Malathion	mg/kg	< 0.1	NONE	< 0.1			
Mevinphos, E	mg/kg	< 0.1	NONE	< 0.1			
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1			
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1			
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1			
Phorate	mg/kg	< 0.1	NONE	< 0.1			

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																							
DETS Report No: 21-14391			Date Sampled		01/12/21		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <td style="width: 33%; padding: 5px; text-align: center;">Inert Waste Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Hazardous Waste Landfill</td> </tr> <tr> <td style="padding: 5px; text-align: center;">3%</td> <td style="padding: 5px; text-align: center;">5%</td> <td style="padding: 5px; text-align: center;">6%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">10%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">6</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">1</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">500</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">100</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">>6</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">To be evaluated</td> <td style="padding: 5px; text-align: center;">To be evaluated</td> </tr> </table>			Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Ridge			Time Sampled		None Supplied																																		
Site Reference: Maddoxford			TP / BH No		TP04																																		
Project / Job Ref: 5015142			Additional Refs		TS																																		
Order No: 5015142-17342			Depth (m)		0.30																																		
Reporting Date: 14/12/2021			DETS Sample No		577990																																		
Determinand		Unit		MDL																																			
TOC ^{MU}		%		< 0.1		12.1																																	
Loss on Ignition		%		< 0.01		11																																	
BTEX ^{MU}		mg/kg		< 0.05		< 0.05																																	
Sum of PCBs		mg/kg		< 0.1		< 0.1																																	
Mineral Oil ^{MU}		mg/kg		< 10		< 10																																	
Total PAH ^{MU}		mg/kg		< 1.7		< 1.7																																	
pH ^{MU}		pH Units		N/a		6.5																																	
Acid Neutralisation Capacity		mol/kg (+/-)		< 1		< 1																																	
Eluate Analysis				10:1 mg/l		Cumulative 10:1 mg/kg		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																															
Arsenic ^U				< 0.01		0.5		25																															
Barium ^U				< 0.02		20		300																															
Cadmium ^U				< 0.0005		0.04		5																															
Chromium ^U				< 0.005		0.5		70																															
Copper ^U				< 0.01		2		100																															
Mercury ^U				< 0.0005		0.01		2																															
Molybdenum ^U				< 0.001		0.5		30																															
Nickel ^U				< 0.007		0.4		40																															
Lead ^U				< 0.005		0.5		50																															
Antimony ^U				< 0.005		0.06		5																															
Selenium ^U				< 0.005		0.1		7																															
Zinc ^U				0.007		0.07		200																															
Chloride ^U				3.9		800		25000																															
Fluoride ^U				< 0.5		10		500																															
Sulphate ^U				3.0		1000		50000																															
TDS				25		4000		100000																															
Phenol Index				< 0.01		1		-																															
DOC				8.4		500		1000																															
Leach Test Information																																							
Sample Mass (kg)				0.12																																			
Dry Matter (%)				73.2																																			
Moisture (%)				36.8																																			
Stage 1																																							
Volume Eluate L10 (litres)				0.87																																			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion

Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation

M Denotes MCERTS accredited test

U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																							
DETS Report No: 21-14391			Date Sampled		02/12/21		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <td style="width: 33%; padding: 5px; text-align: center;">Inert Waste Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Hazardous Waste Landfill</td> </tr> <tr> <td style="padding: 5px; text-align: center;">3%</td> <td style="padding: 5px; text-align: center;">5%</td> <td style="padding: 5px; text-align: center;">6%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">10%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">6</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">1</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">500</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">100</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">>6</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center; color: red;">To be evaluated</td> <td style="padding: 5px; text-align: center; color: red;">To be evaluated</td> </tr> </table>			Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Ridge			Time Sampled		None Supplied																																		
Site Reference: Maddoxford			TP / BH No		TP11																																		
Project / Job Ref: 5015142			Additional Refs		TS																																		
Order No: 5015142-17342			Depth (m)		0.40																																		
Reporting Date: 14/12/2021			DETS Sample No		577995																																		
Determinand		Unit		MDL																																			
TOC ^{MU}		%		< 0.1		2.3																																	
Loss on Ignition		%		< 0.01		7.86																																	
BTEX ^{MU}		mg/kg		< 0.05		< 0.05																																	
Sum of PCBs		mg/kg		< 0.1		< 0.1																																	
Mineral Oil ^{MU}		mg/kg		< 10		< 10																																	
Total PAH ^{MU}		mg/kg		< 1.7		< 1.7																																	
pH ^{MU}		pH Units		N/a		6.9																																	
Acid Neutralisation Capacity		mol/kg (+/-)		< 1		< 1																																	
Eluate Analysis				10:1 mg/l		Cumulative 10:1 mg/kg		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																															
Arsenic ^U				< 0.01		< 0.1		0.5																															
Barium ^U				< 0.02		< 0.2		20																															
Cadmium ^U				< 0.0005		< 0.005		0.04																															
Chromium ^U				< 0.005		< 0.05		0.5																															
Copper ^U				< 0.01		< 0.1		2																															
Mercury ^U				< 0.0005		< 0.005		0.01																															
Molybdenum ^U				< 0.001		< 0.01		0.5																															
Nickel ^U				< 0.007		< 0.07		0.4																															
Lead ^U				< 0.005		< 0.05		0.5																															
Antimony ^U				< 0.005		< 0.05		0.06																															
Selenium ^U				< 0.005		< 0.05		0.1																															
Zinc ^U				0.008		0.08		4																															
Chloride ^U				3.2		32		800																															
Fluoride ^U				0.5		5		10																															
Sulphate ^U				3.3		33		1000																															
TDS				32		320		4000																															
Phenol Index				< 0.01		< 0.1		1																															
DOC				10.6		106		500																															
Leach Test Information																																							
Sample Mass (kg)				0.13																																			
Dry Matter (%)				70.6																																			
Moisture (%)				41.8																																			
Stage 1																																							
Volume Eluate L10 (litres)				0.86																																			
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test																																							



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
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Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-14391	
Ridge	
Site Reference: Maddoxford	
Project / Job Ref: 5015142	
Order No: 5015142-17342	
Reporting Date: 14/12/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
577988	TP01	TS	0.20	21.3	Brown loamy clay
577989	TP03	TS	0.20	17.9	Brown clay
577990	TP04	TS	0.30	26.9	Brown clay
577991	TP06	NAT	0.50	22.5	Light brown clay
577992	TP08	TS	0.30	23.1	Brown clay
577993	TP09	TS	0.20	21.2	Brown clay
577994	TP10	MG	0.10	21.1	Brown clay
577995	TP11	TS	0.40	29.4	Brown clay
577996	TP14	TS	0.40	23.8	Brown clay
577997	TP16	NAT	0.60	29.1	Light brown clay
577998	TP17	TS	0.30	18.7	Brown clay
577999	TP20	TS	0.20	20.5	Brown clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-14391

Ridge

Site Reference: Maddoxford

Project / Job Ref: 5015142

Order No: 5015142-17342

Reporting Date: 14/12/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-14391

Ridge

Site Reference: Maddoxford

Project / Job Ref: 5015142

Order No: 5015142-17342

Reporting Date: 14/12/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



Laboratory Report



Contract Number: 57190

Client Ref: **5015142**

Report Date: **12-01-2022**

Client PO: **5015142 - 17422**

Client **Ridge**
Partnership House
Moorside Road
Winchester
SO23 7RX

Contract Title: **Maddoxford Ln**
For the attention of: **Rob Milligan**

Date Received: **09-12-2021**

Date Completed: **12-01-2022**

Test Description	Qty
Samples Received - @ Non Accredited Test	29
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	11
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	11
Water Soluble Sulphate 2:1 extract Sub-contracted Test - @ Non Accredited Test	14
pH value of soil Sub-contracted Test - @ Non Accredited Test	14
CBR: Remoulded Specimen and tested at top only BS 1377:1990 - Part 4 : 7 - * UKAS	2
Dry Den/MC (2.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.4 - * UKAS	2
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation
* - denotes test included in laboratory scope of accreditation
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

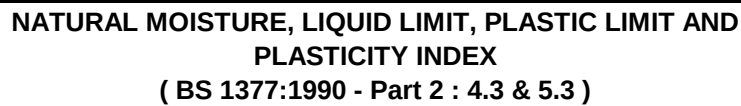
Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN

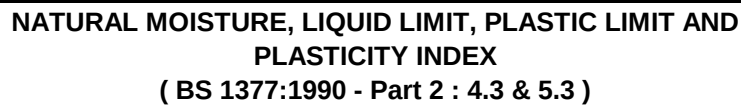
Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk



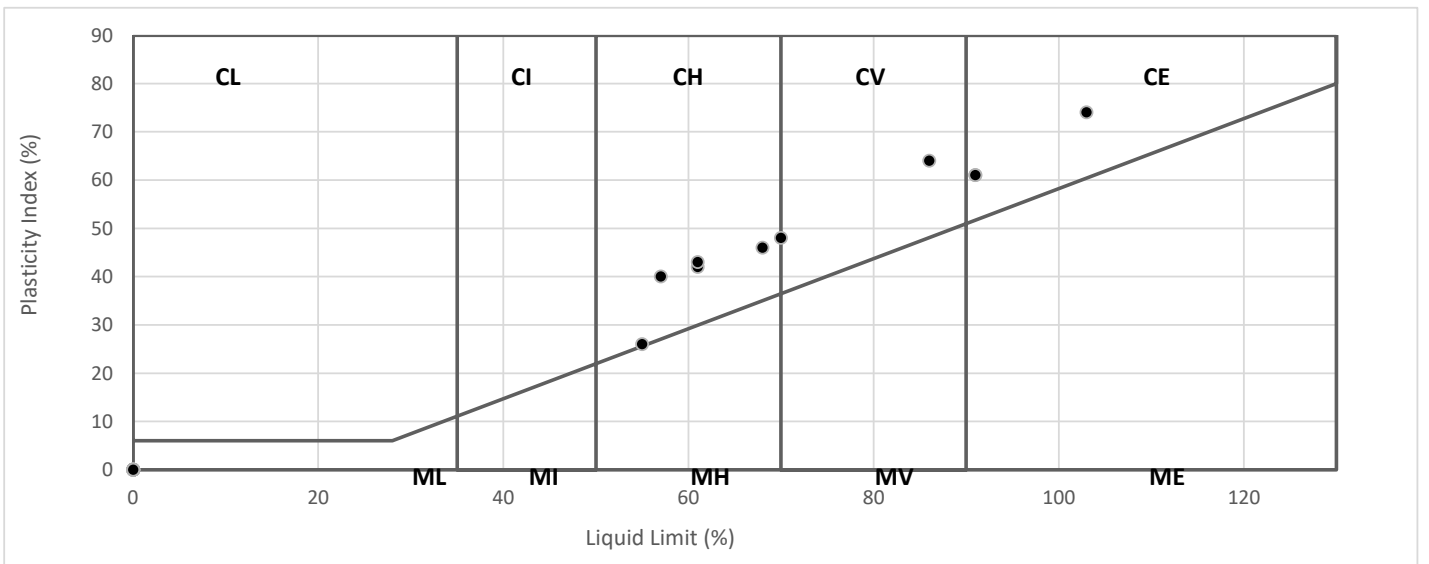
Contract Number	57190	
Site Name	Maddoxford Ln	
Date Tested	08/01/2022	
	DESCRIPTIONS	

