Report Title: **Geo-Environmental Site Investigation**

Project Name: **Land east of Blackmore Farm, Sandridge Common, Melksham**

Report Reference: **BRD4599-OR2-D**

Date: **April 2026**

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REPORT CONTROL SHEET

REPORT TITLE	**GEO-ENVIRONMENTAL SITE INVESTIGATION**
PROJECT	**LAND EAST OF BLACKMORE FARM, SANDRIDGE COMMON, MELKSHAM**
CLIENT	**GLEESON LAND**

REPORT REFERENCE	ISSUE DETAIL	DATE	PREPARED BY	CHECKED BY
BRD4599-OR2-A	First issue – Interim draft	09/10/2025	A Leon	B Devonshire
BRD4599-OR2-B	Second issue	12/12/2025	A Leon Z Betteley	J Brockwell
BRD4599-OR2-C	Third issue	18/03/2026	J Brockwell	J Brockwell
BRD4599-OR2-D	Fourth issue	17/04/2026	J Brockwell	J Brockwell

BRD Environmental Limited

Geotechnical and Environmental Services

- Ground Investigation
- Japanese Knotweed Removal
- Soil, Water and Gas Testing
- Contamination Assessment
- Geotechnical Advice
- Remediation Solutions

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REPORT LAYOUT

This report is divided into the following four sections: Summary Report, Technical Report, Supporting Information and Appendices.

SUMMARY REPORT

This expanded executive summary provides the main findings of the work undertaken in brief non-technical language. This section provides an overview of the key outcomes for the benefit of non-specialists and concludes with the main recommendations for any further work required. This section should only be relied upon in the context of the whole report and the detailed within the Technical Report should be referred to with respect to any design decisions.

TECHNICAL REPORT

The main report section is intended to provide the technical detail of the works completed and meet the information required by current guidance and practice. The Technical Report is written in a language that, in part, assumes knowledge of the subject matter so that it can be written in as concise a form as possible. Its primary audience is clients, peers, regulators and other professionals in related disciplines.

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SUPPORTING INFORMATION

This section of the report provides background details of a generic nature together with specific technical approaches adopted by BRD and details of the guidance documents that are commonly referenced in the report. The section also includes explanations of technical terms to assist non-specialist readers in understanding the Technical Report. It should be noted that not all the information within this section is necessarily applicable to this specific report.

APPENDICES

The final section of the report presents the factual data collected and employed as part of the preparation of the report.

APPENDIX 1	**SITE PLANS**	
	Site Location Plan	Ref. BRD4599-OP1-B
	Proposed Development Layout	'Masterplan' ORIGIN$_3$, ref. 25-004 421 Rev E, dated 09/04/26
	Exploratory Point Plan	Ref. BRD4599-OD1-A
	Revised Conceptual Site Model	Ref. BRD4599-OP6-C
APPENDIX 2	**EXTRACTS FROM PREVIOUS INVESTIGATION**	
	Logs of previous trial pits.	Ref. TP22-TP26
	Photographic records of previous trial pits.	Extracts ref. BRD3304-OP12-A
	Logs of previous boreholes.	Ref. WS01-WS03
	Extracts of DETS report 22-09839.2	6 x pages
	Extracts of SPT report 41803_1	6 x pages
APPENDIX 3	**EXPLORATORY HOLE & MONITORING RECORDS**	
	Logs of trial pits.	Ref. TP101-TP130 & HD01
	Photographic records of trial pits.	Ref. BRD4599-OP5-A
	Logs of boreholes.	Ref. WS101-WS120
	BRE365 soakage test records.	3 x pages
	Gas monitoring records.	6 x pages
	Groundwater monitoring records.	1 x page
APPENDIX 4	**LABORATORY TEST RESULTS**	
	DETS report 25-08171.1, 25-08396.1 & 25-08726.1	37 x pages
	SPT report 48593_1	29 x pages

SUMMARY REPORT- GENERAL INFORMATION

SUBJECT	COMMENTS
CURRENT SITE CONDITION	The site is a large irregular shaped parcel of land comprising 9No. separate grass fields and a wooded area in the southeastern part of the site. The external and internal boundaries are formed by hedgerows with some mature trees. There is a west flowing stream across the southwestern area of the site and some of the site boundaries and internal field boundaries include ditches that drain into this stream.
PROPOSED DEVELOPMENT	Outline application for the erection of up to 275No. dwellings (including affordable), associated infrastructure, landscape and biodiversity enhancements, all matters reserved except for access from Sandridge Common.
HISTORICAL SUMMARY	The site has been used for agricultural purposes since the earliest available Ordnance Survey map of 1886 until present.
PUBLISHED GEOLOGY	The site is shown to be underlain by bedrock of the Oxford Clay Formation, with some localised deposits of superficial Alluvium, associated with the stream, present across the southwestern area.
ACTUAL GROUND CONDITIONS	The investigation has proved the clay soils of the Oxford Clay Formation across the entire site beneath a consistent layer of the Topsoil and/or Made Ground Topsoil. The previous investigation identified some Alluvium in a single trial pit located close to field boundary ditch.
HYDROGEOLOGY	The site is situated on Unproductive Strata, the Oxford Clay Formation, however the localised areas of Alluvium across the southwestern area is considered to be a Superficial secondary A Aquifer.
HYDROLOGY	There is a west flowing stream across the southwestern area of the site and a network of ditches around some of the field boundaries drain into the stream. The site is not in an area indicated to be at risk of flooding.
PREVIOUS GROUND REPORTS	During the investigation of the first phase of the Blackmore Farm development some exploratory holes were located in land that was subsequently included in the second phase site area. The logs and extracts of the testing from these previous exploratory holes are included within this report. BRD has also undertaken geo-environmental desk study research and this has been reported separately.

SUMMARY REPORT - GEOTECHNICAL

SUBJECT	COMMENTS
EXCAVATIONS	It should be possible to forward excavations employing normal equipment. Specific groundwater control unlikely to be required at this site but limited groundwater control in the form of pumping from sumps is likely to be required.
SLOPE STABILITY	It is considered that slope stability is unlikely to be a concern at this site.
EARTHWORKS	It is likely that earthworks will be required on site to level the site or to provide development levels suitable for drainage falls.
PAVEMENT DESIGN	A preliminary design California Bearing Ratio (CBR) of 3% has been recommended.
SUB-SURFACE CONCRETE	Design Sulphate Class of DS-4 and Aggressive Chemical Environment for Concrete (ACEC) class of AC-3s applies.
SOAKAWAYS	Site is not suitable for surface water disposal to soakaways or other forms of infiltration device.
FOUNDATIONS	
LIKELY FOUNDATION TYPE	Shallow strip or deeper trench fill footings bearing upon Oxford Clay Formation. Deep trench fill (or possibly piles) for plots located within the influence zones of trees predominantly affecting proposed plots adjacent to the boundary field hedges.
VOLUME CHANGE POTENTIAL	Medium i.e. moderate swelling or shrinking with moisture content changes.
ESTIMATED FOUNDATION DEPTHS	The minimum footing depth required is 0.90m, but 1.25m where required to allow for restricted new tree planting. Pile lengths to be determined by specialist piling contractor.
FOUNDATION HEAVE PROTECTION	Will be required for those plots located in close proximity to the existing trees and boundary hedges.

SUMMARY REPORT – CONTAMINATION ISSUES

SUBJECT	COMMENTS
SOIL RISKS TO HUMAN HEALTH	No unacceptable contamination in respect of human health have been identified by this investigation.
ASBESTOS	No asbestos has been detected in the soil samples tested.
LANDFILL GAS	There is no requirement for any landfill gas protection measures within the proposed development.
RADON GAS	Radon gas protection measures are not required.
RISKS TO THE WATER ENVIRONMENT	No unacceptable contamination risks to water resources have been identified by this investigation.
RISKS TO BUILDING MATERIALS AND SERVICES	No unacceptable contamination risks to building materials and services have been identified by this investigation.
OUTLINE REMEDIATION STRATEGY	No remedial works are considered necessary to facilitate the development at this stage.
WASTE SOIL DISPOSAL	It is considered that the Made Ground soils disposed of from the site would be classified as 'non-hazardous waste'. It is considered that the natural sub-soils disposed of from the site would be classified as 'non-hazardous waste' and would be characterised for disposal to landfill as 'inert waste'.

SUMMARY REPORT – KEY RECOMMENDATIONS

CONTAMINATION RECOMMENDATIONS
It is recommended that this report is submitted to the planning department of the Local Authority, warranty providers and the organisation undertaking the Building Control function to confirm that the investigation completed to date is satisfactory.
GEOTECHNICAL RECOMMENDATIONS
Once the areas of proposed earthworks cut are confirmed, further ground investigation will be required to classify materials for the Earthworks Specification. A Geotechnical Design Report (GDR) will be required to develop an Earthworks Specification for the cut and fill required for the development platforms. A tree survey is required as this information is required for detailed foundation design. This survey with topographic survey data should be undertaken prior to any site clearance to accurately record the location of any previously felled trees and existing trees both within the site and close to the site boundaries. The survey should record the trunk location, height and species of the trees. Consideration should be given in the detailed design of the development to minimise or eliminate the need for piling due to tree influence. If piling is required, then in order to confirm deeper ground conditions for pile design further ground investigation comprising deep cable percussive boreholes is recommended. Insitu Standard Penetration Tests should be conducted during forwarding of the boreholes and collected soil samples submitted for appropriate geotechnical laboratory testing.

1. INTRODUCTION TO TECHNICAL REPORT

1.1. CONTRACT DETAILS

CLIENT	Gleeson Land Limited trading as Gleeson Land.
SITE	Land situated at Blackmore Farm, located in the eastern outskirts of the town of Melksham.
CLIENT'S ADVISORS	BRD Environmental Limited (BRD) has been commissioned directly by the Client.
REPORT CONTEXT	It is understood that the Client intends to purchase the site and promote it for a residential housing development.
REPORT TYPE	Geo-environmental site investigation (i.e. combined geotechnical ground investigation and Phase 2 contamination assessment).
REPORT OBJECTIVES	The purpose of the report is to undertake a geo-environmental assessment of the site as part of the pre-acquisition due diligence review.

1.2. SCOPE OF WORKS

The agreed scope of works was:

- Mobilisation to site and production of health and safety documentation.
- Four days of windowless sampling using a percussive drilling rig to provide approximately 20No. boreholes to a nominal depth of 3m-5m, ground conditions permitting. Undertake Standard Penetration Tests (SPT) at 1m intervals. Installation of a 5m depth combined gas and groundwater monitoring well (nominal 50mm diameter) into 10No. boreholes. Installations will be finished with a flush fitting metal stopcock cover.
- Four days of trial pitting using a mechanical excavator to provide approximately 30No. trial pits to a nominal depth of 3m, ground conditions permitting.
- Performance of soakage tests based upon BRE Digest 365 within 3No. of the trial pit locations. Supply of water to site via a 4WD water bowser unit on one day for the filling of each test pit. A Geo-Environmental Technician will monitor the soakage tests. As the pits are expected to fail we are not envisaging the need for any return visits.
- All exploratory points will be logged and sampled in general accordance with BS5930:2015 by supervising Geo-Environmental Consultant. In-situ geotechnical testing of fine soils using a Hand Shear Vane and/or Pocket Penetrometer.
- Determination of the accurate location and level of exploratory points by topographical GPS unit.
- Geo-Environmental Technician to undertake 6No. combined gas and groundwater monitoring visits in the first instance. For gas, the determination of oxygen, carbon dioxide, methane, hydrogen sulphide and carbon monoxide concentrations, together with atmospheric pressure and flow rates, using portable equipment. For vapours, determination of the concentration of volatile organic compounds by photo ionisation detector. For groundwater, the determination of groundwater levels.

- Chemical testing of soil samples to confirm the soils are uncontaminated, to determine waste classification for muckaway and to meet the requirements for new water supply pipe specification. Budget based on the following testing schedule:

    - 20No. Metals Suite - As, Cd, Cr, CrVI, Hg, Pb, Se, Cu, Ni and Zn.
    - 20No. Inorganics Suite – water soluble sulphate, pH, organic matter.
    - 20No. Speciated Polycyclic Aromatic Hydrocarbons (PAH).
    - 6No. Banded aliphatic/aromatic Total Petroleum Hydrocarbons (TPH).
    - 6No. Benzene, Toluene, Ethylbenzene, Xylene (BTEX) and Methyl Tertiary Butyl Ether (MTBE) compounds.
    - 4No. Semi-Volatile Organic Compounds (SVOC) suite.
    - 5No. Asbestos quantification.
    - 10No. Organochlorine Pesticides suite.

- Geotechnical testing as appropriate to the nature of the ground conditions encountered, but the budget is based on the following testing schedule:

    - 15No. Moisture content.
    - 15No. Plasticity indices.
    - 3No. Particle size distribution by wet sieve and hydrometer.
    - 12No. pH and water soluble sulphate analysis - soil.
    - 12No. Total sulphate and sulphur analysis - soil.
    - 4No. pH and sulphate analysis – water.

- Provision of a combined factual and interpretative investigation report. Factual findings to include all exploratory point records, monitoring and test results. Interpretative reporting to include a summary of information from desk study research, a Generic Quantitative Contamination Risk Assessment (GQRA), waste classification and a Geotechnical Assessment providing comments on pavement design, concrete classification, soakaway feasibility, foundation design recommendations. Report to be supplied in an electronic Adobe pdf format.

1.3. REPORT LIMITATIONS

Any site boundary lines depicted on plans included within this report are approximate only and do not imply legal ownership of land. Any observations of tree species, asbestos containing materials within structures or invasive weeds, does not constitute a formal survey of such features. The identification of such features is therefore tentative only. In the case of Japanese Knotweed and other non-aqueous invasive weeds, BRD can undertake separate surveys for this plant undertaken by a Property Care Association qualified surveyor.

The report does not consider whether sensitive ecology or archaeology is present as these require consideration by professionals specialising in these matters. For excavations planned within six metres of a third part structure then separate professional advice should be sought in respect of the requirements of the Party Wall Act.

It should be recognised that the collection of desk study information may not be exhaustive and that other information pertinent to the site may be available.

The recommendations, interpretations and conclusions of this report are based solely on the ground conditions found at the exploratory holes. Due to the variability in the nature of ground, conditions between exploratory holes can only be interpreted and not defined. The description of the site and the ground conditions is accurate only for the dates of the field works. In particular, groundwater levels can vary due to seasonal and other effects.

The assessment and interpretation of contamination risks is based on the scope of works agreed with the Client together with the budgetary and programme constraints imposed. Further investigation, analysis and assessment of contamination may be required by regulators or other

third parties with an interest in the site. An ecological risk assessment of contaminated soils is beyond the scope of this report. This report is concerned with assessing those contamination risks which apply to the future use of the site through the proposed development as part of the planning regime. The assessment does not consider the risk to current site users or continued future use of the site in its current state. If development of the site should occur that differs from that proposed, then the findings of the contamination assessment would need to be re-evaluated.

At the time of writing, detailed information on the proposed structure, such as detailed layout, loadings and serviceability limits, were not available. Accordingly, where geotechnical design advice is provided it is on the prescriptive basis allowed for by Eurocode 7: employing conventional and conservative design rules. The scope of this investigation excludes a formal slope stability study and any observations made regarding slopes are for information only.

2. SITE CHARACTERISTICS

2.1. SITE SETTING

SITE ADDRESS AND POST CODE	Land to the east of Blackmore Farm, Sandridge Common, Melksham, Wiltshire, SN12 7QS.
NATIONAL GRID REFERENCE	Approximate centre of the site at 393043E, 164055N.

2.2. SITE DESCRIPTION

SUBJECT	COMMENTS
CURRENT SITE DESCRIPTION	The site is formed by an irregular shaped parcel of land comprising 9No. grassed fields and 1No. wooded area in the southeastern part of the site, overall, covering about 27 Ha. Generally, the site slopes gently downwards towards the stream in the southwestern area of the site, however, one of the fields in the northern area slopes downwards gently towards the northwest. The site boundaries are formed by mixed hedgerows, which include some mature trees. The external and internal hedgerows are formed by mixed species, including hawthorn and brambles with some mature trees, which are mainly oak. The wooded area forming the southern part of the site includes oak, sycamore, ash and hawthorn. There is a west flowing stream across the southwestern part of the site and along some of the site boundaries. Ditches that drain into this stream are present around some of the internal field boundaries. At the time the investigation all of the ditches were dry.
SURROUNDING LAND USE	The site is set in an agricultural area just to the east of the town of Melksham.
PROPOSED DEVELOPMENT	Outline application for the erection of up to 275No. dwellings (including affordable), associated infrastructure, landscape and biodiversity enhancements, all matters reserved except for access from Sandridge Common.
HISTORICAL SUMMARY	From the previous desk study report, the following summary of the site's history is presented. The site has been used for agricultural purposes since the earliest available map of 1886 until present.
PUBLISHED GEOLOGY	The site is shown to be underlain by bedrock of the Oxford Clay Formation, with some localised deposits of superficial Alluvium, associated with the stream, present across the southwestern area.
HYDROGEOLOGY	The site is situated on Unproductive Strata, the Oxford Clay Formation, however the localised areas of Alluvium across the southwestern area is considered to be a Superficial secondary A Aquifer.

SUBJECT	COMMENTS
HYDROLOGY	There is a west flowing stream across the southwestern area of the site and a network of ditches around some of the field boundaries drain into the stream. The site is not in an area indicated to be at risk of flooding.

2.3. PREVIOUS INVESTIGATIONS

2.3.1. Upper Northern Field

Part of the site, specifically the upper north field, was part of a geo-environmental ground investigation report for Blackmore Farm - Phase 1 development, which was commissioned by Gleeson Land Development and carried out by BRD in 2022. However, during the investigation, the site boundaries of Phase 1 development area were modified and the upper northern field was removed. This area was subsequently included in Blackmore Farm - Phase 2. Although a limited number of field works had already been carried out they were not included as part of the final BRD Phase 1 report issued in January 2023.

Those site works that now fall within the Blackmore Farm - Phase 2 development are summarised below. The records of these site works and related testing are included in Appendix 2 of this report.

2.3.1.1. Site Works

The site works undertaken in the northern field of the site comprised 5No. trial pits (ref. TP22 to TP25) and 3No. windowless sampling boreholes (ref. WS01-WS03).

2.3.1.2. Ground Conditions

The ground conditions encountered in the exploratory holes across the upper, northern field were as expected based on the published geological maps. A thin layer of Made Ground Topsoil was present across the field overlying clay-rich soils of the Oxford Clay Formation, typically recorded as stiff to very stiff, grey mottled orange brown to brown, silty clay with selenite crystals, relict rootlets and fossil shell fragments.

Made Ground was recorded in trial pit TP22 and borehole WS02, at the location of a former backfilled pond. This material was deeper in the trial pit proved to about 1.0m depth comprising 'brown mottled grey, gravelly, silty clay. Gravel of fine to coarse, subangular to subrounded charcoal, brick fragments, flint, slate, whole and half bricks'. Decaying wood was recorded below 0.8m depth. Beneath the Made Ground, Alluvium deposits were recorded to 1.7m depth, comprising 'brown mottled grey stained natural black, silty clay with decaying wood/ logs and a natural organic odour'. Underneath, the competent Oxford Clay Formation was recorded. The Alluvium was not encountered in any other hole.

Groundwater was not recorded in any of the exploratory holes.

A variety of samples were submitted for chemical and geotechnical testing.

2.3.1.3. Geotechnical

The following geotechnical test results were recorded during the investigation works:

- Standard Penetration Tests: The N-values recorded in the clay-rich soils of the Oxford Clay Formation range from N=10 to N=39 which is indicative of stiff to hard soil type.

- Plasticity Index: A total 3No. samples of the Oxford Clay Formation were analysed recording values ranging from 32% to 33% which equates to a medium volume change potential.

- Undrained Shear Strength:

    - *Hand Shear Vane Tests*: the undrained shear strength of the clay soils recorded in trial pits TP22 to TP26 range between 49kPa and 87kPa, averaging 75kPa which is indicative of high strength soils type.

    - *Pocket Penetrometer Tests*: The recorded undrained shear strength within boreholes WS01 to WS03, range between 54kPa and 104kPa, averaging 83kPa which is indicative of high strength soil type.

    - *Standard Penetration Test Correlations:* the undrained shear strength of the clay soils recorded in boreholes WS01 to WS03 range between 63kPa and 246kPam which is indicative of medium to high strength soil type.

2.3.1.4. Contamination

The investigation recorded no elevated concentrations of contaminants and also of note was that the analysis of the soils for speciated polycyclic aromatic hydrocarbons (PAHs) generally recorded no concentrations above detection limits.

The trial pit (TP22) within the former pond confirmed the backfill to comprise natural materials with no signs of any soil contamination.

After an eight month of monitoring period, the gas monitoring confirmed that there was no evidence of soil gases migrating from this backfilled pond to the site.

2.3.2. Desk Study Report

Subsequently for the Blackmore Farm - Phase 2 development area, the site has been the subject of geo-environmental desk study research by BRD and this has been reported separately in 'Phase 1 Geo-Environmental Desk Study – Blackmore Farm – Phase 2, Melksham', BRD Environmental Ltd, ref. BRD4599-OR1-A, dated June 2025. This current report should be read in conjunction with the previous desk study report.

2.4. PRELIMINARY CONCEPTUAL MODEL

2.4.1. Potential Contamination Sources

Based on the previous desk study, the following potential contamination sources have been identified:

- Due to the historical use and current of the site as being open fields, it is unlikely that there is any on site source of contamination. However, any pesticides used on the site may be a hazard although this is a minor concern.

- Potentially infilled ponds are present in the northern of the site. There is no current evidence of the pond in the north of the site which is shown on historical maps. Whilst it may have just dried up or been re-graded into the field, it may also have been infilled with waste materials. The waste materials may contain hazardous chemicals. Organic rich wastes degrade to form hazardous gases under anaerobic conditions. Water seeping through the waste can be become polluted. Due to the small size of the ponds on site this impact is likely to be localised within small areas in the north of the site.

- A former stockpile was present in the northern end of the site, although the stockpile has been already removed, an then removed the potential source of contamination, residual contamination may still be present in the near surface soils.

The desk study also identified the following invalid contamination sources:

- The off-site vehicle repair and servicing workshop located across the road to the north of the site are considered unlikely to present any viable source of contamination to the site given that a concrete slab across the yard area paves it. It is considered any pollutants within these off-site areas are unlikely to migrate to the site and cause contamination.

- The off-site landfill site is a such distance together with the known local geology which comprises fine-grained Oxford Clay Formation, it is unlikely to be a viable source of contamination.

- The Farm activities are not considered likely to pose a significant source of concern to the site.

2.4.2. Invalid Contamination Linkages

Any potential pesticide contamination on the fields will likely be residual and unlikely to present a valid risk to the future residents. Such residual contamination will not present any viable contamination source to the underlying groundwater and building materials or services.

Very low permeability clay soils are anticipated and therefore it is not considered that there will be any viable contamination linkages to the water environment.

2.4.3. Preliminary Conceptual Model

The preliminary risks, based on the potential contaminant linkages, are detailed in the table below.

SOURCES AND CONTAMINANTS	PATHWAYS	RECEPTORS	POTENTIAL RISK
Agricultural fields: - Pesticides	Ingestion Inhalation Direct Contact	Future residents	Low
	Surface run-off and lateral migration	Stream	Low
	Vertical and lateral migration	Groundwater	Low
	Direct contact	Building materials and services	Low
Infilled ponds in the northern area - Metals - Hydrocarbons - Asbestos - Hazardous ground gases	Ingestion Direct Contact	Future residents	Moderate / Low
	Inhalation of ground gases		Low
	Surface run-off and lateral migration	Stream	Negligible
	Vertical and lateral migration	Groundwater	Negligible
	Direct contact	Building materials and services	Low
Former stockpile in the northern area the northern area - Metals - Hydrocarbons - Asbestos	Ingestion Inhalation Direct Contact	Future residents	Moderate / Low
	Surface run-off and lateral migration	Stream	Negligible
	Horizontal and lateral migration	Groundwater	Negligible
	Direct contact	Building materials and services	Low

3. GROUND INVESTIGATION

3.1. INVESTIGATION DESIGN

METHODOLOGY	Trial pits were selected as they expose more soils which enables a more reliable record of the ground conditions encountered and they enabled BRE365 soakage tests to be undertaken. Windowless sample boreholes were selected as monitoring installations were needed and because in-situ density tests were required in the coarse soils. Gas and groundwater monitoring visits were selected in order to access the potential gas risk at the site and to record the resting groundwater levels.	
DATES OF SITE WORKS	The main field works were undertaken between 9th and 12th September 2025. Monitoring visits were undertaken on the 19th & 25th September, 2nd & 16th October and 5th & 14th November 2025.	
CONSTRAINTS TO EXPLORATORY HOLE LAYOUT	No exploratory holes were undertaken within close proximity to any of the services present at the site.	
EXPLORATORY HOLE SPACING	Approximately 60m grid.	
LAYOUT RATIONALE	**SOURCE / FEATURE**	**EXPLORATORY HOLE**
CONTAMINATION SOURCES TARGETED	Former stockpile in the northern most part of the site.	HD101.
	Potentially infilled ponds in the north.	WS117 WS115, WS116, TP120 and TP121
	Agricultural fields.	TP101 to TP103 and WS101 to WS120.
GROUND FEATURES TARGETED	General site coverage.	TP101 to TP103 and WS101 to WS120.
	Soakage Tests.	TP107 to TP109.
CONTAMINATION SAMPLING PLAN	Based on the proposed end use, the sampling and analysis plan is more positively biased towards near surface samples as these represent the soils most likely to be available to future site users. The analysis is more biased towards the Made Ground samples as this stratum represents the soils most likely to be contaminated. The analytical frequency has been increased for samples around the agricultural storage area and the potentially infilled pond as these represent the most likely area for contamination.	

ANALYSIS PLAN	The samples have been tested for a range of commonly occurring contaminants in soils including heavy metals, asbestos, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and xylene (BTEX).

3.2. BRD FIELDWORK

HAND DUG INSPECTION PITS	
REFERENCES	HD101.
DEPTH RANGE	0.40m.
BACKFILL	The inspection pit was backfilled with arisings upon completion.

TRIAL PITS	
REFERENCES	TP101 to TP130.
DEPTH RANGE	From 1.80m to 3.10m.
EXCAVATOR	JCB 3CX style wheeled backactor.
BACKFILL	All the trial pits were backfilled with arisings upon completion and compacted with rams of the excavator bucket.

WINDOWLESS SAMPLING BOREHOLES	
REFERENCES	WS101 to WS120.
DEPTH RANGE	From 1.00m to 5.45m.
RIG TYPE	Premier Drilling Rig.
INSTALLATION / BACKFILL	Boreholes WS102, WS105, WS106 to WS108, WS112, WS114, WS116, WS118 and WS119 were backfilled with arisings only. Boreholes WS101, WS103, WS104, WS109, WS110, WS111, WS113, WS115, WS117 and WS120 had monitoring wells installed. These comprised 50mm nominal diameter standpipes fitted with a gas tap finished with a flush metal cover. The slotted response length of the well is shown on the individual logs. Bentonite seals are also indicated on the logs. The filter medium used was pea gravel. Borehole WS106 was relocated a couple of times due to the presence of wasp nests which stung the drillers several times. Finally, it was abandoned at 1.0m depth due to the associated risk.

MONITORING	
TYPE	Ground gases and vapours. Groundwater monitoring.
DATES	Monitoring visits were undertaken on the 19th & 25th September, 2nd & 16th October and 5th & 14th November 2025.
GROUNDWATER SAMPLING METHOD	Samples were retrieved using a sampling bailer dedicated to each well.

3.3. LABORATORY TESTING

GEOTECHNICAL TESTING	
The soil samples for geotechnical testing were forwarded to the laboratory of Soil Property Testing Ltd with pH and sulphate analysis undertaken at the laboratory of DETS Ltd. The geotechnical testing suite is detailed below. The UKAS accreditation of the individual test methods is shown on the laboratory test report included in the Appendices.	
TEST	**NUMBER OF SAMPLES TESTED**
Moisture content.	21
Liquid and plastic limits.	21
pH and Water soluble Sulphate.	12
Total Sulphur and Sulphate.	12

GROUNDWATER CHEMICAL TESTING	
The water samples for contamination and/or chemical geotechnical testing were forwarded to the laboratory of DETS Ltd and the testing suite is detailed below. The UKAS or MCERTS accreditation of the individual test methods is shown on the laboratory test report included in the Appendices.	
WATER TESTS	**NUMBER OF SAMPLES TESTED**
pH.	2
Sulphate.	2

SOIL CHEMICAL TESTING	
The soil samples for contamination and/or chemical geotechnical testing were forwarded to the laboratory of DETS Ltd and the testing suite is detailed below. The UKAS or MCERTS accreditation of the individual test methods is shown on the laboratory test report included in the Appendices.	
SOIL TESTS	**NUMBER OF SAMPLES TESTED**
Arsenic, Cadmium, Chromium, Chromium VI, Copper, Lead, Mercury, Nickel, Selenium, Zinc.	20
Speciated Polycyclic Aromatic Hydrocarbons (PAH).	20
Total Petroleum Hydrocarbons (TPH) with full carbon banding and aliphatic/aromatic split.	6
Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) plus Methyl Tert Butyl Ether (MTBE).	6
Organic Matter.	20
Asbestos Screen.	4
Semi-Volatile Organic Compounds (SVOCs).	4
Organochlorine Pesticides.	10

4. GROUND CONDITIONS

4.1. OVERVIEW

Generally, the ground conditions encountered were as anticipated from the published geology maps with a thin cover of Topsoil or Made Ground Topsoil overlying the Oxford Clay Formation.

In localised different areas across the site, limited shallow Made Ground was recorded. In the southernmost field, Made Ground was recorded at two locations between 0.6m and 0.9m depth below ground level (bgl). Made Ground soils to a depth of 1.1m bgl were also encountered within a former backfilled pond located at the southern boundary of the northern field and in the northernmost section of the site, where a stockpile was formerly present. Made Ground was also recorded.

Details of the various stratigraphic units are given in the following sections.

4.2. ARTIFICIAL GROUND

4.2.1. Made Ground

Made Ground was recorded in the upper most section of the site in hand dug pit inspection HD101. At the location of a backfilled pond, in the southern boundary of the upper field at borehole WS117 and in the lowest field of the site at the location of trial pits TP104 and TP105. Below, the Made Ground recorded at these locations is described:

- HD101: Recorded below a layer of Made Ground/Topsoil at 0.25m depth and to an inspection depth of 0.40m bgl, Made Ground in the hand dug pit was described as 'dry, stiff, orange brown, slightly silty clay with rare brick and charcoal fragments'.

- WS117: Recorded below a thin layer of Made Ground/Topsoil at 0.1m depth and to a maximum depth of 1.1m, the Made Ground was recorded as 'dry, brownish grey, reddish oxidised, silty clay with angular to sub-angular fragments of bricks, tile and concrete'.

- TP104 and TP105: Recorded below a layer of Made Ground/Topsoil at 0.3m depth and to a maximum depth of 0.9m (TP104), the Made Ground was recorded as 'stiff, dry, orange brown, slightly sandy, silty clay with occasional rootlets, rare chert, limestone, chalk, brick and ceramic tile gravel'.

4.3. TOPSOIL AND MADE GROUND TOPSOIL

Most of the site was underlain by Topsoil and/or Made Ground Topsoil, the latter being most consistent towards the central and northern fields. These surface materials were recorded to depths ranging from 0.2m to 0.3m bgl, averaging 0.25m.

Typically, the Topsoil was described as a brown, occasionally mottled red, silty clay with fine active roots. The Made Ground Topsoil was similar but contained occasional brick fragments.

4.4. SUPERFICIAL DEPOSITS

Superficial deposits were not encountered in any of the new exploratory holes.

4.5. BEDROCK

4.5.1. Oxford Clay Formation

The bedrock was recorded with a very consistent distribution laterally and with depth across the site and proved to maximum investigation depths of 5.45m bgl. Typically, the thickness of the bedrock exceeds 5.0m.

As mentioned in previous sections, the soils from the surface were dry due to the last summer's exceptional dry weather, and the Oxford Clay was recorded with vertical desiccation cracks extending to depths of about 1.0m below ground level. It is worth noting that in trial pit TP111, located about 10m from a mature oak tree present among the hedge, the soil dryness was recorded up to 1.5m depth.

Below, the typical Oxford Clay soil sequence with depth of the Oxford Clay recorded across the site is detailed.

Initially, below the Topsoil/Made Ground Topsoil, a layer of dry, blocky, light brown mottled light grey and orange silty clay with fine active roots was recorded to depths of about 1.0m or less, typically excavated as gravel to cobble size. Hand shear vane testing was unable to be done in this layer due to the desiccation of the soil.

Below, starting with a thin layer of white, rounded calcareous concretions a stiff, dry, blocky, light grey mottled brown, silty clay with white powder sized selenite crystals excavated as gravel to cobble size was recorded to depths of about 1.5m. Typically, this material was no longer dry below 1.0m depth. Hand shear vane testing was unable to be done in this layer due to the dryness of the soil.

After this was a distinctive layer containing white both calcareous concretions and powder sized selenite deposits, thinly laminated, crumbly texture, grey mottled orange brown, silty clay with sand sized selenite crystals, orange sandy patches, fossil shell fragments and vertical brown relict rootlets was typically recorded to about 2.0m depth. Finally, all the exploratory holes terminated in very stiff, fissured, very thinly bedded, grey brown to bluish grey, silty clay with sand sized selenite crystals.

It is worth noting that at the base of some of the pits what seemed to be extremely weak mudstone rock beds was recorded.

What seems to be a near surface layer of geologically reworked Oxford Clay deposits has been recorded in the lowest end fields at trial pits TP102, TP103, TP104 and TP106 and borehole WS103 below the topsoil or Made Ground and to depths ranging from 0.4m to 1.3m bgl. This material is similar to the near surface clay soils of the Oxford Clay Formation recorded across the site, but with the presence of quartzite and chert gravel, together with ferruginous nodules. This material has not been recorded in any other fields across the site.

4.6. GEOTECHNICAL COMMENTS

Nothing significant noted other than the expected desiccation.

4.7. CONTAMINATION OBSERVATIONS

No visual or olfactory evidence of contamination was noted during the forwarding of exploratory holes.

4.8. OBSERVED GROUNDWATER BEHAVIOUR

Groundwater was not encountered whilst forwarding the exploratory holes during the site works.

4.9. GROUNDWATER MONITORING

Standing water levels are considered to be related to perched water within the fractures and fissures of the impermeable Oxford Clay Formation, also fed by surface water infiltration. These readings should therefore not be considered as a true groundwater level.

DATE	RESTING GROUNDWATER RANGE	COMMENTS
19/09/25	From 2.98m to dry (>5.08m bgl).	Monitoring wells WS104, WS111, WS113, WS115 and WS120 were recorded dry. Access to monitoring wells WS101 and WS103 was blocked by the cattle. Wells WS109, WS110 and WS117 were recorded with standing water levels at depths of between 2.98m and 4.47m bgl. Wells WS109 and WS110 were purged in this visit for groundwater sampling and a slow recharge was recorded.
25/09/25	From 2.98m to dry (>5.08m bgl).	Monitoring wells WS101, WS103, WS111, WS113, and WS120 were recorded as dry, as recorded in previous visit. The rest of the monitoring wells were recorded with standing water levels ranging from 2.98m to 4.94m bgl. Well purged in previous visit, (WS109 and WS110) were recorded with similar standing water levels to those recorded in previous visit.
02/10/25	From 2.28m to dry (>5.10m bgl).	Monitoring wells WS101, WS103, WS111, WS113 and WS120 were recorded dry. Slightly shallower resting water levels than those recorded during the previous visit were observed in the remaining wells, with standing water levels ranging from 2.98m to 4.94m bgl.
16/10/25	From 1.59m to dry (>5.09m bgl).	Monitoring wells WS101, WS111 and WS120 were recorded dry. This visit recorded slightly shallower resting water levels than previous visits, reflecting wetter weather conditions.
05/11/25	From 1.24m to dry (>5.09m bgl).	
14/11/25	From 0.72m to dry (>5.10m bgl)	The water levels across the site continued to rise with more wells recording standing water. The water level in WS113 was such that the installation response zone was flooded.

5. GEOTECHNICAL PROPERTIES

5.1. OXFORD CLAY FORMATION

5.1.1. Index Property Testing

SOIL TYPE	Oxford Clay Formation.
WATER CONTENT	12.8%to 26.0% (21No. samples)
LIQUID LIMIT	32% to 73% (21No. samples)
PLASTIC LIMIT	17% to 30% (21No. samples)
PLASTICITY INDEX (I_p)	12% to 43% (19No. samples)
MODIFIED I_p	21% and 26% (2No. samples)
NHBC CLASS	Medium volume change potential.
COMMENT	Modified *Ip* were recorded in two samples from trial pit TP111 and borehole WS117. Sample from trial pit TP111 at 1.3m depth was recorded with calcareous concretions of sand and gravel sized resulting in a modified *Ip* = 21%. Likewise, sample from borehole WS117 at 3.1m depth, was recorded mudstone gravel resulting in a modified *Ip* = 26%. Only three out twenty-one samples tested (14%) have been recorded with high volume change potential. It is considered that there is a wide range of samples tested, and an average Ip = 32% has been recorded, which is considered representative of the Oxford Clay plasticity.

5.1.2. Standard Penetration Tests (SPTs)

A total of 94No. SPTs were carried out in the clay-rich soils of the Oxford Clay Formation. N-values range from 9 to >50 (refusal). The lowest values was recorded at 1.0m depth in borehole WS117, at the location of the former backfilled pond and the SPT at 1.0m depth commenced in the Made Ground and finished in the natural.

Typically, stiff to very stiff soils, were recorded in the upper metre and very stiff to hard soils below.

One single test was finished at 50 blows (refusal), as the test was unable to penetrate the required 300mm, below are correlated N_{300} values provided:

CORRELATED SPT N-VALUES >50: Oxford Clay Formation				
HOLE	**DEPTH (m bgl)**	**N**	**PENETRATION (mm)**	**N_{300}**
WS108	4.0	50	288	52

5.1.3. Undrained Shear Strength

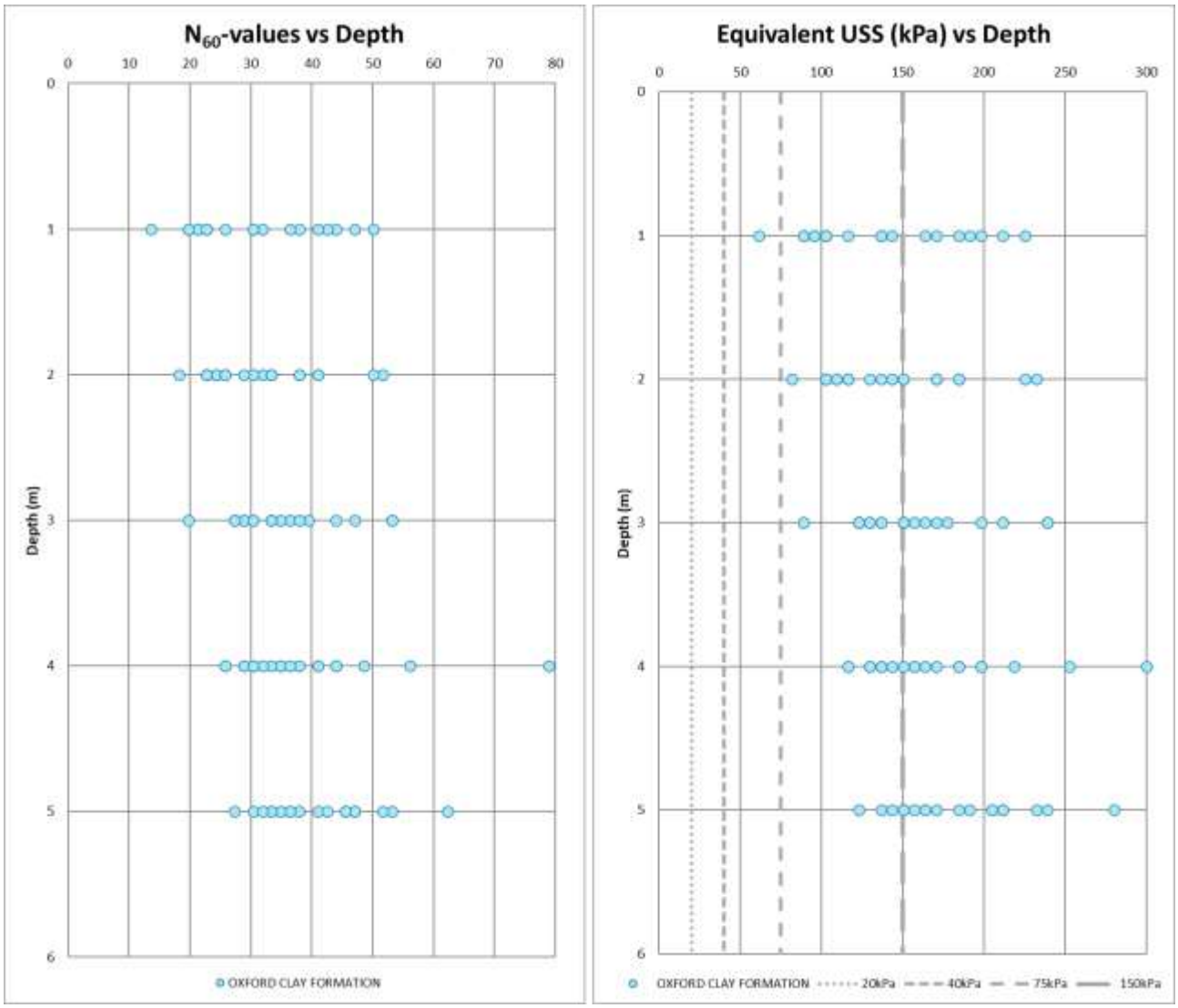
The SPT N-values have been corrected to N_{60}-values, and then correlated to an equivalent undrained shear strength (c_u) using the approach by Stroud (1985) based upon a relationship of $c_u=4.5N_{60}$, derived from an average I_P of 32%. A hammer efficiency value for the windowless sample rig of Er=91.09% based on the annual calibration certificate provided by the sub-contractor.

The equivalent undrained shear strengths values for the Oxford Clay Formation typically increase with depth. At 1m depth, undrained shear strength values ranging between 61kPa and 225kPa, have been recorded, averaging 138kPa, which is indicative high strength soil type.

Between 2m and 3m depth, higher undrained shear strength values have been recorded raging from 82kPa and 139kPa, averaging 150kPa, which is indicative of high to very high strength soil type.

Below, between 4m and 5m depth, high to extremely high strength values have been recorded ranging, from 116kPa to >300kPa.

The following charts show the distribution with depth of the N_{60} values considered in every borehole together with the derived equivalent undrained shear strength values.



Hand Shear Vane Testing was carried out within the clay-rich soils recorded on site. Typically, hand shear vane tests undertaken in the upper metre recorded undrained shear strength in excess of 140kPa, indicating very high strength soil type but also indicative of the seasonal desiccation recorded across the site. It is worth noting that due to the soil dryness testing in the upper metre was not possible in most of the pits. These values should not be considered for geotechnical design purposes. Therefore, the recorded undrained shear strength ranged between 70kPa and 137kPa. Applying the Bjerrun correction factor due to the plasticity of the soils provides corrected undrained shear strengths of between 77kPa and 127kPa, averaging 101kPa, which is indicative of a high strength soil type.

Hand penetrometer readings (Uncompressive Strength – UCS) range between 1.5kg/cm^2 and >5.0kg/cm^2. It is worth noting that the highest readings were recorded in the upper metre soils affected by seasonal desiccation. These values should not be considered for geotechnical design purposes. The tests have been carried out within the windowless sampling boreholes to maximum depths of 4.7m bgl. A reduction factor of 1.5 has been employed to adjust penetrometer results to correlate with shear vane values and soil consistency. Undrained shear strengths of between 50kPa and 150kPa were recorded with the Hand Pocket Penetrometer tests, averaging 104kPa, which is indicative of high strength soil type.

Therefore, an undrained shear strength value representative of this soil at typical trench fill foundation depths has been considered:

$$c_u = 75kPa$$

5.1.4. Compressibility

Using Stroud & Butler (1975) to determine the coefficient of volume compressibility (m_v) from SPT N-value and I_P. The average I_P value of the cohesive deposits of the Oxford Clay Formation is of 32%. This result in correlations to $f_2 = 0.45$. The lowest corrected $N_{60} = 18$ from 2m depth, has been recorded from the SPTs undertaken in these deposits. Therefore,

$$m_v = 0.12m^2/MN$$

indicative of medium compressibility soil type

5.1.5. Shearing Resistance

The BS 8004:2015 allows for the estimation of the critical state effective angle of shearing resistance (ϕ') based on the soils Plasticity Index. Therefore, based on the average plasticity index recorded:

$$\phi' = 24^\circ$$

5.2. SOAKAGE POTENTIAL

The records of the BRE365 soakage tests are presented in the Appendices. A summary of results are presented in the table below:

TRIAL PIT	SOIL INFILTRATION RATE		STRATUM TESTED
TP07	Test 1	Permeability too low to calculate soil infiltration rate.	Stiff, fissured, thinly laminated bluish grey silty CLAY.
TP08	Test 1	Permeability too low to calculate soil infiltration rate.	Stiff, fissured, blocky, light grey mottled light brown, silty CLAY.
TP09	Test 1	Permeability too low to calculate soil infiltration rate.	Stiff, fissured, light grey mottled light brown, silty CLAY.

6. GEOTECHNICAL ASSESSMENT

6.1. INTRODUCTION

At this stage, a development layout has not been defined, and the following advice and recommendations are general for the construction of low-rise two to three-storey residential properties across the site. From assessment of the nature of the ground conditions and the type of proposed structures, it is considered that the situation generally falls within EC7 Geotechnical Category 1, with some aspects likely Category 2.

Should the nature of the development be changed then the results of this investigation would need to be reviewed and reassessed.

6.2. EXCAVATIONS

STABILITY	Any excavation requiring man entry should be battered back to a safe angle, supported by an appropriate proprietary trench support system or adequately shored to provide safe working conditions. Shoring to any excavation requiring man entry must be designed by a suitably qualified and experienced engineer. Any support system will require regular inspection as detailed in published guidelines to ensure the excavation support is adequate and appropriate for the ground conditions present. It is anticipated that narrow trench excavations will remain relatively stable and open for short periods, but minor spalling of side walls could still occur.
EQUIPMENT	It should be possible to progress excavations with conventional equipment.
GROUNDWATER CONTROL	Specific groundwater control is unlikely to be required at this site. Limited pumping from sumps or bailing out may be required to deal with slight seepages or surface water ingress during periods of inclement weather. Existing land drainage will need to be maintained or diverted as part of the development. Land drainage to divert groundwater may assist during construction. Further land drainage may need to be incorporated into the construction of the development to avoid water logging of gardens.

6.3. SLOPE STABILITY

Slopes across the site are gentle and overall, the site is relatively flat. No significant changes in level as part of the development are anticipated. It is therefore considered that slope stability is unlikely to be a significant concern.

6.4. EARTHWORKS

It is likely that some earthworks will be required on site due to the existing site levels and the proposed development that will require some form of cut and fill to form development platforms. An Earthworks Specification should be developed for the Contractor to work in accordance with informed by a Geotechnical Design Report (GDR).

Where a Method based specification is adopted then it is an inherent requirement of such an approach that professional supervision of the contractor is needed.

The soil classification which has been undertaken as part of this investigation will assist in the preparation of an earthworks specification. Further classification tests will be required to develop the earthworks specification.

Whilst the filling needs to be undertaken in a controlled engineered manner that will greatly reduce settlement, the settlement of fill cannot be avoided entirely. In addition, where ground levels are raised the natural soils will undergo consolidation settlement from the imposed loading of the fill materials. Such settlements would be in addition to settlements arising from any imposed structural loads. It would therefore be prudent to delay construction by a several weeks in areas of deep fill (say greater than 1.0m as a guide) to allow the immediate component of settlement to be completed. The thicker the fill, the longer the delay required.

Substantial earthworks cut operations can cause stress relief heave of the natural ground. Such unloading cannot be countered and so a delay to construction by a several weeks in areas of deep cut (say greater than 2.0m as a guide) to allow the immediate uplift to occur is recommended. The deeper the cut, the longer delay required.

6.5. SOAKAWAY DESIGN ADVICE

Soakage tests were carried out in trial pits TP107, TP108 and TP109, located at the areas of the proposed attenuation ponds. None of the tests was able to record any infiltration rate.

Therefore, it is considered that the disposal of collected surface water to soakaways will not be feasible at this site due to the cohesive nature and proved low permeability of the underlying soils. A positive drainage solution to a local sewer or surface watercourse should be pursued.

6.5.1. Attenuation Basins

It is noted on the masterplan that basins for the temporary storage of water are proposed in the southern most fields.

The attenuation ponds will be constructed within the clayey soils of the Oxford Clay Formation. Although the bedrock has been proved as a low permeability clay, perched water might be recorded. Therefore, when digging the ponds, attention to the presence of water will be required and if recorded parts of the basins will need to be re-engineered with clay to prevent the seepage entering the basins and land drains.

6.6. PAVEMENT CONSTRUCTION

From consideration of the observed ground conditions and the plasticity of the clay, it is recommended that a preliminary design California Bearing Ratio (CBR) of 3% is assumed. The cohesive deposits will be prone to rapid degradation during wet weather working and this should be avoided where possible.

Once the alignment and finished levels of adoptable roads has been determined, further targeted ground investigation may be required to meet the design CBR requirements of the local highways authority.

All unsuitable soils, such as topsoil or desiccated soils, should be removed from beneath proposed paved areas. The exposed sub-grade formation should then be proof rolled to reveal any excessively soft or compressible zones and any such features identified also removed by excavation. Where unsuitable materials are removed, the resultant voids should be filled in layers with appropriately compacted suitable granular fill. To reduce the loss of granular construction materials into the sub-grade, consideration should be given to utilising a geotextile starter layer across the formation level.

6.7. SUB-SURFACE CONCRETE

6.7.1.1. Sulphate and pH

	ALL ON-SITE SOILS			
	Sulphate		pH	
Characteristic Value	12.48%		6.5 units	
Justification	Based on Highest Total Potential Sulphate.		Mean of lowest 20% results.	
	No. of tests	Results Range	No. of tests	Results Range
Soil	30	<10 – 3,340mg/l	30	6.2 – 7.9 units
Groundwater	2	5,020 – 5,460 mg/l	2	8.0 – 8.1 units
Total Potential Sulphate	12	0.15% - 12.48% Seven out of twelve samples tested have been recorded potentially pyritic.		

6.7.1.2. Aggressive Chemical Environment for Concrete (ACEC) Class

Classification of the ACEC has been undertaken in accordance with the BRE SD1:2005 Concrete in Aggressive Ground.

OXFORD CLAY FORMATION	
SITE / SOIL CATEGORY	Natural ground containing pyrite.
DESIGN SULPHATE CLASS	DS-4
GROUNDWATER REGIME	Static.
ACEC CLASS	AC-3s
COMMENTS	Concrete in pyritic ground that is initially low in soluble sulphate does not have to be designed to withstand a high potential sulphate class unless ground disturbance is such that pyrite may be oxidised. This may prompt a change in construction e.g. employing piled foundations instead of trench fill footings. The restriction to DS-4 has been applied. Whilst water accumulated in some monitoring wells, the ground has been proven to be practically impermeable and so static conditions are appropriate.

6.8. PRELIMINARY FOUNDATION RECOMMENDATIONS

6.8.1. Introduction

Consistent ground conditions have been recorded across the site comprising competent Oxford Clay Formation bedrock from near surface.

Therefore, outside of the zones of influence of the trees and hedges, it is considered that shallow strip footings may be adopted for the proposed residential properties emplaced within the underlying Oxford Clay Formation.

Within the zones of influence of the trees deepened trench fill foundations are considered appropriate. However, where plots are located adjacent to the trees and hedges piled foundations may need to be considered if trench fill foundations are too deep to be economic or practical to construct.

6.8.2. Floor Slabs

In consideration of the near surface clay soils, fully suspended floor slabs designed and constructed in accordance with NHBC Standards are recommended at this development.

The floor construction will not have to incorporate radon or gas protection measures.

6.8.3. Traditional Footings

The site is suitable for the adoption of shallow strip/trench fill footings. Foundations should be taken through made ground/topsoil to bear upon the Oxford Clay Formation.

A presumed bearing value of 125kN/m^2 is considered appropriate for foundations up to 1m wide bearing upon the clay soils of the Oxford Clay Formation. Immediate and long term settlement should be within tolerable limits and take place over several years.

The Oxford Clay Formation has been shown to have a medium volume change potential when assessed against NHBC standards and therefore the minimum foundation depth required is 0.90m, but 1.25m where required to allow for restricted new tree planting. Under the NHBC Standards, foundation depths have to be increased if they are within the influence zone of felled trees, existing trees or proposed tree planting. It should be noted that where trees are in groups the resulting competition for resources can lead to deeper root systems than allowed for in the NHBC Standards. In any event, foundations should be taken below any roots encountered in foundation trench excavation. Where the required foundation depth varies around a structure, this can be accommodated by forming steps in the foundation as per NHBC Standards.

Where foundation depths exceed 1.50m in clay soils and are within the zone of influence of existing or felled trees or where foundations cut through tree roots, a compressible void former will be required against the internal faces of new foundations in order to accommodate potential long term soil heave. Such precautions against heave should be designed and constructed in accordance with NHBC Standards.

The excavator must be set up with care and operated correctly to ensure trench walls are vertical and base horizontal as any slight inclination will result in eccentric loading on deep trench fill footings.

A number of trees and tree stumps are located across the site and towards the sited and fields boundaries. It will be necessary to remove all unwanted trees, stumps and root structures prior to commencing with the development. Any resultant void should be backfilled accordingly with respect to the preferred foundation design.

During construction, any soft spots found at foundation formation level should be excavated and replaced with lean mix concrete. Foundation excavations should be kept dry and left open for the minimum amount of time possible. Where foundations cannot be completed immediately, a blinding layer of concrete should be placed.

6.8.4. Piling

For plots located in close proximity to trees, particularly the hedges along the boundary fields which includes high water demand trees such as oaks and hawthorn, it may be necessary to consider a piled design.

If piled foundations are necessary then in order to confirm deeper ground conditions for pile design further ground investigation in the form of deep boreholes is recommended.

6.9. RECOMMENDATIONS FOR FURTHER GEOTECHNICAL WORK

Once the areas of proposed earthworks cut are confirmed, further ground investigation will be required to classify materials for the Earthworks Specification. A Geotechnical Design Report (GDR) will be required to develop an Earthworks Specification for the cut and fill required for the development platforms.

A tree survey is required as this information is required for detailed foundation design. This survey with topographic survey data should be undertaken prior to any site clearance to accurately record the location of any previously felled trees and existing trees both within the site and close to the site boundaries. The survey should record the trunk location, height and species of the trees.

Consideration should be given in the detailed design of the development to minimise or eliminate the need for piling due to tree influence. If piling is required, then in order to confirm deeper ground conditions for pile design further ground investigation comprising deep cable percussive boreholes is recommended. Insitu Standard Penetration Tests should be conducted during forwarding of the boreholes and collected soil samples submitted for appropriate geotechnical laboratory testing.

7. RISK ESTIMATION - SOILS

7.1. HUMAN HEALTH

The Generic Assessment Criteria (GAC) employed below are for residential land use as this is appropriate to the proposed form of development.

CONTAMINANT	UNITS	NUMBER OF TESTS	MAXIMUM CONCENTRATION	GAC	NUMBER EXCEEDING GAC
Arsenic	mg/kg	20	27	37	0
Cadmium	mg/kg	20	0.5	22	0
Chromium (total)	mg/kg	20	29	910	0
Chromium (hexavalent)	mg/kg	20	<2	21	0
Copper	mg/kg	20	49	2,400	0
Lead	mg/kg	20	49	200	0
Mercury	mg/kg	20	<1	11	0
Nickel	mg/kg	20	43	180	0
Selenium	mg/kg	20	<2	250	0
Zinc	mg/kg	20	146	3,700	0
pH	Units	32	6.3-7.9	<5-10>	0
Naphthalene	mg/kg	20	<0.1	2.3	0
Acenaphthylene	mg/kg	20	<0.1	170	0
Acenaphthene	mg/kg	20	<0.1	210	0
Fluorene	mg/kg	20	<0.1	170	0
Phenanthrene	mg/kg	20	<0.1	95	0
Anthracene	mg/kg	20	<0.1	2,400	0
Fluoranthene	mg/kg	20	0.32	280	0
Pyrene	mg/kg	20	0.27	620	0
Benzo(a)anthracene	mg/kg	20	0.18	7.2	0
Chrysene	mg/kg	20	0.20	15	0
Benzo(b)fluoranthene	mg/kg	20	0.20	2.6	0
Benzo(k)fluoranthene	mg/kg	20	<0.1	77	0
Benzo(a)pyrene	mg/kg	20	0.15	2.2	0
Indeno(1,2,3-cd)pyrene	mg/kg	20	0.13	27	0
Dibenzo(a,h)anthracene	mg/kg	20	<0.1	0.24	0
Benzo(ghi)perylene	mg/kg	20	<0.1	320	0
TPH Aliphatic C5-C6	mg/kg	6	<0.01	42	0
TPH Aliphatic C6-C8	mg/kg	6	<0.05	100	0
TPH Aliphatic C8-C10	mg/kg	6	<2	27	0
TPH Aliphatic C10-C12	mg/kg	6	<2	130	0
TPH Aliphatic C12-C16	mg/kg	6	<3	1,100	0
TPH Aliphatic C16-C35	mg/kg	6	<10	65,000	0
TPH Aliphatic C35-C44	mg/kg	6	<10	65,000	0

CONTAMINANT	UNITS	NUMBER OF TESTS	MAXIMUM CONCENTRATION	GAC	NUMBER EXCEEDING GAC
TPH Aromatic C5-C7	mg/kg	6	<0.01	70	0
TPH Aromatic C7-C8	mg/kg	6	<0.05	130	0
TPH Aromatic C8-C10	mg/kg	6	<2	34	0
TPH Aromatic C10-C12	mg/kg	6	<2	74	0
TPH Aromatic C12-C16	mg/kg	6	<2	140	0
TPH Aromatic C16-C21	mg/kg	6	<3	260	0
TPH Aromatic C21-C35	mg/kg	6	<10	1,100	0
TPH Aromatic C35-C44	mg/kg	6	<10	1,100	0
Benzene	mg/kg	6	<0.002	0.87	0
Toluene	mg/kg	6	<0.005	130	0
Ethylbenzene	mg/kg	6	<0.002	47	0
Xylene (total of all types)	mg/kg	6	<0.002	56	0
Methyl Tert Butyl Ether (MTBE)	mg/kg	6	<0.005	49	0
Semi-Volatile Organic Compounds (SVOCs)	mg/kg	4	<0.15	LOD*	0
Organochlorine Pesticides	mg/kg	10	<0.02	LOD*	0
Asbestos Screen	%	4	Not detected	0.001	0
Notes: *Limit of detection: Given the large amount of compounds in this group, coupled with the lack of GAC for certain compounds, any concentrations above the limit of detection will be highlighted in the first instance.					

DISCUSSION OF RESULTS	
METALS	None of the metal compounds are elevated above the human health assessment criteria.
PAH	None of the PAH compounds are elevated above the human health assessment criteria.
TPH	None of the TPH compounds are elevated above the human health assessment criteria.
BTEX & MTBE	None of the BTEX or MTBE compounds are elevated above the human health assessment criteria.
VOC / SVOC	None of the VOC or SVOC compounds are elevated above the human health assessment criteria.
ASBESTOS	Asbestos has not been detected in any of the samples analysed or visually identified in any of the soils at the site.

7.2. WATER ENVIRONMENT

It is not appropriate to consider human health assessment criteria for human health in relation to the risk to the water environment, but currently there are no generic soil assessment criteria in respect of the water environment. In the absence of any groundwater sampling data, the soil results are assessed on the basis of professional judgement.

The contaminant concentrations recorded in the soils at the site are not considered to be at such levels that they would present any significant risk to the underlying water environment.

7.3. BUILDING MATERIALS

CONTAMINANT	UNITS	NUMBER OF TESTS	MAXIMUM CONCENTRATION	GAC	NUMBER EXCEEDING GAC
pH	units	32	6.3	<5.5	0
Sulphate (w/s)	mg/l	32	99,490	500	13
Sum of any VOC above detection limits	mg/kg	4	<0.15	0.5	0
Sum of SVOC + Aliphatic TPH >C5-C10 + Aromatic TPH >C5-C10 above detection limits	mg/kg	4	<0.05	2	0
Sum of Aliphatic TPH >C10-C21 + Aromatic TPH >C10-C21 above detection limits	mg/kg	20	<10	10	0
Sum of Aliphatic TPH >C21-C34 + Aromatic TPH >C10-C35 above detection limits	mg/kg	20	<10	500	0
Sum of BTEX + MTBE above detection limits	mg/kg	6	<0.005	0.1	0
Phenols	mg/kg	4	<0.1	2	0
Cresols and chlorinated phenols	mg/kg	4	<0.15	2	0
Naphthalene	mg/kg	20	<0.1	0.5	0
Benzo(a)pyrene	mg/kg	20	0.15	0.5	0

RESULTS EXCEEDING BUILDING MATERIALS ASSESSMENT CRITERIA	
WATER SOLUBLE SULPHATE	Concentrations of water soluble sulphate are such that they could detrimentally impact sub-surface concrete. The impact on concrete mix design is a geotechnical issue that is considered separately and so no further comment is made on these results within this contamination assessment.

8. RISK ESTIMATION – GAS

8.1. RADON GAS

The site is not situated within an area where radon gas protection measures are required in new buildings.

8.2. VOLATILE ORGANIC COMPOUNDS

There is no evidence that the site is affected by significant Volatile Organic Compounds (VOC) contamination.

8.3. GROUND GAS SOURCES

GAS SOURCE	GENERATION POTENTIAL	COMMENTS
Made Ground with low organic content	Very Low	Only one of the former ponds was identified in the ground investigation, the one located at the southern boundary of the northern most field. The small former pond has been confirmed to have been infilled. However, given its small size the Made Ground is considered likely to be localised and has been found to be only 1.1m deep. The Made Ground encountered did not appear to contain any significant quantities of any waste materials, including organic rich wastes nor any organic material. At such a shallow thickness it is unlikely to offer a viable gas source.
Natural soils with low organic content	Negligible	Whilst the gas generation potential is low, it is common for natural soils to record low concentrations of Carbon Dioxide due to limited organic or carbonate content.

8.4. GROUND GAS MONITORING

8.4.1. Summary of Results

The following table summarises the results from the 6No. monitoring visits completed. During the final visit on 14th November 2025, one of the wells (WS113) recorded a flooded response zone and therefore the data from that well on that visit is not considered to be valid. All other data is considered to be valid.

PARAMETER	MINIMUM	MAXIMUM	COMMENTS
Methane	0.0%	0.0%	No significant concentrations recorded to date.
Carbon Dioxide	0.0%	1.8 %	No significant concentrations recorded to date.
Oxygen	13.7%	20.7%	The oxygen levels were typically depleted as carbon dioxide concentrations increased. Aside from a single reading at 13.7% the lowest oxygen recorded was 18.0%.
Hydrogen Sulphide	0 ppm	0ppm	No significant concentrations recorded to date.
Carbon Monoxide	0ppm	0ppm	No significant concentrations recorded to date.
VOC & SVOC (by PID)	0ppm	0ppm	No significant concentrations recorded to date.
Atmospheric pressure	990mB	1019mB	Three monitoring visits were undertaken during periods of falling pressure.
Groundwater levels	0.72m	Dry (5.10m depth	Standing water levels were only recorded in boreholes WS103, WS104, WS109, WS110, WS115 and WS117 initially, with all but two wells (WS111 & WS120) being the only dry boreholes by the final visit. After a period of increased rainfall before the final visit, WS113 appears to have filled up with water depth up to 0.72m bgl, resulting in a flooded response zone.
Flow rate	0.0 l/hr	0.0l/hr	Generally no significant flows were recorded. Occasional positive flows were noted, although these were sporadic and only followed periods where the groundwater within the wells had risen resulting in a build-up of pressure given the impermeable clay soils. None of the wells record any constant positive gas flow. Consequently, it is not considered that any representative positive gas flows are present.

8.4.2. Monitoring Frequency and Duration

SENSITIVITY OF DEVELOPMENT	High (Residential with gardens)	
	IDEALISED	**ACTUAL**
MONITORING PERIOD	3 months	3 months
TOTAL NUMBER OF VISITS	6 visits	6 visits
NUMBER OF VISITS DURING FALLING PRESSURE TRENDS	At least two visits	Three visits
COMMENTS		
The number of gas monitoring visits completed complies with the guidance within CIRIA C665.		

8.5. GROUND GAS REGIME ASSESSMENT

8.5.1. Building Type

A detailed development layout for the site is yet to be confirmed, but will mostly comprise residential land use. Therefore, for the purposes of this assessment, a residential land use will be assumed throughout with a mixture of private houses and apartments.

In accordance with BS8485:2015 this would result in Type A or B buildings. Type A buildings are in private ownership with no controls over the use of and alterations to the building. This building type typically comprises private dwellings. Type B buildings have centralised control of any alterations and change of use, but limited or no control of maintenance activities. Typical examples include managed apartments, multiple occupancy offices, some retail premises, some parts of public buildings and parts of hotels.

8.5.2. Gas Screening Values

	MAXIMUM GAS CONCENTRATION (fraction)	**MAXIMUM GAS SCREENING VALUE (l/hr)**
Methane	0.000	0.00
Carbon Dioxide	0.018	0.02
METHODOLOGY	BS8485:2015+A1:2019.	
GAS REGIME	Characteristic situation 1 – Very low risk.	

8.6. GROUND GAS PROTECTION MEASURES

Based on the monitoring programme undertaken and the CS1 classification, there is no requirement for any landfill gas protection measures within the proposed development.

9. RISK EVALUATION

9.1. REVISED CONCEPTUAL MODEL

The revised conceptual site model plan is presented in the Appendices.

INVALID CONTAMINANT LINKAGES	Based on the investigation to date all of the potential contamination linkages identified at the start of the ground investigation were proven to be invalid.
VALID CONTAMINANT LINKAGES	During the ground investigation, no additional sources of contamination were identified.
LIMITATIONS AND UNCERTAINTIES	All of the potential contamination sources have been targeted by the exploratory holes and therefore it is considered that a sufficient number of exploratory points have been completed for contamination assessment purposes.

9.2. UPDATED CONTAMINATION RISK ASSESSMENT

The contamination linkages identified in the revised conceptual site model will now be evaluated as to their severity:

SOURCES AND CONTAMINANTS	PATHWAYS	RECEPTORS	POTENTIAL RISK
Agricultural fields: - Pesticides	Ingestion Inhalation Direct Contact	Future residents	Negligible
	Surface run-off and lateral migration	Stream	Negligible
	Vertical and lateral migration	Groundwater	Negligible
	Direct contact	Building materials and services	Negligible
Infilled ponds in the northern area - Metals - Hydrocarbons - Asbestos - Hazardous ground gases	Ingestion Direct Contact	Future residents	Negligible
	Inhalation of ground gases		Negligible
	Surface run-off and lateral migration	Stream	Negligible
	Vertical and lateral migration	Groundwater	Negligible

SOURCES AND CONTAMINANTS	PATHWAYS	RECEPTORS	POTENTIAL RISK
	Direct contact	Building materials and services	Negligible
Former stockpile in the northern area the northern area - Metals - Hydrocarbons - Asbestos	Ingestion Inhalation Direct Contact	Future residents	Negligible
	Surface run-off and lateral migration	Stream	Negligible
	Horizontal and lateral migration	Groundwater	Negligible
	Direct contact	Building materials and services	Negligible

The contamination risks that are presented to the various receptor groups are discussed further in the following sections:

SOIL RISKS TO HUMAN HEALTH
No soil risks to human health have been identified at the site.

GROUND GAS RISKS
The gas monitoring demonstrates a negligible risk to future residents from potential landfill gas and as such no gas protection measures would be required in the new buildings.

RISK TO WATER ENVIRONMENT
No risks to the water environment have been identified at the site.

RISK TO BUILDING MATERIALS AND SERVICES
No risks to building materials and services have been identified at the site.

9.3. RISK MANAGEMENT

9.3.1. Introduction

To date no significant contamination risks have been identified by this investigation.

The gas monitoring has confirmed no gas protection measures are required in the new buildings.

It is recommended that this report is submitted to the planning department of the Local Authority, warranty providers and the organisation undertaking the Building Control function to confirm that the investigation completed to date is satisfactory.

9.3.2. Further Contamination Assessment

No further contamination assessment is considered necessary.

9.3.3. Outline Remediation Strategy

Based on the current level of investigation and the absence of contamination risks, it is considered that no remediation is considered necessary.

10. SOIL RE-USE AND WASTE SOIL DISPOSAL

10.1. OVERVIEW

It is considered that uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it was excavated is not waste. Accordingly, the planned re-use of such soils on site to form the development landform that has been determined through the planning process is excluded from waste regulation by the Waste Framework Directive (2008).

Made Ground and other materials such as recycled aggregate are also not waste unless they are discarded, intended to be discarded or required to be discarded.

Any soils that are surplus to requirements and/or are unsuitable for re-use to be disposed of from site are recognised as 'waste' according to the Environment Agency and the European Waste Framework Directive.

To allow the transfer of surplus soil for use at other developments it is recommended that a Materials Management Plan (MMP) is formulated in general accordance with the CLAIRE 'Definition of Waste: Development Industry Code of Practice'. Such a MMP is also of use for the re-use of the excavated materials on site, such as for:

- Demonstrating that stockpiled soils have a use.
- Facilitating the import of soils if there is a shortfall of fill material.

It is a legal requirement to correctly assess and classify waste. There are specific technical requirements for waste sampling such that it is proportionate to the volume of the waste type in question and its nature. The preliminary was assessment provided below is based only upon the available data and may not be sufficient to adequately classify the waste.

10.2. TOPSOIL

Topsoil should be viewed as a resource rather than a waste. As the topsoil is suitable for residential garden use in terms contamination, the topsoil at the site should be stripped and any surplus reused on other developments. It should be noted that topsoil, even if uncontaminated, is unlikely to constitute 'inert waste' due to its high organic matter content.

The suitability of the topsoil for re-use is considered in this report only in respect of contamination issues. For consideration of the quality of the topsoil for re-use then a Topsoil Resource Survey with appropriate testing should be commissioned. Such a survey will inform a topsoil management plan.

10.3. SUB-SOIL

It is considered that the any or natural sub-soils disposed of from the site would be classified as 'non-hazardous. However, the chemical results should be forwarded to the proposed landfill site and the waste classification confirmed prior to disposing of any surplus soils. Waste Acceptance Criteria (WAC) testing of the soils will also be required where the soil is to be disposed of at a landfill permitted to accept inert waste. The waste code from the European Waste Catalogue (EWC) 2002 for the soils would be 17 05 04 'Soil and Stones, not containing dangerous substances'.

11. HEALTH AND SAFETY FILE INFORMATION

11.1. INTRODUCTION

The aim of the following sections is to present pertinent Health and Safety information that has arisen from the current investigation/survey works discussed in this report. The aim is to identify health and safety controls that may be necessary during any subsequent maintenance, refurbishment, demolition or construction works. The information is not exhaustive and stems only from the aspects identified within the scope of the works undertaken by BRD.

Where BRD has been appointed as a Principal Contractor, then this information shall form the Health and Safety Files as required by the Construction Design and Management (CDM) Regulations 2015.

Reports are always forwarded to the Client and they shall be responsible for ensuring this safety information is disseminated to those who need it.

The works undertaken by BRD are detailed in the previous sections of this report.

11.2. HAZARDS

During the course of the BRD works the following noteworthy safety hazards have been identified:

11.2.1. Contamination

Although no contamination has been identified, as with any construction site, if any anomalous material is encountered during the redevelopment then expert environmental advice should be sought.

11.2.2. Asbestos

Asbestos has not been detected in any of the samples analysed or visually identified in any of the soils at the site.

11.3. EXISTING STRUCTURES

There are no existing structures.

11.4. HAZARDOUS MATERIALS

BRD did not construct anything with hazardous materials.

Any soils to be imported to the site, in particular topsoil, should be tested to confirm their suitability in the development.

11.5. UTILITY SERVICES

No previously unidentified utility services were encountered during the BRD works.

The utility services plans held by the Client should be referred to.

The utility service companies should be contacted for records of their own equipment.

REPORT SPECIFIC REFERENCES

- 'Phase 1 Geo-Environmental Desk Study – Blackmore Farm - Phase 2, Melksham', BRD Environmental Ltd, ref. BRD4599-OR1-A, dated June 2025.
- British Geological Survey, Sheet 265, 'Bath', Solid and Drift Geology Edition (1:50,000), published 2011.
- 'Preliminary Phase 2 Geo-Environmental Site Investigation - Blackmore Farm, Melksham' BRD Environmental Ltd, Ref: BRD3304-OR2-B, dated June 2023.

SUPPORTING INFORMATION

GROUND INVESTIGATION

Exploratory holes are logged by an experienced Geo-Environmental Consultant in general accordance with 'Code of practice for site investigations' BS5930:2015+A1:2020 (BSi, 2020). Soil samples for chemical and geotechnical analysis are taken from the exploratory holes at intervals dictated by the nature of the soils and the objectives of the investigation.