[illegible]

Operators	Checked	12/01/2022	Richard John (Advanced Testing Manager)
Dean Smith	Approved	12/01/2022	Paul Evans (Quality/Technical Manager)

[illegible]

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010

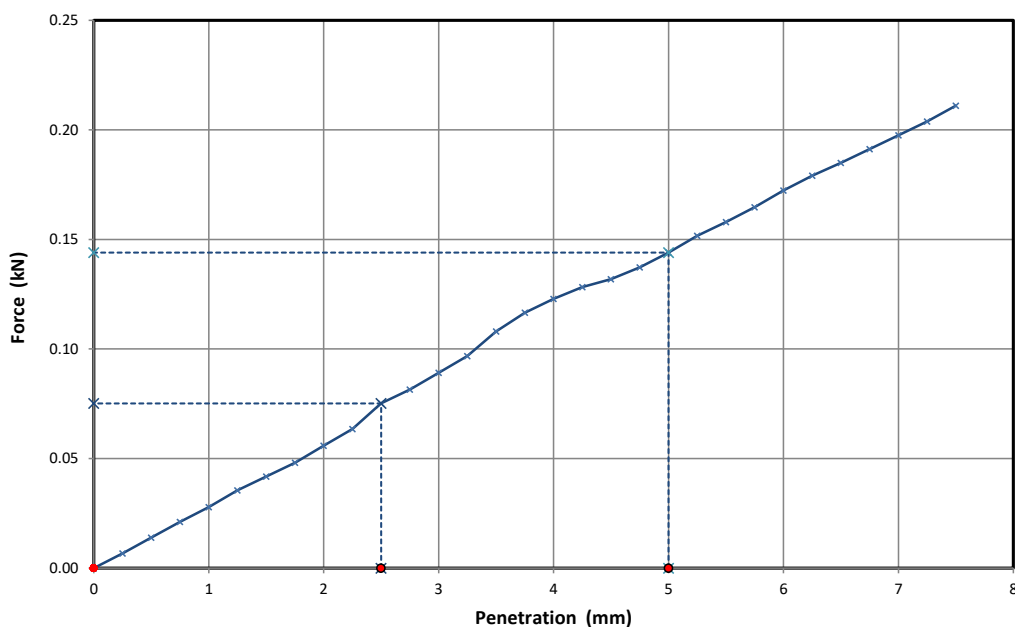


Operators	Checked	12/01/2022	Richard John (Advanced Testing Manager)
Dean Smith	Approved	12/01/2022	Paul Evans (Quality/Technical Manager)



**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number	57190	Borehole/Pit No.	TP07
Site Name	Maddoxford Ln	Sample No.	
Soil Description	Greyish brown sandy silty CLAY	Depth Top	1.40
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	07/01/2022		



Initial Sample Conditions	
Moisture Content (%)	43
Moisture Top (%)	43
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.86
Dry Density (Mg/m3)	1.30

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	0.57	2.5mm Bottom	
5mm Top	0.72	5mm Bottom	
CBR Value %	0.72	CBR Value %	

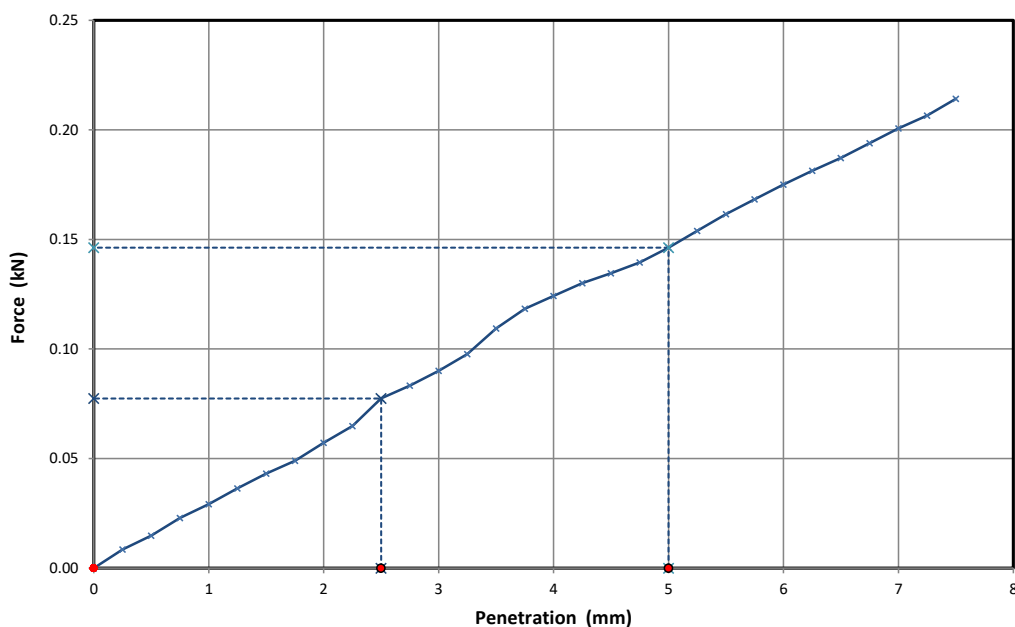
Operators	Checked	11/01/2022	Richard John	
Conor	Approved	12/01/2022	Paul Evans	





**California Bearing Ratio
BS 1377: Part 4: 1990 Clause 7**

Contract Number	57190	Borehole/Pit No.	TP15
Site Name	Maddoxford Ln	Sample No.	
Soil Description	Greyish brown sandy silty CLAY	Depth Top	0.90
Compaction Method	2.5 Kg Rammer	Depth Base	
Retained 20mm (%)	0	Sample Type	B
Date Tested	07/01/2022		



Initial Sample Conditions	
Moisture Content (%)	44
Moisture Top (%)	44
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.84
Dry Density (Mg/m3)	1.28

Specified Testing Parameters	
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	

CBR Test Values			
2.5mm Top	0.59	2.5mm Bottom	
5mm Top	0.73	5mm Bottom	
CBR Value %	0.73	CBR Value %	

Operators	Checked	11/01/2022	Richard John	
Conor	Approved	12/01/2022	Paul Evans	



Dry Density / Moisture Content Relationship BS 1377:Part 4:1990

Contract Number 57190

Borehole / Pit No TP04

Project Location Maddoxford Ln

Sample No

Date Tested 07/01/2022

Depth Top 1.50

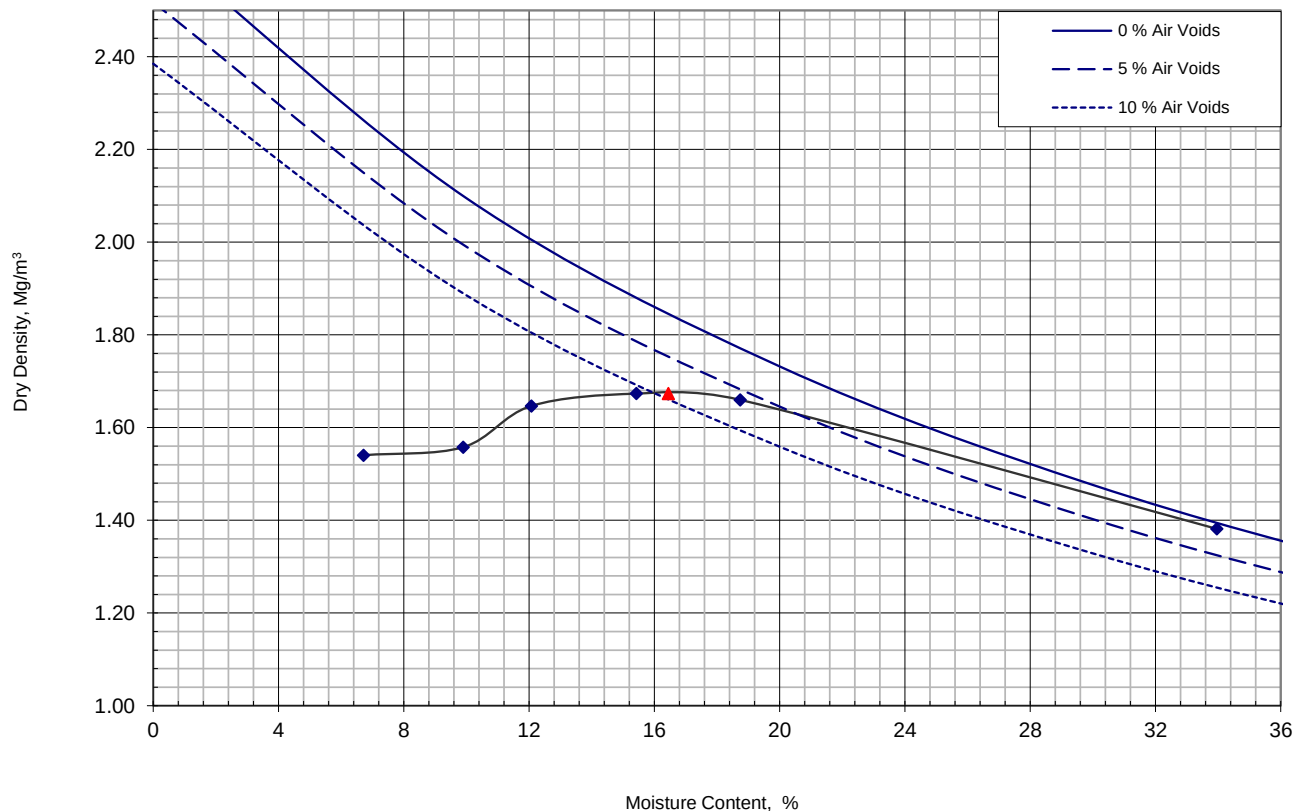
Compaction Method 2.5 Kg Rammer

Depth Base

Compaction Clause BS1377:Part 4:1990, Clause 3.3

Sample Type B

Sample Description Greyish brown sandy silty CLAY



Compaction Point	1	2	3	4	5	6						
Moisture Content	6.7	9.9	12	15	19	34						
Bulk Density	1.64	1.71	1.85	1.93	1.97	1.85						
Dry Density	1.54	1.56	1.65	1.67	1.66	1.38						

Initial Moisture Content	34	%
Maximum Dry Density	1.67	Mg/m3
Optimum Moisture Content	16	%
Particle Density	2.65 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator	Checked	11/01/2022	Richard John	
Conor	Approved	12/01/2022	Paul Evans	

Project Location Maddoxford Ln

Sample No

Date Tested 07/01/2022

Depth Top 2.30

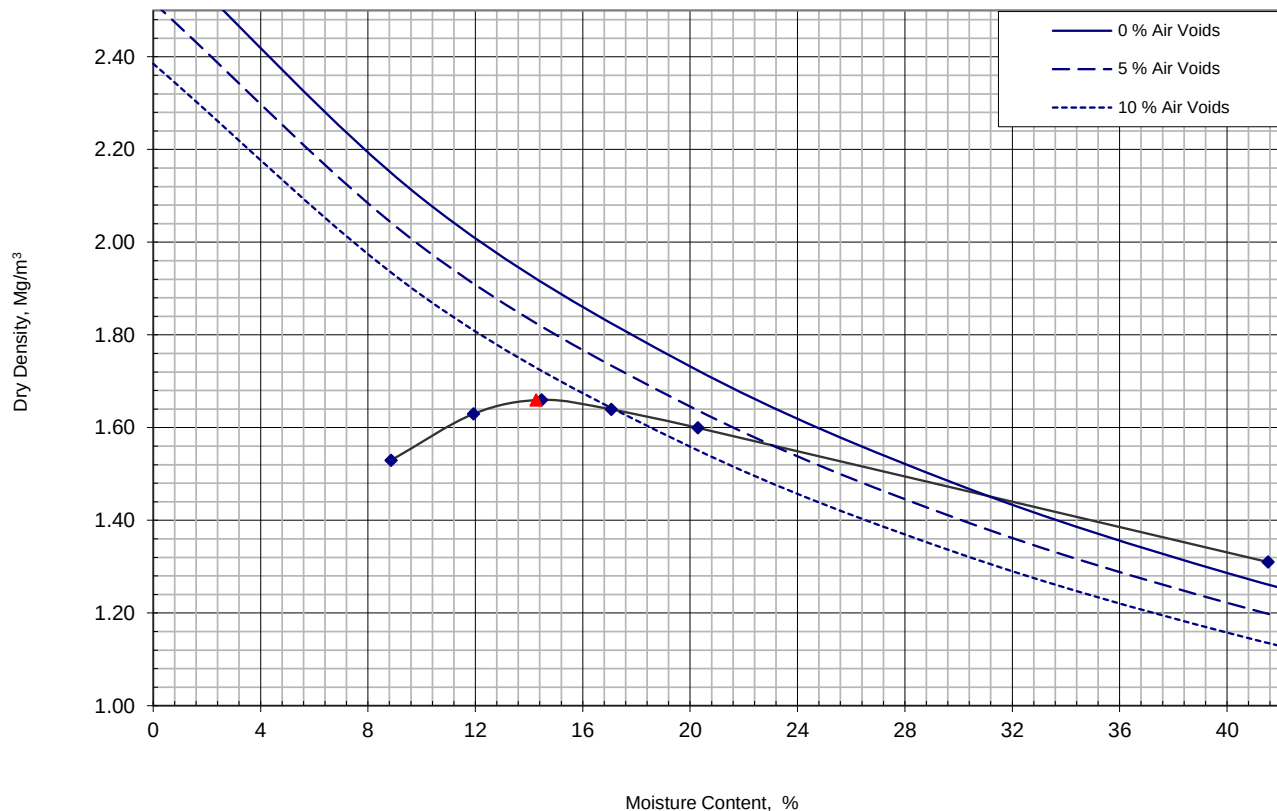
Compaction Method 2.5 Kg Rammer

Depth Base

Compaction Clause BS1377:Part 4:1990, Clause 3.3

Sample Type B

Sample Description Greyish brown sandy silty CLAY



Compaction Point	1	2	3	4	5	6						
Moisture Content	8.9	12	14	17	20	42						
Bulk Density	1.66	1.82	1.90	1.92	1.92	1.85						
Dry Density	1.53	1.63	1.66	1.64	1.60	1.31						

Initial Moisture Content	42	%
Maximum Dry Density	1.66	Mg/m3
Optimum Moisture Content	14	%
Particle Density	2.65 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator	Checked	11/01/2022	Richard John	
Conor	Approved	12/01/2022	Paul Evans	



ANALYTICAL TEST REPORT

Contract no: 103814

Contract name: Maddoxford Lane

Client reference: 5015142

Clients name: Geo Site & Testing Services

Clients address: Unit 3 and 4 Heol Aur
Dafen Industrial Estate, Dafen
Llanelli, Carmarthenshire
SA14 8QN

Samples received: 16 December 2021

Analysis started: 16 December 2021

Analysis completed: 23 December 2021

Report issued: 23 December 2021

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
\$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Rachael Burton

Reporting Team Lead

Chemtech Environmental Limited

SOILS

Lab number			103814-1	103814-2	103814-3	103814-4	103814-5	103814-6
Sample id			BH01	BH01	BH01	BH01	TP03	TP05
Depth (m)			3.70	6.00	10.50	13.50	0.70	2.20
Sample Type			D	D	D	D	D	B
Date sampled			-	-	-	-	-	-
Test	Method	Units						
pH	CE004 ^U	units	5.4	5.9	6.3	6.2	5.5	7.6
Sulphate (2:1 water soluble)	CE061 ^U	mg/l SO ₄	116	104	84	46	24	12

Chemtech Environmental Limited

SOILS

Lab number			103814-7	103814-8	103814-9	103814-10	103814-11	103814-12
Sample id			TP07	TP09	TP11	TP13	TP15	TP16
Depth (m)			1.40	2.10	1.40	0.50	0.90	1.60
Sample Type			D	D	D	D	B	D
Date sampled			-	-	-	-	-	-
Test	Method	Units						
pH	CE004 ^U	units	7.7	7.8	5.8	5.7	5.5	6.7
Sulphate (2:1 water soluble)	CE061 ^U	mg/l SO ₄	<10	14	44	42	28	21

Chemtech Environmental Limited

SOILS

Lab number			103814-13	103814-14
Sample id			TP18	TP20
Depth (m)			2.60	1.60
Sample Type			D	B
Date sampled			-	-
Test	Method	Units		
pH	CE004 ^U	units	5.9	5.2
Sulphate (2:1 water soluble)	CE061 ^U	mg/l SO ₄	55	159

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO ₄

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
103814-1	BH01	3.70	Y	All (NSD)
103814-2	BH01	6.00	Y	All (NSD)
103814-3	BH01	10.50	Y	All (NSD)
103814-4	BH01	13.50	Y	All (NSD)
103814-5	TP03	0.70	Y	All (NSD)
103814-6	TP05	2.20	Y	All (NSD)
103814-7	TP07	1.40	Y	All (NSD)
103814-8	TP09	2.10	Y	All (NSD)
103814-9	TP11	1.40	Y	All (NSD)
103814-10	TP13	0.50	Y	All (NSD)
103814-11	TP15	0.90	Y	All (NSD)
103814-12	TP16	1.60	Y	All (NSD)
103814-13	TP18	2.60	Y	All (NSD)
103814-14	TP20	1.60	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.



Contract Number: 57292

Client Ref: **5015142**

Report Date: **24-01-2022**

Client PO: **5015142 - 17422**

Client **Ridge**
Partnership House
Moorside Road
Winchester
SO23 7RX

Contract Title: **Maddoxford Ln (Part 2)**
For the attention of: **Rob Milligan**

Date Received: **16-12-2021**

Date Completed: **24-01-2022**

Test Description	Qty
Samples Received - @ Non Accredited Test	32
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	7
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	7
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	1
Water Soluble Sulphate 2:1 extract Sub-contracted Test - @ Non Accredited Test	8
pH value of soil Sub-contracted Test - @ Non Accredited Test	8
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter) BS 1377:1990 - Part 7 : 9 - * UKAS	5

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)



Laboratory Report



GEO Site & Testing Services Ltd

Contract Number: 57292

Test Description	Qty
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

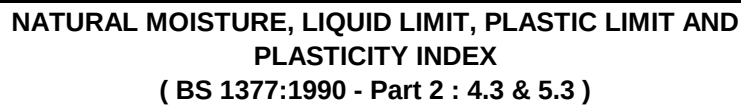
Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)

Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd

Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

[illegible]

Operators	Checked	24/01/2022	Richard John (Advanced Testing Manager)
Jordan Williams	Approved	24/01/2022	Paul Evans (Quality/Technical Manager)





PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2

Contract Number 57292

Borehole/Pit No. BH03

Site Name Maddoxford Ln (Part 2)

Sample No.