Where stated on the logs of inspection pits, trial pits or boreholes (where insitu testing has not been undertaken), the relative density of coarse (sand and gravel) soils is tentative only. Such assessments of density are on the basis of visual inspection only taking into consideration such factors as drilling rates, stability of pit side walls, appearance and behaviour under excavation.

Where Chalk strata is encountered it is logged and graded in general accordance with CIRIA guidance 'C574 - Engineering in Chalk' (CIRIA, 2002). It should be recognised that where percussive drilling methods are employed, the structure of the Chalk is destroyed and therefore the grading stated on such logs is either tentative or absent where it is not possible to assess the grade.

Hand Dug Inspection Pits

Hand tools are used to forward shallow inspection pits as a cost effective method of describing and sampling near surface soils. The technique is also used where exposure of existing footings is required. The depth reached by such techniques is a function of the nature of the ground and generally does not exceed 1.5m

Trial Pits

Mechanically excavated trial pits allow detailed inspection of near surface ground due to the large volume of soil exposed. A wheeled backhoe loader is the usual machine for digging trial pits that are typically 3 to 4.5m deep, 0.5m wide and 3m long. It is worth noting that due to the disturbance of the ground, this technique will leave visible pits scars, localised surface disturbance and may leave a mound of soils that can settle over time.

Windowless Sampling Boreholes

This type of borehole is formed by a small tracked dynamic percussion drilling rig with samples retrieved in thin plastic liners within the narrow diameter steel sampling tubes. Borehole depths of up to 5m are typical, but in exceptional circumstances up to 15m depth can be achieved. This is the smallest type of rig that is capable of undertaking Standard Penetration Tests (SPTs).

Hand Held Window Sampling

Hand held window sampling is a useful method of drilling narrow diameter boreholes particularly where access is difficult. Hand held mechanical percussive hammers are used to drive the sampling tube into the ground. The soil samples are collected within the hollow metal sampling tubes and inspected via the open window along one side. Window sampling boreholes can be forwarded to depths of 3m to 6m depending upon ground conditions.

Cable Percussive Boreholes

This form of drilling involves repetitive dropping of a tube into the soil under its own weight from a tripod support. The sample is obtained from the clay cutter head in fine soils or a bailer for wet granular soils. As the borehole progresses SPTs can be undertaken and relatively

undisturbed samples can be obtained. Typically these boreholes are 15 to 25m deep, but depths of double that can be achieved in soils, but only thin weak rock layers can be penetrated.

Rotary Boreholes

Where competent rock is required to be drilled then rotary drilling techniques are required. The drilling rigs can vary in size from small tracked units to larger units mounted on four wheel drive trucks. Rotary open hole drilling techniques break the rock into small fragments and so recovery of any samples is limited. In contrast, rotary coring generally retrieves excellent samples. Some rigs also allow dynamically driven windowless sampling to be undertaken through soil layers. There are no practical limits to the depths that this drilling method can achieve.

Dynamic Probing

Dynamic probing comprises a sectional rod with a sacrificial cone at the base of slightly larger diameter than the rod. The rod is driven into the ground by a constant mass falling through a set distance. The number of blows required to forward the rod per 100mm is then recorded and presented in a graph of N_{10} values. The standard applicable to dynamic probing is 'BS EN ISO 22476-2:2005 Incorporating corrigendum no. 1, Geotechnical investigation and testing — Field testing — Part 2: Dynamic probing' (BSi, 2007).

Static Cone Penetration Tests

Cone Penetration Tests (CPT) consist of pushing a conical 60° cone into the ground at a constant rate and recording the force required to do this. Sensors in the cone record other information and this data can be correlated to a number of different geotechnical parameters.

Dynamic Penetrometer

The Transport Research Laboratory Dynamic Cone Penetrometer (TRL DCP) uses an 8 kg hammer dropping through a height of 575mm to drive a 60° cone of 20mm maximum diameter into the ground. The depth driven either per blow or per several blows is recorded. The strength of each of the soil layer encountered is then calculated by converting the penetration rate into an approximate California Bearing Ratio (CBR) value employing the correlation proposed by TRL.

Light Weight Deflectometer

The falling Light Weight Deflectometer (LWD) test is a dynamic plate load test. It is a surface testing instrument and does not involve any penetration of the underlying soils. The plate used is 300mm diameter and so the results achieved are effectively an average of the ~450mm to 600mm soils beneath the plate. The LWD result can be correlated to a California Bearing Ratio (CBR) value and BRD's experience is that these results compare well with other insitu CBR test methods.

Gas Monitoring

Gas monitoring is undertaken with a portable gas monitor for Oxygen, Methane, Carbon Dioxide, Hydrogen Sulphide and Carbon Monoxide together with recording of atmospheric pressure and any flow rate.

Vapour Monitoring

Headspace tests and monitoring for Volatile Organic Compounds (VOC) or Semi Volatile Organic Compounds (SVOC) is undertaken using a Photo Ionisation Detector (PID). The MiniRAE models used have a 10.6 eV lamp calibrated for isobutylene. The PID is useful tool to indicate the presence of a wide range of volatile compounds, but only provides semi-quantitative data as different compounds provide a different response and thus the reading is not a true reflection of the actual concentration present.

Low PID readings can be recorded in natural uncontaminated organic soils or even as a result of atmospheric pollution. It is generally accepted by consultants and regulators that recorded values in excess 50 parts per million (ppm) represents the presence of organic compound pollutants and in excess of 100 ppm such contamination may be significant.

The headspace test procedure involves the collection of a sample of suspected contaminated soils and placing within a sample bag. A tight seal to the bag is formed with a similar volume of air trapped to that of the soil and the sample is left for fifteen minutes to allow volatilisation of any contaminants. The bag is then pierced by, and sealed around, the sample probe of the PID and a reading taken.

Borehole well monitoring is undertaken by connecting the PID directly to the gas tap on the monitoring well installation.

Groundwater Level Monitoring

Groundwater levels are recorded with an electronic dip meter that has a detector end that is lowered into the borehole well. An audible signal is made when water is reached and the depth recorded from the graduated tape used to lower the detector. Where there is potential for a separate Light Non Aqueous Phase Liquid (LNAPL) to be present floating on the groundwater an oil/water interface meter is used in preference to a conventional dip meter so that any such floating product can be detected.

Geotechnical Sampling

BRD schedule a range of geotechnical testing as appropriate to the identified ground conditions, available budget and the proposed development. Different types of soil samples are obtained as appropriate to the ground conditions and planned testing.

SAMPLE TYPE	*LOG SYMBOL*	*DESCRIPTION*
Disturbed	*D*	*Small disturbed soil samples of about 1 to 2 kg are collected in plastic bags.*
Bulk	*B*	*Large disturbed bulk samples up to about 20 to 30 kg are collected in plastic bags*
Undisturbed	*U*	*'Undisturbed' samples generally collected in plastic or metal tubes within cable percussive boreholes of 100mm diameter for samples of fine soils of firm to stiff consistency. Can also be representative of samples taken by cutting plastic sample liners from windowless sampling drilling methods. It is recognised that such samples do not generally meet Eurocode sample quality requirements for the tests commonly employed. However, given the wealth of experience with these sampling methods this continues to be a common approach in United Kingdom practice particularly for less sensitive developments where more expensive sampling techniques are not economically justifiable.*
Undisturbed	*UT*	*A thin walled steel sampler developed by Archway Engineering called a UT100 in an attempt to gain better quality samples of soft to firm fine soils when using cable percussive drilling methods.*

Contamination Sampling

BRD schedule contamination testing as appropriate to the ground conditions, available budget, potential contaminants and the proposed development. Samples are collected in single use laboratory supplied containers.

Soil samples are retrieved in plastic containers and/or amber glass jars with a lined plastic cap. Contamination samples are indicated by a 'J' on exploratory hole logs.

Water samples are collected in plastic bottles and/or amber glass jars with a lined plastic cap then placed in cool boxes together with freezer packs. Water samples are indicated by a 'W' on exploratory hole records, but generally such samples are not tested as testing from dedicated monitoring wells is preferred for sample quality reasons.

Samples retrieved from the exploratory holes are dispatched to the laboratory by overnight courier. Where samples cannot be transported directly from site they are temporarily stored in the BRD dedicated sample storage facility which includes refrigeration where necessary. The individual accreditation of the test methods is detailed in the laboratory test report.

GEOTECHNICAL ASSESSMENT

Under Eurocode 7 (EC7) the following risk ranking is applied to geotechnical projects:

GEOTECHNICAL CATEGORY	***DESCRIPTION***
1	*Small and relatively simple structures for which it is possible to ensure that the fundamental requirements will be satisfied on the basis of experience and qualitative geotechnical investigations with negligible risk. For example, straightforward ground conditions, local experience, no excavation below the water table unless this will be straight forward.*
2	*Conventional types of structures and foundations. No difficult soil or loading conditions. Quantitative geotechnical data and laboratory testing. Routine procedures for field and laboratory testing. Conventional structures and no exceptional geotechnical risk. For example, spread, raft and piled foundations, retaining walls, bridge piers and abutments, embankments, ground anchors, tunnels and excavations.*
3	*Those structures not in Categories 1 and 2 such as very large or unusual structures, structures involving abnormal risks, or unusual or exceptionally difficult ground or loading conditions. Structures in highly seismic areas. Structures in areas of probable site instability or persistent ground movements that require separate investigation or special measures.*

GEOTECHNICAL PARAMETERS

Soakage Tests

Soakage tests comprise the filling of a test pit with water and recording the time taken for the water to drain away. The tests are undertaken in general accordance with 'Digest DG 365: Soakaway design' (BRE, 2016). The test pits are usually gravel filled for safety with a slotted vertical pipe through which water observations are made. Water is generally supplied by a tanker to allow fast filling of the pits with water. Compliant tests are filled and allowed to drain near empty three times.

Standard Penetration Tests

The standard penetration test (SPT) determines the resistance of soils at the base of a borehole to the dynamic penetration of a split barrel sampler and the recovering of disturbed samples for identification purposes. In gravelly soils and some soft rocks a solid cone is used in preference to the sampler.

The basis of the test consists in driving a sampler by dropping a hammer of 63.5 kg mass on from a height of 760 mm. The number of blows (N value) necessary to achieve a penetration of the sampler of 300 mm is recorded. The test is described in 'Geotechnical investigation and testing — Field testing — Part 3: Standard penetration test - BS EN ISO 22476-3:2005 Incorporating corrigendum no. 1' (BSi, 2007).

The uncorrected N values of the SPT tests are recorded upon the borehole logs together with a record of blows for each 75mm test portion including the seating blows. Where the full test depth cannot be achieved due to refusal on hard stratum, the number of blows and the distance achieved is recorded and the N value given as >50. The abbreviation SPT(c) is used on the logs indicates that the test was performed with a solid cone rather than a split spoon sampler.

It is necessary to apply a correction to the N values to account for the effects of energy delivery using the equation: $N_{60} = \frac{E_r}{60} N$ *where* E_r *is the energy ratio of the specific test equipment.*

In the case of tests in sand, for the effects of overburden and rod length the equation is modified to $N_{60} = \frac{E_r}{60} \; x \; \lambda \; x \; C_N \; x \; N$ *where* λ *is the correction factor for energy losses due to the rod length and* C_N *is the correction factor for vertical stress due to overburden of the soil.*

Sulphate

In order to compare the laboratory soil test results with 'Concrete in aggressive ground. BRE Special Digest 1: 2005' (BRE, 2005) laboratory results are converted to SO_4 *mg/l. Laboratory results expressed as* SO_3 *g/l and are multiplied by a factor of 1200 to express the results as* SO_4 *mg/l.*

Index Property Tests

In accordance with National House Building Council (NHBC) 'Standards Chapter 4.2 – Building near trees', the laboratory plasticity indexes are assessed against their volume change potential. The Modified Plasticity Index is defined as the Plasticity Index of the soil multiplied by the percentage of particles with a nominal diameter of less than 425µm. Whilst the NHBC Standards were developed for residential buildings, the advice is equally applicable to a large number of other types of low rise structures.

Hand Shear Vane

The undrained shear strength of the fine (i.e. clay) soils at the site can be established using hand shear vane apparatus. Usually three readings are taken at every depth tested and the uncorrected results recorded on the exploratory point log. Shear vane readings from depths below 1m depth in trial pits are from tests performed on excavated soil. In accordance with Eurocode 7 — Geotechnical design — Part 2: Ground investigation and testing EN 1997-2:2007 the results should be corrected. BRD employ only simple correction methods as the more complex correction methodologies imply undue accuracy to a test that has distinct disadvantages and limitations.

Pocket Penetrometers

The Pocket Penetrometer is a lightweight instrument for use by field personnel to check visual classification of soils. It is a simple test and there is inherent uncertainty related to the small volume of soil being tested and so the results should be used with appropriate caution. Pocket penetrometers are calibrated in terms of unconfined compressive strength and once converted to undrained shear strength (divide by two) the results are further reduced by a factor of 1.5 - 2.0 as the device tends to overestimate strengths.

Instrument Reading (uncompressive strength in kg/cm^2)	*Indicative Undrained Shear Strength (kN/m^2)*	*Indicative Consistency*	*Indicative strength*
1.0	*25 – 33*	*Soft*	*Low*
1.5	*38 – 50*	*Soft to firm*	*Low to medium*
2.0	*50 - 67*	*Firm*	*Medium*
2.5	*63 – 83*	*Firm to stiff*	*Medium to high*
3.5	*88 – 116*	*Stiff*	*High*
4.5	*113 – 150*	*Stiff to very stiff*	*High to very high*

CONTAMINATION ASSESSMENT METHODOLOGY

UK Policy

The UK Government's policy in relation to land affected by historic contamination is based on a 'suitable for use' approach. The approach recognises that the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Contamination risks therefore need to be assessed on a site-by-site basis. The 'suitable for use' approach limits requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to either the current use or future use of the land.

The three main drivers for contamination assessment and remediation are:

- *Voluntary action.*
- *Development as part of the planning regime.*
- *Regulatory action to mitigate unacceptable risks e.g. Part 2A of the Environmental Protection Act 1990.*

Contaminant Linkages

For a contamination risk to exist there must be a 'contaminant linkage' from the source (contaminant or pollutant) via a pathway (the route from contaminant to receptor) to a receptor (the entity that could be harmed). The absence of a source, pathway or receptor breaks the contaminant linkage and therefore no contamination risk exists.

Contamination is typically present at a site (in the ground and/or in the underlying groundwater) as a result of a historic or current industrial use, usually as a result of leaks, spills or disposal of residues, wastes and excess raw materials from the industrial processes. Contamination may also be present due to:

- *The deliberate application of chemicals e.g. the spraying of herbicide/pesticide.*
- *Migration of pollutants from adjacent land.*
- *Naturally occurring processes e.g. elevated concentrations of particular heavy metals associated with specific geological strata.*
- *Atmospheric deposition.*

Conceptual Site Model

The conceptual site model can be defined as a textual or graphical representation of the identified contaminant linkages for a given site. The model forms the basis for designing the investigation as the aim will be to target all of the potential contaminant linkages to determine, through the subsequent phases of risk assessment, whether or not they pose an actual risk.

It is important that the conceptual site model is updated with new information as the various investigation, risk assessment and remediation works are completed.

Technical Guidance

The technical and legal framework for contamination assessment is complex. The process adopted through this report for assessing contamination risks is in general accordance with the following guidance, as listed below:

- *'Investigation of Potentially Contaminated Sites - Code of Practice - BS 10175:2011+A2:2017', (BSi, 2017).*
- *Land Contamination Risk Management (LCRM) website, (Environment Agency, 2023).*
- *'Guidance for the safe development of housing on land affected by contamination - R&D66: 2008', (NHBC/Environment Agency, 2008).*

Land Contamination Risk Management: Stage 1 Risk Assessment

In line with the technical guidance, the contamination risk assessment follows a series of steps for each tier of risk assessment:

- *Identify the hazard – A preliminary stage of risk assessment concerned with identifying and characterising the contamination source that may be associated with a particular site.*
- *Assess the hazard – Use a source-pathway-receptor (S-P-R) linkage approach to find out if there is the potential for unacceptable risk.*
- *Estimate the risk – predict what degree of harm or pollution might result and how likely it is to occur by using the tiered approach to risk assessment.*
- *Evaluate the risk – Decide whether a risk is unacceptable, taking into account the nature and scale of the risk estimates, any uncertainties associated with the assessment and the broad costs and benefits of taking action to mitigate risks.*

The separate staged tiers of risk assessment are as follows:

TIER	***DESCRIPTION***
TIER 1: PRELIMINARY RISK ASSESSMENT	*Generally limited to desk based research and a site walkover survey (site reconnaissance) to develop an initial conceptual site model and identify what risks, if any, are likely to be presented by the site. Occasionally it may include assessment of a limited exploratory ground investigation or previous investigation data.*
TIER 2: GENERIC QUANTITATIVE RISK ASSESSMENT	*This phase is concerned with establishing whether contamination is present, usually through intrusive ground investigation, and then evaluating the magnitude of the associated risks with test results compared to generic assessment criteria.*
TIER 3: DETAILED QUANTITATIVE RISK ASSESSMENT	*To further evaluate risks the development of site-specific assessment criteria are values for concentrations of contaminants derived using risk estimation models*

Risk Classification

The objective of risk assessment is to identify the nature and magnitude of the potential risks and should be based on a consideration of both:

- *The likelihood/probability of an event [taking into account both the presence of the hazard and receptor and the integrity of the pathway].*
- *The severity of the potential consequence [taking into account both the potential severity of the hazard and the sensitivity of the receptor].*

There is a need for a logical, transparent and repeatable system in defining the categories of severity of consequence and likelihood as well as for the risk itself and therefore the following risk rating matrix is employed:

		SEVERITY OF CONSEQUENCE			
		SEVERE	***MEDIUM***	***MILD***	***MINOR***
PROBABILITY	***HIGH LIKELIHOOD***	*Very High Risk*	*High Risk*	*Moderate Risk*	*Moderate/Low Risk*
	LIKELY	*High Risk*	*Moderate Risk*	*Moderate/Low Risk*	*Low Risk*
	LOW LIKELIHOOD	*Moderate Risk*	*Moderate/Low Risk*	*Low Risk*	*Negligible Risk*
	UNLIKELY	*Moderate/Low Risk*	*Low Risk*	*Negligible Risk*	*Negligible Risk*

These risk classifications are defined as follows:

- *Very High Risk - There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without appropriate remediation action.*
- *High Risk - Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remediation action.*
- *Moderate Risk - It is possible that without appropriate remediation action harm could arise to a designated receptor. It is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild.*
- *Low Risk - It is possible that harm could arise to a designated receptor from an identified hazard. It is likely that, at worst if any harm was realised any effects would be mild.*
- *Negligible Risk - The presence of an identified hazard does not give rise to the potential to cause harm to a designated receptor.*

This risk assessment matrix and classification system is based on guidance produced by Department for Environment, Food and Rural Affairs (Defra) and the Environment Agency in connection with contaminated land assessment.

TIER 2 RISK ESTIMATION - SOILS

Introduction to Soil Human Health Generic Assessment Criteria (GAC)

The Environment Agency (EA) and Department of Environment Food and Rural Affairs (DEFRA) had previously issued revised guidance following the consultation about the DEFRA publication 'Assessing risks from land contamination – a proportionate approach. Soil Guideline Values: the Way Forward'. This resulted in a revised version of the Contaminated Land Exposure Model (CLEA) model (version 1.06) and a few of the previously published Soil Guideline Values (SGVs) were revised.

The main legislative driver for dealing with historical land affected by contamination is Part 2A of the Environmental Protection Act 1990. Revised Statutory Guidance to support Part 2A was published in April 2012. This Guidance introduced a new four-category system for classifying land under Part 2A for cases of a Significant Possibility of Significant Harm to human health,1 where Category 1 includes land where the level of risk is clearly unacceptable and Category 4 includes land where the level of risk posed is acceptably low. The impact assessment for the new Statutory Guidance stated "The new statutory guidance will bring about a situation where the current SGVs/GACs are replaced with more pragmatic (but still strongly precautionary) Category 4 screening levels (C4SLs) which will provide a higher simple test for deciding that land is suitable for use and definitely not contaminated land". The C4SLs are still derived using the CLEA model, but adopt a slightly different approach to toxicological assessment and exposure modelling.

In March 2014, the outcome of 'SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination - Final Project Report' (CL:AIRE) was published. Due to slightly ambiguous wording within this report, Lord de Mauley, Parliamentary Under Secretary, DEFRA wrote to all local authorities on 3 September 2014 to confirm that the published C4SLs were final and that they can be used in risk assessment undertaken under the planning regime.

Whilst there are proposals for the industry to develop C4SLs for other contaminants, these have only produced limited results to date. BRD do not believe that C4SLs could be developed by a single organisation with sufficient confidence. BRD has therefore employed other, more conservative guidance based on the CLEA model (detailed below) within this assessment for compounds where C4SLs are not available. However, it should be noted that the results of this investigation may need to be reinterpreted as new C4SLs become available.

Due to the limited number of published C4SL values at this time, the Chartered Institute of Environmental health (CIEH) and Land Quality Management Ltd (LQM) have produced Generic Assessment Criteria (GAC) known as Suitable for Use Levels (S4ULs), for use in contaminated land human health risk assessment. These S4ULs (2014) have been derived for a large number of substances using the current CLEA model and are therefore consistent with current guidance. They also incorporate the revised exposure parameters as adopted by the C4SL programme, but have not adopted the revised toxicological approach adopted by the C4SLs and so remain a more conservative assessment criteria. The substances for which SGVs were previously published have also been revised as new S4ULs in light of the new exposure parameters proposed by the C4SL programme, and therefore effectively replace the existing SGVs.

In addition, in December 2009, other GAC for less common substances were produced by the Environmental Industries Commission (EIC), The Association of Geotechnical and Geoenvironmental Specialists (AGS) and Contaminated Land: Applications in Real Environments (CL:AIRE) using the CLEA model. These are referred to as the EIC/AGS/CLAIRE GAC.

In summary, C4SLs have been used where these are available. For those substances where C4SLs have yet to be issued, then the S4ULs have been adopted or in some cases, the EIC/AGS/CLAIRE GAC. All of the previously produced SGVs have now either been withdrawn, or superseded by the respective C4SLs or S4ULs.

The only exception to this approach is the PAH compound benzo(a)pyrene (BaP) where a C4SL guideline value has been produced, whereas BRD has adopted the S4UL value. The C4SL for BaP relates to its use as a surrogate marker compound representing all of the genotoxic PAH compounds as a mixture, rather than this individual compound. BRD has therefore adopted the compound specific S4UL value as the initial screening value, for consistency with the other PAH compounds before then employing the C4SL is necessary.

It should be noted that unless otherwise stated, all the assessment criteria adopted within this report have been derived based on a sandy loam soil at pH 7 and the values quoted are for a conservative soil organic matter content of 1% where applicable (i.e. organic contaminants).

Human Health - Soil Generic Assessment Criteria

The results of the soils analysis have been compared to generic assessment criteria for the default exposure scenarios comprising either residential land with plant uptake, residential land without plant uptake, or commercial/industrial land use. The criteria values selected are listed in the table below and full details on the source are referred to above. Where deemed appropriate, the results have also been assessed with reference to the required statistical tests presented within CL:AIRE Professional Guidance: 'Comparing Soil Contamination Data with a Critical Concentration'.

ANALYSIS	GENERIC ASSESSMENT CRITERIA (mg/kg unless stated)			SOURCE
	RESIDENTIAL WITH PLANT UPTAKE	RESIDENTIAL WITHOUT PLANT UPTAKE	COMMERCIAL / INDUSTRIAL	
Arsenic	37	40	640	C4SL
Cadmium	22	150	410	
Chromium (total)$	910	910	8,600	S4UL
Chromium VI	21	21	49	C4SL
Lead	200	310	2,330	
Mercury*	11	15	320	S4UL
Selenium	250	430	12,000	
Nickel	180	180	980	
Copper	2400	7,100	68,000	
Zinc	3,700	40,000	730,000	
pH	<5 - 10> units			Professional judgement
Naphthalene	2.3	2.3	190	S4UL
Acenaphthylene	170	2,900	83,000	
Acenaphthene	210	3,000	84,000	
Fluorene	170	2,800	63,000	
Phenanthrene	95	1,300	22,000	
Anthracene	2,400	31,000	520,000	
Fluoranthene	280	1,500	23,000	
Pyrene	620	3,700	54,000	
Benzo(a)anthracene	7.2	11	170	
Chrysene	15	30	350	
Benzo(b)fluoranthene	2.6	3.9	44	
Benzo(k)fluoranthene	77	110	1,200	
Benzo(a)pyrene	2.2	3.2	35	
Indeno(1,2,3-cd)pyrene	27	45	500	
Dibenzo(a,h)anthracene	0.24	0.31	3.5	S4UL
Benzo(ghi)perylene	320	360	3,900	
TPH Aliphatic C5-C6	42	42	3,200	
TPH Aliphatic C6-C8	100	100	7,800	
TPH Aliphatic C8-C10	27	27	2,000	
TPH Aliphatic C10-C12	130	130	9,700	
TPH Aliphatic C12-C16	1,100	1,100	59,000	
TPH Aliphatic C16-C35	65,000	65,000	1,600,000	

ANALYSIS	GENERIC ASSESSMENT CRITERIA (mg/kg unless stated)			SOURCE
	RESIDENTIAL WITH PLANT UPTAKE	RESIDENTIAL WITHOUT PLANT UPTAKE	COMMERCIAL / INDUSTRIAL	
TPH Aliphatic C35-C44	65,000	65,000	1,600,000	
TPH Aromatic C5-C7	70	370	26,000	
TPH Aromatic C7-C8	130	860	56,000	
TPH Aromatic C8-C10	34	47	3,500	
TPH Aromatic C10-C12	74	250	16,000	
TPH Aromatic C12-C16	140	1,800	36,000	
TPH Aromatic C16-C21	260	1,900	28,000	
TPH Aromatic C21-C35	1,100	1,900	28,000	
TPH Aromatic C35-C44	1,100	1,900	28,000	
Benzene	0.87	3.3	98	C4SL
Toluene	130	880	56,000	S4UL
Ethylbenzene	47	83	5,700	
Xylene^	56	79	5,900	
MTBE	49	73	7,900	EIC/AGS/CL:AIRE GAC

Notes:
** The S4UL for methyl mercury has been adopted as the worst case mercury compound as generally there is no desk study evidence to suggest the potential for elemental mercury on the majority of sites.*
^ The lowest S4UL of either p-xylene, o-xylene or m-xylene has been adopted for each land use as a conservative measure.
$ S4UL for Chromium III adopted, as in the absence of Chromium VI it is likely that all of the chromium will be in this form as these are the two most common and stable forms of chromium in the soil environment.

Where no GAC is available, any concentrations exceeding the laboratory limit of detection are identified and discussed in more detail.

Water Environment - Soil Generic Assessment Criteria

There are no UK published Generic Assessment Criteria for soil test results in respect of the risk to the water environment and therefore risk estimation is on the basis of the professional judgement and experience of BRD to employ values that are a reasonable concentration above which concern for water resources is valid.

The Total PAH GAC employed is the sum of the 16No. priority PAH compounds regularly tested for in contaminated land analysis (i.e. US EPA 16PAHs). BRD employ a soil screening based upon the total PAH limit for 'inert waste' of 100mg/kg. The rationale is based on PAHs are recognised to be generally of low solubility and the risk to the water environment is correspondingly low.

In respect of Total Petroleum Hydrocarbons, BRD employ a value of 500 mg/kg as a screening value in comparison to the sum of the component aliphatic and aromatic TPH carbon bands. The employed soil screening value is based upon:

- *In common with some other consultants, the professional judgement and experience of BRD suggests that this value is a reasonable concentration above which concern for water resources is valid. The rationale is based on the fact that lower concentrations of fuel based contaminants are more likely to naturally degrade than migrate any great distance.*
- *BRD is aware of regional Environment Agency groundwater and contaminated land teams historically employing 500 mg/kg as a screening value for considering whether or not TPH could represent a risk to water resources.*
- *The value mirrors the mineral oil Waste Acceptance Criteria limits for what is considered 'inert waste'.*

Should elevated contaminants that pose a potential risk to the water environment be identified then site specific assessment criteria should be developed.

Building Materials and Services – Soil Generic Assessment Criteria

Some hydrocarbon compounds are known to both attack and permeate through certain plastic pipe materials, with the primary concern being the degradation and tainting of water supplies. The UK Water Industry Research (UKWIR) has therefore produced a document 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' (ref. 10/WM/03/21) that specifies threshold criteria for the adoption of 'standard' polythene (PE) or PVC pipes, protective barrier pipe and ductile iron/steel/copper pipes.

The UKWIR threshold assessment criteria from Table 3.1 of this document for standard PE pipes have been employed. It should be noted that the approach taken by UKWIR is very conservative, and both the document and research are flawed. However, it is these values that are being using to specify water pipe materials and therefore it is appropriate to consider them.

The UKWIR guidance is particularly flawed in respect of the chemical analysis it expects as it seeks a limit of detection that is generally below limits that are reasonable or commonly employed in contaminated land assessment. The UKWIR seeks that where a substance is below the limit of detection it should be taken as being present at half this concentration. For the larger suite of chemicals where the limit is against a sum of compounds, this approach would mean that a sample of virgin sub-soil from a greenfield site with absolutely no contamination would actually fail the criteria for using standard PE pipes. To avoid this situation, BRD have adopted the approach of summing only those compounds detected above their respective limits of detection.

In terms of building materials, the primary concern is in respect of concrete as certain commonly occurring natural ground conditions can adversely impact on buried concrete as discussed in 'Special digest 1:2005 Concrete in aggressive ground', BRE, 2005.

ANALYSIS	***GENERIC ASSESSMENT CRITERIA***	***SOURCE***
pH	*<5.5*	*BRE Special Digest 1:2005*
Sulphate (w/s)	*500 mg/l*	*BRE Special Digest 1:2005*
Sum of any VOC above detection limits	*0.5 mg/kg*	*Relevant compounds adapted from UKWIR Table 3.1*
Sum of SVOC + Aliphatic TPH >C5-C10 + Aromatic TPH >C5-C10 above detection limits	*2 mg/kg*	
Sum of Aliphatic TPH >C10-C21 + Aromatic TPH >C10-C21 above detection limits	*10 mg/kg*	
Sum of Aliphatic TPH >C21-C34 + Aromatic TPH >C10-C35 above detection limits	*500 mg/kg*	
Sum of BTEX + MTBE above detection limits	*0.1 mg/kg*	
Phenols	*2 mg/kg*	
Cresols and chlorinated phenols	*2 mg/kg*	
Naphthalene	*0.5 mg/kg*	
Benzo(a)pyrene	*0.5 mg/kg*	

TIER 2 RISK ESTIMATION – SURFACE WATER AND GROUNDWATER

The initial assessment of the contamination risk to groundwater is by comparing dissolved groundwater concentrations with screening values (GAC) that are protective of surface water resources. Surface waters are supplied with a baseflow from groundwater and so shallow groundwater often enters the surface water. It is therefore appropriate to compare groundwater to these GAC.

The reference source for the target concentrations is generally the Environment Agency's maximum allowable concentration Environmental Quality Standard (EQS) (as accessed February 2025: https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit#screening-tests-freshwaters), the Water Supply (Water Quality) Regulations 2016 (WSR) and the DW1/DW2 criteria from the Surface Water (Abstraction for drinking water)(classification) Regulations 1996. The target concentrations are outlined in the table below.

The 'Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies'. CL:AIRE, 2017 has also been used as reference source for the values.

ANALYSIS	GENERIC ASSESSMENT CRITERIA (GAC)	SOURCE
Arsenic	50 µg/l	DW1 (& EQS annual average)
Cadmium	50 µg/l	DW1
Chromium (total)	32 µg/l	EQS
Chromium (VI)	3.4 µg/l	EQS
Copper	50 µg/l	DW1
Nickel	34 µg/l	EQS
Lead	14 µg/l	EQS
Mercury	1 µg/l	WSR
Selenium	10 µg/l	WSR
Zinc	10.9 mg/l	EQS annual average bioavailable
Cyanide	50 µg/l	WSR
pH	6 to 9 units	-
Benzene	50 µg/l	EQS
Toluene	380 µg/l	EQS
Ethylbenzene	300 µg/l	WHO guideline
Xylene	30 µg/l	EQS (annual average)
Methyl tert-butyl ether (MTBE)	15 µg/l	Taste and odour threshold.
Naphthalene	130 µg/l	EQS
Benzo(a)pyrene	0.27 µg/l	EQS
Total PAH	-	Benzo(a)pyrene can be considered as a marker for the other PAHs
TPH Aliphatic C5-C6	15,000 µg/l	World Health Organization (WHO) guide values for TPHCWG fractions in drinking water
TPH Aliphatic C6-C8	15,000 µg/l	
TPH Aliphatic C8-C10	300 µg/l	
TPH Aliphatic C10-C12	300 µg/l	
TPH Aliphatic C12-C16	300 µg/l	
TPH Aromatic C5-C7	10 µg/l	
TPH Aromatic C7-C8	700 µg/l	
TPH Aromatic C8-C10	300 µg/l	
TPH Aromatic C10-C12	90 µg/l	
TPH Aromatic C12-C16	90 µg/l	
TPH Aromatic C16-C21	90 µg/l	
TPH Aromatic C21-C35	90 µg/l	

TIER 2 RISK ESTIMATION - GROUND GAS

Introduction

A variety of potentially hazardous gases occur in naturally in the ground environment. Microbial decay of organic matter under anaerobic conditions and geological processes can lead to the generation of Methane and Carbon Dioxide, but can also include traces gases such as Hydrogen sulphide and Carbon monoxide.

Methane is a colourless and odourless gas that has the hazardous properties of being flammable and, at certain air/Methane mixtures, explosive. Methane has a low toxicity, but can be a simple asphyxiant due to the displacement of oxygen.

Carbon Dioxide is a colourless, odourless and non-combustible gas that has the hazardous property of being a highly toxic chemical. At concentrations of 3% by volume, shortness of breath and headaches will occur becoming acute by 6%. At levels of above 10% by volume headache, visual distortion, tremors and rapid loss of consciousness occur. Concentrations of Carbon Dioxide above 22% by volume are likely to be fatal. The effects of Carbon Dioxide poisoning are made more severe if there is accompanying reduction in oxygen concentrations.

Hydrogen sulphide is a colourless and flammable gas that has an odour of rotten eggs. It is important to that the sense of smell is over powered at higher concentrations. The gas is toxic and can be an asphyxiant.

Carbon monoxide is a colourless, odourless and explosive gas in air mixtures that has the hazardous property of being a highly toxic chemical.

Radon is a naturally occurring colourless and odourless gas that is radioactive. It is formed by the radioactive decay of radium which in turn is derived from the radioactive decay of uranium, both of which are minerals that can be found in many soil types. Whilst it is recognised that the air inside every building contains radon, some buildings built in certain defined areas of the country might have unacceptably high concentrations and require special precautions to be taken. The maps contained within BRE211:2015 'Radon: guidance on protective measures for new buildings' identify areas where no radon protection measures are necessary or where higher concentrations are present that either basic or full radon protection measures are required to be fitted to all new buildings, extensions or refurbishments.

Basis of Gas Assessment

In order to classify the level of risk and need, if any, for gas protection measures at a site with the potential for a gas problem, consideration of each of the following is necessary:

- *The source of the gas.*
- *The generation potential of the gas.*
- *The location of the source and the geological setting.*
- *Boreholes flow rate and estimated surface emission rate.*
- *The nature of the proposed development.*
- *Confidence in the knowledge of the gas regime.*

The gas assessment is made with reference to 'C665 - Assessing risks posed by hazardous ground gases to buildings', (CIRIA, 2007) and 'BS8485:2015+A1:2019 – Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings' (BSi, 2019).

Gas Screening Value

The methods within CIRIA C665 and BS8485 both use the gas concentrations together with the borehole flow rates to define a characteristic situation for a site based on the limiting borehole gas volume flow for Methane and Carbon Dioxide. This limiting borehole gas volume flow is called the Gas Screening Value (GSV) and is expressed below:

Gas Screening Value (l /hr) = borehole flow rate (l/hr) x gas concentration (fraction)

The calculation of GSV is completed for both Methane and Carbon Dioxide and then the 'worse case' maximum values are used in the assessment. The assessment is to determine the gas regime at the site is dependent upon the nature of the development.

Characteristic Gas Situation

The characteristic situation for many sites is determined from evaluation of the Gas Screening Value derived against the criteria in the following table.

Characteristic situation	Hazard potential	Gas Screening Value (CH4 or CO2 l/hr)	Additional factors
CS1	Very low risk	<0.07	Typically Methane ≤1% and/or Carbon Dioxide ≤5%. Otherwise consider an increase to characteristic situation 2.
CS2	Low risk	0.07 to <0.7	Borehole air flow rate not to exceed 70 l/hr. Otherwise consider an increase to characteristic situation 3.
CS3	Moderate risk	0.7 to <3.5	-
CS4	Moderate to high risk	3.5 to <15	Quantitative risk assessment required to evaluate the scope of protection measures.
CS5	High risk	15 to <70	-
CS6	Very high risk	>70	-

APPENDIX 1

Site Location Plan

Not to scale.

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Project Title:	Land east of Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD4599-OP1-B
Date Issued:	March 2026

BRD
01295 272244
info@brduk.com

- Site Area (Land East of Blackmore Farm)
- Indicative Residential Blocks
- Accessible POS Greenspace inc Park with Destination Equipped Play
- Allotments & Orchards
- Naturally Characterised Landscape (inc Accessible Greenspace, stream corridor, SUDs basins / drainage infrastructure, hedgerows and habitat areas)
- (indicative SUDs basins)
- Urban Spaces & Highway Areas
- New highway connections
- Existing PRoWs / Existing Bridleways
- Proposed key pedestrian routes on-site
- Land identified for ecological habitat enhancement, with managed footpath access
- Scope for Foot/Cycle routes on-site
- Scope for Foot/Cycle connections
- Existing trees & hedgerows
- Proposed trees & planting area
- Existing deciduous woodland
- Proposed orchard trees

proj: 25-004 drg: 421 date: 09/04/26 rev: E

ORIGIN3
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Land East of Blackmore Farm, Melksham
Illustrative Masterplan

Gleeson Land Limited

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Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation including ground conditions/contaminants, drainage, design & planning/density negotiations. Sketch proposals may be based upon enlargements of OS sheets & visual estimations of existing site features, accuracy will therefore need to be verified by survey.

1:2500 @ A1 / 1:5000 @ A3

m 50 100 150 200 250

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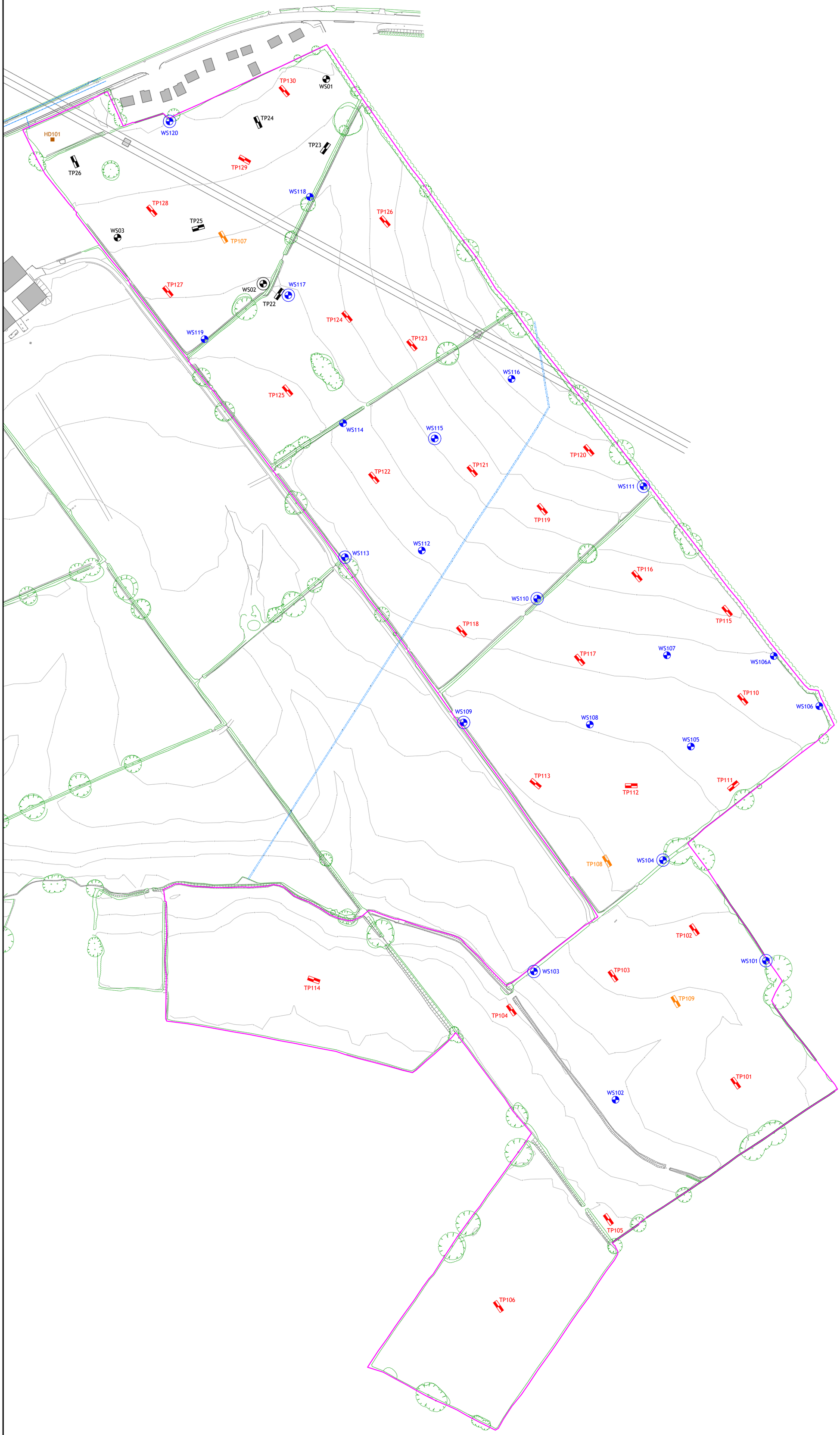
W:\PLANNING\25-004 Blackmore Farm, Melksham Ph2, Gleeson\Urban Design\2 Graphics\1 In Progress\CAD\25004_421E East of Blackmore Farm - Masterplan_090426.dwg



Key:

- BRD Windowless Sample Borehole with monitoring well installed
- BRD Windowless Sample Borehole with no monitoring well
- BRD Trial Pit
- BRD Hand Dug Inspection Pit
- Previous BRD Windowless Sample Borehole with monitoring well installed
- Previous BRD Windowless Sample Borehole with no monitoring well
- Previous BRD Trial Pit
- Water Main (Surveyed Position)
- Overhead Electricity Lines (Surveyed Position)
- Site Boundary (Approximate Position)

Notes:

All BRD exploratory points located by topographical survey.

Drawing reproduced from 'Utility Mapping Survey - Melksham', Safe Dig Surveys Ltd, drawing ref: SDS77-100225, dated: February 2025.

Rev.	Date	Description	Drawn	Approved

Drawing title: EXPLORATORY POINT PLAN

Project title: BLACKMORE FARM, MELKSHAM

Client: GLEESON LAND

Scale	Original drg. size/colour	Date
1:1500	A1 / C	26/09/2025

Drawn	Checked	Approved
RD	AL	BD

Drawing Number	Rev
BRD4599-OD1	A

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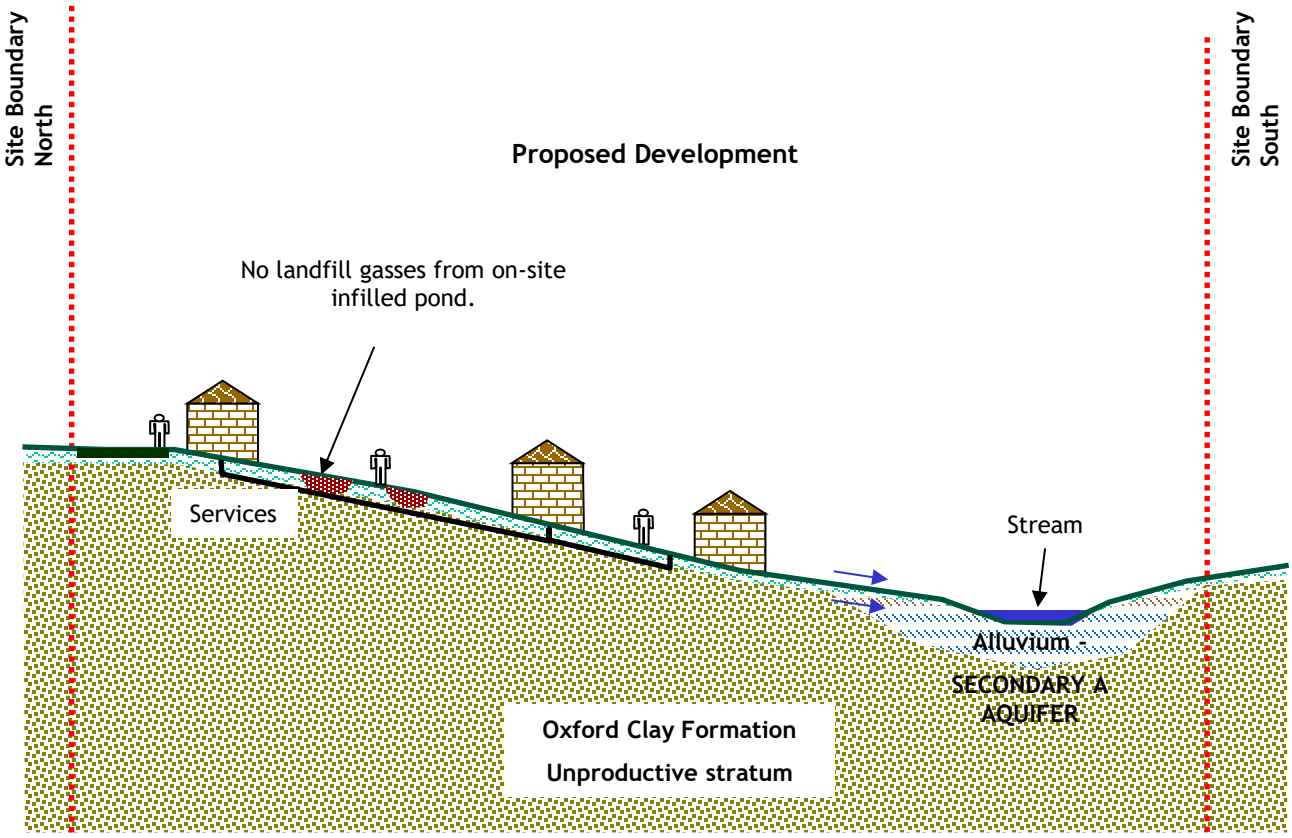
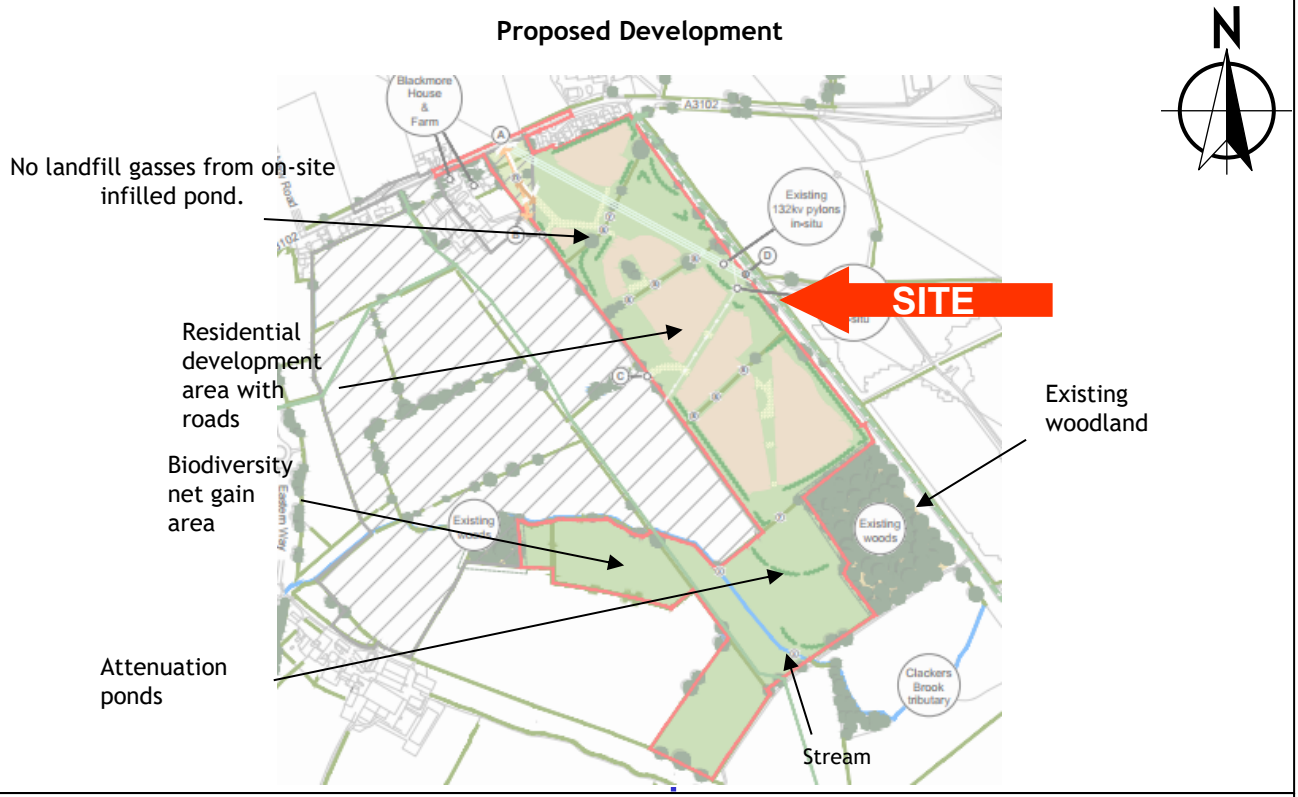
Revised Conceptual Model





Project Title:	Land east of Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD4599-OP6-C
Date Issued:	March 2026

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APPENDIX 2

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Blackmore Farm, Melksham
Project No:	BRD3304
Logged By:	N Kimber
Date Completed:	17/11/2022
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP22

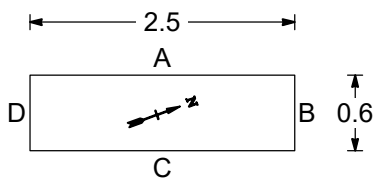
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dark brown, slightly gravelly, slightly sandy clay. Gravel of fine to coarse, subangular to subrounded flint and brick fragments. Frequent rootlets.	0.15 (45.84)	MADE GROUND	
0.40	J2		MADE GROUND: Brown mottled grey, gravelly, silty CLAY. Gravel of fine to coarse, subangular to subrounded charcoal, brick fragments, flint, slate, whole and half bricks.			
0.80	J3		0.80 m: Decaying wood.	1		
			Brown mottled grey stained natural black, silty CLAY with decaying wood / logs and a natural organic odour.	1.00 (44.99)	ALLUVIUM	
1.20	J4					
			Stiff, grey mottled orange brown, silty CLAY with relict rootlets.	1.70 (44.29)	OXFORD	
2.20	D1			2		
				2.30 (43.69)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Seepage at 0.50m and 1.10m

Surface Elevation Level:
45.992 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.30m bgl.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: I Hibberd
Date Completed: 18/11/2022
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP23

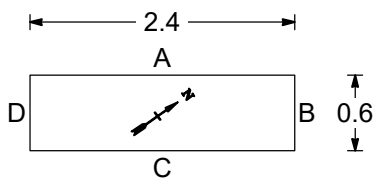
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over brown, slightly sandy clay.	0.20 (47.35)	TS	
			Firm, light brown with some grey, slightly gravelly CLAY. Gravel of fine to medium, subangular flint.	0.40 (47.15)	W O	
0.60	J2		Stiff, grey with brown, slightly blocky CLAY with occasional calcareous aggregations and roots 20mm in diameter.		OXFORD CLAY FORMATION	
0.90 0.90	SV D1	100/98/92 kPa	0.80 m: No more roots.	1		
			Stiff to very stiff, grey with some brown, heavily fissured CLAY with Occasional sandy, silty partings and abundant selenite crystals, fossils and relict rootlets.	1.10 (46.45)		
1.80 1.80	SV D2	88/110/108 kPa	1.80 m: Difficult to shear vane due to fissuring.	2		
			Stiff to very stiff, grey with brown, fissured CLAY. Some silt partings, occasional selenite crystals, fossils and relict rootlets.	2.40 (45.15)		
2.60	D3			2.80 (44.75)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.545 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m bgl.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Blackmore Farm, Melksham
Project No:	BRD3304
Logged By:	I Hibberd
Date Completed:	18/11/2022
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP24

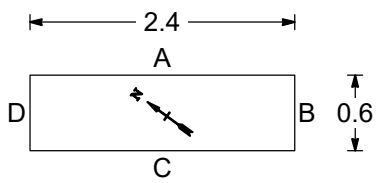
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over brown, slightly sandy clay.	0.20 (48.53)	TS	
0.30	J1		Firm, light brown with some grey, slightly gravelly CLAY. Gravel of fine to medium, subangular flint.	0.40 (48.33)	W O	
0.60	SV	68/70x2 kPa	Firm to stiff, grey with some brown, CLAY with occasional calcareous aggregations.	1 1.00 (47.73)	OXFORD CLAY FORMATION	
0.60	D1					
1.10	SV	100/98/102 kPa	Stiff to very stiff, grey with some brown, heavily fissured CLAY with occasional sandy, silty partings and abundant selenite crystals, fossils and relict rootlets.	2 2.20 (46.53)		
1.10	J3					
2.30	SV	100/108/98 kPa	Stiff to very stiff, grey with brown, fissured CLAY. Some silt partings, occasional selenite crystals, fossils and relict rootlets.	2.80 (45.93)		
2.30	D2			3 4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.732 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m bgl due to JCB sinking.

All dimensions in metres
Log Scale 1:25

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TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: I Hibberd
Date Completed: 18/11/2022
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP25

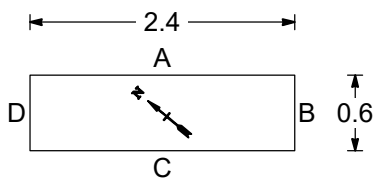
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND: Grass over brown, sandy, slightly gravelly clay topsoil. Gravel of fine to coarse, subangular to angular brick and charcoal.	0.30 (47.03)	MADE GR	
0.40	J2		MADE GROUND: Firm, light brown, slightly sandy, slightly gravelly clay. Gravel of fine to medium, subangular to angular brick and charcoal.	0.50 (46.83)		
0.60	SV	58/60x2 kPa	Firm, light brown with some grey CLAY.	0.70 (46.63)	W O	
0.60	D1		Stiff, grey with brown, slightly blocky CLAY with occasional calcareous aggregations and roots 20mm in diameter.		OXFORD CLAY	
			1.20 m: Live drain.	1.30 (46.03)		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.328 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 1.30m bgl due to drain being damaged. The drain was repaired before backfilling.

All dimensions in metres
Log Scale 1:25

BRD
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Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: I Hibberd
Date Completed: 18/11/2022
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP26

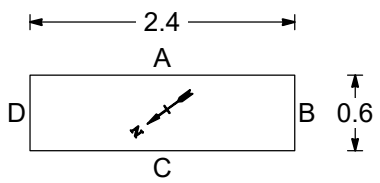
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over brown, slightly sandy clay.		TS	
0.20	J1			0.25 (48.57)		
			Firm, light brown with some grey CLAY.		W O	
				0.50 (48.32)		
0.60	J2		Firm to stiff, grey with some brown CLAY. Occasional calcareous aggregations.		OXFORD CLAY FORMATION	
0.80	SV	90/88/80 kPa	0.70 m: Becomes stiff.	1		
				1.20 (47.62)		
1.40	SV	100/98/110 kPa	Very stiff, grey with some brown, heavily fissured, friable in places, CLAY with abundant selenite crystals and occasional shells and calcareous aggregates.			
1.40	D1		1.40 m: Difficult to shear vane due to fissuring.	2		
				2.10 (46.72)		
			Stiff to very stiff, grey with brown, fissured CLAY. Some silty partings, selenite crystals, fossils and relict rootlets.			
2.40	SV	110/108/100 kPa				
2.40	D2					
				2.80 (46.02)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.816 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m bgl due to JCB sinking.

All dimensions in metres
Log Scale 1:25

BRD
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Trial Pit Photographs

TP22

Project Title: Land at Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD3304-OP12-A
Date Issued: December 2022

BRD
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Trial Pit Photographs

TP23

Project Title:	Land at Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD3304-OP12-A
Date Issued:	December 2022

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP24

Project Title: Land at Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD3304-OP12-A
Date Issued: December 2022

BRD
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info@brduk.com

Trial Pit Photographs

TP25

Project Title:	Land at Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD3304-OP12-A
Date Issued:	December 2022

BRD
01295 272244
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Trial Pit Photographs

TP26

Project Title:	Land at Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD3304-OP12-A
Date Issued:	December 2022

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS01

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			MADE GROUND TOPSOIL: Grass over dark brown, slightly gravelly, slightly sandy clay. Gravel of fine to medium, subangular flint and brick fragments. Frequent rootlets.	0.30 (48.53)		MGTS	
				Firm, orange brown mottled grey, silty CLAY with occasional rootlets.	0.40 (48.43)		wO	
				Stiff, grey mottled orange brown, silty CLAY.				
0.70	J2							
0.80	PEN	3.0/2.5x2 kg/cm²						
1.00	SPT	24 N		1.00 m: SPT: 1,2/4,6,7,7	1.0			
1.20	D1							
				1.50 m: Selenite crystals and calcareous concretions.				
1.80	PEN	3.5x3 kg/cm²						
2.00	SPT	17 N		1.90 m: Occasional relict rootlets.	2.0			
2.10	D2			Stiff, brown mottled grey, silty CLAY with selenite crystals and occasional shell fragments.	2.00 (46.83)		OXFORD CLAY FORMATION	
				2.00 m: SPT: 2,2/3,4,5,5				
				Stiff, grey mottled orange brown, silty CLAY with occasional relict rootlets and selenite crystals.	2.50 (46.33)			
2.80	PEN	4.25/3.0x2 kg/cm²						
3.00	SPT	21 N		3.00 m: SPT: 2,2/4,5,5,7	3.0			
3.10	D3			3.00 - 3.50 m: Brown mottled orange brown in colour.				
3.80	PEN	3.75/3.0x2 kg/cm²						
4.00	SPT	35 N			4.0			
				Stiff, brown mottled grey, silty CLAY with occasional selenite crystals and shell fragments.	4.00 (44.83)			
				4.00 m: SPT: 3,5/8,8,10,9				
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
48.83 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS01

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				Continued from 4.00m: Stiff, brown mottled grey, silty CLAY with occasional selenite crystals and shell fragments.				
4.80	PEN	3.75/3.5x2 kg/cm²						
5.00	SPT	26 N		5.00 m: SPT: 4,5/5,7,7,7	5.0		OXFORD CLAY	
					5.45 (43.38)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
48.83 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS02

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				MADE GROUND TOPSOIL: Dark brown, gravelly, sandy CLAY. Gravel of fine to medium, subangular to subrounded charcoal. Frequent rootlets.	0.30 (45.59)		MG	
0.40	J1			MADE GROUND: Orange brown, slightly sandy, slightly gravelly clay. Gravel of fine to medium, subangular brick fragments. Some rootlets.	0.50 (45.39)			
				Firm, orange brown mottled brown, silty CLAY with occasional rootlets.	0.70 (45.19)		wO	
0.80	PEN	3.0/2.0/1.5		Stiff, orange brown mottled grey, sandy CLAY with occasional mudstone gravel.				
0.80	D1	kg/cm²			1.0			
1.00	SPT	10 N		1.00 m: SPT: 0,1/1,2,3,4	1.10 (44.79)			
				Stiff, grey mottled orange brown, silty CLAY with occasional mudstone gravel.				
1.40	J2				1.70 (44.19)			
1.80	PEN	4.0/4.5x2		Stiff, grey mottled orange brown, silty CLAY with occasional relict rootlets and rare ammonite fossils.				
1.80	D2	kg/cm²			2.0			
2.00	SPT	33 N		2.00 m: SPT: 4,4/7,7,9,10	2.30 (43.59)			
				Stiff, brown mottled grey, silty CLAY with selenite crystals and occasional relict rootlets.			OXFORD CLAY FORMATION	
				2.70 - 2.80 m: Mudstone gravel.				
2.80	PEN	3.5x3						
2.80	D3	kg/cm²			3.0			
3.00	SPT	18 N		3.00 m: SPT: 3,4/4,4,4,6				
3.80	PEN	4.25/3.25x2						
3.80	D4	kg/cm²			4.0			
4.00	SPT	15 N		4.00 m: SPT: 2,3/3,4,4,4	4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.889 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS02

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				Continued from 2.30m: Stiff, brown mottled grey, silty CLAY with selenite crystals and occasional relict rootlets.				
4.80	PEN	3.5/2.0/2.75 kg/cm²						
				4.90 m: Shell fragments.	5.0			
5.00	SPT	14 N			5.00 (40.89)			
				Stiff, grey mottled orange brown, silty CLAY with occasional shell fragments. 5.00 m: SPT: 1,2/2,4,4,4			OXFORD CLAY	
					5.45 (40.44)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.889 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS03

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			MADE GROUND TOPSOIL: Grass over dark brown, slightly gravelly, slightly sandy clay. Gravel of fine to medium, subangular flint and brick fragments. Frequent rootlets.	0.30 (46.94)		MG	
0.70	J2			Grey mottled orange brown, silty CLAY. 0.80 m: Land drain.	0.90 (46.34)		OXFORD CLAY FORMATION	
1.20	SPT	24 N		Grey mottled brown, silty CLAY with selenite crystals, occasional shell fragments and relict rootlets. 1.20 m: SPT: 0,2/4,5,8,7	1.0			
1.50	D1							
1.80	PEN	3.0/3.5x2 kg/cm²						
2.00	SPT	24 N		2.00 m: SPT: 2,3/4,5,7,8	2.0			
2.50	D2							
2.80	PEN	4.0/3.5x2 kg/cm²						
3.00	SPT	29 N		Stiff, brown to orange brown mottled grey, silty CLAY with selenite crystals and relict rootlets. 3.00 m: SPT: 4,5/7,7,7,8	3.0 3.00 (44.24)			
3.80	PEN	3.25/4.0/4.25 kg/cm²						
4.00	SPT	39 N		4.00 m: SPT: 4,7/9,10,10,10	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Hand dug to 1.20m bgl for services clearance.

Surface Elevation Level:
47.242 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Blackmore Farm, Melksham
Project No: BRD3304
Logged By: N Kimber
Date Commenced: 14/11/2022
Date Completed: 14/11/2022
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS03

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	D3			Continued from 3.00m: Stiff, brown to orange brown mottled grey, silty CLAY with selenite crystals and relict rootlets.	5.0		OXFORD CLAY	
4.80	PEN	4.5/3.5/4.0 kg/cm²						
5.00	SPT	23 N		5.00 m: SPT: 3,4/6,5,6,6	5.45 (41.79)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Hand dug to 1.20m bgl for services clearance.

Surface Elevation Level:
47.242 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
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Oxfordshire
OX16 5HT

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

DETS Report No: 22-09839

Site Reference:	Blackmore Farm, Melksham
Project / Job Ref:	BRD3304
Order No:	None Supplied
Sample Receipt Date:	25/11/2022
Sample Scheduled Date:	25/11/2022
Report Issue Number:	2
Reporting Date:	20/12/2022

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.
This report supersedes 22-09839, issue no.1.
Reason for reissue: False positive VOC results corrected.

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.

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

Soil Analysis Certificate									
DETS Report No: 22-09839	**Date Sampled**				18/11/22				
BRD Environmental Ltd	**Time Sampled**				None Supplied				
Site Reference: Blackmore Farm, Melksham	**TP / BH No**				TP24				
Project / Job Ref: BRD3304	**Additional Refs**				J3				
Order No: None Supplied	**Depth (m)**				1.10				
Reporting Date: 20/12/2022	**DETS Sample No**				621544				

Determinand	Unit	RL	Accreditation					
Asbestos Quantification (S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS			7.6		
Total Sulphate as SO_4	mg/kg	< 200	MCERTS			12870		
Total Sulphate as SO_4	%	< 0.02	MCERTS			1.29		
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS			2170		
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS			2.17		
Total Sulphur	%	< 0.02	NONE			0.50		
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

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)

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

Soil Analysis Certificate			
DETS Report No: 22-09839	**Date Sampled**	14/11/22	
BRD Environmental Ltd	**Time Sampled**	None Supplied	
Site Reference: Blackmore Farm, Melksham	**TP / BH No**	WS02	
Project / Job Ref: BRD3304	**Additional Refs**	D3	
Order No: None Supplied	**Depth (m)**	2.80	
Reporting Date: 20/12/2022	**DETS Sample No**	621553	

Determinand	Unit	RL	Accreditation		
Asbestos Quantification (S)	%	< 0.001	ISO17025		
pH	pH Units	N/a	MCERTS		7.6
Total Sulphate as SO_4	mg/kg	< 200	MCERTS		24510
Total Sulphate as SO_4	%	< 0.02	MCERTS		2.45
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS		2430
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS		2.43
Total Sulphur	%	< 0.02	NONE		0.64
Organic Matter (SOM)	%	< 0.1	MCERTS		
Arsenic (As)	mg/kg	< 2	MCERTS		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		
Chromium (Cr)	mg/kg	< 2	MCERTS		
Chromium (hexavalent)	mg/kg	< 2	NONE		
Copper (Cu)	mg/kg	< 4	MCERTS		
Lead (Pb)	mg/kg	< 3	MCERTS		
Mercury (Hg)	mg/kg	< 1	MCERTS		
Nickel (Ni)	mg/kg	< 3	MCERTS		
Selenium (Se)	mg/kg	< 2	MCERTS		
Zinc (Zn)	mg/kg	< 3	MCERTS		

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)

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

Soil Analysis Certificate								
DETS Report No: 22-09839	**Date Sampled**		14/11/22	14/11/22				
BRD Environmental Ltd	**Time Sampled**		None Supplied	None Supplied				
Site Reference: Blackmore Farm, Melksham	**TP / BH No**		WS03	WS03				
Project / Job Ref: BRD3304	**Additional Refs**		J1	J2				
Order No: None Supplied	**Depth (m)**		0.20	0.70				
Reporting Date: 20/12/2022	**DETS Sample No**		621568	621569				

Determinand	Unit	RL	Accreditation					
Asbestos Quantification (S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS		6.7	7.4		
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					
Total Sulphate as SO_4	%	< 0.02	MCERTS					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS		27	33		
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS		0.03	0.03		
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS		4.8	1.7		
Arsenic (As)	mg/kg	< 2	MCERTS		18	16		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS		26	26		
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS		16	18		
Lead (Pb)	mg/kg	< 3	MCERTS		32	23		
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS		25	59		
Selenium (Se)	mg/kg	< 2	MCERTS		< 3	< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS		93	99		

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)

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

Soil Analysis Certificate - Speciated PAHs

DETS Report No: 22-09839	**Date Sampled**			14/11/22	14/11/22
BRD Environmental Ltd	**Time Sampled**			None Supplied	None Supplied
Site Reference: Blackmore Farm, Melksham	**TP / BH No**			WS03	WS03
Project / Job Ref: BRD3304	**Additional Refs**			J1	J2
Order No: None Supplied	**Depth (m)**			0.20	0.70
Reporting Date: 20/12/2022	**DETS Sample No**			621568	621569

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

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

Soil Analysis Certificate - Organochlorine Pesticides			
DETS Report No: 22-09839	**Date Sampled**	14/11/22	
BRD Environmental Ltd	**Time Sampled**	None Supplied	
Site Reference: Blackmore Farm, Melksham	**TP / BH No**	WS03	
Project / Job Ref: BRD3304	**Additional Refs**	J1	
Order No: None Supplied	**Depth (m)**	0.20	
Reporting Date: 20/12/2022	**DETS Sample No**	621568	

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

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

0998

Contract	**Blackmore Farm, Melksham**
Serial No.	**41803_1**

Client:

BRD Environmental Ltd

BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

Soil Property Testing Ltd

15, 16, 18 Halcyon Court, St Margaret's Way,
Stukeley Meadows, Huntingdon,
Cambridgeshire, PE29 6DG

Tel: 01480 455579
Email: enquiries@soilpropertytesting.com
Website: www.soilpropertytesting.com

Samples Submitted By:

BRD Environmental Ltd

Samples Labelled:

Blackmore Farm, Melksham

Approved Signatories:

☑ **J.C. Garner B.Eng (Hons) FGS**
Technical Director & Quality Manager

☐ **W. Johnstone**
Materials Lab Manager

Date Received: 24/11/2022

Samples Tested Between: 24/11/2022 **and** 08/12/2022

Remarks:

For the attention of Ian Hibberd
Your Reference No: BRD3304

Notes:

1. All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary.
2. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
3. Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory.
4. This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory.
5. The results within this report only relate to the items tested or sampled.