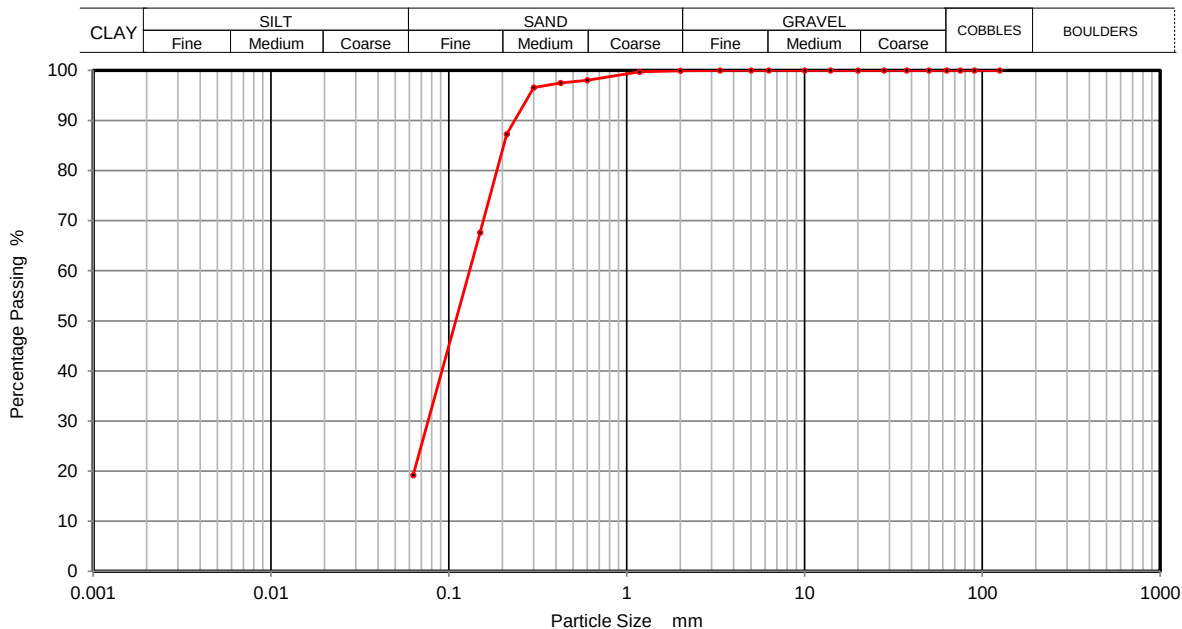
Soil Description Green clayey/silty fine to coarse SAND

Depth Top 12.00

Depth Base

Date Tested 18/01/2022

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98		
0.425	97		
0.3	97		
0.212	87		
0.15	68		
0.063	19		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	81
Silt and Clay	19

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	23/01/2022	Richard John	
David	Approved	24/01/2022	Paul Evans	

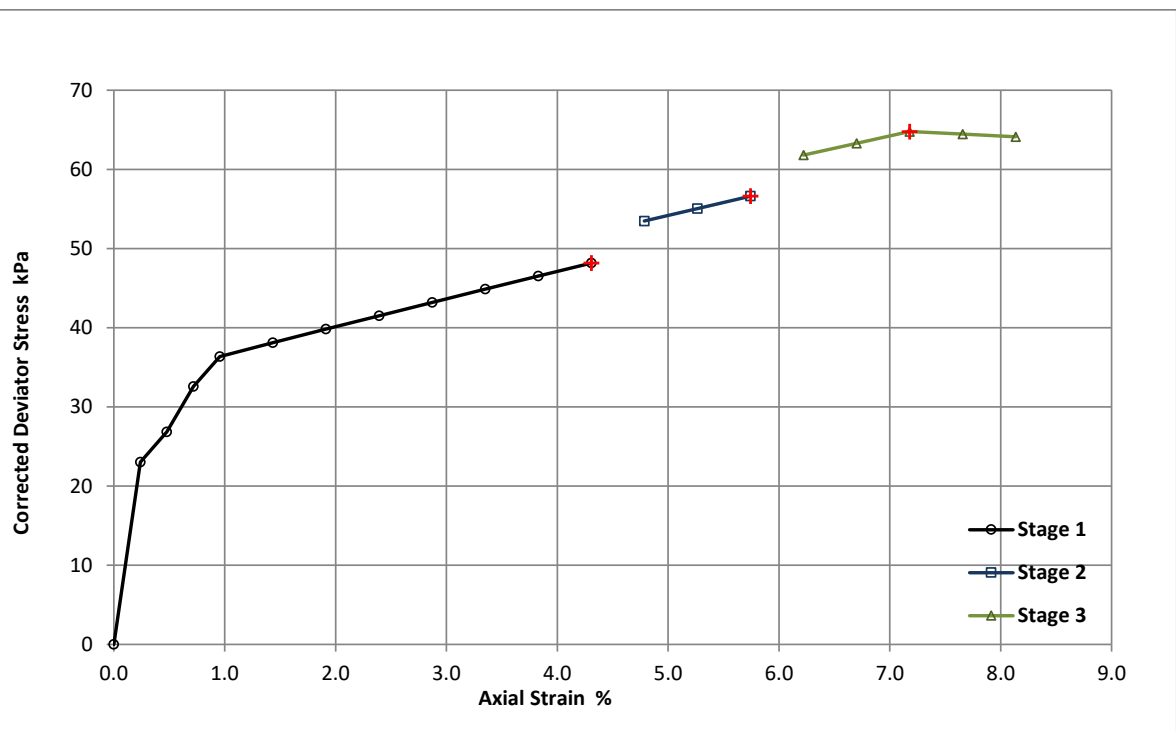




**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number	57292
Borehole/Pit No.	BH02
Sample No.	
Depth Top	1.20
Depth Base	
Sample Type	U
Technician	JW

Site Name	Maddoxford Ln (Part 2)
Soil Description	Light brown silty CLAY
Date Tested	21/01/2022



Moisture Content (%)	45		
Bulk Density (Mg/m ³)	1.78		
Dry Density (Mg/m ³)	1.23		
Specimen Length (mm)	209		
Specimen Diamteter (mm)	103		
Cell Pressures (kPa)	45	90	180
Deviator Stress (kPa)	48	57	65
Undrained Shear Strength (kPa)	24	28	32
Failure Strain (%)	4.3	5.7	7.2
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.3mm		
Rate of Strain (%/min)	3.00		

Checked	23/01/2022	Richard John	
Approved	24/01/2022	Paul Evans	

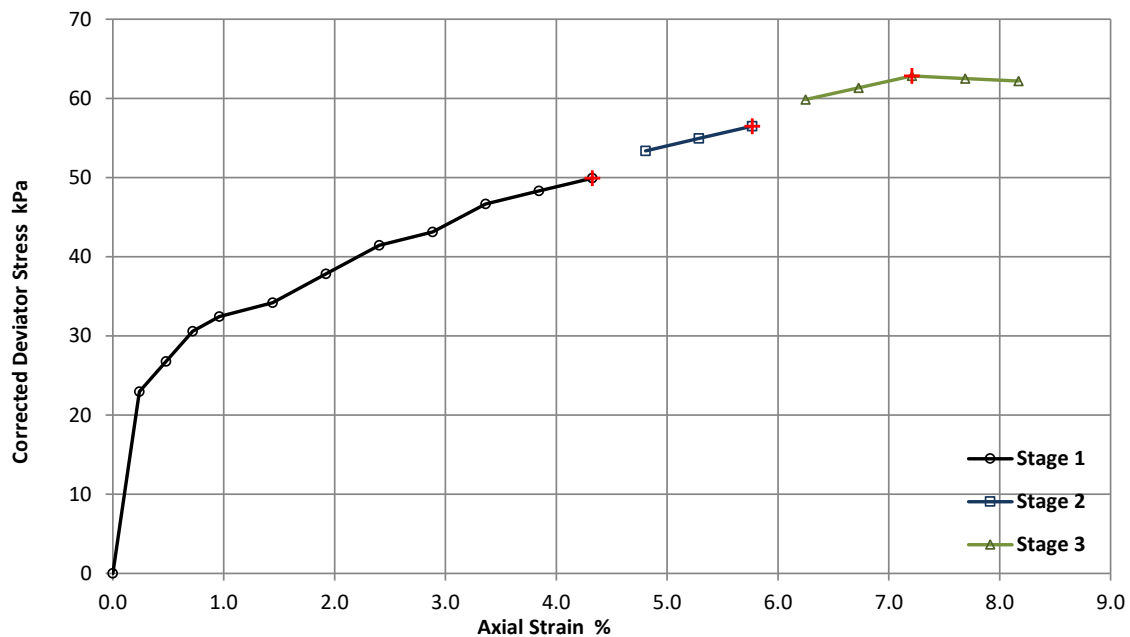




**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number	57292
Borehole/Pit No.	BH02
Sample No.	
Depth Top	3.20
Depth Base	
Sample Type	U
Technician	JW

Site Name	Maddoxford Ln (Part 2)
Soil Description	Brownish grey sandy silty CLAY
Date Tested	21/01/2022



Moisture Content (%)	40		
Bulk Density (Mg/m ³)	1.85		
Dry Density (Mg/m ³)	1.32		
Specimen Length (mm)	208.1		
Specimen Diamteter (mm)	103.1		
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	50	56	63
Undrained Shear Strength (kPa)	25	28	31
Failure Strain (%)	4.3	5.8	7.2
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.3mm		
Rate of Strain (%/min)	3.00		

Checked	23/01/2022	Richard John	
Approved	24/01/2022	Paul Evans	

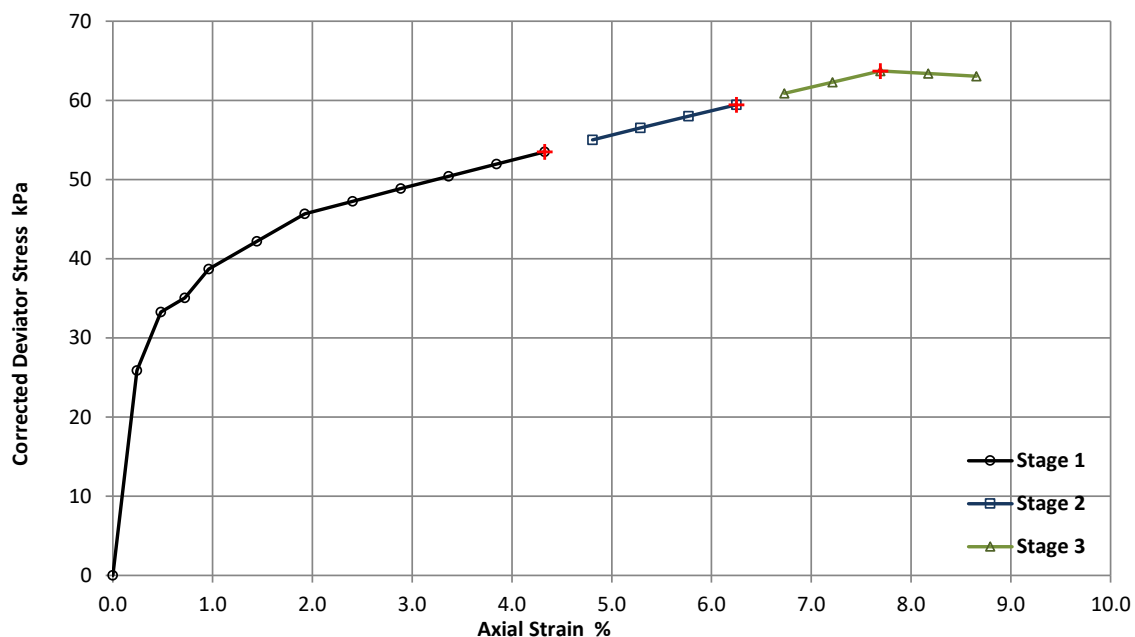




Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	57292
Borehole/Pit No.	BH03
Sample No.	
Depth Top	2.20
Depth Base	
Sample Type	U
Technician	JW

Site Name	Maddoxford Ln (Part 2)
Soil Description	Brownish grey silty CLAY
Date Tested	21/01/2022



Moisture Content (%)	35		
Bulk Density (Mg/m ³)	1.64		
Dry Density (Mg/m ³)	1.22		
Specimen Length (mm)	208		
Specimen Diamteter (mm)	105		
Cell Pressures (kPa)	45	90	180
Deviator Stress (kPa)	53	59	64
Undrained Shear Strength (kPa)	27	30	32
Failure Strain (%)	4.3	6.3	7.7
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.3mm		
Rate of Strain (%/min)	3.00		

Checked	23/01/2022	Richard John	
Approved	24/01/2022	Paul Evans	

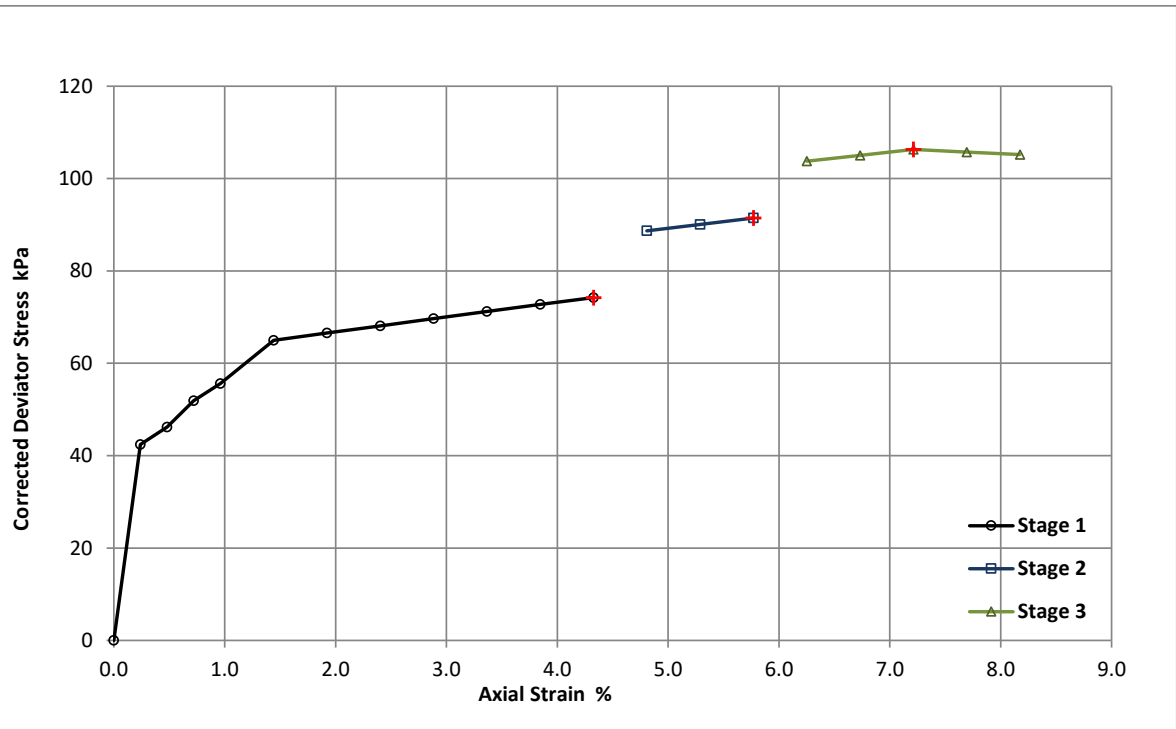




**Multi Stage Unconsolidated-Undrained Triaxial
Test
BS 1377 : 1990 Part 7 : 9**

Contract Number	57292
Borehole/Pit No.	BH03
Sample No.	
Depth Top	2.70
Depth Base	
Sample Type	U
Technician	JW

Site Name	Maddoxford Ln (Part 2)
Soil Description	Brownish orange sandy silty CLAY
Date Tested	21/01/2022



Moisture Content (%)	38		
Bulk Density (Mg/m ³)	1.89		
Dry Density (Mg/m ³)	1.37		
Specimen Length (mm)	208		
Specimen Diamteter (mm)	103		
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	74	91	106
Undrained Shear Strength (kPa)	37	46	53
Failure Strain (%)	4.3	5.8	7.2
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.3mm		
Rate of Strain (%/min)	3.00		

Checked	23/01/2022	Richard John	
Approved	24/01/2022	Paul Evans	

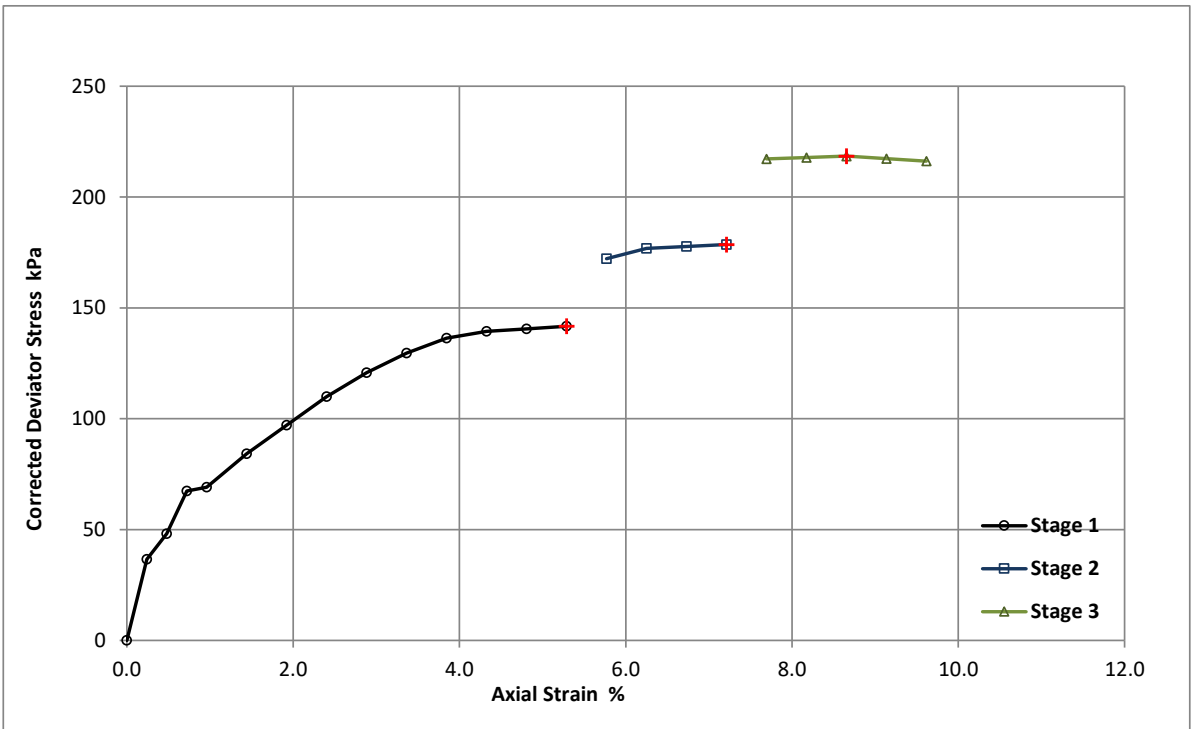




Multi Stage Unconsolidated-Undrained Triaxial Test
BS 1377 : 1990 Part 7 : 9

Contract Number	57292
Borehole/Pit No.	BH03
Sample No.	
Depth Top	4.20
Depth Base	
Sample Type	U
Technician	JW

Site Name	Maddoxford Ln (Part 2)
Soil Description	Black sandy silty CLAY
Date Tested	21/01/2022



Moisture Content (%)	33		
Bulk Density (Mg/m ³)	1.92		
Dry Density (Mg/m ³)	1.44		
Specimen Length (mm)	208		
Specimen Diamteter (mm)	103		
Cell Pressures (kPa)	105	210	420
Deviator Stress (kPa)	142	179	218
Undrained Shear Strength (kPa)	71	89	109
Failure Strain (%)	5.3	7.2	8.7
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.3mm		
Rate of Strain (%/min)	3.00		

Checked	23/01/2022	Richard John	
Approved	24/01/2022	Paul Evans	





ANALYTICAL TEST REPORT

Contract no: 104285

Contract name: Maddoxford Lane

Client reference: 5015142

Clients name: Geo Site & Testing Services

Clients address: Unit 3 and 4 Heol Aur
Dafen Industrial Estate, Dafen
Llanelli, Carmarthenshire
SA14 8QN

Samples received: 06 January 2022

Analysis started: 06 January 2022

Analysis completed: 12 January 2022

Report issued: 12 January 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
\$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Megan Harris
Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			104285-1	104285-2	104285-3	104285-4	104285-5	104285-6
Sample id			BH02	BH02	BH02	BH02	BH03	BH03
Depth (m)			2.20	4.70	9.20	13.70	3.20	6.20
Sample Type			D	D	D	D	D	D
Date sampled			-	-	-	-	-	-
Test	Method	Units						
pH	CE004 ^U	units	6.0	5.7	5.4	5.5	5.4	4.9
Sulphate (2:1 water soluble)	CE061 ^U	mg/l SO ₄	52	47	301	579	86	236

Chemtech Environmental Limited

SOILS

Lab number			104285-7	104285-8
Sample id			BH03	BH03
Depth (m)			11.50	14.60
Sample Type			D	D
Date sampled			-	-
Test	Method	Units		
pH	CE004 ^U	units	6.6	7.0
Sulphate (2:1 water soluble)	CE061 ^U	mg/l SO ₄	78	56

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO ₄

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
104285-1	BH02	2.20	N	
104285-2	BH02	4.70	N	
104285-3	BH02	9.20	N	
104285-4	BH02	13.70	N	
104285-5	BH03	3.20	N	
104285-6	BH03	6.20	N	
104285-7	BH03	11.50	N	
104285-8	BH03	14.60	N	

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

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Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

APPENDIX 4 – CAT WASTE OUTPUT

Site Name	Maddoxford Ln Phase 2
Location	Maddoxford Lane, Boorley Green
Site ID	5015142
Job Number	5015142
Date	1/19/2022
User Name	msmeeth@ridge.co.uk
Company Name	Ridge & Partners LLP

[illegible]