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

UKAS TESTING

0998

Contract	**Blackmore Farm, Melksham**		
Serial No.	**41803_1**	**Target Date**	08/12/2022
Scheduled By	BRD Environmental Ltd		
Schedule Remarks			

Bore Hole No.	Type	Sample Ref.	Top Depth	Water Content (BSEN)	Liquid/Plastic Limits																		Sample Remarks
TP07	D	1	0.50	1	1																		
TP08	D	1	1.00	1	1																		
TP09	D	1	0.90	1	1																		
TP11	D	1	1.40	1	1																		
TP12	D	2	1.00	1	1																		
TP14	D	2	1.40	1	1																		
TP16	D	1	1.40	1	1																		
TP16	D	3	2.80	1	1																		
TP18	D	1	1.60	1	1																		
TP21	D	1	1.00	1	1																		
WS01	D	1	1.20	1	1																		
WS01	D	3	3.10	1	1																		
WS02	D	1	0.80	1	1																		
WS02	D	2	1.80	1	1																		
WS04	D	1	1.30	1	1																		
WS04	D	2	3.10	1	1																		
WS05	D	1	1.10	1	1																		
WS09	D	2	2.90	1	1																		
WS10	D	2	2.30	1	1																		
WS13	D	1	0.70	1	1																		
WS14	D	2	2.50	1	1																		
WS15	D	1	1.60	1	1																		
Totals				**22**	**22**																		**End of Schedule**

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

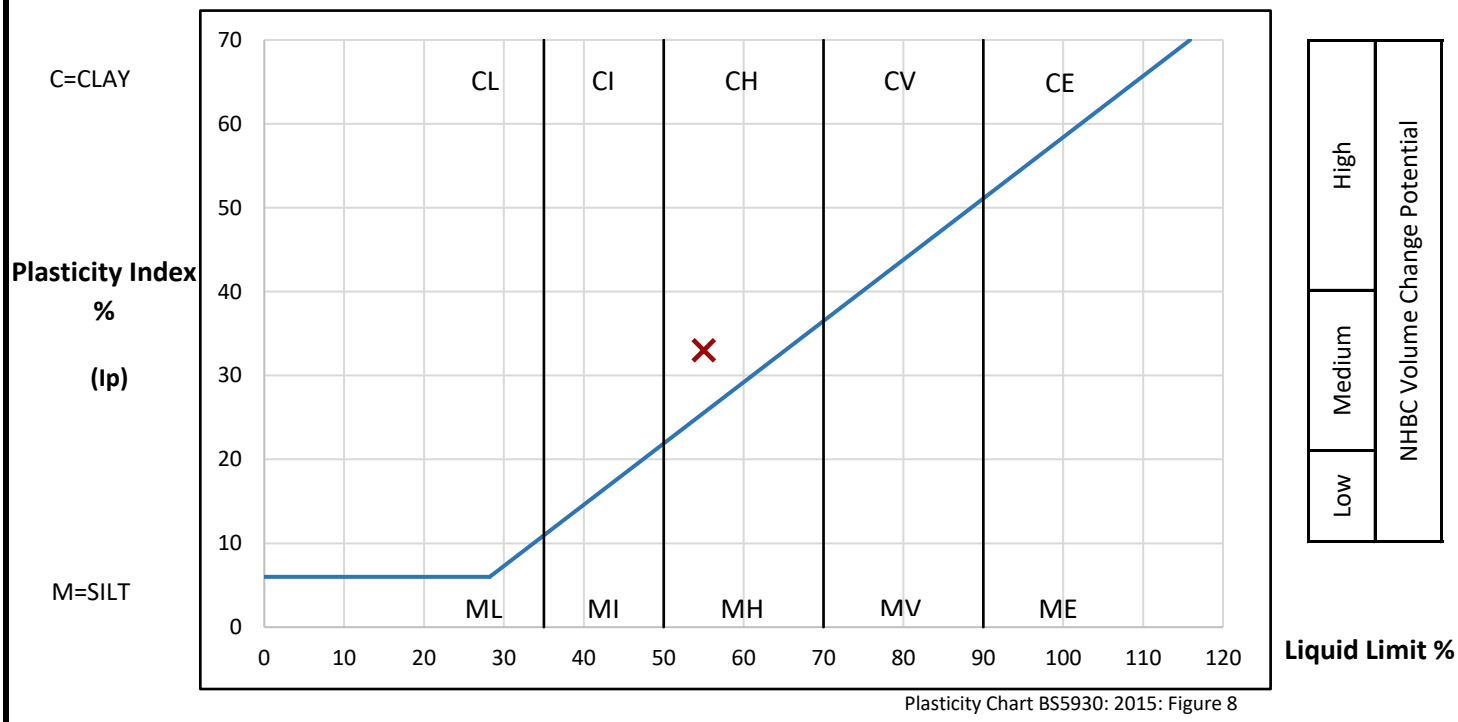
0998

Contract	**Blackmore Farm, Melksham**
Serial No.	**41803_1**

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS01	1.20	D	1	20.2	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots	

PREPARATION				Liquid Limit	55 %
Method of preparation		From natural		Plastic Limit	22 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	33 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.05
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

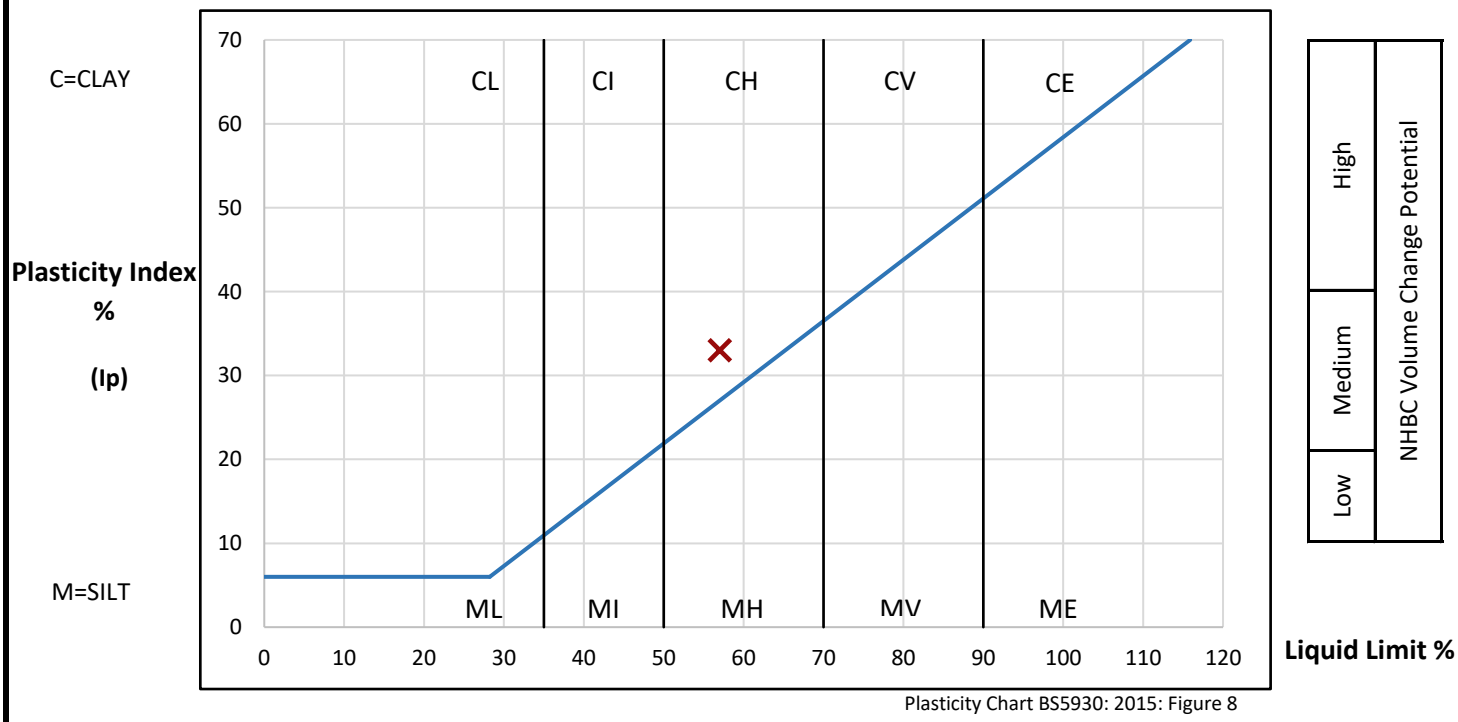
0998

Contract	**Blackmore Farm, Melksham**
Serial No.	**41803_1**

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS01	3.10	D	3	26.1	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	57 %
Method of preparation		From natural		Plastic Limit	24 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	33 %
Corrected water content for material passing 0.425mm				Liquidity Index	0.06
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

UKAS TESTING

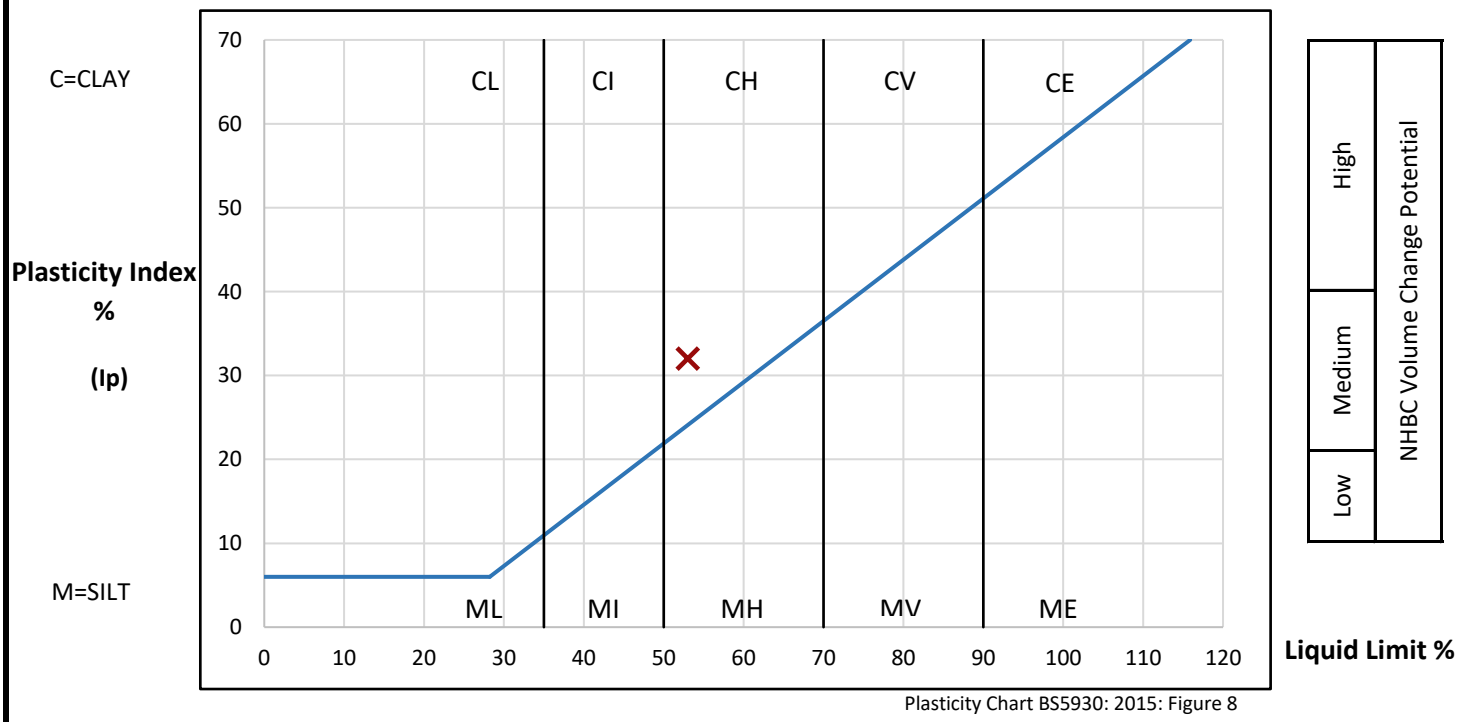
0998

Contract	**Blackmore Farm, Melksham**
Serial No.	**41803_1**

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS02	0.80	D	1	24.4	Firm mottled bluish grey and light olive brown CLAY with occasional recently active and decayed roots and rare calcareous aggregations	

PREPARATION			Liquid Limit	53 %
Method of preparation		From natural	Plastic Limit	21 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	32 %
Corrected water content for material passing 0.425mm			Liquidity Index	0.11
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 08/12/2022

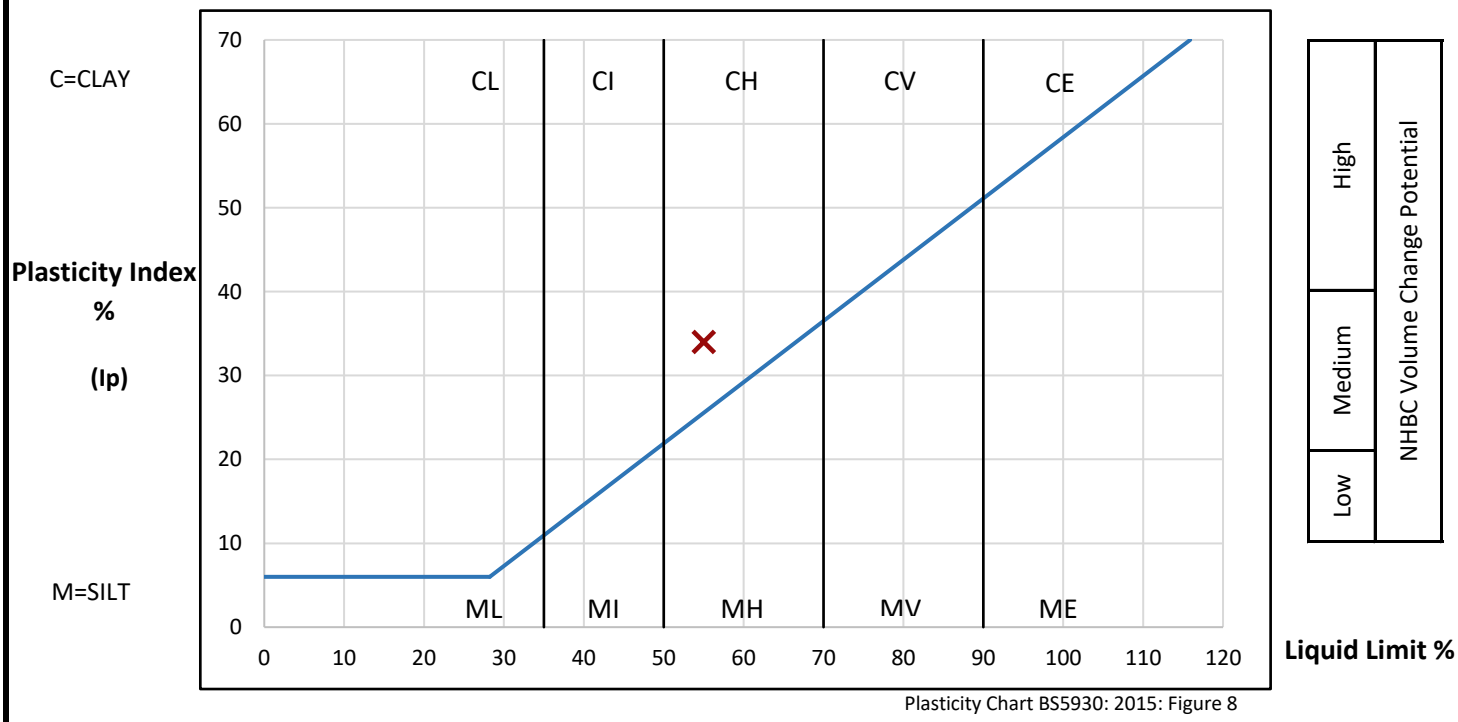
0998

Contract	**Blackmore Farm, Melksham**
Serial No.	**41803_1**

DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS02	1.80	D	2	22.0	Stiff closely fissured mottled bluish grey and olive CLAY with rare selenite crystals and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION			Liquid Limit	55 %
Method of preparation		From natural	Plastic Limit	21 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	34 %
Corrected water content for material passing 0.425mm			Liquidity Index	0.03
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	71 hrs	Clay Content Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

APPENDIX 3

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	R Davies
Date Completed:	10/09/2025
Method Used:	Hand Dug

Trial Pit No.

HD101

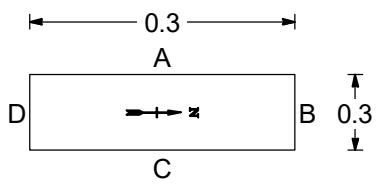
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over, dry, dark brown, slightly silty clay with many rootlets, rare brick and limestone gravel.	0.25 ()	MADE GROUND	
0.30	J2		MADE GROUND: Dry, stiff, orange brown, slightly silty clay with rare brick and charcoal fragments.	0.40 ()		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level: mAOD

Plan of Trial Pit:



General Remarks:
Hand dug pit terminated at 0.40m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: R Davies
Date Completed: 09/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP101

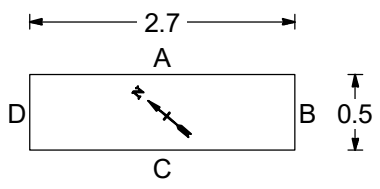
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over, dry, dark brown, silty clay with many rootlets.		TS	
				0.30 (41.04)		
			Very stiff, dry, fissured, grey brown mottled orange brown, slightly silty CLAY with rare rootlets, occasional fine weathered calcareous concretions.		OXFORD CLAY FORMATION	
0.70	SV	>140x3 kPa				
0.80	D1			1		
			1.00 m: Becoming grey mottled orange brown.			
				1.30 (40.04)		
			Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional relict rootlets.			
1.60	SV	76/100/106 kPa	1.50 m: Occasional fine selenite crystals.			
1.90	D2			2		
				2.00 (39.34)		
			Stiff, fissured, grey mottled orange to yellow brown, slightly silty CLAY with occasional relict rootlets, occasional mudstone lithorelicts and rare fine selenite crystals.			
2.50	SV	100/113/136 kPa				
3.00	D3			3		
				3.10 (38.24)		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.339 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.10m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	R Davies
Date Completed:	09/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP102

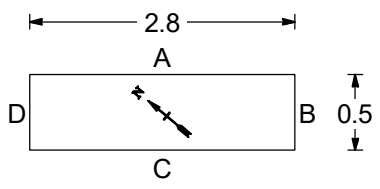
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, dark brown with rare orange brown mottling, slightly silty clay with many rootlets.	0.30 (41.49)	TS	
			Very stiff, dry, orange brown, slightly sandy, slightly silty CLAY with occasional rootlets, occasional quartzite and chert gravel and rare fine ferruginous nodules.	0.40 (41.39)	OXFORD CLAY FORMATION	
0.70	SV	>140x3 kPa	Very stiff, dry, fissured, grey mottled orange brown, slightly silty CLAY with rare rootlets, occasional fine weathered calcareous concretions.			
0.90	D1			1		
			Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional orange brown, sandy pockets and occasional relict rootlets.	1.30 (40.49)		
1.80	SV	130/107/93 kPa				
2.00	D2		1.90 m: Occasional fine selenite crystals.	2		
			2.20 m: Occasional mudstone lithorelict gravel.			
2.60	SV	130/129/121 kPa				
2.70	D3			2.80 (38.99)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.788 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	R Davies
Date Completed:	09/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP103

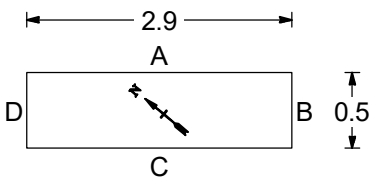
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		TOPSOIL: Grass over, dry, dark brown, silty clay with many rootlets.	0.30 (40.88)	TS	
0.60	J2		Very stiff, dry, orange brown with rare grey mottling, slightly sandy, slightly silty CLAY with occasional rootlets, occasional quartzite and chert gravel.		OXFORD CLAY FORMATION	
0.60	D1			0.70 (40.48)		
0.80	SV	>140x3 kPa	Very stiff, dry, fissured, grey mottled orange brown, slightly silty CLAY with rare rootlets, occasional fine weathered calcareous concretions.	1		
1.20	D2			1.50 (39.68)		
1.70	SV	102/96/104 kPa	Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional relict rootlets.	2		
2.00	D3		1.90 m: Occasional fine selenite crystals and occasional orange brown sandy pockets.			
			2.20 m: Occasional mudstone lithorelict gravel.			
2.50	SV	113/118/121 kPa		2.80 (38.38)		
2.70	D4			3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.183 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: R Davies
Date Completed: 09/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP104

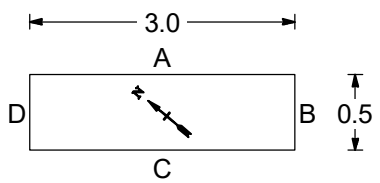
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over, dry, dark brown, slightly silty clay with many rootlets and occasional brick and chalk fragments.	0.20 (38.80)	MADE GROUND	
			MADE GROUND: Dry, stiff, orange brown, slightly silty clay with occasional rootlets, rare brick and chalk gravel.			
0.70	J2					
0.80	SV	>140x3 kPa		0.90 (38.10)		
1.00	D1		Stiff, dry, orange brown, slightly sandy, silty CLAY with occasional chert gravel.	1	OXFORD CLAY FORMATION	
1.20	SV	80/106/120 kPa		1.30 (37.70)		
			Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional relict rootlets and rare weathered calcareous concretions.			
1.60	SV	87/103/112 kPa				
1.70	D2			1.80 (37.20)		
			Stiff, fissured, grey mottled orange to yellow brown, slightly silty CLAY with fine selenite crystals and occasional relict rootlets.	2		
2.50	D3					
2.70	SV	140/126/133 kPa		2.80 (36.20)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
39 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	R Davies
Date Completed:	09/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP105

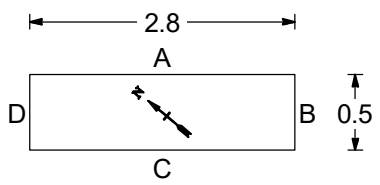
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over, dry dark brown, slightly gravely, silty clay with many rootlets. Gravel of fine to coarse, angular brick, ceramic tile and limestone.		MADE GROUND	
				0.30 (40.80)		
			MADE GROUND: Stiff, dry, orange brown, slightly sandy, silty clay with occasional rootlets, rare chert, limestone, brick and ceramic tile gravel.			
0.50	J2			0.60 (40.50)		
			Very stiff, dry, fissured, grey mottled orange brown, slightly silty CLAY with rare rootlets, occasional fine weathered calcareous concretions.		OXFORD CLAY FORMATION	
0.80	SV	>140x3 kPa				
0.90	D1			1		
				1.40 (39.70)		
			Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional relict rootlets.			
1.70	SV	103/128/107 kPa				
			1.80 m: Fine selenite crystals.			
1.90	D2			2		
			2.20 m: Occasional mudstone lithorelict gravel.			
2.40	D3	137/126/135 kPa				
2.40	SV			2.50 (38.60)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.098 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.50m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	R Davies
Date Completed:	09/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP106

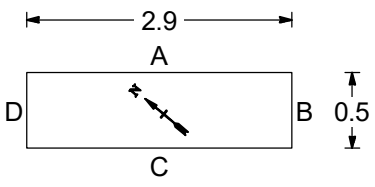
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over, dry, dark brown, silty clay with many rootlets. 0.00 - 0.90 m: Pocket of reworked soils above land drain.	0.30 (41.04)	TS	
0.70	SV	>140x3 kPa	Very stiff, dry, orange brown, slightly sandy, slightly silty CLAY with occasional rootlets, occasional quartzite and chert gravel and rare fine ferruginous nodules.		OXFORD CLAY FORMATION	
0.80	D1		0.90 m: Ceramic land drain.	1		
			Stiff, fissured, grey mottled orange brown, slightly silty CLAY with occasional relict rootlets.	1.10 (40.24)		
1.70	D2		1.60 m: Occasional fine selenite crystals.			
1.80	SV	110/129/116 kPa	1.90 m: Occasional mudstone lithorelict gravel.	2		
2.40	SV	130/111/129 kPa		2.60 (38.74)		
2.50	D3			3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.338 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.60m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP107

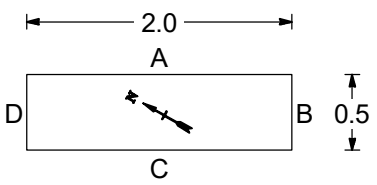
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, dark brown, silty clay with rare flint gravel and fine roots.	0.20 (46.81)	TS	
			Stiff, dry, blocky, grey mottled orange, silty CLAY.	0.60 (46.41)	OXFORD CLAY FORMATION	
			Stiff, dry, blocky, fissured, bluish grey and brown, silty CLAY with white / yellow sulphur powder size deposits and calcareous concentrations.	1 1.00 (46.01)		
			Stiff, fissured, thinly laminated, blue grey, silty CLAY with mudstone gravel lithorelicts and sand sized selenite crystals.	2 2.00 (45.01)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.009 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.00m for BRE soakage testing.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP108

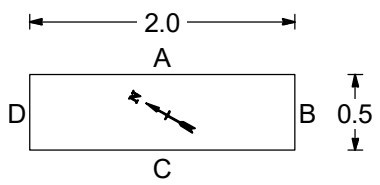
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, dark brown, silty clay with rare flint gravel and fine roots.	0.20 (41.66)	TS	
			Dry, blocky, brown mottled light grey and orange, silty CLAY.	0.60 (41.26)	OXFORD CLAY FORMATION	
			Dry, blocky, grey and orange and brown, silty CLAY with calcareous concretions at the top and white, powder size selenite deposits. Recovered as fine to coarse gravel sized.	1 1.00 (40.86)		
			Stiff, fissured, blocky, light grey mottled brown, silty CLAY with white powder sized selenite deposits. Recovered as fine to coarse gravel sized. Abundant brown relict rootlets.	1.80 (40.06)		
				2		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
41.855 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 1.80m for BRE365 soakage testing.
Vertical desiccation cracks to 1.0m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP109

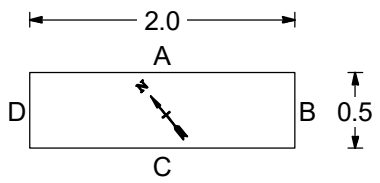
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, dark brown, silty clay with rare flint gravel and fine roots.	0.20 (40.54)	TS	
			Stiff, dry, blocky, light brown mottled light grey with some orange, silty CLAY with fine rootlets.	0.60 (40.14)	OXFORD CLAY FORMATION	
			Stiff, dry, blocky, grey mottled orangey brown, silty CLAY with white / yellow powder sized selenite deposits and fine rootlets. 0.70 m: Face A to C: Becoming land drain. Dry.	0.80 (39.94)		
			Stiff, fissured, light grey mottled light brown, silty CLAY with calcareous concretions at the top and abundant white, powder sized selenite deposits. Recovered as gravel sized.	1		
			Stiff, fissured, thickly laminated, light grey mottled orangey brown, silty CLAY with brown relict rootlets and abundant white, powder sized selenite deposits.	1.50 (39.24)		
				2 2.00 (38.74)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
40.74 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.00m for BRE365 soakage testing.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP110

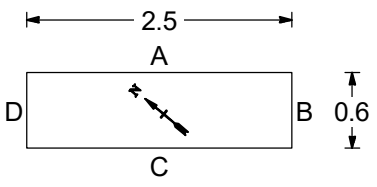
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, brown and grey and orange, silty clay with fine, active roots.		TS	
				0.30 (43.78)		
			Dry, blocky, light brown mottled light grey and orange, silty CLAY with fine, active roots.		OXFORD CLAY FORMATION	
0.70	J2					
0.80	SV	>140x3 kPa				
				0.90 (43.18)		
1.00	D1 J3		Stiff, dry, blocky, grey mottled brown, silty CLAY with calcareous concretions and white, powder sized selenite deposits. Recovered as gravel sized.	1		
				1.40 (42.68)		
			Stiff, fissured, crumbly, thinly laminated, grey mottled brown, silty CLAY with brown relict rootlets and fossil shell fragments. Orange sandy patches and sand sized selenite crystals.			
1.80	D2					
2.00	SV	120/110/108 kPa		2		
2.50	SV	130/130/100 kPa				
2.70	D3					
				2.80 (41.28)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
44.082 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 1.1m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP111

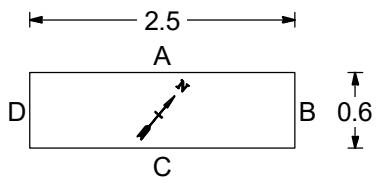
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		TOPSOIL: Grass over dry, brown mottled red, silty clay with fine, active roots.	0.30 (42.83)	TS	
			Dry, blocky, light grey and brown mottled orange, silty CLAY with fine, active roots.	0.50 (42.63)	OXFORD CLAY FORMATION	
			Dry, blocky, light grey brown and orange, silty CLAY with active roots. 0.60 m: Face A -B: Ceramic land drain.			
			Dry, crumbly texture, light grey mottled orange with orange patches, silty CLAY with calcareous concretions at top and white powder sized selenite deposits. Recovered as sand to gravel sized.	0.80 (42.33)		
1.30	D1		0.80 m: Mature oak tree next to pit. Very dry, light grey and orange clay, recovered as sand to gravel sized deposits. 0.80 m: Too dry for shear vane test.	1		
1.70	D2		Stiff, fissured, thinly laminated, light grey with orange at surfaces, silty CLAY with brown relict rootlets at surfaces. Recovered as gravel sized.	1.50 (41.63)		
				2		
2.80	D3		Hard, fissured, very thinly bedded (3cm thick), light grey and light brown, silty CLAY / extremely weak MUDSTONE. Excavated as tabular gravel to boulders.	2.50 (40.63)		
				2.90 (40.23)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
43.132 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.90m.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP112

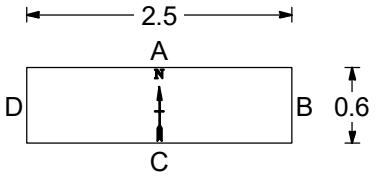
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dry, brown and grey and orange, silty clay with fine, active roots. Rare, cobble sized brick fragments.	0.30 (42.17)	TS	
			Dry, blocky, light brown and some grey, silty CLAY excavated as gravel to cobble sized, with white powder sized pockets of selenite deposits. 0.30 m: Too hard to perform shear vane test.	1	OXFORD CLAY FORMATION	
0.80	J2					
0.90	D1					
1.20	D2 D3		Stiff, light grey mottled orangey brown, silty CLAY with calcareous concretions at the top, abundant white, powder sized selenite deposits and brown relict rootlets. Excavated as gravel to cobble sized.	1.10 (41.37)		
			Hard, very thinly bedded, light brown and light grey, silty CLAY / extremely weak MUDSTONE. Excavated as fine to coarse, tabular gravel. Occasional brown relict rootlets at surfaces. 2.00 m: Becoming thickly bedded. Excavated as gravel to cobbles.	1.60 (40.87) 2		
2.30	D3			2.80 (39.67) 3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
42.469 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 1.0m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP113

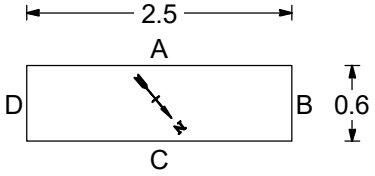
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dry, brown and grey and orange, silty clay with fine, active roots. Rare, cobble sized brick fragments.	0.20 (41.84)	TS	
0.60	J2		Dry, blocky, light brown and some grey, silty CLAY excavated as gravel to cobble sized, with white powder sized pockets of selenite deposits. 0.20 m: Too dry to perform shear vane test.	0.70 (41.34)	OXFORD CLAY FORMATION	
1.20	SV	>140x3 kPa	Dry, grey mottled brown, silty CLAY with calcareous concretions at the top and abundant white, powder sized selenite deposits. Excavated as gravel. 1.10 m: No longer dry.	1.30 (40.74)		
1.60	SV	120/115/120 kPa	Stiff, fissured, thinly laminated, light grey with orange staining, silty CLAY with brown, relict rootlets at surfaces.	2.10 (39.94)		
2.00	SV	126/130/120 kPa	Stiff, fissured, thinly laminated, light grey and brown, silty CLAY.	2.30 (39.74)		
			Hard, very thinly bedded, light grey and brown, silty CLAY / Extremely weak MUDSTONE. Excavated as tabular gravel to cobble sized.	2.70 (39.34)		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
42.038 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.70m.
Vertical desiccation cracks to 0.9m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP114

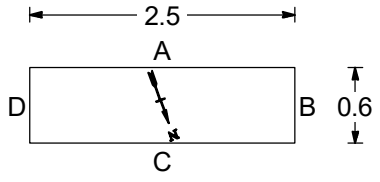
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, brown, silty clay with fine, active roots.	0.30 (40.54)	TS	
			Dry, blocky, brown and grey, silty CLAY.	0.70 (40.14)	OXFORD CLAY F.	
			Stiff, dry, blocky, light grey mottled brown, silty CLAY with calcareous concretions and white, powder sized selenite deposits. 0.90 m: No longer dry.	1.20 (39.64)		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
40.843 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 1.20m.
Vertical desiccation cracks to 0.6m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP115

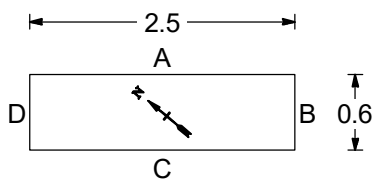
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, brown, silty clay with fine roots.		TS	
0.20	J1			0.30 (45.80)		
			Dry, blocky, light brown mottled light grey and orange, silty CLAY with active fine roots.		OXFORD CLAY FORMATION	
			0.50 m: Face A-B: Caramic land drain.			
0.70	J2		Stiff, dry, blocky, grey and brown, silty CLAY with white, powder sized selenite deposits. Excavated as gravel to cobble sized.	0.70 (45.40)		
1.00	D1 J3			1		
			Stiff, crumbly texture, thinly laminated, grey and brown, silty CLAY with sand sized selenite deposits and orange sandy patches. Excavated as fine gravel sized.	1.30 (44.80)		
1.50	D2					
1.60	J4		1.30 m: Too dry for shear vane test.			
1.80	SV	125/120/120 kPa		2		
			Stiff, fissured, thickly bedded, grey and light brown, silty CLAY. Recovered as fine to medium gravel sized.	2.00 (44.10)		
2.70	D3 J5		2.60 m: Becoming very thinly bedded, extremely weak mudstone with sand sized selenite deposits.	2.80 (43.30)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
46.1 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 1.0m depth.
Tree hedge roots to 1.0m depth

All dimensions in metres
Log Scale 1:25

Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP116

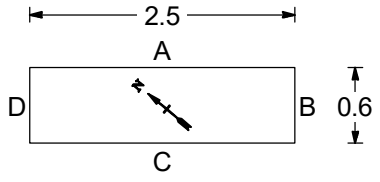
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, brown, silty clay with fine roots.	0.20 (46.25)	TS	
			Dry, blocky, brown mottled light grey and orange, silty CLAY with active, fine roots. Excavated as gravel to cobble sized. 0.20 m: Too dry for shear vane test.	0.50 (45.95)	OXFORD CLAY FORMATION	
			Stiff, dry, blocky, grey, silty CLAY with active, fine roots.			
0.90	D1			1 1.00 (45.45)		
			Stiff, crumbly texture, thinly bedded, grey silty CLAY with calcareous concretions, white, powder sized selenite deposits and fossil shell fragments. Excavated as fine to coarse gravel sized.			
1.30	SV	104/80/70 kPa		1.40 (45.05)		
			Stiff, fissured, crumbly, thinly laminated, grey with some orange mottling, silty CLAY with sand sized selenite deposits.			
1.70	SV	80/109/108 kPa		2		
2.20	SV	100/100/90 kPa				
			Hard, fissured, very thinly bedded, light grey and brown silty CLAY / extremely weak MUDSTONE. Excavated as gravel to cobble sized.	2.70 (43.75)		
				2.90 (43.55)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
46.447 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.90m.
Vertical desiccation cracks to 0.9m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP117

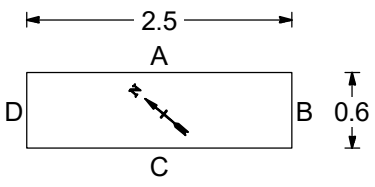
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots and rare brick fragments.	0.30 (43.88)	TS	
			Dry, blocky, brown, silty CLAY with active, fine roots.	0.50 (43.68)	OXFORD CLAY FORMATION	
			Dry, blocky, grey, silty CLAY with calcareous concentrations.	0.70 (43.48)		
			Stiff, dry, blocky, grey and brown, silty CLAY with calcareous concretions and abundant white, powder sized delenite deposits. 0.70 m: Too hard / dry for shear vane test.	1		
			Stiff, thinly laminated, crumbly texture, grey mottled orange, silty CLAY with orange, sandy patches, sand sized selenite deposits and brown, relict rootlets. Excavated as gravel sized.	1.10 (43.08)		
2.00	SV D1	118/110/110 kPa		2		
2.20	SV	110/108/110 kPa				
			Stiff, fissured, very thinly bedded, grey and brown, silty CLAY / extremely weak MUDSTONE with sand sized selenite crystals. Excavated as fine to	2.30 (41.88)		
2.50	D2		coarse gravel and tabular boulders.			
				2.80 (41.38)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
44.181 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 0.9m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP118

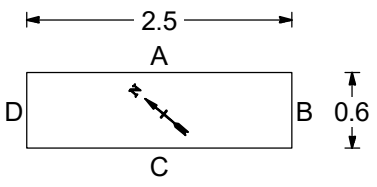
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots and rare brick fragments.	0.25 (43.81)	TS	
			Dry, blocky, brown, silty CLAY with fine, active roots.	0.50 (43.56)	OXFORD CLAY FORMATION	
0.70	J2		Stiff, dry, blocky, grey, silty CLAY with calcareous concretions and white, powder and sand sized selenite deposits. Orange sandy patches an rare fossil shell fragments. 0.70 m: Too dry for shear vane test.			
1.00	D1			1		
			1.10 m: No longer dry. Rare brown relict rootlets.	1.20 (42.86)		
1.30	SV	122/124/114 kPa	Stiff, fissured, crumbly texture, thinly laminated, grey and brown, silty CLAY with fossil shell fragments and brown relict rootlets.			
1.80	SV	112/110/114 kPa		2		
			Stiff, very thinly bedded, fissured, light grey and light brown, silty CLAY / extremely weak MUDSTONE. Excavated as gravel to cobble sized.	2.50 (41.56)		
				3	3.00 (41.06)	
				4		

Pit Stability: See General Remarks
Groundwater: Not encountered

Surface Elevation Level:
44.055 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.
Vertical desiccation cracks to 0.8m depth.
Slight side wall collapse to about 1.0m depth due to soil dryness.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP119

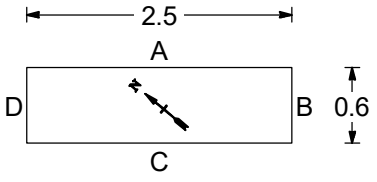
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots and rare brick fragments.	0.20 (47.26)	TS	
0.30	J1		Dry, blocky, grey mottled light brown and orange, silty CLAY with fine, active roots.		OXFORD CLAY FORMATION	
			Dry, blocky, grey and brown, silty CLAY with calcareous concretions and abundant, powder sized delenite deposits. 0.80 m: Too dry for shear vane test.	0.80 (46.66) 1		
			Stiff, fissured, crumbly texture, thinly laminated, grey with some brown, silty CLAY with abundant white, powder sized selenite deposits. Excavated as gravel sized. 1.10 m: No longer dry.	1.10 (46.36)		
1.80	SV D1	112/100/100 kPa	Stiff, fissured, thickly laminated, grey and brown, silty CLAY with sand sized selenite deposits, fossil shell fragments and orange, sandy patches. Mostly excavated as gravel sized.	1.60 (45.86) 2		
			Very stiff, fissured, very thinly bedded, grey brown, silty CLAY with sand sized selenite crystals.	2.20 (45.26) 3		
				3.00 (44.46) 4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.46 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP120

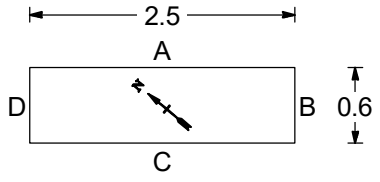
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots and rare brick fragments.	0.20 (49.40)	TS	
			Dry, blocky, brown mottled light grey, silty CLAY.		OXFORD CLAY FORMATION	
0.70	D1					
0.80	D2		Stiff, dry, blocky, grey and brown, silty CLAY with calcareous concretions and white, powder sized selenite deposits	0.80 (48.80)		
			0.80 m: Too dry for shear vane test.	1		
			Stiff, fissured, thinly laminated, grey with some brown, silty CLAY with sand sized selenite deposits, rare orange, sandy patches and vertical, brown relict rootlets. Excavated as gravel sized.	1.30 (48.30)		
1.60	SV D3	129/108/110 kPa	1.30 m: No longer dry.	2		
2.00	D4		Stiff, thickly laminated, grey brown, silty CLAY with brown relict rootlets and sand sized selenite deposits.	2.00 (47.60)		
			Hard, very thinly bedded, light grey and brown, silty CLAY / extremely weak MUDSTONE.	2.60 (47.00)		
2.80	D5			3		
				3.00 (46.60)		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
49.599 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.
Vertical desiccation cracks to 1.3m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP121

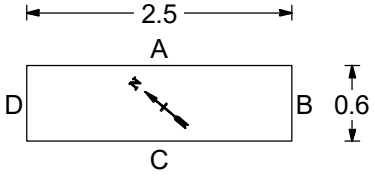
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots.	0.20 (47.04)	TS	
			Dry, blocky, light grey mottled orange, silty CLAY with fine, active roots. 0.20 m: Too dry for shear vane test.		OXFORD CLAY FORMATION	
			Stiff, dry, blocky, grey and brown, silty CLAY with calcareous concretions and white, powder sized selenite deposits	0.90 (46.34) 1		
1.30	D1		Stiff, thickly laminated, crumbly texture, light grey mottled orange, silty CLAY with white, powder sized selenite deposits and brown, vertical relict rootlets. Recovered as gravel sized.	1.20 (46.04)		
1.80	SV D2	92/94/104 kPa	Stiff, fissured, thinly bedded, light grey with some brown mottling, silty CLAY with sand sized selenite crystals and brown rootlets. Recovered as gravel sized. 2.30 m: Becoming very thinly bedded.	1.60 (45.64) 2		
				2.50 (44.74) 3 4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.238 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.50m.
Vertical desiccation cracks to 1.3m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP122

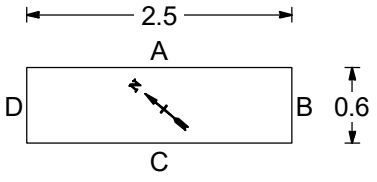
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		TOPSOIL: Grass over dry, brown mottled red, silty clay with fine roots and rare brick fragments.	0.20 (45.09)	TS	
			Dry, blocky, grey, silty CLAY with fine, active roots and rare brick fragments.		OXFORD CLAY FORMATION	
0.80	J2		0.80 m: Rare calcareous concentrations.			
0.90	D1		0.90 m: Too dry for shear vane test.	1 1.00 (44.29)		
1.10	D2		Stiff, crumbly, grey, silty CLAY with abundant, powder sized selenite deposits and orange, sand deposits. Excavated as gravel sized.			
			Stiff, thinly bedded, grey and brown, silty CLAY with sand sized selenite deposits and brown relict rootlets.	1.70 (43.59) 2		
2.30	SV	80/82/96 kPa				
2.70	SV	106/84/94 kPa		2.80 (42.49) 3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
45.29 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 1.1m depth.