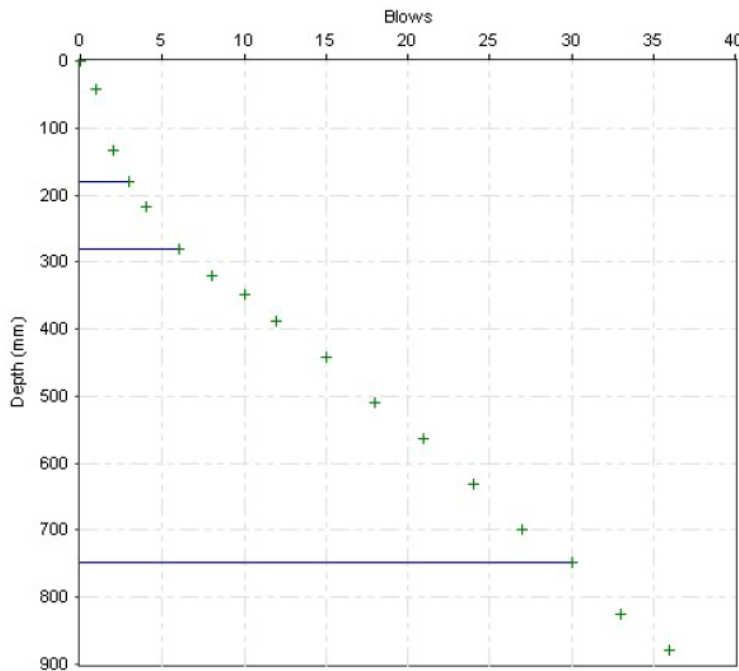
Site Name	Maddoxford Ln Phase 2
Location	Maddoxford Lane, Boorley Green
Site ID	5015142
Job Number	5015142
Date	1/19/2022
User Name	msmeeth@ridge.co.uk
Company Name	Ridge & Partners LLP

[illegible]

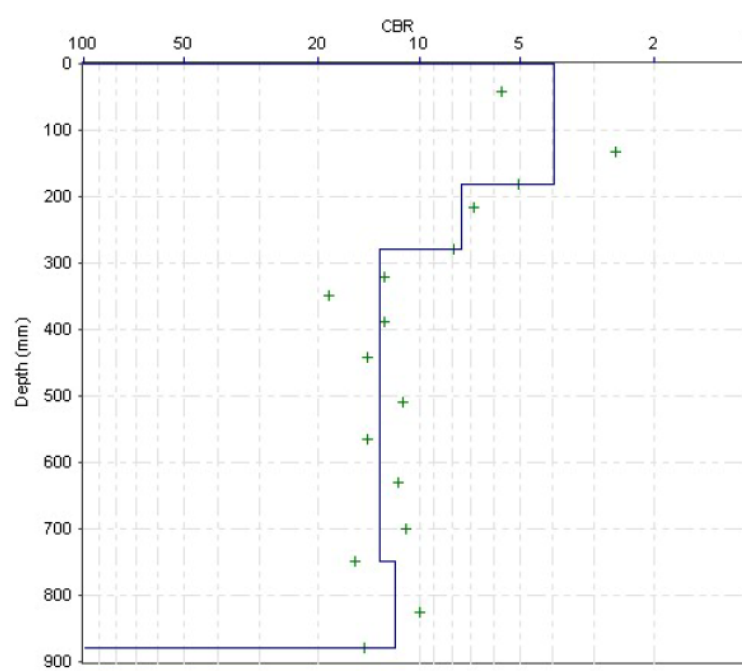
Site Name	Maddoxford Ln Phase 2
Location	Maddoxford Lane, Boorley Green
Site ID	5015142
Job Number	5015142
Date	1/19/2022
User Name	msmeeth@ridge.co.uk
Company Name	Ridge & Partners LLP

[illegible]

APPENDIX 5 – DCP TEST SHEETS



Layer Boundaries Chart

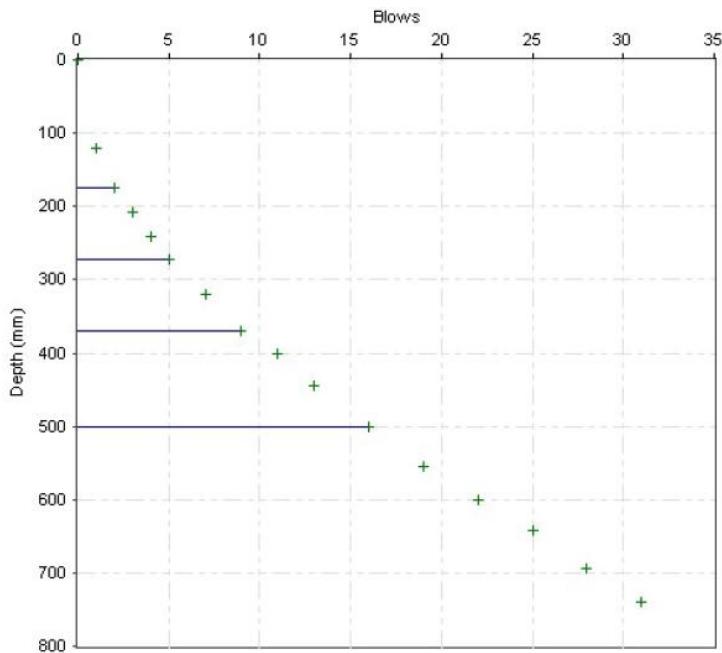


CBR Chart

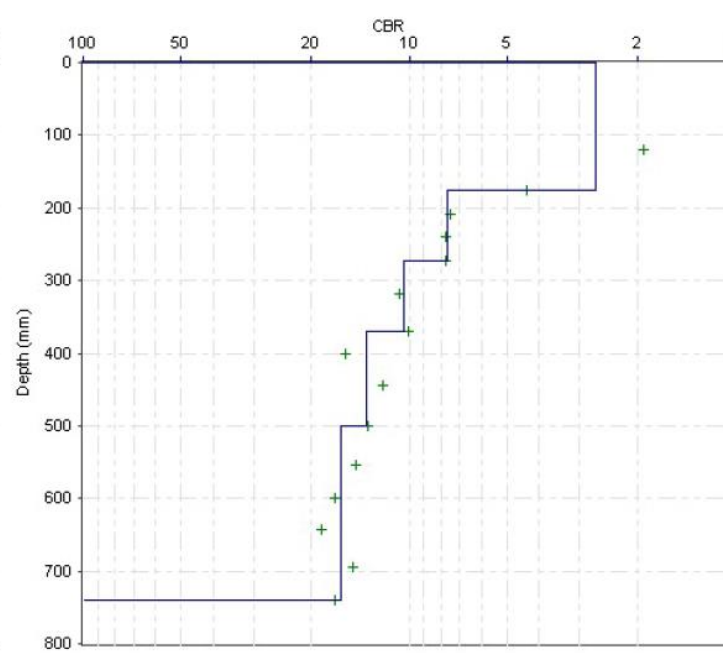
Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	60.33	4	181	181	Base	0.01	0.08	0.08	0.08
2	33.00	7	99	280	Base	0.02	0.08	0.08	0.08
3	19.54	13	469	749	Base	0.03	0.64	0.64	0.64
4	21.50	12	129	878	Base	0.03	0.16	0.16	0.16

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)	
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Test:	DCP01	Revision:	-			
Created:	RM	Date:	04 January 2022			
Checked by:	RJH	Scale:	NTS			



Layer Boundaries Chart

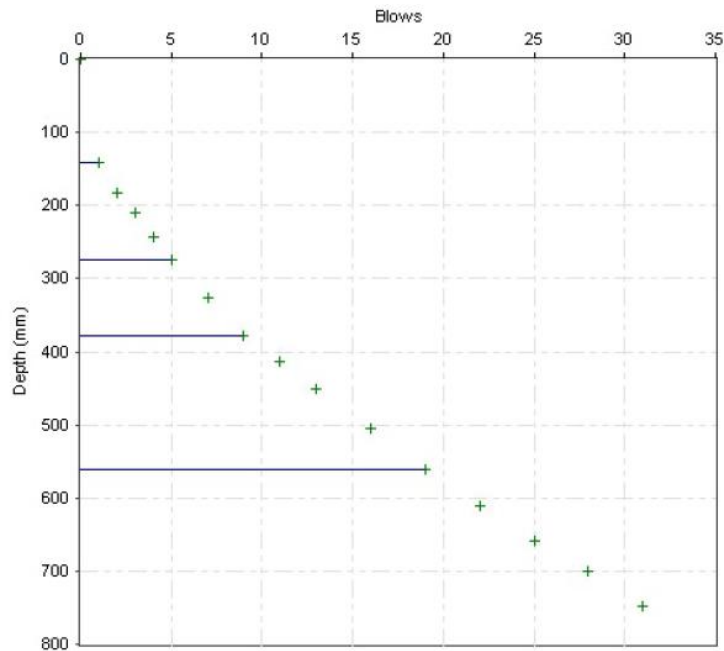


CBR Chart

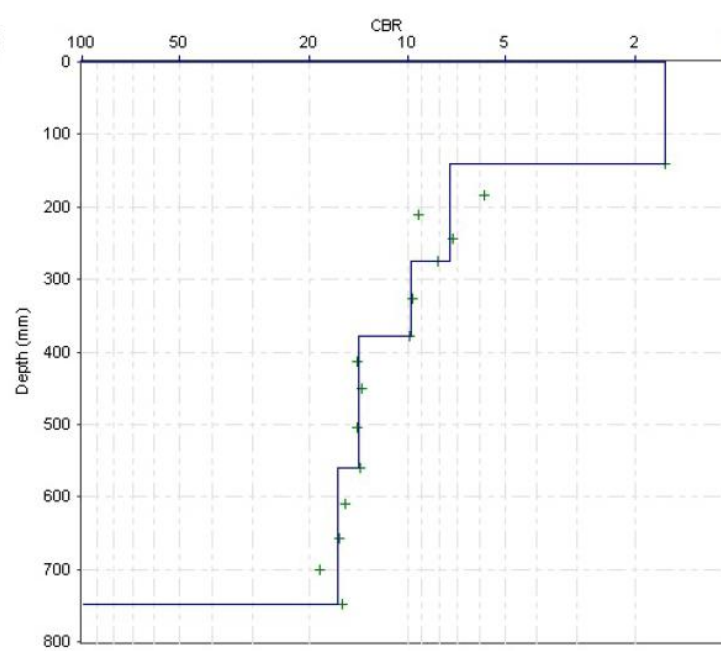
Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	87.50	3	175	175	Base	0.01	0.05	0.05	0.05
2	32.33	8	97	272	Base	0.02	0.08	0.08	0.08
3	24.25	10	97	369	Base	0.03	0.11	0.11	0.11
4	18.86	14	132	501	Base	0.04	0.19	0.19	0.19
5	15.93	16	239	740	Base	0.04	0.40	0.40	0.40