All dimensions in metres
Log Scale 1:25

Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP123

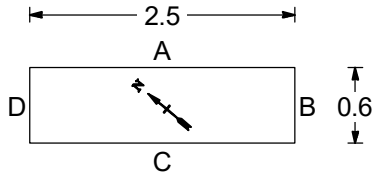
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.20 (47.98)	MGTS	
0.60	J2		Dry, blocky, light grey mottled brown and orange, silty CLAY with active, fine roots. Excavated as gravel to cobbles sized.		OXFORD CLAY FORMATION	
1.10	D1		0.70 m: Face B: Ceramic land drain. Dry.	1		
			Stiff, crumbly, grey, silty CLAY with abundant white, powder sized selenite deposits.	1.20 (46.98)		
			Thin, orange / reddish SILTSTONE bed with reddish brown clay coating. Excavated as fine to coarse, tabular gravel to boulders.	1.50 (46.68) 1.60 (46.58)		
2.00	D2		Stiff, fissured, thinly to thickly bedded, light grey and brown, silty CLAY with ornage and natural black specks of organic material and brown relict rootlets at surfaces.	2		
			2.40 m: Becoming very thinly bedded.	2.60 (45.58)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.176 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.60m.
Vertical desiccation cracks to 0.9m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: A Leon
Date Completed: 10/09/2025
Method Used: 180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP124

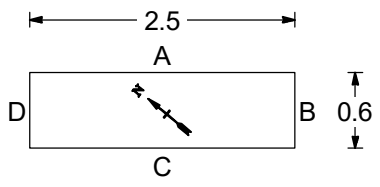
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.30 (46.60)	MGTS	
0.60	J2		Dry, blocky, brown mottled light grey and orange, silty CLAY with fine, active roots.	0.70 (46.20)	OXFORD CLAY FORMATION	
0.90	D1		Stiff, dry, blocky, silty CLAY with calcareous concentrations.	1		
1.20	SV	108/Too crumbly kPa	Stiff, crumbly, thinly laminated, grey, silty CLAY with abundant white, powder and sand sized selenite deposits. Mostly excavated as gravel sized.	1.10 (45.80)		
1.30	D2 J3		1.10 - 1.30 m: Face D: Reddish brown, sandy clay with natural black specks.	1.50 (45.40)		
1.60	SV D3	120/Too crumbly kPa	Stiff, fissured, crumbly, thinly laminated, grey mottled orange brown, silty CLAY with sand sized selenite deposits 1.50 m: No more powder sized selenite deposits.	2		
2.30	D4		Stiff, fissured, some bedding, grey mottled brown, silty CLAY with brown relict rootlets and mudstone gravel lithorelicts.	2.10 (44.80)		
2.40	SV	120/118/120 kPa	2.50 m: Becoming very thinly bedded. Horizontal polished fissured surfaces.			
2.80	SV D5	110/112/130 kPa		3		
				3.00 (43.90)		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
46.898 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.
Vertical desiccation cracks to 0.9m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP125

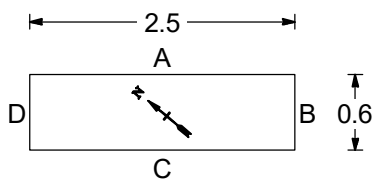
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.20 (44.65)	MGTS	
			Dry, blocky, brown mottled light grey and orange, silty CLAY with fine, active roots.		OXFORD CLAY FORMATION	
0.80	D1					
1.00	J2		Stiff, dry, blocky, silty CLAY with calcareous concretions and white, powder sized selenite deposits.	0.90 (43.95) 1		
1.30	D2					
			Stiff, crumbly, thinly bedded, grey with some brown, silty CLAY with sand and powder sized selenite deposits and fossil shell fragments.	1.40 (43.45) 2		
2.50	SV	130/128/130 kPa	Stiff, fissured, some bedding, grey and brown, silty CLAY with brown relict rootlets and sand sized selenite deposits.	2.30 (42.55)		
2.70	SV D3	118/124/120 kPa		2.80 (42.05) 3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
44.852 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.
Vertical desiccation cracks to 1.0m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP126

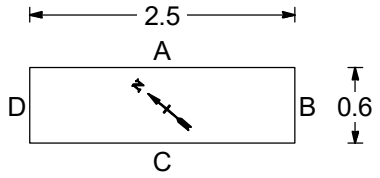
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.20	J1		MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.25 (48.45)	MGTS	
			Dry, blocky, brown mottled light grey and orange, silty CLAY with fine, active roots. 0.60 m: Too dry for shear vane test.	0.70 (48.00)	OXFORD CLAY FORMATION	
			Stiff, dry, blocky, silty CLAY with calcareous concretions at top.	1.00 (47.70)		
			Stiff, fissured, crumbly, thinly laminated, grey, silty CLAY with white, powder and sand sized selenite crystals and orange sandy pockets. Excavated as gravel to boulder sized.	1.50 (47.20)		
1.60	SV	102/128/114 kPa	Stiff, thinly bedded, fissured, crumbly, grey, silty CLAY with sand sized selenite deposits and brown relict rootlets. 2.10 - 2.20 m: Brown in colour with mudstone gravel lithorelicts.	2.50 (46.20)		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.703 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.50m.
Vertical desiccation cracks to 0.7m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP127

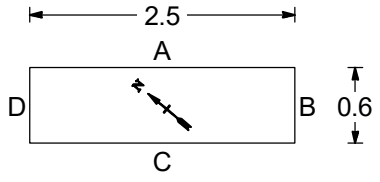
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.25 (45.86)	MGTS	
			Dry, blocky, brown mottled light grey and orange, silty CLAY with fine, active roots.	0.70 (45.41)	OXFORD CLAY FORMATION	
			Dry, blocky, grey silty CLAY with calcreous concretions and white, powder sized selenite deposits. 0.70 m: Too dry for shear vane test.	1 1.10 (45.01)		
			Stiff, fissured, crumbly, grey mottled orange brown, silty CLAY with white powder and sand sized selenite deposits. Excavated as sand sized to boulder sized.	1.40 (44.71)		
			Stiff, fissured, crumbly, thinly bedded, grey and brown, silty CLAY with sand sized selenite deposits.	1.80 (44.31)		
2.40	SV	108/102/110 kPa	Stiff, fissured, thinly to thickly bedded, grey with some light brown mottling, silty CLAY with sand sized selenite crystals and occasional brown relict rootlets.	2 2.60 (43.51)		
2.80	B1		Hard, fissured, thickly bedded, grey and brown, silty CLAY / extremely weak MUDSTONE with brown relict rootlets at surfaces. Excavated as gravel to boulder sized.	3 3.00 (43.11)		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
46.107 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP128

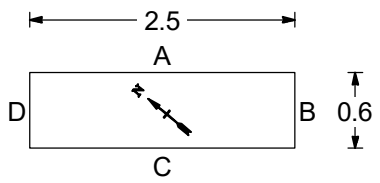
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
0.10	J1		MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with rare brick fragments and active, fine roots.	0.20 (47.42)	MGTS	
			Dry, blocky, brown mottled grey and orange, silty CLAY with fine, active roots. Excavated as cobble sized.		OXFORD CLAY FORMATION	
			Dry, blocky, grey mottled brown, silty CLAY with calcareous concentrations.	0.90 (46.72) 1		
			Stiff, crumbly, thinly bedded, grey and brown, silty CLAY with powder and sand sized selenite deposits.	1.10 (46.52)		
1.70	SV	105/100/100 kPa	1.70 m: No more powder sized selenite deposits. Becoming thinly to thickly bedded.	2		
2.20	SV	114/132/114 kPa	Stiff, fissured, thickly bedded, grey and brown, silty CLAY with mudstone gravel lithorelicts.	2.10 (45.52) 2.30 (45.32)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
47.617 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.30m.
Vertical desiccation cracks to 0.8m depth.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP129

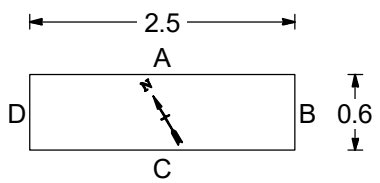
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with active, fine roots.	0.20 (48.06)	MGTS	
			Dry, blocky, brown mottled grey and orange, silty CLAY with fine, active roots. Excavated as cobble sized.		OXFORD CLAY FORMATION	
0.80	D1		Dry, blocky, grey mottled brown, silty CLAY with calcareous concentrations. 0.80 m: Face C: Ceramic land drain.	0.70 (47.56) 1		
1.40	D2		Stiff, fissured, crumbly, thinly laminated, grey, silty CLAY with orange, sandy patches and white, powder and sand sized selenite deposits. Mostly excavated as gravel sized.	1.20 (47.06)		
1.80	SV	108/104/102 kPa	Stiff, fissured, thinly to thickly laminated, grey and brown, silty CLAY with sand sized selenite deposits and brown relict rootlets. 1.70 - 2.60 m: Mudstone lithorelicts.	1.70 (46.56) 2		
2.50	SV D3	112/118/101 kPa		3		
				3.00 (45.26)		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.262 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 3.00m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

TRIAL PIT RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	A Leon
Date Completed:	10/09/2025
Method Used:	180° Backhoe excavator (JCB 3CX type)

Trial Pit No.

TP130

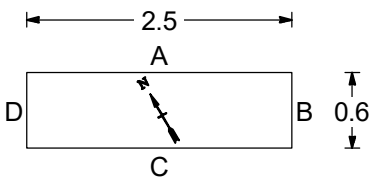
Sheet 1 of 1

Samples & Tests			Description of Strata	Depth / (Level)	Geology	Legend
Depth	Type & No	Value				
			MADE GROUND TOPSOIL: Grass over dry, brown motted reddish, silty CLAY with active, fine roots.	0.25 (48.61)	MGTS	
0.30	J1		Dry, blocky, brown mottled grey and orange, silty CLAY with fine, active roots. Excavated as cobble sized.	0.60 (48.26)	OXFORD CLAY FORMATION	
0.70	J2		Dry, blocky, grey mottled brown, silty CLAY with calcareous concentrations.	1		
			Stiff, fissured, crumbly, thinly laminated, grey, silty CLAY with orange, sandy patches and white, powder and sand sized selenite deposits. Mostly excavated as gravel sized.	1.20 (47.66)		
				2		
			Stiff, fissured, crumbly, thinly to thickly laminated, light grey with some brown and orange, silty CLAY with sand sized selenite deposits and brown relict rootlets.	2.00 (46.86)		
			2.50 m: Mudstone gravel lithorelicts below.			
2.70	SV	124/122/110 kPa	2.50 m: Face D: Reddish brown SILTSTONE lense, excavated as tabular, fine to medium gravel.	2.80 (46.06)		
				3		
				4		

Pit Stability: Generally stable throughout
Groundwater: Not encountered

Surface Elevation Level:
48.859 mAOD

Plan of Trial Pit:



General Remarks:
Trial pit terminated at 2.80m.

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

Trial Pit Photographs

TP101

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP102

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP103

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP104

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP105

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP106

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP107

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP108

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP109

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP110

Project Title:	Phase 2, Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD4599-OP5-A
Date Issued:	September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP111

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP112

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP113

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP114

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP115

Project Title:	Phase 2, Blackmore Farm, Melksham
Client:	Gleeson Land
BRD Reference:	BRD4599-OP5-A
Date Issued:	September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP116

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP117

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP118

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP119

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP120

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP121

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP122

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP123

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP124

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

01295 272244
info@brduk.com

Trial Pit Photographs

TP125

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP126

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP127

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP128

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP129

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

Trial Pit Photographs

TP130

Project Title: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
BRD Reference: BRD4599-OP5-A
Date Issued: September 2025

BRD
01295 272244
info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS101

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.10	J1			TOPSOIL: Brown, sandy clay with rootlets.	0.20 (41.62)		TS	
				Brown mottled grey, slightly sandy, slightly silty CLAY with occasional roots.	0.40 (41.42)			
0.50	PEN	4.0/4.5/4.5 kg/cm²		Hard, dry, brown mottled grey, silty CLAY. 0.50 m: Some relict roots.				
0.70	J2							
				0.80 m: Shell.	0.90 (40.92)			
0.90	D1				1.0			
1.00	SPT	33 N		Dry, hard, fissured, grey mottled orange brown, silty CLAY with calcareous concretions and powder-sized selenite deposits. 1.00 m: SPT: 3,4/7,8,8,10				
				Hard, fissured, grey mottled orange brown, silty CLAY with abundant sand sized selenite crystals, orange sandy pockets and brown relict rootlets.	1.20 (40.62)			
1.50	PEN	4.5/4.5/4.5 kg/cm²		1.20 m: No longer dry.				
1.80	D2							
2.00	SPT	34 N		2.00 m: SPT: 3,5/7,8,9,10	2.0			
2.50	PEN	4.0/4.0/4.5 kg/cm²						
2.70	D3							
3.00	SPT	31 N		3.00 m: SPT: 6,7/7,8,8,8	3.0			
3.50	PEN	4.0/4.5/4.5 kg/cm²						
3.70	D4				3.70 (38.12)			
				Hard, fissured, grey, silty CLAY.				
4.00	SPT	37 N		4.00 m: Likely becoming extremely weak MUDSTONE. 4.00 m: SPT: 5,7/8,8,10,11	4.0			
					4.50			

OXFORD CLAY FORMATION

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
41.819 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS101

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	PEN	4.5/4.5/4.0 kg/cm²		Continued from 3.7m: Hard, fissured, grey, silty CLAY.	5.0		OXFORD CLAY	
4.70	D5							
5.00	SPT	41 N		5.00 m: SPT: 7,9/10,10,11,10				
					5.45 (36.37)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
41.819 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client:	Gleeson Land
Project Title:	Phase, 2, Blackmore Farm, Melksham
Project No:	BRD4599
Logged By:	Z Betteley
Date Commenced:	09/09/2025
Date Completed:	09/09/2025
Method Used:	Windowless Percussive Sampling Rig

Borehole No.

WS102

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, sandy clay with rootlets.			TS	
0.20	J1			Brownish grey, slightly sandy, slightly silty CLAY with occasional roots.	0.20 (39.21)			
				Hard, dry, fissured grey mottled orange brown, silty CLAY.	0.40 (39.01)			
0.70	J2							
0.80	PEN D1	4.0/4.0/4.0 kg/cm²						
1.00	SPT	15 N		1.00 m: SPT: 2,3/3,4,4,4	1.0			
				1.20 m: No longer dry.				
1.50	PEN	1.5/2.0/2.5 kg/cm²		Stiff, fissure, grey mottled orange brown silty CLAY with white calcareous concretions and powder-sized selenite deposits.	1.50 (37.91)			
1.80	D2							
2.00	SPT	15 N		1.90 m: Relict roots. 1.90 - 2.50 m: Selenite crystals 2.00 m: SPT: 3,3/3,3,4,5	2.0		OXFORD CLAY FORMATION	
2.50	PEN	2.5/2.5/2.0 kg/cm²		Stiff, fissured, grey some brown, silty CLAY with sand sized selenite deposits.	2.50 (36.91)			
2.80	D3							
3.00	SPT	22 N		3.00 m: Selenite crystals 3.00 m: SPT: 4,5/6,5,5,6	3.0			
				3.20 m: Shells.				
3.50	PEN	3.0/3.0/3.0 kg/cm²		3.50 - 4.00 m: Large selenite crystals				
3.80	D4			3.80 m: Fossil shell fragments.				
4.00	SPT	25 N		4.00 m: SPT: 4,5/5,6,7,7	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
39.405 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS102

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	PEN	2.5/2.0/3.0 kg/cm²		Stiff, fissured, grey some brown, silty CLAY with sand sized selenite deposits.				
4.80	D5							
5.00	SPT	30 N		5.00 m: SPT: 6,7/7,8,7,8	5.0			
					5.45 (33.96)		OXFORD CLAY	
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
39.405 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS103

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, sandy clay with rootlets.			TS	
0.20	J1			Dry, yellowish brown, sandy, gravelly CLAY. Gravel of fine, rounded to subangular chert.	0.20 (40.08)			
0.50	J2			Dry, stiff, light grey with occasional brown mottling, silty CLAY with white calcareous concretions and powder-sized selenite deposits.	0.50 (39.78)			
0.80	D1							
1.00	SPT	29 N		1.00 m: SPT: 6,8/8,7,7,7	1.0			
1.50	PEN	4.0/4.0/4.0 kg/cm²		Stiff, fissured, grey mottled orange and brown, silty CLAY with brown relict rootlets and sand sized selenite deposits.	1.50 (38.78)			
1.80	D2			1.80 - 2.90 m: Becoming firm.				
2.00	SPT	21 N		2.00 m: SPT: 3,4/4,5,6,6	2.0			
2.50	PEN	2.0/2.0/2.5 kg/cm²		Firm to stiff, fissured, grey mottled brown, silty CLAY with sand sized selenite crystas.	2.50 (37.78)		OXFORD CLAY FORMATION	
2.80	D3							
3.00	SPT	29 N		3.00 m: SPT: 4,5/6,7,8,8	3.0			
3.50	PEN	2.5/2.5/2.0 kg/cm²		Very stiff, fissured, silty CLAY with fossil shell fragments.	3.60 (36.68)			
3.80	D4							
4.00	SPT	27 N		4.00 m: SPT: 4,5/7,7,6,7	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
40.278 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS103

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	PEN	3.5/4.0/4.0 kg/cm²		Continued from 3.6m: Very stiff, fissured, silty CLAY with fossil shell fragments.				
				4.50 m: Fossil shell fragments.				
4.80	D5							
5.00	SPT	31 N		5.00 m: SPT: 7,8/7,8,7,9	5.0			
					5.45 (34.83)		OXFORD CLAY	
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
40.278 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS104

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			TOPSOIL: Brown, sandy clay with roots.	0.40 (42.05)		TS	
0.70	PEN	>4.5x3 kg/cm²		Dry, hard, brown mottled light grey, silty CLAY.	0.70 (41.75)			
0.80	J2			Stiff, dry, grey mottled orange brown, silty CLAY with white calcareous concretions and powder-sized selenite deposits and relict rootlets.	1.0			
0.90	D1							
1.00	SPT	28 N		1.00 m: SPT: 4,5/6,7,7,8	1.10 (41.35)			
1.50	PEN	2.5/2.5/2.0 kg/cm²		Stiff, fissured, grey mottled brown silty clay with brown relict rootlets and sand sized selenite crytals. 1.30 m: No longer dry.			OXFORD CLAY FORMATION	
1.80	D2			1.70 - 1.80 m: Abundant relict roots.				
2.00	SPT	25 N		1.90 - 2.00 m: Roots and abundant selenite crystals. 2.00 m; SPT: 3,4/5,8,6,6	2.0			
2.50	PEN	2.0/2.0/2.5 kg/cm²		Very stiff to hard, fissured, grey, silty CLAY with fossil shell fragments and sand-sized selenite crystals.	2.50 (39.95)			
2.80	D3							
3.00	SPT	35 N		3.00 m: SPT: 5,7/8,8,9,10 3.20 m: Possible Extremely weak MUDSTONE bed intercalated.	3.0			
3.80	D4							
4.00	SPT	29 N		4.00 m: SPT: 4,5/7,6,8,8	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
42.447 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS104

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				Continued from: Very stiff to hard, fissured, grey, silty CLAY with fossil shell fragments and sand-sized selenite crystals.				
4.80	D5							
5.00	SPT	35 N		5.00 m: Likely becoming Extremely weak MUDSTONE with ammonite fossil. 5.00 m: SPT: 7,8/8,9,9,9	5.0			
					5.45 (37.00)		OXFORD CLAY	
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
42.447 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS105

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, sandy clay with rootlets and some areas of oxidised red.			TS	
0.20	J1				0.30 (42.82)			
				Hard, dry, hard, brown mottled grey, silty CLAY.				
0.70	J2				0.70 (42.42)			
0.80	D1			Dry, grey mottled orange, silty CLAY with white calcareous concretions and powder sized selenite crystals.				
1.00	SPT	17 N		1.00 m: SPT: 2,3/4,4,4,5	1.0			
				Stiff, fissured, grey some orange, silty CLAY with brown relict rootlets and fossil shell fragments.	1.30 (41.82)			
1.80	D2			1.80 m: Ammonite fossil.				
2.00	SPT	22 N		2.00 m: SPT: 4,5/5,6,5,6	2.0		OXFORD CLAY FORMATION	
				2.50 m: Relict roots.				
				2.50 - 3.00 m: Fossil shell fragments.	2.60 (40.52)			
2.80	D3			Very stiff to hard, fissured, very thinly bedded, grey silty CLAY with sand to fine gravel sized selenite crystals.				
3.00	SPT	35 N		3.00 m: SPT: 10,9/8,8,9,10	3.0			
				3.30 - 3.70 m: Large selenite crystals.				
3.80	D4							
4.00	SPT	23 N		4.00 m: SPT: 4,5/6,5,5,7	4.0			
				4.20 m: Becoming blueish grey in colour.				
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
43.117 mAOD

All dimensions in metres
Log Scale 1:25

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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 09/09/2025
Date Completed: 09/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS105

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.80	D5			Very stiff to hard, fissured, very thinly bedded, grey silty CLAY with sand to fine gravel sized selenite crystals.	5.0		OXFORD CLAY	
5.00	SPT	34 N		5.00 m: Likely becoming Extremely weak MUDSTONE. 5.00 m: SPT: 7,7/8,7,9,10	5.45 (37.67)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
43.117 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS106

Sheet 1 of 1

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, sandy clay with rootlets.	0.30 (44.33)		TS	
				Dry, hard, mottled grey brown, silty CLAY with rootlets to 0.5m depth. 0.80 - 1.00 m: Calcareous deposits.	1.0 1.00 (43.63)		OXFORD CLAY	
					2.0			
					3.0			
					4.0			

General Remarks:
Borehole terminated at 1.0m bgl due to wasp nest in the hedge. The drilling rig noise caused a wasps disturbance stinging several times to the drillers. Borehole was relocated, 40m distance to the north, but the wasps follow the rig/drillers. Finally, the borehole was cancelled.

Surface Elevation Level:
44.625 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS107

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			TOPSOIL: Dry, brown, silty clay with active fine roots.	0.30 (44.12)		TS	
0.70	J2			Dry, stiff, brown mottled grey silty CLAY with rootlets.				
0.80	D1				0.80 (43.62)			
1.00	SPT	25 N		Stiff, fissured, grey motlled brown and orange silty CLAY with white calcareous concretions and powder-sized selenite deposits. 1.00 m: SPT: 5,5/6,6,6,7 1.20 m: No longer dry.	1.0			
1.50	PEN	3.0/3.0/3.5 kg/cm²		Very stiff, fissured, grey mottled brown, silty CLAY with brown relict rootlets, fossil shell fragments and sand sized selenite crystals.	1.50 (42.92)		OXFORD CLAY FORMATION	
1.80	D2							
2.00	SPT	20 N		2.00 m: SPT: 3,4/5,4,5,6	2.0			
2.50	PEN	3.0/2.5/3.0 kg/cm²						
2.70	D3			2.70 m: Lignite fragment with large selenite crystals.				
3.00	SPT	24 N		3.00 m: SPT: 5,5/5,6,6,7	3.0			
3.50	PEN	3.0/3.5/3.0 kg/cm²						
3.80	D4							
4.00	SPT	29 N		4.00 m: SPT: 6,7/6,7,8,8	4.0			
				Very stiff, fissured, very thinly bedded, grey mottled brown, silty CLAY with fossil shell fragments and sand sized selenite crystals.	4.10 (40.32)			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
44.419 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS107

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	PEN	3.5/3.0/3.5 kg/cm²		Continued from 4.1m: Very stiff, fissured, very thinly bedded, grey mottled brown, silty CLAY with fossil shell fragments and sand sized selenite crystals.	5.0		OXFORD CLAY	
4.80	D5							
5.00	SPT	31 N		5.00 m: SPT: 6,7/8,8,8,7	5.45 (38.97)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
44.419 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS108

Sheet 1 of 1

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			TOPSOIL: Brown, silty clay with fine roots.	0.30 (42.71)		TS	
0.70	J2			Dry, hard, brown mottled grey, silty CLAY.	0.70 (42.31)		OXFORD CLAY FORMATION	
0.80	D1			Stiff, dry, fissured, grey mottled brown and orange, silty CLAY with white calcareous concretions and powder-sized selenite deposits.	1.0			
1.00	SPT	21 N		1.00 m: SPT: 3,4/5,5,6,5	1.30 (41.71)			
1.50	PEN	3.5/4.0/4.0 kg/cm²		Very stiff, fissured, grey mottled brown, silty CLAY which fossil shell fragments and sand-sized selenite deposits. 1.60 m: Fossil shell fragments.				
1.80	D2				2.0			
2.00	SPT	33 N		2.00 m: SPT: 6,7/8,8,9,8 2.00 - 2.50 m: Abundant fossil shell fragments.	2.50 (40.51)			
2.50	PEN	2.5/3.0/2.5 kg/cm²		Very sitff, fissured, thinly laminated, grey and brown, silty CLAY with brown reict rootlets and sand-sized selenite crystals.				
2.80	D3				3.0			
3.00	SPT	23 N		3.00 m: SPT: 4,5/6,5,6,6				
3.50	PEN	3.0/3.0/3.5 kg/cm²			3.80 (39.21)			
3.80	D4			Extremely weak, thinly laminated, grey MUDSTONE/SILTSTONE with fossil shell fragments.	4.0			
4.00	SPT	50 N		4.00 m: SPT: 9,11/12,12,13,13 for 65mm	4.30 (38.71)			

General Remarks:
Borehole terminated at 4.3m bgl due to refusal in competent rock.

Surface Elevation Level:
43.009 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS109

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				MADE GROUND TOPSOIL: brown, sandy clay with brick fragments.	0.20 (42.22)		MGTS	
0.20	J1			Hard, mottled grey brown, silty CLAY.				
0.50	PEN	4.0/4.5/4.5 kg/cm²						
0.70	J2							
0.80	D1							
1.00	SPT	24 N		1.00 m: SPT: 2,4/5,5,7,7	1.0			
				Stiff, fissured, grey mottled brown, silty CLAY with white calcareous deposits and powder-sized selenite deposits.	1.20 (41.22)			
				1.20 - 1.90 m: Calcareous deposits. 1.30 - 2.00 m: Roots and powder sized selenite crystals.				
1.70	PEN	4.5/4.5/5.0 kg/cm²		1.70 m: Ammonite fossil.				
1.80	D2							
2.00	SPT	19 N			2.0			
				Stiff, fissured, thinly laminated, grey mottled brown, silty CLAY brown relict rootlets, selenite deposits (sand and powder sized) and fossil shell fragments.	2.00 (40.42)		OXFORD CLAY FORMATION	
				2.00 m: SPT: 3,4/4,5,5,5 2.20 - 2.30 m: Fossils.				
				2.50 - 2.70 m: Roots and powder sized selenite crystals.				
2.70	PEN	3.0/3.0/3.0 kg/cm²						
2.80	D3			2.80 - 3.40 m: Fossils.				
				2.90 m: Large shell.	3.0			
3.00	SPT	22 N		Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, fossil shell fragments and sand sized selenite crystals.	3.00 (39.42)			
				3.00 m: SPT: 3,5/5,6,5,6				
3.70	PEN	4.5/4.5/4.0 kg/cm²		3.70 m: Relict roots.				
3.80	D4			3.80 m: Fossil.				
				3.90 m: Selenite crystals.	4.0			
4.00	SPT	32 N		4.00 m: SPT: 7,8/8,9,7,8				
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
42.415 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS109

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	3.5/3.5/3.0 kg/cm²		Continued from 3.0m: Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, fossil shell fragments and sand sized selenite crystals.	5.0		OXFORD CLAY	
4.80	D5			4.50 m: Relict roots. 4.80 - 4.90 m: Large selenite crystals.				
5.00	SPT	27 N		5.00 m: SPT: 6,7/6,7,7,7	5.45 (36.97)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
42.415 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS110

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				MADE GROUND TOPSOIL: Brown, silty clay with occasional brick fragments.			MGTS	
0.20	J1				0.30 (44.88)			
				Hard, dry, brown and orange, silty CLAY.				
0.50	PEN	>5.0x3 kg/cm²						
0.60	J2				0.60 (44.58)			
				Dry, fissured, light grey mottled orange and brown silty CLAY with white calcareous concretions.				
0.80	D1			0.60 m: Calcareous deposits.				
					0.90 (44.28)			
1.00	SPT	20 N		Stiff, dry, thinly laminated, grey brown and oxidized at surfaces, silty CLAY with powder sized selenite deposits.	1.0			
				0.90 - 1.50 m: Powder sized selenite crystals. 1.00 m: SPT: 2,4/5,5,5,5				
				1.40 m: No longer dry.				
					1.50 (43.68)			
				Stiff, fissured, thinly laminated, grey brown at surfaces, silty CLAY with fossil shell fragments.				
1.70	PEN	2.5x3 kg/cm²						
1.80	D2			1.80 - 2.40 m: Shell fragments.				
					2.0			
2.00	SPT	16 N		2.00 m: SPT: 2,3/4,3,4,5			OXFORD CLAY FORMATION	
					2.50 (42.68)			
2.50	D3			Very stiff, fissured, very thinly bedded, grey and brown at surfaces, with some orange patches, silty CLAY with fossil shell and wood fragments and sand-sized selenite deposits.				
2.70	PEN	2.0x3 kg/cm²		2.50 m: Lignite fragment through vertical fracture.				
					3.0			
3.00	SPT	19 N		3.00 m: SPT: 4,4/4,4,6,5				
				3.50 m: Fossil wood fragment.				
3.70	PEN	2.0/2.0/2.5 kg/cm²						
3.90	D4							
4.00	SPT	20 N		3.90 m: Fossilised wood. 4.00 m: SPT: 4,5/6,5,5,4	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
45.18 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS110

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	4.0/4.0/3.5 kg/cm²		Continued from 2.5m: Very stiff, fissured, very thinly bedded, grey and brown at surfaces, with some orange patches, silty CLAY with fossil shell and wood fragments and sand-sized selenite deposits.	5.0		OXFORD CLAY	
4.90	D5			4.60 m: Lignite fossil wood fragment.				
5.00	SPT	24 N		4.80 - 4.90 m: Large selenite crystals.				
				4.95 m: Lignite fossil wood fragment.				
				5.00 m: SPT: 4,5/5,6,6,7	5.45 (39.73)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
45.18 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS111

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.10	J1			TOPSOIL: Dry, brown, silty clay with rootlets.	0.20 (48.63)		TS	
				Hard, dry, brown mottled light grey, silty CLAY with occasional rootlets.	0.60 (48.23)			
0.70	J2			Stiff, fissured, thinly laminated, grey mottled brown, silty CLAY with calcareous concretions, powder-sized selenite deposits and fine relict rootlets.				
0.80	PEN D1	>5.0x3 kg/cm²		0.70 m: Relict rootlets.				
1.00	SPT	27 N		1.00 m: SPT: 4,7/6,6,7,8	1.0			
				Very stiff, fissured, very thinly bedded, grey, brown at surfaces, silty CLAY with fossil shell fragments, sand sized selenite crystals. Some orange oxidized concretions.	1.30 (47.53)			
1.50	D2			1.30 m: No longer dry.				
1.70	PEN	4.0/4.5/4.5 kg/cm²						
2.00	SPT	27 N		2.00 m: SPT: 5,6/7,6,7,7	2.0		OXFORD CLAY FORMATION	
2.70	PEN D3	4.0x3 kg/cm²						
3.00	SPT	26 N		3.00 m: SPT: 7,7/6,6,7,7	3.0			
				3.30 - 4.00 m: Occasional selenite crystals.				
3.70	PEN D4	4.0x3 kg/cm²			3.80 (45.03)			
				Very stiff, fissured, thinly bedded grey and brown with some orange oxidized concretions, silty CLAY with fosshil shell fragments and sand sized selenite crystals.				
4.00	SPT	27 N		4.00 m: SPT: 5,6/6,6,7,8	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
48.834 mAOD

All dimensions in metres
Log Scale 1:25

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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 10/09/2025
Date Completed: 10/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS111

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN D5	3.0/3.0/3.5 kg/cm²		Continued from 3.8m: Very stiff, fissured, thinly bedded grey and brown with some orange oxidized concretions, silty CLAY with fosshil shell fragments and sand sized selenite crystals. 4.70 m: Fossil wood and lignite fragments.	5.0		OXFORD CLAY	
5.00	SPT	30 N		5.00 m: SPT: 6,5/6,7,9,8	5.45 (43.38)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
48.834 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS112

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			TOPSOIL: Brown mottled red, silty clay with fine roots.	0.30 (44.83)		TS	
0.70	PEN	>5.0x3 kg/cm²		Hard, dry, brownish grey, silty CLAY with fine roots.				
0.80	J2 D1			Stiff, dry, fissured, thinly laminated, grey mottled brown, silty CLAY with fossil shell fragments, powder and sand sized selenite deposits and occasional calcareous deposits.	0.80 (44.33)			
1.00	SPT	15 N		1.00 m: Occasional selenite crystals below. 1.00 m: SPT: 2,3/3,4,4,4 1.20 m: No longer dry.	1.0			
1.70	PEN	2.5x3 kg/cm²						
1.80	D2							
2.00	SPT	16 N		Stiff, fissured, thinly laminated, grey and brown, silty CLAY with fossil shell fragments, brown relict rootlets and sand sized selenite deposits. 2.00 m: SPT: 3,3/3,4,4,5	2.0 2.00 (43.13)		OXFORD CLAY FORMATION	
2.70	PEN	3.0x3 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown at surfaces, some orange oxidized concretions, silty CLAY with fossil shell fragments, selenite sand and gravel sized crystals and relict rootlets.	2.60 (42.53)			
2.80	D3							
3.00	SPT	18 N		3.00 m: Selenite crystals becoming larger and more frequent. 3.00 m: SPT: 3,3/4,4,5,5 3.30 m: Shell fragments.	3.0			
3.70	PEN	3.0x3 kg/cm²						
3.80	D4							
4.00	SPT	22 N		4.00 m: SPT: 4,5/5,6,5,6	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.125 mAOD

All dimensions in metres
Log Scale 1:25

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Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS112

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	2.5/3.0/3.0 kg/cm²		Continued from 2.6m: Very stiff, fissured, very thinly bedded, grey and brown at surfaces, some orange oxidized concretions, silty CLAY with fossil shell fragments, selenite sand and gravel sized crystals and relict rootlets.	5.0		OXFORD CLAY	
4.80	D5							
5.00	SPT	25 N		5.00 m: SPT: 6,6/6,6,6,7	5.45 (39.68)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.125 mAOD

All dimensions in metres
Log Scale 1:25

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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS113

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.10	J1			TOPSOIL: Brown, sandy clay with rootlets and brick fragments.			TS	
				Hard, dry, brown mottled light grey and orange silty CLAY.	0.20 (43.48)			
0.70 0.80	PEN J2 D1	>5.0x3 kg/cm²		Very stiff, fissured, thinly laminated, grey mottled brown, some orange oxidized concretions, silty CLAY with sand sized selenite crystals and fossil shell fragments. 0.60 m: Active roots from adjacent hedge trees.	0.60 (43.08)			
1.00	SPT	31 N		1.00 m: SPT: 3,3/6,8,8,9 1.00 - 2.20 m: Selenite crystals.	1.0			
1.70 1.80	PEN D2	4.0/4.5/4.5 kg/cm²						
2.00	SPT	27 N		2.00 m: SPT: 1,3/7,6,7,7	2.0		OXFORD CLAY FORMATION	
				Stiff, fissured, very thinly bedded, grey brown at fissures, silty CLAY with fossil shell fragments and sand sized selenite crystals.	2.30 (41.38)			
2.70 2.80	PEN D3	2.5/2.5/3.0 kg/cm²						
3.00	SPT	19 N		3.00 m: SPT: 3,3/4,4,5,6 3.20 - 3.60 m: Abundant fossil shell fragments.	3.0			
3.70 3.80	PEN D4	3.0/3.0/2.5 kg/cm²		3.60 - 4.80 m: Abundant selenite crystals.				
4.00	SPT	17 N		4.00 m: SPT: 3,4/4,5,4,4	4.0			
				4.40 m: Shells.	4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
43.683 mAOD

All dimensions in metres
Log Scale 1:25

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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS113

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	2.5/3.0/3.0 kg/cm²		Continued from 2.3m: Stiff, fissured, very thinly bedded, grey brown at fissures, silty CLAY with fossil shell fragments and sand sized selenite crystals.				
4.80	D5			4.60 m: Some oxidisation.				
5.00	SPT	24 N		5.00 m: SPT: 5,5/6,6,6,6	5.0		OXFORD CLAY	
					5.45 (38.23)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
43.683 mAOD

All dimensions in metres
Log Scale 1:25

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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS114

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			MADE GROUND TOPSOIL: Brown, sandy clay with rootlets and brick fragments.	0.30 (44.96)		MGTS	
0.70	PEN	>5.0x3 kg/cm²		Hard, dry, desiccated, brownish grey with reddish brown mottling, silty CLAY.	0.70 (44.56)			
0.80	J2 D1			Stiff, dry, fissured, grey mottled brown, silty CLAY with white calcareous concretions and powder sized selenite deposits. 0.70 - 0.80 m: Calcareous concretions. 0.90 m: Vertical fracture due to dryness.	1.0			
1.00	SPT	14 N		1.00 m: SPT: 3,3/2,3,4,5 1.20 m: No longer dry.	1.50 (43.76)			
1.70	PEN	4.0x3 kg/cm²		Stiff to very stiff, fissured, thinly laminated, grey and brown at surfaces, silty CLAY with sand sized selenite deposits and fossil shell fragments.			OXFORD CLAY FORMATION	
1.80	D2			1.50 - 2.30 m: Occasional selenite crystals.	2.0			
2.00	SPT	22 N		2.00 m: SPT: 4,5/5,5,6,6	2.40 (42.86)			
2.70	PEN D3	2.0/2.5/2.5 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown at surfaces, silty CLAY with sand sized selenite crystals, fossil shell fragments and rare lignite and fossil wood fragmetns. 2.50 - 2.90 m: Selenite crystals.	3.0			
3.00	SPT	18 N		3.00 m: SPT: 3,4/4,5,4,6 3.10 m: Shells below.				
3.50	D4			3.50 m: Shell bed and selenite crystals.				
3.70	PEN	2.5x3 kg/cm²		3.60 - 4.10 m: Lignite with some fossilised wood.	4.0			
4.00	SPT	23 N		4.00 m: SPT: 5,5/5,6,6,6	4.50			
4.10	D5							

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.259 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS114

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	4.0/4.0/4.5 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown at surfaces, silty CLAY with sand sized selenite crystals, fossil shell fragments and rare lignite and fossil wood fragmetns. 4.60 m: Shell bed.	5.0		OXFORD CLAY	
5.00	SPT	23 N		5.00 m: SPT: 6,7/6,5,5,7	5.45 (39.81)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.259 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS115

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.05	J1			MADE GROUND TOPSOIL: Brown, silty clay with rootlets and brick fragments.	0.10 (46.93)		MT	
				Hard, dry, brown mottled light grey and orange, silty CLAY.				
				0.40 m: Vertical fracture due to dryness.				
0.70	PEN	>5.0x3 kg/cm²			0.70 (46.33)			
0.80	J2 D1			Stiff, dry, grey mottled brown silty CLAY with white calcareous concretions.				
				0.70 m: Occasional calcareous deposits.	0.90 (46.13)			
1.00	SPT	20 N		Stiff, dry, grey mottled brown silty CLAY with powder sized selenite deposits.	1.0			
				1.00 m: SPT: 2,4/5,5,5,5				
				1.10 m: No longer dry.	1.20 (45.83)			
				Very stiff, fissured, thinly laminated, grey, brown at surfaces, silty CLAY with sand sized selenite crystals, orange oxidized concretions and fossil shell fragments.				
				1.50 - 1.80 m: Occasional selenite crystals.				
1.70	PEN	2.5/2.0/2.5 kg/cm²						
1.80	D2							
2.00	SPT	17 N		2.00 m: SPT: 2,3/3,4,5,5	2.0			
2.70	PEN	2.0/2.0/2.5 kg/cm²		Stiff to very stiff, fissured, very thinly bedded, grey an brown, silty CLAY with fossil shell fragments, sand sized selenite crystals.	2.70 (44.33)		OXFORD CLAY FORMATION	
2.80	D3 PEN	4.0/4.0/4.5 kg/cm²						
3.00	SPT	13 N		2.70 m: Fossil wood fragment. 2.80 - 3.50 m: Selenite crystals. 3.00 m: SPT: 3,4/4,3,3,3	3.0			
3.70	PEN D4	2.0/2.0/2.5 kg/cm²		3.70 - 3.80 m: Abundant selenite crystals.				
4.00	SPT	17 N		4.00 m: Abundant fossil shell fragments. 4.00 m: SPT: 2,3/4,4,4,5	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
47.025 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS115

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.60	D5			Continued from 2.7m: Stiff to very stiff, fissured, very thinly bedded, grey an brown, silty CLAY with fossil shell fragments, sand sized selenite crystals. 4.60 - 5.00 m: Abundant selenite crystals.	5.0		OXFORD CLAY	
4.70	PEN	2.5x3 kg/cm²						
5.00	SPT	18 N		5.00 m: SPT: 3,4/4,5,5,4	5.45 (41.58)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
47.025 mAOD

All dimensions in metres
Log Scale 1:25

BRD
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS116

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.10	J1			MADE GROUND TOPSOIL: Brown, silty clay with roots and brick fragments.	0.20 (49.90)		MGTS	
				Hard, dry, brownish grey mottled grey, silty CLAY.	0.60 (49.50)			
0.70	PEN	4.0/4.5/3.5 kg/cm²		Stiff, dry, grey mottled brown silty CLAY with white calcareous concretions.				
0.80	J2 D1			0.60 m: Calcareous deposits. 0.80 m: No longer dry.	0.90 (49.20)			
1.00	SPT	13 N		Stiff, dry, grey mottled brown silty CLAY with powder sized selenite deposits and rare fossil shell fragments. 0.90 - 1.40 m: Powder sized selenite deposits. 1.00 m: SPT: 2,3/3,4,3,3	1.0			
					1.40 (48.70)			
1.50	D2			Very stiff, fissured, thinly laminated, grey and brown at surfaces, silty CLAY with brown, relict rootlets, sand sized selenite crystals and fossil shell fragments.			OXFORD CLAY FORMATION	
1.70	PEN	2.5/2.5/2.0 kg/cm²		1.40 - 2.00 m: Selenite crystals, becoming abundant with depth.				
2.00	SPT	17 N		2.00 m: SPT: 3,5/5,4,4,4	2.0			
				2.50 m: Wood.				
2.70	PEN D3	3.5/3.5/3.0 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, sand sized selenite crystals and fossil shell fragments. Rare fossil wood fragments.	2.70 (47.40)			
3.00	SPT	22 N		3.00 m: SPT: 4,5/6,5,5,6	3.0			
3.50	D4			3.40 - 3.60 m: Extremely weak MUDSTONE bed.				
3.70	PEN	2.5/2.5/3.0 kg/cm²						
4.00	SPT	19 N		4.00 m: SPT: 4,5/5,4,5,5	4.0			
4.10	D5			4.10 m: Fossil wood fragment.	4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
50.1 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
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PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS116

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	3.5/4.0/4.0 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, sand sized selenite crystals and fossil shell fragments. Rare fossil wood fragments.	5.0		OXFORD CLAY	
5.00	SPT	28 N		5.00 m: SPT: 5,6/6,6,8,8	5.45 (44.65)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
50.1 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS117

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				MADE GROUND TOPSOIL: Brown, silty clay with roots.	0.10 (45.80)			
0.20	J1			MADE GROUND: Brownish grey, gravelly, silty CLAY. Gravel of angular to subangular brick, concrete and tile.			MADE GROUND	
0.50	D1			0.50 m: Fossil shell fragments.				
0.60	PEN	>5.0x3 kg/cm²						
0.70	J2			0.80 - 0.90 m: Red oxidised in colour.	1.0			
1.00	SPT	9 N		1.00 m: SPT: 2,1/2,2,3,2	1.10 (44.80)			
				Stiff, fissured, thinly laminated grey mottled brown silty CLAY with orange oxidised claystone thin beds intercalated.			OXFORD CLAY FORMATION	
				1.50 m: Thin bed of oxidised claystone recovered as gravel.				
1.70	PEN	3.0/3.5/3.5 kg/cm²						
1.80	D2			1.80 m: Oxidised claystone gravel band.	2.0			
2.00	SPT	12 N		2.00 m: SPT: 3,3/2,3,3,4 2.10 m: Becoming firm. 2.10 m: Thin bed of oxidised claystone recovered as gravel.				
				2.30 - 2.50 m: Relict rootlets.				
2.60	D3			2.60 - 2.80 m: Relict rootlets.				
2.70	PEN	2.5/2.0/2.0 kg/cm²		Very stiff, fissured, thinly laminated, grey and brown, silty CLAY with brown relict rootlets, sand sized selenite crystals and fossil shell fragments. Rare thin orange oxidized claystone beds intercalated.	2.70 (43.20)			
3.00	SPT	20 N		3.00 m: SPT: 3,4/4,5,6,5	3.0			
3.10	D4			3.20 m: Thin bed of oxidised claystone recovered as gravel.				
				Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with and sized selenite crystals and fossil shell fragments.	3.50 (42.40)			
3.70	PEN	2.5/2.0/2.0 kg/cm²						
4.00	SPT	19 N		4.00 m: SPT: 4,5/5,4,5,5	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
45.903 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 11/09/2025
Date Completed: 11/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS117

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.50	D5			Continued from 3.5m: Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with and sized selenite crystals and fossil shell fragments.	5.0		OXFORD CLAY	
4.70	PEN	1.5x3 kg/cm²						
5.00	SPT	20 N		5.00 m: SPT: 4,5/5,5,5,5	5.45 (40.45)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
45.903 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS118

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, silty clay with roots.			TOPSOIL	
0.20	J1				0.40 (46.69)			
				Hard, dry, brown mottled orange and light grey, silty CLAY.			OXFORD CLAY FORMATION	
0.70	PEN	4.5x3 kg/cm²						
0.80	J2 D1							
1.00	SPT	14 N		1.00 m: SPT: 2,3/3,4,4,3	1.0			
				Stiff, dry, grey mottled brown silty CLAY with white calcareous concretions.	1.30 (45.79)			
				1.30 m: No longer dry.	1.50 (45.59)			
				Stiff, dry, grey mottled brown silty CLAY with brown relict rootlets and powder sized selenite deposits.				
1.70	PEN	4.0/4.5/4.5 kg/cm²						
1.80	D2				1.80 (45.29)			
				Very stiff, fissured, thinly laminated, grey and brown at surfaces, silty CLAY with brown, relict rootlets, sand sized selenite crystals.				
2.00	SPT	15 N		2.00 m; SPT: 4,4/4,4,3,4	2.0			
2.70	PEN	4.0/4.0/4.5 kg/cm²						
2.80	D3							
3.00	SPT	18 N			3.0			
				Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with sand sized selenite crystals and fossil shell fragments.	3.00 (44.09)			
				3.00 m: SPT: 4,4/5,4,4,5				
3.70	PEN	2.5x3 kg/cm²						
3.80	D4							
4.00	SPT	21 N		4.00 m: SPT: 3,4/4,5,6,6	4.0			
					4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
47.091 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS118

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	3.0/2.5/2.5 kg/cm²		Continued from 3.0m: Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with sand sized selenite crystals and fossil shell fragments.				
4.80	D5			4.50 m: Large selenite crystals below.				
5.00	SPT	22 N		5.00 m: SPT: 6,6/5,5,5,7	5.0		OXFORD CLAY	
					5.45 (41.64)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
47.091 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS119

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
0.20	J1			TOPSOIL: Brown, silty clay with roots.	0.30 (45.08)		TS	
0.50	J2			Hard, dry, brown mottled grey, slightly sandy, silty CLAY with occasional gravel of fine, angular to subrounded flint, lignite and claystone.	0.60 (44.78)		OXFORD CLAY FORMATION	
0.70	PEN	4.0x3 kg/cm²		Hard, dry, desiccated, mottled grey brown, silty CLAY with fossil shell fragments.	0.80 (44.58)			
0.80	D1			Stiff, dry, grey mottled brown silty CLAY with white calcareous concretions.	1.0			
1.00	SPT	13 N		1.00 m: SPT: 2,3/3,4,3,3	1.10 (44.28)			
				Stiff, dry, grey mottled brown silty CLAY with brown relict rootlets, fossil shell fragments and powder sized selenite deposits 1.30 m: No longer dry.				
1.70	PEN	3.0x3 kg/cm²		1.70 m: Relict roots.				
1.80	D2				2.0			
2.00	SPT	15 N		2.00 m: SPT: 3,3/3,3,4,5	2.20 (43.18)			
				Very stiff, fissured, thinly laminated, grey and brown at surfaces, silty CLAY with brown relict rootlets and sized selenite crystals.				
2.70	PEN	2.5/3.0/2.5 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, sand to gravel sized selenite crystals and fossil shell fragments.	2.70 (42.68)			
2.80	D3			2.70 - 3.40 m: Occasional sand sized selenite crystals.	3.0			
3.00	SPT	20 N		3.00 m: SPT: 2,3/4,5,6,5 3.20 m: Large fossil shell.				
3.70	PEN	2.5/2.5/3.0 kg/cm²		3.60 - 4.10 m: Occasional gravel sized selenite crystals.				
3.80	D4				4.0			
4.00	SPT	24 N		4.00 m: SPT: 4,5/5,6,6,7	4.50			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.377 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS119

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	2.5/3.0/3.0 kg/cm²		Continued from 2.7m: Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with brown relict rootlets, sand to gravel sized selenite crystals and fossil shell fragments.				
4.80	D5			4.60 m: Large selenite crystals.				
5.00	SPT	22 N		5.00 m: SPT: 6,6/5,5,5,7	5.0		OXFORD CLAY	
					5.45 (39.93)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.45m bgl.

Surface Elevation Level:
45.377 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS120

Sheet 1 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
				TOPSOIL: Brown, sandy clay.	0.10 (48.89)		TS	
0.30	J1			Brown with some grey mottling, silty CLAY. Some oxidation and calcareous deposits.				
0.60	J2				0.60 (48.39)			
0.70	PEN	4.5x3 kg/cm²		Hard, dry, brown mottled light grey and orange, silty CLAY with white calcareous concretions.				
0.80	D1							
1.00	SPT	15 N		1.00 m: SPT: 2,3/3,3,4,5	1.0			
				Stiff, dry, grey mottled brown silty CLAY with brown relict rootlets, ts and powder sized selenite deposits.	1.10 (47.89)			
				1.20 m: No longer dry.				
				1.30 m: Sand sized selenite crystals.				
				1.50 - 1.60 m: Brown relict rootlets.	1.60 (47.39)			
1.70	PEN	4.0/4.0/4.5 kg/cm²		Very stiff, fissured, thinly laminated, grey and brown at surfaces, silty CLAY with brown relict rootlets and sized selenite crystals.			OXFORD CLAY FORMATION	
1.80	D2			1.70 - 2.00 m: Sand sized selenite crystals.				
				1.80 - 1.90 m: Brown relict rootlets.				
2.00	SPT	25 N		2.00 m: SPT: 3,4/6,6,6,7	2.0			
				2.10 - 2.30 m: Brown relict rootlets.				
					2.50 (46.49)			
2.70	PEN	3.5/4.0/4.0 kg/cm²		Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with sand to gravel sized selenite crystals and fossil shell fragments.				
2.80	D3							
3.00	SPT	25 N		3.00 m: SPT: 4,5/5,6,7,7	3.0			
				3.50 - 4.00 m: Powder sized selenite crystals.				
3.70	PEN	3.5/4.0/4.0 kg/cm²						
3.80	D4							
4.00	SPT	20 N		3.90 - 5.00 m: Selenite crystals. Size increasing with depth.	4.0			
				4.00 m: SPT: 3,4/4,5,5,6				
					4.50			

General Remarks:
Borehole terminated at 5.0m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
48.994 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

PROBEHOLE RECORD

Client: Gleeson Land
Project Title: Phase, 2, Blackmore Farm, Melksham
Project No: BRD4599
Logged By: Z Betteley
Date Commenced: 12/09/2025
Date Completed: 12/09/2025
Method Used: Windowless Percussive Sampling Rig

Borehole No.

WS120

Sheet 2 of 2

Samples & Tests			Water	Description of Strata	Depth / (Level)	Legend	Geology	Installation /Backfill
Depth	Type & No	Value						
4.70	PEN	2.5/2.5/2.0 kg/cm²		Continued from 4.5m: Very stiff, fissured, very thinly bedded, grey and brown, silty CLAY with sand to gravel sized selenite crystals and fossil shell fragments.	5.0		OXFORD CLAY	
4.80	D5							
5.00	SPT	21 N		m: SPT: 5,6/5,5,5,6	5.45 (43.54)			
					6.0			
					7.0			
					8.0			
					9.0			

General Remarks:
Borehole terminated at 5.0m bgl.
Borehole installed with 50mm standpipe, gas tap and flush metal cover.

Surface Elevation Level:
48.994 mAOD

All dimensions in metres
Log Scale 1:25

BRD
Telephone: 01295 272244
Email: info@brduk.com

SOIL INFILTRATION RATE

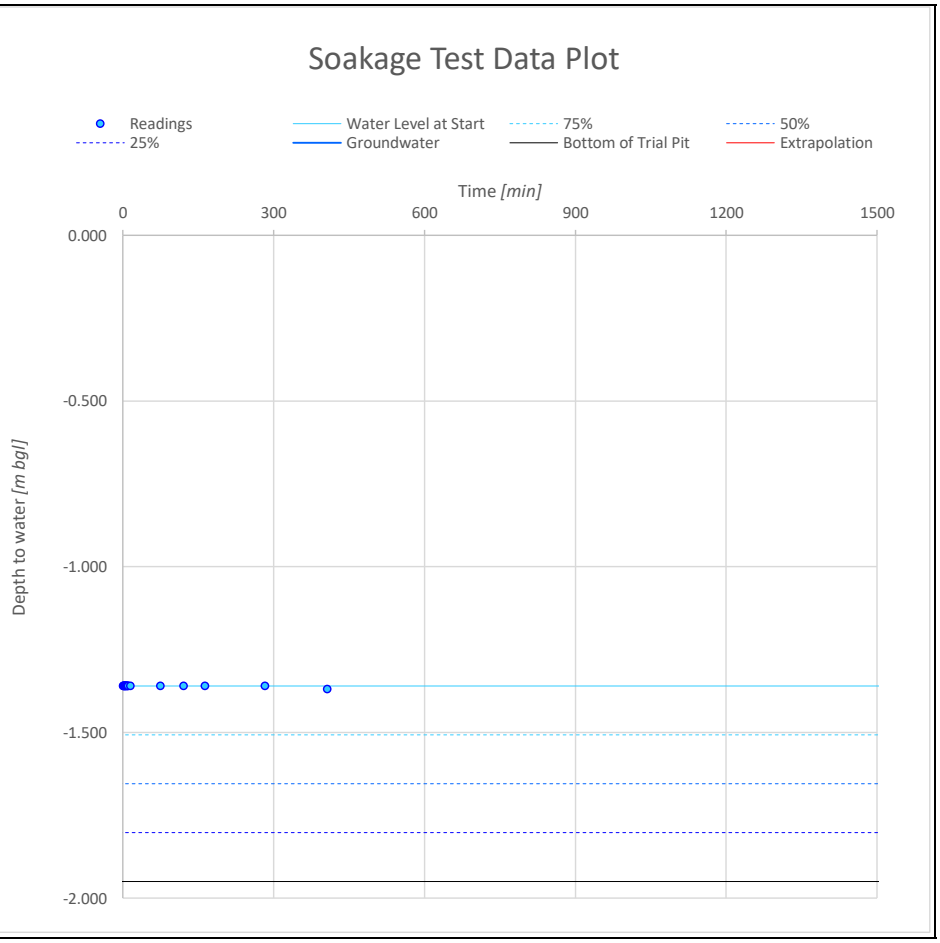
In accordance with BRE Digest 365:2016 - Soakaway Design

Client:	Gleeson Land
Project Title:	Phase 2, Blackmore Farm, Melksham
Project No:	BRD4599

Trial Pit No:	TP107	**Length *[m]* :**	2.00
Test No:	1	**Depth *[m]* :**	1.95
Date:	10/09/2025	**Width *[m]* :**	0.45
Logged by:	RD	**Groundwater *[m bgl]* :**	Dry

Ground Conditions	**from - to *[m bgl]***		**Description**
	1.00	2.00	Stiff, fissured, thinly laminated bluish grey silty CLAY.

Time	**Water Depth**
[min]	***[m bgl]***
0	1.360
1	1.360
2	1.360
3	1.360
4	1.360
5	1.360
6	1.360
7	1.360
8	1.360
9	1.360
10	1.360
15	1.360
74	1.360
121	1.360
163	1.360
282	1.360
406	1.370



Soil Infiltration Rate [m/s]: $f = \frac{V_{p75_25}}{a_{s50} \times tp_{75-25}}$

with:

V_{p75_25}	as Effective Storage Volume of water between 75% and 25% effective storage depth ***[m³]***	**0.28**
a_{s50}	as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area ***[m²]***	**2.45**
t_{p75_25}	as Time for the water level to fall from 75% to 25% effective storage depth ***[s]***	**n/a**

Soil Infiltration Rate *[m/s]* : n/a

Remarks: Result could not be calculated. Soakage test failed.

SOIL INFILTRATION RATE

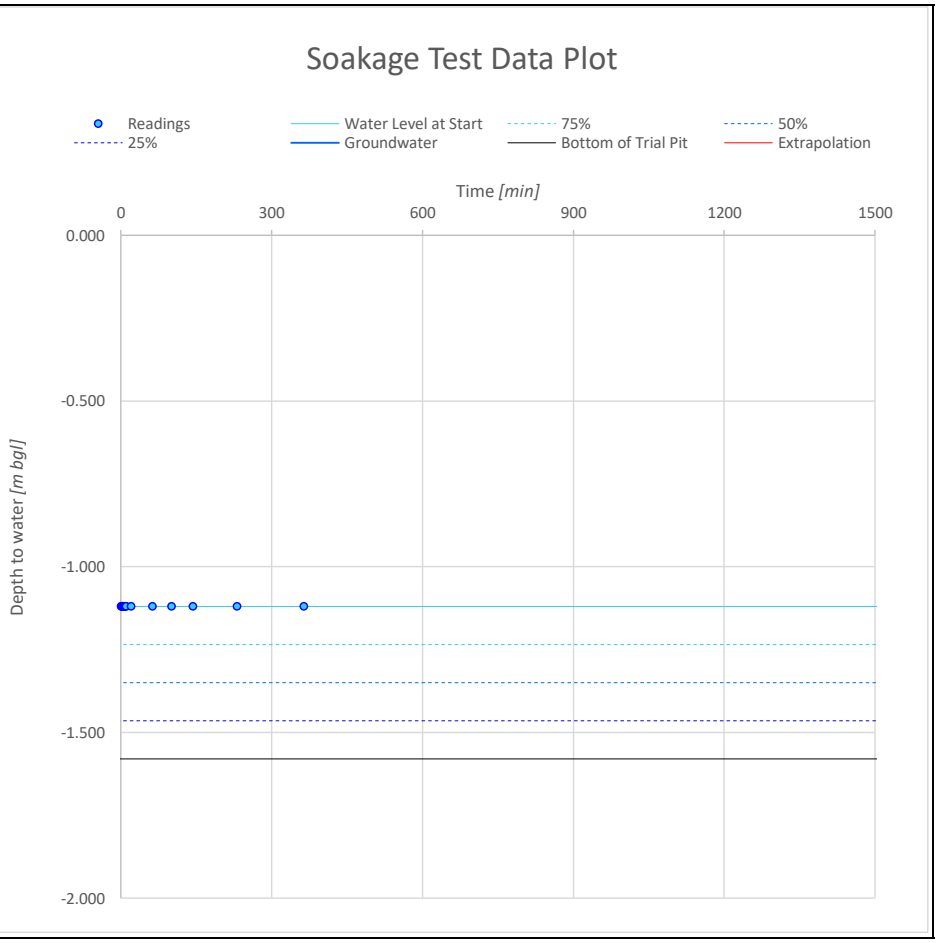
In accordance with BRE Digest 365:2016 - Soakaway Design

Client:	Gleeson Land
Project Title:	Phase 2, Blackmore Farm, Melksham
Project No:	BRD4599

Trial Pit No:	TP107	**Length *[m]* :**	2.00
Test No:	1	**Depth *[m]* :**	1.58
Date:	10/09/2025	**Width *[m]* :**	0.45
Logged by:	RD	**Groundwater *[m bgl]* :**	Dry

	from - to *[m bgl]*		**Description**
Ground Conditions	1.00	1.80	Stiff, fissured, blocky, light grey mottled light brown, silty CLAY.

Time	**Water Depth**
[min]	***[m bgl]***
0	1.120
1	1.120
2	1.120
3	1.120
4	1.120
5	1.120
6	1.120
7	1.120
8	1.120
9	1.120
10	1.120
20	1.120
63	1.120
101	1.120
143	1.120
231	1.120
364	1.120



Soil Infiltration Rate [m/s]: $f = \frac{V_{p75_25}}{a_{s50} \times tp_{75-25}}$

with:

V_{p75_25}	as Effective Storage Volume of water between 75% and 25% effective storage depth ***[m³]***	**0.22**
a_{s50}	as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area ***[m²]***	**2.12**
t_{p75_25}	as Time for the water level to fall from 75% to 25% effective storage depth ***[s]***	**n/a**

Soil Infiltration Rate *[m/s]* : n/a

Remarks: Result could not be calculated. Soakage test failed.

SOIL INFILTRATION RATE

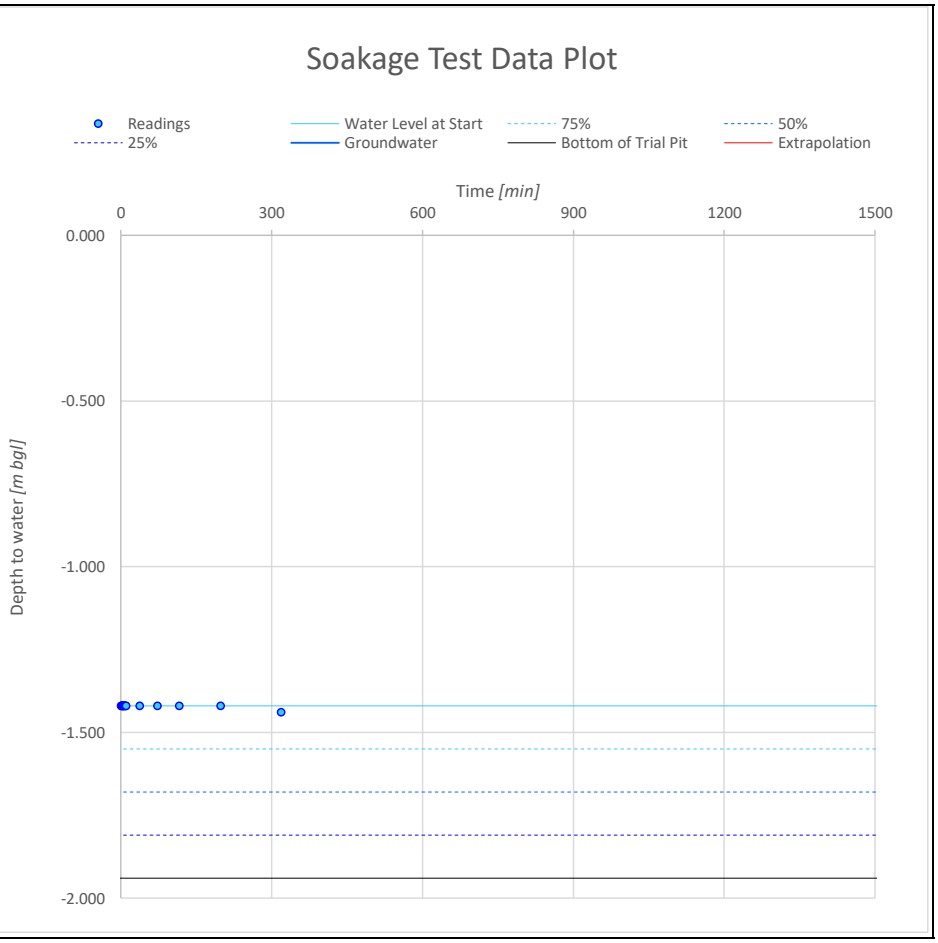
In accordance with BRE Digest 365:2016 - Soakaway Design

Client:	Gleeson Land
Project Title:	Phase 2, Blackmore Farm, Melksham
Project No:	BRD4599

Trial Pit No:	TP107	**Length *[m]* :**	2.00
Test No:	1	**Depth *[m]* :**	1.94
Date:	10/09/2025	**Width *[m]* :**	0.45
Logged by:	RD	**Groundwater *[m bgl]* :**	Dry

	from - to *[m bgl]*		**Description**
Ground Conditions	0.80	1.50	Stiff, fissured, light grey mottled light brown, silty CLAY.

Time	**Water Depth**
[min]	***[m bgl]***
0	1.420
1	1.420
2	1.420
3	1.420
4	1.420
5	1.420
6	1.420
7	1.420
8	1.420
9	1.420
10	1.420
37	1.420
73	1.420
116	1.420
198	1.420
319	1.440



Soil Infiltration Rate [m/s]: $f = \frac{V_{p75_25}}{a_{s50} \times tp_{75-25}}$

with:

V_{p75_25}	as Effective Storage Volume of water between 75% and 25% effective storage depth ***[m³]***	**0.25**
a_{s50}	as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area ***[m²]***	**2.27**
t_{p75_25}	as Time for the water level to fall from 75% to 25% effective storage depth ***[s]***	**n/a**

Soil Infiltration Rate *[m/s]* : n/a

Remarks: Result could not be calculated. Soakage test failed.

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	19/09/2025	Ground conditions:	Dry	Recorded by:	SW
Time at start:	11:30 AM	Weather conditions:	Sunny, occasional cloud	Pressure trend:	Steady
Time at finish:	2:30 PM	Air Temperature (^{o}C):	20	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	N/A	N/A	N/A	1.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Cattle blocking access to the monitoring well.
WS103	N/A	N/A	N/A	1.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Cattle blocking access to the monitoring well.
WS104	dry	dry	4.91	1.05	0.0	0.7	20.3	0.0	0.7	20.2	0	0	1008	0.0	0.0	0.00	0.00	
WS109	3.08	2.96	5.08	1.05	0.0	1.4	20.2	0.0	1.4	20.2	0	0	1009	0.0	0.0	0.00	0.00	
WS110	2.98	2.86	4.99	1.05	0.0	1.5	19.9	0.0	1.5	19.9	0	0	1009	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.07	1.05	0.0	1.6	20.0	0.0	1.6	19.9	0	0	1008	0.0	0.0	0.00	0.00	
WS113	dry	dry	5.05	1.05	0.0	1.6	20.1	0.0	1.6	20.1	0	0	1009	0.0	0.0	0.00	0.00	
WS115	dry	dry	5.03	1.05	0.0	0.0	20.7	0.0	0.1	20.5	0	0	1010	0.0	0.0	0.00	0.00	
WS117	4.47	4.27	5.08	1.05	0.0	0.6	20.3	0.0	0.6	20.3	0	0	1010	0.0	0.0	0.00	0.00	
WS120	dry	dry	5.08	1.05	0.0	0.6	20.4	0.0	0.6	20.4	0	0	1010	0.0	0.0	0.00	0.00	

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	25/09/2025	Ground conditions:	Dry	Recorded by:	SW
Time at start:	11:30 AM	Weather conditions:	Sunny, occasional cloud	Pressure trend:	Steady
Time at finish:	1:15 PM	Air Temperature (^{o}C):	17	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	dry	dry	4.96	1.05	0.0	0.8	20.2	0.0	0.8	20.1	0	0	1016	0.0	0.0	0.00	0.00	
WS103	dry	dry	4.85	1.05	0.0	0.6	20.2	0.0	0.6	20.2	0	0	1016	0.0	0.0	0.00	0.00	
WS104	4.89	4.67	4.94	1.05	0.0	0.8	20.2	0.0	0.8	20.2	0	0	1018	0.0	0.0	0.00	0.00	
WS109	2.98	2.86	4.99	1.05	0.0	0.9	20.3	0.0	0.9	20.3	0	0	1018	0.0	0.0	0.00	0.00	
WS110	3.03	2.92	5.00	1.05	0.0	1.5	19.9	0.0	1.5	19.9	0	0	1018	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.08	1.05	0.0	1.7	19.4	0.0	1.7	19.4	0	0	1016	0.0	0.0	0.00	0.00	
WS113	dry	dry	5.04	1.05	0.0	1.8	20.0	0.0	1.8	19.9	0	0	1018	0.0	0.0	0.00	0.00	
WS115	4.94	4.71	5.03	1.05	0.0	0.1	20.5	0.0	0.1	20.4	0	0	1018	0.2	0.0	0.00	0.00	
WS117	4.03	3.83	5.08	1.05	0.0	0.4	20.3	0.0	0.4	20.2	0	0	1019	0.1	0.0	0.00	0.00	
WS120	dry	dry	5.09	1.05	0.0	1.0	19.8	0.0	1.0	19.6	0	0	1019	0.0	0.0	0.00	0.00	

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	02/10/2025	Ground conditions:	Dry	Recorded by:	GO
Time at start:	9:30 AM	Weather conditions:	Sunny, occasional cloud	Pressure trend:	Falling
Time at finish:	11:30 AM	Air Temperature (^{o}C):	17	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	dry	dry	4.97	1.05	0.0	0.8	20.1	0.0	0.8	20.1	0	0	1016	0.0	0.0	0.00	0.00	
WS103	4.70	4.50	4.86	1.05	0.0	0.6	20.2	0.0	0.6	20.2	0	0	1016	3.8	0.0	0.00	0.02	
WS104	4.71	4.50	4.92	1.05	0.0	0.8	20.0	0.0	0.8	20.0	0	0	1018	0.0	0.0	0.00	0.00	
WS109	2.28	2.16	5.01	1.05	0.0	0.7	20.3	0.0	0.7	20.3	0	0	1018	0.0	0.0	0.00	0.00	
WS110	3.01	2.89	5.01	1.05	0.0	1.4	19.8	0.0	1.4	19.8	0	0	1018	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.09	1.05	0.0	1.8	19.4	0.0	1.8	19.4	0	0	1016	0.4	0.0	0.00	0.01	
WS113	dry	dry	5.06	1.05	0.0	1.7	20.0	0.0	1.7	20.0	0	0	1018	0.0	0.0	0.00	0.00	
WS115	4.84	4.61	5.03	1.05	0.0	0.1	20.5	0.0	0.1	20.5	0	0	1018	0.0	0.0	0.00	0.00	
WS117	3.57	3.37	5.09	1.05	0.0	0.8	20.1	0.0	0.8	20.1	0	0	1019	0.0	0.0	0.00	0.00	
WS120	dry	dry	5.10	1.05	0.0	0.9	20.1	0.0	0.9	20.1	0	0	1019	0.0	0.0	0.00	0.00	

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	16/10/2025	Ground conditions:	Dry	Recorded by:	SW
Time at start:	1:00 PM	Weather conditions:	Sunny, occasional cloud	Pressure trend:	Falling
Time at finish:	2:45 PM	Air Temperature (^{o}C):	17	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	dry	dry	4.95	1.05	0.0	0.8	20.2	0.0	0.8	20.2	0	0	1019	0.0	0.0	0.00	0.00	
WS103	4.22	4.08	4.85	1.05	0.0	0.6	20.3	0.0	0.6	20.3	0	0	1019	0.0	0.0	0.00	0.00	
WS104	4.23	4.00	4.94	1.05	0.0	0.8	20.2	0.0	0.8	20.2	0	0	1018	0.0	0.0	0.00	0.00	
WS109	1.59	1.47	5.01	1.05	0.0	0.4	20.5	0.0	0.4	20.5	0	0	1019	0.0	0.0	0.00	0.00	
WS110	3.01	2.90	5.01	1.05	0.0	1.2	20.0	0.0	1.2	20.0	0	0	1018	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.08	1.05	0.0	1.7	19.4	0.0	1.7	19.4	0	0	1018	0.0	0.0	0.00	0.00	
WS113	5.00	4.90	5.05	1.05	0.0	1.5	20.2	0.0	1.5	20.2	0	0	1018	0.0	0.0	0.00	0.00	
WS115	4.63	4.40	5.03	1.05	0.0	0.2	20.6	0.0	0.2	20.6	0	0	1018	0.0	0.0	0.00	0.00	
WS117	2.94	2.75	5.08	1.05	0.0	0.8	20.2	0.0	0.8	20.2	0	0	1019	0.0	0.0	0.00	0.00	
WS120	dry	dry	5.09	1.05	0.0	0.9	20.1	0.0	0.9	20.1	0	0	1018	0.0	0.0	0.00	0.00	

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	05/11/2025	Ground conditions:	Dry with some moist areas	Recorded by:	SW
Time at start:	10:20 AM	Weather conditions:	Sunny, occasional cloud	Pressure trend:	Falling
Time at finish:	12:20 PM	Air Temperature (^{o}C):	16	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	dry	dry	4.97	1.05	0.0	0.9	19.7	0.0	0.9	19.7	0	0	997	0.0	0.0	0.00	0.00	
WS103	3.50	3.36	4.85	1.05	0.0	0.2	20.5	0.0	0.2	20.5	0	0	998	0.6	0.0	0.00	0.00	
WS104	3.61	3.40	4.95	1.05	0.0	0.7	19.9	0.0	0.7	19.9	0	0	998	0.0	0.0	0.00	0.00	
WS109	1.24	1.11	5.02	1.05	0.0	0.2	20.6	0.0	0.2	20.6	0	0	998	0.0	0.0	0.00	0.00	
WS110	2.80	2.68	5.00	1.05	0.0	1.1	19.8	0.0	1.1	19.8	0	0	997	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.08	1.05	0.0	1.6	19.6	0.0	1.6	19.6	0	0	997	0.0	0.0	0.00	0.00	
WS113	4.89	4.76	5.04	1.05	0.0	1.4	20.0	0.0	1.4	20.0	0	0	998	0.9	0.0	0.00	0.01	
WS115	4.22	3.99	5.04	1.05	0.0	0.0	20.5	0.0	0.0	20.5	0	0	998	0.0	0.0	0.00	0.00	
WS117	2.20	2.01	5.08	1.05	0.0	0.0	20.5	0.0	0.0	20.5	0	0	998	0.0	0.0	0.00	0.00	
WS120	dry	dry	5.09	1.05	0.0	0.8	20.2	0.0	0.8	20.2	0	0	998	0.0	0.0	0.00	0.00	

Gas Monitoring Record

				Project Name:	Phase 2, Blackmore Farm, Melksham
				Client:	Gleeson Land
				Project No:	BRD4599
Date:	14/11/2025	Ground conditions:	Moist	Recorded by:	SW
Time at start:	10:20 AM	Weather conditions:	Overcast, rain	Pressure trend:	Falling
Time at finish:	12:20 PM	Air Temperature (^{o}C):	12	Monitor serial no:	SN14382

The gas monitoring equipment is a Geotech GA5000 portable analyser. As per manufacturers recommendations this is factory calibrated every six months and in addition BRD undertake calibration checks against bottled standard gases on at least a monthly basis. Gas monitor pump is run for three minutes unless otherwise stated and the steady readings are an average reading taken over this pump run time. Vapour monitoring equipment is miniRAE lite PGM-7350 Photo Ionisation Detector (PID) with 10.6 eV lamp calibrated for isobutylene. PID calibration check is performed on site against ambient air and also against a 100ppm isobutylene standard gas. Barometric pressure trend and ambient air temperature is recorded from weather websites at the nearest reported weather station.