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Test:	DCP03	Revision:	-		
Created:	RM	Date:	04 January 2022		
Checked by:	RJH	Scale:	NTS		



Layer Boundaries Chart

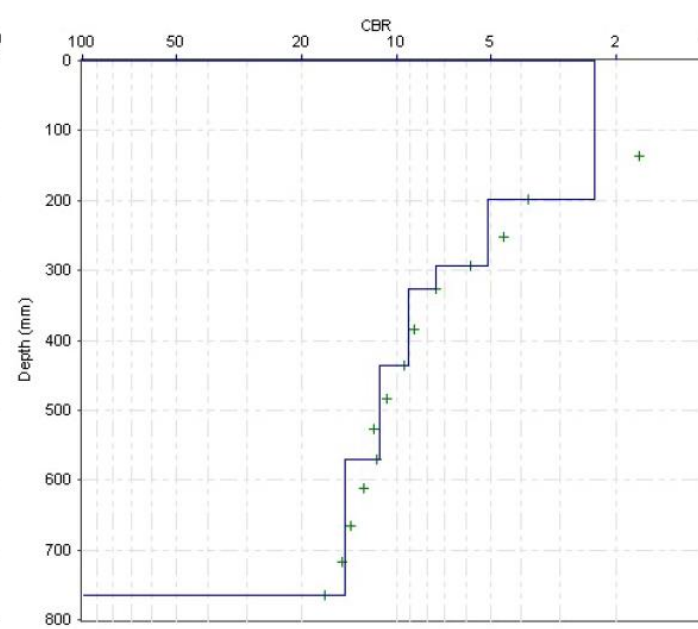
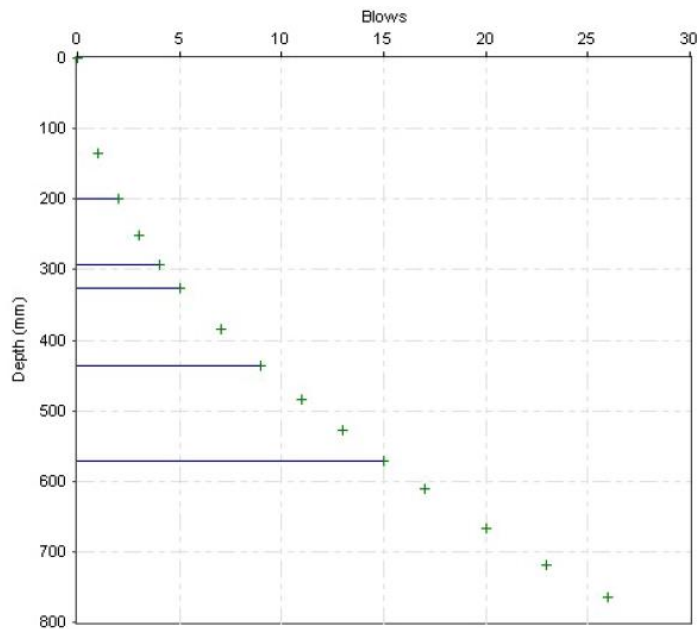


CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	141.00	2	141	141	Base	0.00	0.03	0.03	0.03
2	33.50	7	134	275	Base	0.02	0.11	0.11	0.11
3	25.75	10	103	378	Base	0.03	0.11	0.11	0.11
4	18.20	14	182	560	Base	0.04	0.27	0.27	0.27
5	15.75	16	189	749	Base	0.04	0.32	0.32	0.32

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Test:	DCP04	Revision:	-		
Created:	RM	Date:	04 January 2022		
Checked by:	RJH	Scale:	NTS		



Layer Boundaries Chart

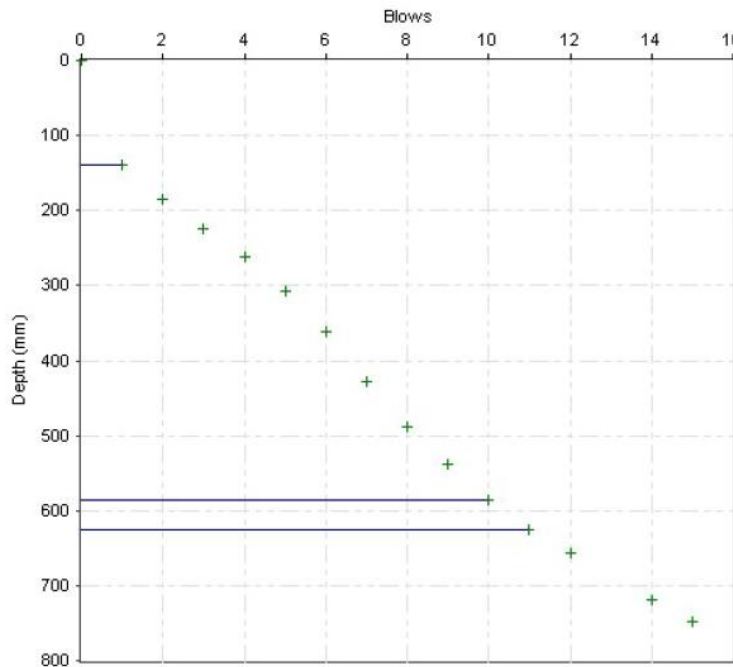
CBR Chart

Layer Properties

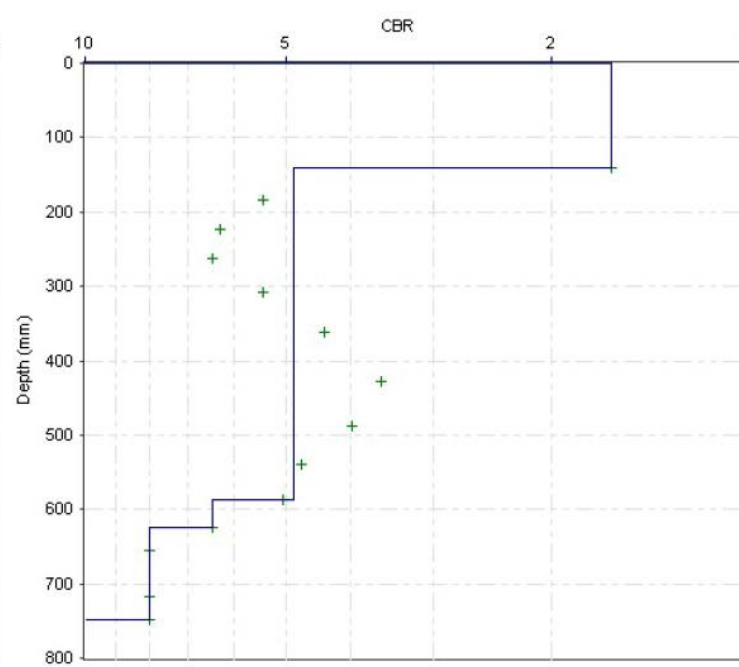
No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	99.50	2	199	199	Base	0.01	0.05	0.05	0.05
2	47.50	5	95	294	Base	0.01	0.05	0.05	0.05
3	33.00	7	33	327	Base	0.02	0.03	0.03	0.03
4	27.50	9	110	437	Base	0.02	0.11	0.11	0.11
5	22.33	11	134	571	Base	0.03	0.16	0.16	0.16
6	17.55	15	193	764	Base	0.04	0.29	0.29	0.29

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)		
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX		
Test:	DCP06	Revision:	-				
Created:	RM	Date:	04 January 2022				
Checked by:	RJH	Scale:	NTS				





Layer Boundaries Chart

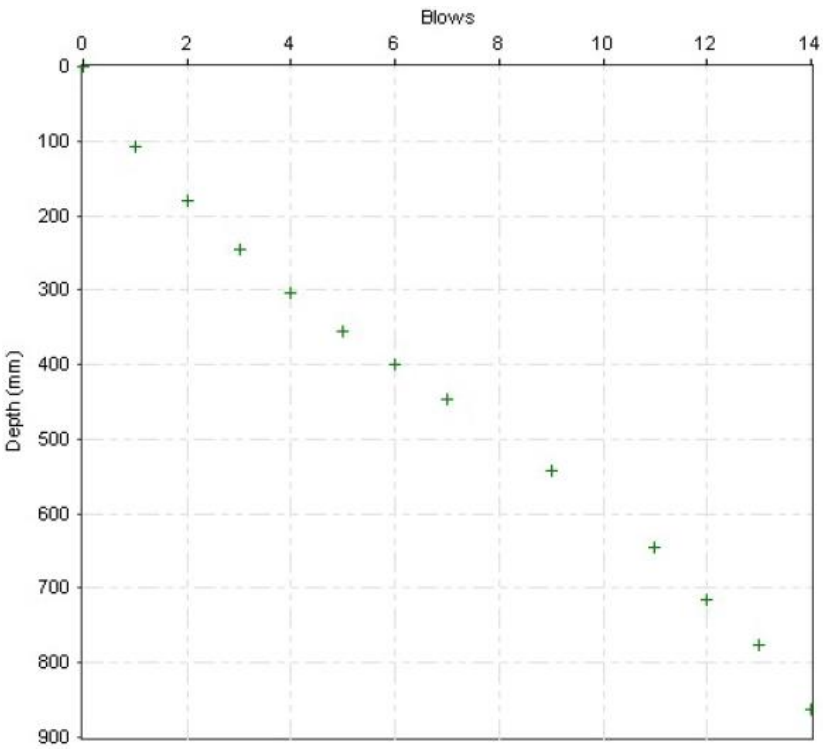


CBR Chart

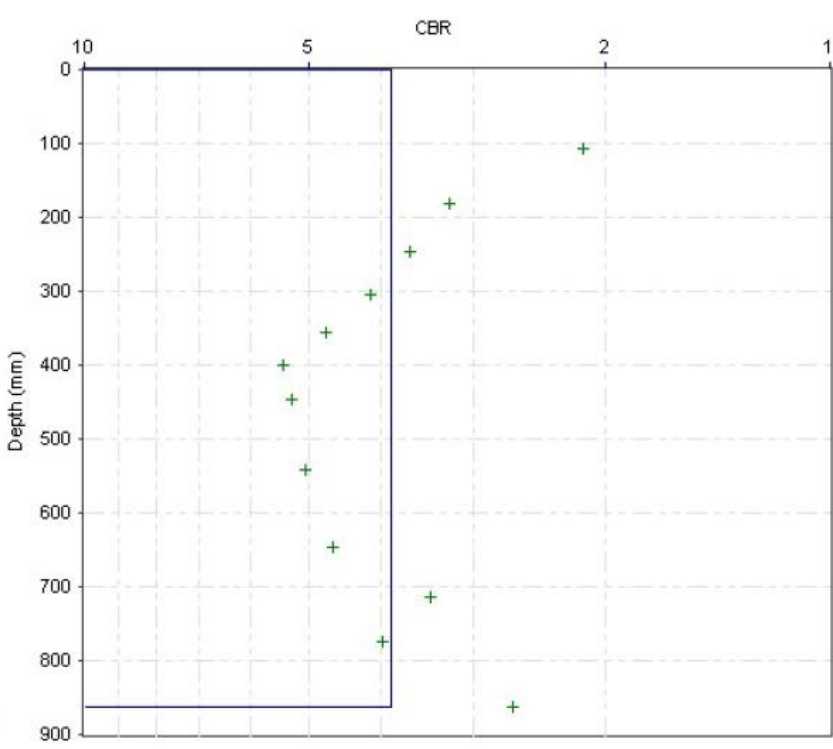
Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	140.00	2	140	140	Base	0.00	0.03	0.03	0.03
2	49.67	5	447	587	Base	0.01	0.24	0.24	0.24
3	38.00	6	38	625	Base	0.02	0.03	0.03	0.03
4	31.00	8	124	749	Base	0.02	0.11	0.11	0.11

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)	
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Test:	DCP07	Revision:	-			
Created:	RM	Date:	04 January 2022			
Checked by:	RJH	Scale:	NTS			



Layer Boundaries Chart

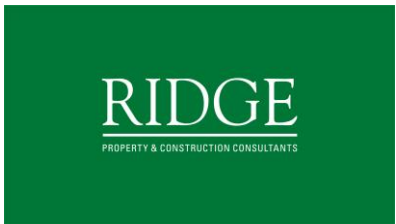


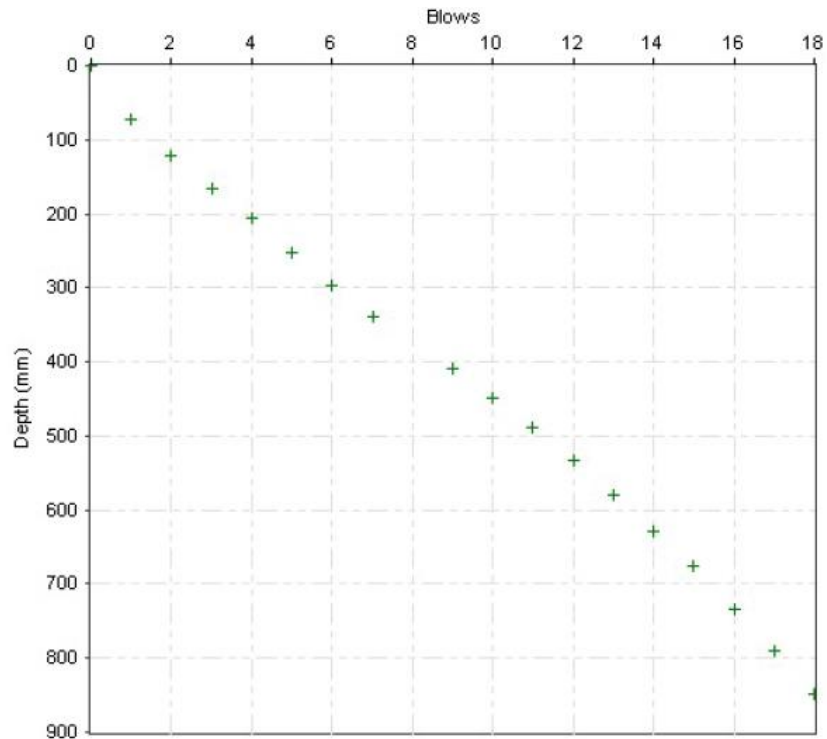
CBR Chart

Layer Properties

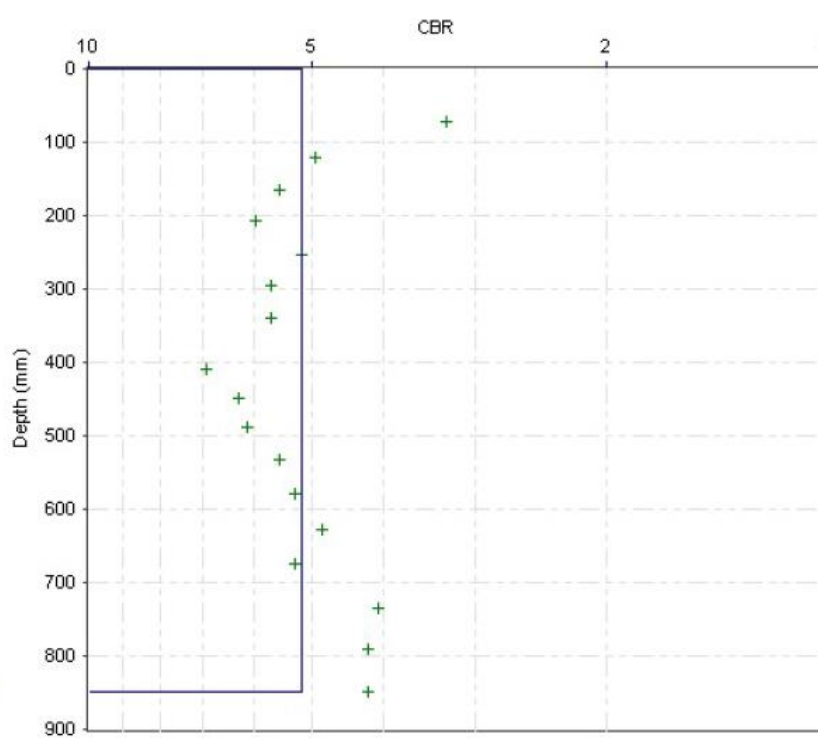
No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	61.64	4	863	863	Base	0.01	0.37	0.37	0.37

Project:		Maddoxford Ln Phase 2		Software:		UK DCP 3.1 (TRL/ DFID 2006)			
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk		Partnership House Moorside Road Winchester Hampshire SO23 7RX			
Test:	DCP08	Revision:	-						
Created:	RM	Date:	04 January 2022						
Checked by:	RJH	Scale:	NTS						





Layer Boundaries Chart

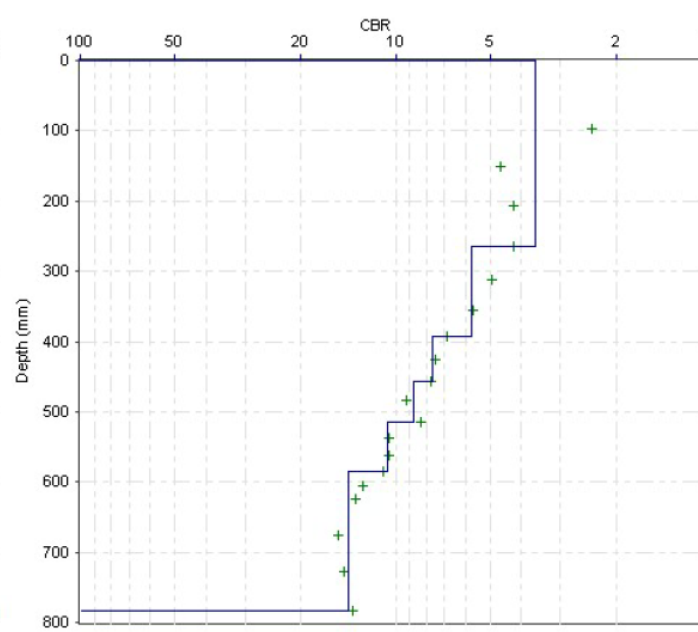
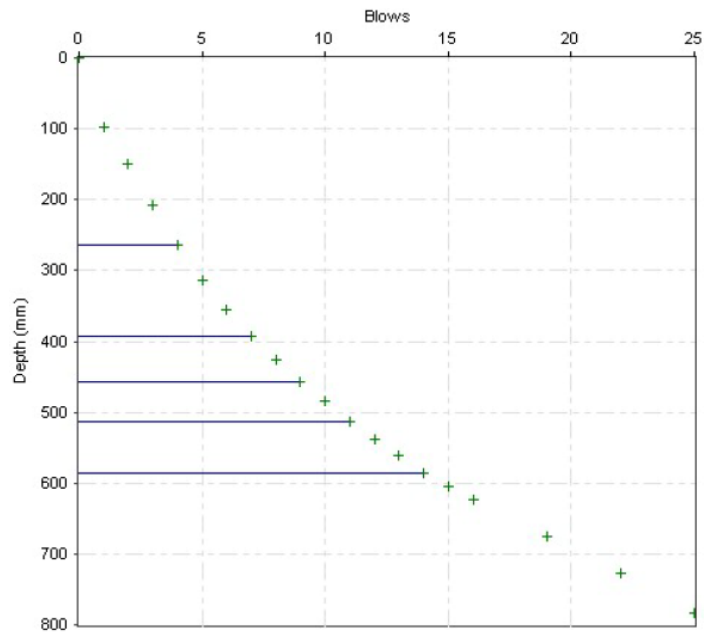


CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	47.11	5	848	848	Base	0.01	0.48	0.48	0.48

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)		
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX		
Test:	DCP09	Revision:	-				
Created:	RM	Date:	04 January 2022				
Checked by:	RJH	Scale:	NTS				



Layer Boundaries Chart

CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)	Position	Strength Coefficient	SN	SNC	SNP
1	66.00	4	264	264	Base	0.01	0.11	0.11	0.11
2	42.67	6	128	392	Base	0.02	0.08	0.08	0.08
3	32.50	8	65	457	Base	0.02	0.05	0.05	0.05
4	28.50	9	57	514	Base	0.02	0.05	0.05	0.05
5	23.67	11	71	585	Base	0.03	0.08	0.08	0.08
6	18.09	14	199	784	Base	0.04	0.29	0.29	0.29

Project:	Maddoxford Ln Phase 2			Software:	UK DCP 3.1 (TRL/ DFID 2006)	
Job Number:	5015142	Client:	Foreman Homes Ltd	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Test:	DCP12	Revision:	-			
Created:	RM	Date:	04 January 2022			
Checked by:	RJH	Scale:	NTS			





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