CH_4 = Methane CO_2 = Carbon Dioxide O_2 = Oxygen H_2S = Hydrogen Sulphide CO = Carbon Monoxide NR = Not Recorded PID = Photo Ionisation Detector

GWL = Groundwater level measured from ground surface and top of standpipe. Base = Base of standpipe measured from ground surface. RZ = Borehole Response Zone GSV = Gas Screening Value

Monitoring point					Gas Concentration								Pressure	Flow rate	Vapour	GSV		Comments
					Steady			Peak		Minimum	Peak							
Borehole	GWL Ground (m)	GWL Pipe (m)	Base Ground (m)	Top of RZ (pipe) (m)	CH_4 (%)	CO_2 (%)	O_2 (%)	CH_4 (%)	CO_2 (%)	O_2 (%)	CO (ppm)	H_2S (ppm)	Baro - metric (mb)	Steady (l/hr)	PID (ppm)	CH_4 (l/hr)	CO_2 (l/hr)	
WS101	4.96	4.79	4.79	1.05	0.0	1.6	18.0	0.0	1.6	18.0	0	0	991	0.0	0.0	0.00	0.00	
WS103	3.24	3.08	4.86	1.05	0.0	0.5	19.1	0.0	0.5	19.1	0	0	992	0.0	0.0	0.00	0.00	
WS104	3.37	3.15	4.96	1.05	0.0	0.8	18.8	0.0	0.8	18.8	0	0	992	0.0	0.0	0.00	0.00	
WS109	1.25	1.13	5.01	1.05	0.0	0.3	19.8	0.0	0.3	19.8	0	0	992	0.0	0.0	0.00	0.00	
WS110	2.75	2.62	5.02	1.05	0.0	1.2	18.8	0.0	1.2	18.7	0	0	992	0.0	0.0	0.00	0.00	
WS111	dry	dry	5.09	1.05	0.0	1.7	18.8	0.0	1.7	18.8	0	0	991	0.0	0.0	0.00	0.00	
WS113	0.72	0.57	5.08	1.05	0.0	0.5	20.1	0.0	0.7	20.1	0	0	992	0.0	0.0	NR	NR	Flooded response zone.
WS115	1.83	1.61	5.00	1.05	0.0	1.1	19.4	0.0	1.1	19.4	0	0	992	0.0	0.0	0.00	0.00	
WS117	1.43	1.23	5.07	1.05	0.0	0.9	13.7	0.0	0.9	13.7	0	0	990	0.0	0.0	0.00	0.00	
WS120	dry	dry	5.10	1.05	0.0	0.8	19.4	0.0	0.8	19.4	0	0	992	0.0	0.0	0.00	0.00	

Groundwater Monitoring Record

Project: Phase 2, Blackmore Farm, Melksham
Client: Gleeson Land
Project No: BRD4599

Borehole name	Date	Monitored by (initials)	Borehole depth (m)	Qty free product detected (mm)	Groundwater level below ground surface (m)	Groundwater level below top of standpipe (m)	Amount purged (l)	Post purge groundwater level below top of standpipe (m)	Comments
WS109	19/09/2025	SW	5.08	N/A	3.08	2.96	2.75	4.73	Light brown, slow recharge
WS110	19/09/2025	SW	4.99	N/A	2.98	2.86	4.50	4.69	Light brown, slow recharge

APPENDIX 4

Normec DETS

UKAS TESTING 4480

Ana Leon
BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 25-08171

Site Reference:	Phase 2, Melksham
Project / Job Ref:	BRD4599
Order No:	None Supplied
Sample Receipt Date:	16/09/2025
Sample Scheduled Date:	16/09/2025
Report Issue Number:	1
Reporting Date:	24/09/2025

Authorised by:

Steve Knight
Customer Support 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.

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

Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	09/09/25	09/09/25	09/09/25	09/09/25	09/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP101	TP103	TP104	TP105	TP105
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J2	J1	J1
~Order No: None Supplied	**~Depth (m)**	0.10	0.20	0.70	0.10	0.50
Reporting Date: 24/09/2025	**DETS Sample No**	789826	789827	789829	789830	789831

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025			Not Detected	Not Detected	
pH	pH Units	N/a	MCERTS	6.3	6.6	7.0	7.1	7.7
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	26	< 10	25	61	47
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.03	< 0.01	0.02	0.06	0.05
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS	7.4	6.3	2.8	7.8	1.3
Arsenic (As)	mg/kg	< 2	MCERTS	14	19	20	18	29
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.2	0.2	< 0.2	0.5	0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	27	25	29	24	23
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	19	15	18	37	13
Lead (Pb)	mg/kg	< 3	MCERTS	38	29	25	37	17
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	23	19	29	26	43
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	100	79	94	146	67

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
Analysis carried out on the dried sample is corrected for the stone content

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

Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	10/09/25	10/09/25	10/09/25	10/09/25	10/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	HD101	WS107	WS109	WS110	WS110
~Project / Job Ref: BRD4599	**~Additional Refs**	J2	J2	J1	J1	J2
~Order No: None Supplied	**~Depth (m)**	0.30	0.70	0.20	0.20	0.60
Reporting Date: 24/09/2025	**DETS Sample No**	789832	789833	789834	789835	789836

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected				
pH	pH Units	N/a	MCERTS	7.5	7.7	7.3	6.9	7.9
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	39	331	28	17	160
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.04	0.33	0.03	0.02	0.16
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS	3.1	2.2	5.8	6.4	1.2
Arsenic (As)	mg/kg	< 2	MCERTS	14	9	19	21	19
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	0.3	0.3	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	26	20	26	25	21
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	20	14	17	16	18
Lead (Pb)	mg/kg	< 3	MCERTS	49	10	38	36	13
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	20	23	20	24	41
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	70	50	88	89	66

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
Analysis carried out on the dried sample is corrected for the stone content

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	11/09/25	11/09/25	11/09/25	11/09/25	12/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS114	WS116	WS117	WS117	WS120
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J1	J2	J2
~Order No: None Supplied	**~Depth (m)**	0.20	0.10	0.20	0.70	0.70
Reporting Date: 24/09/2025	**DETS Sample No**	789837	789838	789839	789840	789841

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025				Not Detected	
pH	pH Units	N/a	MCERTS	6.9	6.4	7.2	7.5	7.8
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	29	27	1790	787	222
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.03	0.03	1.79	0.79	0.22
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS	5.5	9.4	2	3.1	1.2
Arsenic (As)	mg/kg	< 2	MCERTS	20	14	11	17	15
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	23	22	16	24	22
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	13	16	13	18	19
Lead (Pb)	mg/kg	< 3	MCERTS	43	33	13	31	17
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	18	19	30	30	38
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Zinc (Zn)	mg/kg	< 3	MCERTS	76	66	56	91	74

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	11/09/25	11/09/25	12/09/25	10/09/25	10/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP121	TP122	TP124	WS11	TP110
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J2	J2	J1	J1
~Order No: None Supplied	**~Depth (m)**	0.10	0.80	0.60	0.10	0.20
Reporting Date: 24/09/2025	**DETS Sample No**	789843	789844	789845	789846	789847

Determinand	Unit	RL	Accreditation					(n)
Asbestos Screen (S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	6.2	7.7	6.5		
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	61	427	43		
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.06	0.43	0.04		
Total Sulphur	%	< 0.02	NONE					
Organic Matter (SOM)	%	< 0.1	MCERTS	7.7	1.2	12		
Arsenic (As)	mg/kg	< 2	MCERTS	16	17	18		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	29	24	25		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	14	19	24		
Lead (Pb)	mg/kg	< 3	MCERTS	34	17	49		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	15	41	18		
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Zinc (Zn)	mg/kg	< 3	MCERTS	68	76	97		

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	11/09/25	11/09/25	11/09/25	12/09/25	10/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP117	TP122	TP123	TP128	WS111
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J1	J1	D2
~Order No: None Supplied	**~Depth (m)**	0.10	0.10	0.10	0.10	1.50
Reporting Date: 24/09/2025	**DETS Sample No**	789848	789849	789850	789851	789852

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS					7.6
Total Sulphate as SO_4	mg/kg	< 200	MCERTS					50980
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS					2700
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS					2.70
Total Sulphur	%	< 0.02	NONE					2.21
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	10/09/25	11/09/25	11/09/25	10/09/25	11/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS111	WS112	WS117	TP112	TP115
~Project / Job Ref: BRD4599	**~Additional Refs**	D4	D1	D2	J3	J3
~Order No: None Supplied	**~Depth (m)**	3.70	0.80	1.80	1.20	1.00
Reporting Date: 24/09/2025	**DETS Sample No**	789853	789854	789855	789856	789857

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.7	7.5	7.9	7.5	7.4
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	38240	1174	869	95690	99490
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	3340	550	482	2250	2130
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	3.34	0.55	0.48	2.25	2.13
Total Sulphur	%	< 0.02	NONE	1.23	0.05	0.06	4.16	3.39
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

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Analysis carried out on the dried sample is corrected for the stone content

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	11/09/25	11/09/25	11/09/25	12/09/25	12/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP115	TP115	TP121	TP125	TP125
~Project / Job Ref: BRD4599	**~Additional Refs**	J4	J5	D2	J2	D2
~Order No: None Supplied	**~Depth (m)**	1.60	2.70	1.80	1.00	1.30
Reporting Date: 24/09/2025	**DETS Sample No**	789858	789859	789860	789861	789862

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.6	7.6	7.5	7.9	7.9
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	29620	34310	43280	2190	907
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	2850	2870	2570	1070	577
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	2.85	2.87	2.57	1.07	0.58
Total Sulphur	%	< 0.02	NONE	1.34	1.70	2.62	0.09	0.04
Organic Matter (SOM)	%	< 0.1	MCERTS					
Arsenic (As)	mg/kg	< 2	MCERTS					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					

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Analysis carried out on the dried sample is corrected for the stone content

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Soil Analysis Certificate						
DETS Report No: 25-08171	**~Date Sampled**	12/09/25				
BRD Environmental Ltd	**~Time Sampled**	None Supplied				
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP129				
~Project / Job Ref: BRD4599	**~Additional Refs**	D1				
~Order No: None Supplied	**~Depth (m)**	0.80				
Reporting Date: 24/09/2025	**DETS Sample No**	789863				

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**					
pH	pH Units	N/a	**MCERTS**	7.9				
Total Sulphate as SO_4	mg/kg	< 200	**MCERTS**	961				
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	439				
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	0.44				
Total Sulphur	%	< 0.02	NONE	0.04				
Organic Matter (SOM)	%	< 0.1	**MCERTS**					
Arsenic (As)	mg/kg	< 2	**MCERTS**					
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**					
Chromium (Cr)	mg/kg	< 2	**MCERTS**					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	**MCERTS**					
Lead (Pb)	mg/kg	< 3	**MCERTS**					
Mercury (Hg)	mg/kg	< 1	**MCERTS**					
Nickel (Ni)	mg/kg	< 3	**MCERTS**					
Selenium (Se)	mg/kg	< 2	**MCERTS**					
Zinc (Zn)	mg/kg	< 3	**MCERTS**					

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 25-08171	**~Date Sampled**	09/09/25	09/09/25	09/09/25	09/09/25	09/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP101	TP103	TP104	TP105	TP105
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J2	J1	J1
~Order No: None Supplied	**~Depth (m)**	0.10	0.20	0.70	0.10	0.50
Reporting Date: 24/09/2025	**DETS Sample No**	789826	789827	789829	789830	789831

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	< 0.1	< 0.1	< 0.1	0.32	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.27	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.18	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.20	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.20	< 0.1
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	0.15	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.13	< 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: 25-08171	**~Date Sampled**	10/09/25	10/09/25	10/09/25	10/09/25	10/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	HD101	WS107	WS109	WS110	WS110
~Project / Job Ref: BRD4599	**~Additional Refs**	J2	J2	J1	J1	J2
~Order No: None Supplied	**~Depth (m)**	0.30	0.70	0.20	0.20	0.60
Reporting Date: 24/09/2025	**DETS Sample No**	789832	789833	789834	789835	789836

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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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: 25-08171	**~Date Sampled**	11/09/25	11/09/25	11/09/25	11/09/25	12/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS114	WS116	WS117	WS117	WS120
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J1	J2	J2
~Order No: None Supplied	**~Depth (m)**	0.20	0.10	0.20	0.70	0.70
Reporting Date: 24/09/2025	**DETS Sample No**	789837	789838	789839	789840	789841

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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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: 25-08171	**~Date Sampled**	11/09/25	11/09/25	12/09/25		
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP121	TP122	TP124		
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J2	J2		
~Order No: None Supplied	**~Depth (m)**	0.10	0.80	0.60		
Reporting Date: 24/09/2025	**DETS Sample No**	789843	789844	789845		

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 LQM Banded						
DETS Report No: 25-08171	**~Date Sampled**	10/09/25	10/09/25	11/09/25	12/09/25	11/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS107	WS110	WS117	WS120	TP122
~Project / Job Ref: BRD4599	**~Additional Refs**	J2	J2	J2	J2	J2
~Order No: None Supplied	**~Depth (m)**	0.70	0.60	0.70	0.70	0.80
Reporting Date: 24/09/2025	**DETS Sample No**	789833	789836	789840	789841	789844

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	< 30	< 30	< 30	< 30	< 30
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	< 30	< 30	< 30	< 30	< 30
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 60	NONE	< 60	< 60	< 60	< 60	< 60

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Soil Analysis Certificate - TPH LQM Banded						
DETS Report No: 25-08171	**~Date Sampled**	12/09/25				
BRD Environmental Ltd	**~Time Sampled**	None Supplied				
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP124				
~Project / Job Ref: BRD4599	**~Additional Refs**	J2				
~Order No: None Supplied	**~Depth (m)**	0.60				
Reporting Date: 24/09/2025	**DETS Sample No**	789845				

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01				
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05				
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2				
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2				
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3				
Aliphatic >C16 - C35 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10				
Aliphatic >C35 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10				
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 30	NONE	< 30				
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01				
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05				
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2				
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2				
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2				
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3				
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10				
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10				
Aromatic (>C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 30	NONE	< 30				
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 60	NONE	< 60				

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 25-08171	**~Date Sampled**	10/09/25	10/09/25	11/09/25	12/09/25	11/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS107	WS110	WS117	WS120	TP122
~Project / Job Ref: BRD4599	**~Additional Refs**	J2	J2	J2	J2	J2
~Order No: None Supplied	**~Depth (m)**	0.70	0.60	0.70	0.70	0.80
Reporting Date: 24/09/2025	**DETS Sample No**	789833	789836	789840	789841	789844

Determinand	Unit	RL	Accreditation	(hs)				(hs)
Benzene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	µg/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	µg/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 25-08171	**~Date Sampled**	12/09/25				
BRD Environmental Ltd	**~Time Sampled**	None Supplied				
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP124				
~Project / Job Ref: BRD4599	**~Additional Refs**	J2				
~Order No: None Supplied	**~Depth (m)**	0.60				
Reporting Date: 24/09/2025	**DETS Sample No**	789845				

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2				
Toluene : HS_1D_MS	µg/kg	< 5	MCERTS	< 5				
Ethylbenzene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2				
p & m-xylene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2				
o-xylene : HS_1D_MS	µg/kg	< 2	MCERTS	< 2				
MTBE : HS_1D_MS	µg/kg	< 5	MCERTS	< 5				

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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 25-08171	**~Date Sampled**	10/09/25	11/09/25	12/09/25	11/09/25	
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Phase 2, Melksham	**~TP / BH No**	WS107	WS117	WS120	TP122	
~Project / Job Ref: BRD4599	**~Additional Refs**	J2	J2	J2	J2	
~Order No: None Supplied	**~Depth (m)**	0.70	0.70	0.70	0.80	
Reporting Date: 24/09/2025	**DETS Sample No**	789833	789840	789841	789844	

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
4-Chloroanaline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	< 0.15	< 0.15	
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	

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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 25-08171	**~Date Sampled**	09/09/25	11/09/25	10/09/25	10/09/25	11/09/25
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP101	TP121	WS11	TP110	TP117
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J1	J1	J1
~Order No: None Supplied	**~Depth (m)**	0.10	0.10	0.10	0.20	0.10
Reporting Date: 24/09/2025	**DETS Sample No**	789826	789843	789846	789847	789848

Determinand	Unit	RL	Accreditation			(n)		
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: 25-08171	**~Date Sampled**	11/09/25	11/09/25	12/09/25		
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP122	TP123	TP128		
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1	J1		
~Order No: None Supplied	**~Depth (m)**	0.10	0.10	0.10		
Reporting Date: 24/09/2025	**DETS Sample No**	789849	789850	789851		

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

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 25-08171	
BRD Environmental Ltd	
~Site Reference: Phase 2, Melksham	
~Project / Job Ref: BRD4599	
~Order No: None Supplied	
Reporting Date: 24/09/2025	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
789826	TP101	J1	0.10	14.4	Brown sandy clay with vegetation
789827	TP103	J1	0.20	12.9	Brown sandy clay with vegetation
789829	TP104	J2	0.70	14.8	Brown sandy clay
789830	TP105	J1	0.10	15.3	Brown sandy clay with stones and brick
789831	TP105	J1	0.50	9.7	Brown sandy clay with stones and brick
789832	HD101	J2	0.30	16.2	Brown clay
789833	WS107	J2	0.70	12.3	Grey clay
789834	WS109	J1	0.20	18.8	Brown clay
789835	WS110	J1	0.20	14.8	Brown sandy clay with vegetation
789836	WS110	J2	0.60	13	Brown clay
789837	WS114	J1	0.20	15.7	Light brown sandy clay with vegetation
789838	WS116	J1	0.10	16.4	Brown sandy clay with vegetation
789839	WS117	J1	0.20	11.8	Brown clay
789840	WS117	J2	0.70	21.5	Brown clay
789841	WS120	J2	0.70	12.7	Grey clay
789843	TP121	J1	0.10	17.9	Brown sandy clay with vegetation
789844	TP122	J2	0.80	14.4	Brown clay
789845	TP124	J2	0.60	18.4	Brown sandy clay with vegetation
789846	WS11	J1	0.10	17.1	Brown clay with vegetation
789847	TP110	J1	0.20	17.5	Brown sandy clay with vegetation
789848	TP117	J1	0.10	16.2	Brown sandy clay with vegetation
789849	TP122	J1	0.10	14.8	Brown sandy clay with vegetation
789850	TP123	J1	0.10	18.6	Brown sandy clay with vegetation
789851	TP128	J1	0.10	20.8	Brown sandy clay with vegetation
789852	WS111	D2	1.50	15	Grey clay
789853	WS111	D4	3.70	18.5	Brown clay
789854	WS112	D1	0.80	14.9	Brown clay
789855	WS117	D2	1.80	15.5	Brown sandy clay
789856	TP112	J3	1.20	14	Grey sandy clay
789857	TP115	J3	1.00	12.3	Grey clay
789858	TP115	J4	1.60	15.5	Grey clay
789859	TP115	J5	2.70	15.9	Grey clay
789860	TP121	D2	1.80	17.6	Grey clay
789861	TP125	J2	1.00	13.8	Grey clay
789862	TP125	D2	1.30	15.9	Grey clay
789863	TP129	D1	0.80	13.4	Grey clay

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

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 25-08171
BRD Environmental Ltd
~Site Reference: Phase 2, Melksham
~Project / Job Ref: BRD4599
~Order No: None Supplied
Reporting Date: 24/09/2025

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 diphenylcarbazide 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

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List of HWOL Acronyms and Operators
DETS Report No: 25-08171
BRD Environmental Ltd
~Site Reference: Phase 2, Melksham
~Project / Job Ref: BRD4599
~Order No: None Supplied
Reporting Date: 24/09/2025

Acronym	**Description**
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH LQM - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH LQM - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH LQM - Aliphatic >C16 - C35 - EH_CU_1D_AL
TPH LQM - Aliphatic >C35 - C44 - EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH LQM - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH LQM - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH LQM - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH LQM - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH LQM - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH LQM - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH LQM - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH LQM - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH LQM - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH LQM - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH LQM - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

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Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
*	The Dutch 10 PAH compounds consist of Naphthalene, Anthracene,Phenanthrene, Fluoranthene, Benz(a)anthracene, Chrysene, Benzo(k) fluoranthene, Benzo(a)pyrene, Benzo(g,h,i)perylene, and Indeno(1,2,3-cd)pyrene
**	Total EPA-16 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(ghi)perylene.
***	Total WAC-17 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz (a,h)anthracene, Benzo(ghi)perylene and Coronene.
^	No sampling date provided; unable to confirm if samples are within acceptable holding times
$	Samples exceeded their recommended holding times
n	Please note that we are MCERTS soil accredited (UK soils only) for sand, loam, and clay, and UKAS accredited for groundwater, tap water, surface water, and generated leachates. Other matrices are outside our scope of accreditation.
hs	Deviation due to headspace
S	Subcontracted analysis
M	MCERTS accredited test
U	UKAS accredited test

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BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

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DETS Report No: 25-08396

Site Reference:	Phase 2, Blackmore Farm, Melksham
Project / Job Ref:	BRD4599
Order No:	None Supplied
Sample Receipt Date:	26/09/2025
Sample Scheduled Date:	26/09/2025
Report Issue Number:	1
Reporting Date:	06/10/2025

Authorised by:

Steve Knight
Customer Support 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.

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Water Analysis Certificate						
DETS Report No: 25-08396	**~Date Sampled**	19/09/25	19/09/25			
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Phase 2, Blackmore Farm, Melksham	**~TP / BH No**	WS09	WS10			
~Project / Job Ref: BRD4599	**~ Water Matrix**					
~Order No: None Supplied	**~Additional Refs**	None Supplied	None Supplied			
Reporting Date: 06/10/2025	**~Depth (m)**	4.85	4.81			
	DETS Sample No	790931	790932			

Determinand	**Unit**	**RL**	**Accreditation**	(n)	(n)			
pH	pH Units	N/a	**ISO17025**	8.0	8.1			
Sulphate as SO_4	mg/l	< 1	**ISO17025**	5020	5460			

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Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 25-08396
BRD Environmental Ltd
~Site Reference: Phase 2, Blackmore Farm, Melksham
~Project / Job Ref: BRD4599
~Order No: None Supplied
Reporting Date: 06/10/2025

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	F	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (BOD)	Determination using BOD sensors measuring the change of pressure	E133
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 diphenylcarbazide followed by	E116
Water	F	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	F	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	F	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 dete	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 GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	F	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E115
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 dichlorometha	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)	Acidification, followed by high-temperature oxidation and 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

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List of HWOL Acronyms and Operators

Acronym	**Description**
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Det - Acronym

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Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
*	The Dutch 10 PAH compounds consist of Naphthalene, Anthracene,Phenanthrene, Fluoranthene, Benz(a)anthracene, Chrysene, Benzo(k) fluoranthene, Benzo(a)pyrene, Benzo(g,h,i)perylene, and Indeno(1,2,3-cd)pyrene
**	Total EPA-16 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(ghi)perylene.
***	Total WAC-17 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz (a,h)anthracene, Benzo(ghi)perylene and Coronene.
^	No sampling date provided; unable to confirm if samples are within acceptable holding times
$	Samples exceeded their recommended holding times
n	Please note that we are MCERTS soil accredited (UK soils only) for sand, loam, and clay, and UKAS accredited for groundwater, tap water, surface water, and generated leachates. Other matrices are outside our scope of accreditation.
U	UKAS accredited test

Normec DETS

UKAS TESTING 4480

Ana Leon
BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 25-08726

Site Reference:	Phase 2, Melksham
Project / Job Ref:	BRD4599
Order No:	None Supplied
Sample Receipt Date:	09/10/2025
Sample Scheduled Date:	09/10/2025
Report Issue Number:	1
Reporting Date:	17/10/2025

Authorised by:

Steve Knight
Customer Support 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.

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Soil Analysis Certificate						
DETS Report No: 25-08726	**~Date Sampled**	09/09/25	10/09/25			
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP104	TP114			
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1			
~Order No: None Supplied	**~Depth (m)**	0.10	0.10			
Reporting Date: 17/10/2025	**DETS Sample No**	792373	792374			

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	7.2	6.6			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	34	23			
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.03	0.02			
Organic Matter (SOM)	%	< 0.1	MCERTS	8.4	4.7			
Arsenic (As)	mg/kg	< 2	MCERTS	18	27			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.2	0.3			
Chromium (Cr)	mg/kg	< 2	MCERTS	24	28			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	22	16			
Lead (Pb)	mg/kg	< 3	MCERTS	26	28			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	32	26			
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2			
Zinc (Zn)	mg/kg	< 3	MCERTS	112	85			

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
Analysis carried out on the dried sample is corrected for the stone content

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 25-08726	**~Date Sampled**	09/09/25	10/09/25			
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP104	TP114			
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1			
~Order No: None Supplied	**~Depth (m)**	0.10	0.10			
Reporting Date: 17/10/2025	**DETS Sample No**	792373	792374			

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

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Maidstone
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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 25-08726	**~Date Sampled**	09/09/25	10/09/25			
BRD Environmental Ltd	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Phase 2, Melksham	**~TP / BH No**	TP104	TP114			
~Project / Job Ref: BRD4599	**~Additional Refs**	J1	J1			
~Order No: None Supplied	**~Depth (m)**	0.10	0.10			
Reporting Date: 17/10/2025	**DETS Sample No**	792373	792374			

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

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 25-08726	
BRD Environmental Ltd	
~Site Reference: Phase 2, Melksham	
~Project / Job Ref: BRD4599	
~Order No: None Supplied	
Reporting Date: 17/10/2025	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
$ 792373	TP104	J1	0.10	15.2	Brown loamy sand with stones and vegetation
$ 792374	TP114	J1	0.10	14.9	Brown sandy clay with stones and vegetation

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

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 25-08726
BRD Environmental Ltd
~Site Reference: Phase 2, Melksham
~Project / Job Ref: BRD4599
~Order No: None Supplied
Reporting Date: 17/10/2025

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 diphenylcarbazide 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

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List of HWOL Acronyms and Operators
DETS Report No: 25-08726
BRD Environmental Ltd
~Site Reference: Phase 2, Melksham
~Project / Job Ref: BRD4599
~Order No: None Supplied
Reporting Date: 17/10/2025

Acronym	**Description**
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Det - Acronym

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Certificate Key

Symbol	Description
F	Filtered sample
UF	Unfiltered sample
D	Dried sample
AR	As received sample
RL	Reporting limit
~	Sample details provided by customer and can affect the validity of results
M/S	Missing Sample
*	The Dutch 10 PAH compounds consist of Naphthalene, Anthracene,Phenanthrene, Fluoranthene, Benz(a)anthracene, Chrysene, Benzo(k) fluoranthene, Benzo(a)pyrene, Benzo(g,h,i)perylene, and Indeno(1,2,3-cd)pyrene
**	Total EPA-16 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(ghi)perylene.
***	Total WAC-17 PAHs consist of the following polycyclic aromatic hydrocarbons: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz (a,h)anthracene, Benzo(ghi)perylene and Coronene.
^	No sampling date provided; unable to confirm if samples are within acceptable holding times
$	Samples exceeded their recommended holding times
M	MCERTS accredited test
U	UKAS accredited test

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 30/09/2025

UKAS TESTING 0998

Contract	**Phase 2, Melksham**
Serial No.	**48593_1**

Client:

BRD Environmental Ltd

BRD Environmental Ltd
Hawthorne Villa
1 Old Parr Road
Banbury
Oxfordshire
OX16 5HT

Soil Property Testing Ltd

15, 16, 18 Halcyon Court, St Margaret's Way,
Stukeley Meadows, Huntingdon,
Cambridgeshire, PE29 6DG

Tel: 01480 455579
Email: enquiries@soilpropertytesting.com
Website: www.soilpropertytesting.com

Samples Submitted By:

BRD Environmental Ltd

Samples Labelled:

Phase 2, Melksham

Approved Signatories:

☑ **J.C. Garner B.Eng (Hons) FGS**
Technical Director & Quality Manager

☐ **W. Johnstone**
Materials Lab Manager

Date Received: 19/09/2025

Samples Tested Between: 19/09/2025 **and** 30/09/2025

Remarks:

For the attention of Ana Leon
Your Reference No: BRD4599

Notes:

1. All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary.
2. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
3. Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory.
4. This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory.
5. The results within this report only relate to the items tested or sampled.

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 30/09/2025

UKAS TESTING 0998

Contract	**Phase 2, Melksham**		
Serial No.	**48593_1**	**Target Date**	03/10/2025
Scheduled By	BRD Environmental Ltd		

Schedule Remarks

Bore Hole No.	Type	Sample Ref.	Top Depth	Water Content (BSEN)	Liquid/Plastic Limits	Wet Sieve Preparation															Sample Remarks
TP111	D	1	1.30	1	1	1															
TP112	D	3	2.30	1	1																
TP115	D	1	1.00	1	1																
TP117	D	1	2.00	1	1																
TP118	D	1	1.00	1	1																
TP120	B	1	2.80	1	1																
TP121	D	1	1.30	1	1																
TP122	D	1	0.90	1	1																
TP122	D	2	1.10	1	1																
TP123	D	2	2.00	1	1																
TP124	D	3	1.60	1	1																
TP125	D	1	0.80	1	1																
TP127	B	1	2.80	1	1																
WS108	D	1	0.80	1	1																
WS108	D	4	3.80	1	1																
WS110	D	1	0.80	1	1																
WS110	D	3	2.50	1	1																
WS113	D	3	2.80	1	1																
WS117	D	4	3.10	1	1	1															
WS120	D	1	0.80	1	1																
WS120	D	2	1.80	1	1																
Totals				**21**	**21**	**2**															**End of Schedule**

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 30/09/2025

UKAS TESTING 0998

Contract	**Phase 2, Melksham**
Serial No.	**48593_1**

SUMMARY OF WATER CONTENT

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Description	Remarks
TP111	1.30	D	1	**18.2**	Stiff mottled bluish grey and olive silty CLAY with calcareous aggregations of sand and fine gravel size and rare decayed roots	
TP112	2.30	D	3	**12.8**	Hard mottled bluish grey and olive silty CLAY with rare shell traces and debris	
TP115	1.00	D	1	**15.5**	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and occasional recently active and decayed roots	Dried at 50°C due to the presence of selenite.
TP117	2.00	D	1	**21.9**	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare recently active and decayed roots	Dried at 50°C due to the presence of selenite.
TP118	1.00	D	1	**15.2**	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare decayed roots	Dried at 50°C due to the presence of selenite.
TP120	2.80	B	1	**25.6**	Stiff fissured mottled bluish grey and olive CLAY with a network of decayed roots and rare selenite crystals	Dried at 50°C due to the presence of selenite.
TP121	1.30	D	1	**21.7**	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare shell traces	
TP122	0.90	D	1	**20.0**	Very stiff closely fissured mottled bluish grey and olive CLAY with rare recently active and decayed roots	
TP122	1.10	D	2	**17.9**	Very stiff closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare recently active and decayed roots	Dried at 50°C due to the presence of selenite.
TP123	2.00	D	2	**23.6**	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional orange staining and rare shell traces and selenite crystals	Dried at 50°C due to the presence of selenite.
TP124	1.60	D	3	**23.0**	Stiff closely fissured mottled bluish grey and olive CLAY with rare selenite crystals, shell traces and decayed roots	Dried at 50°C due to the presence of selenite.
TP125	0.80	D	1	**26.0**	Very stiff mottled bluish grey and olive yellow CLAY with occasional orange staining and recently active and decayed roots	
TP127	2.80	B	1	**24.5**	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, rare selenite crystals, shell traces and recently active and decayed roots	Dried at 50°C due to the presence of selenite.
WS108	0.80	D	1	**16.8**	Very stiff fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	

Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022
Method of Test: BS EN ISO: 17892-1: 2014+A1:2022
Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:

Remarks to Include: Sample disturbance, loss of moisture, variation from test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110C

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

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UKAS TESTING 0998

Contract	**Phase 2, Melksham**
Serial No.	**48593_1**

SUMMARY OF WATER CONTENT

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Description	Remarks
WS108	3.80	D	4	**13.4**	Very stiff fissured friable olive silty CLAY with rare orange staining, shell and fossil traces and debris and selenite crystals	Dried at 50°C due to the presence of selenite.
WS110	0.80	D	1	**20.6**	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots	
WS110	2.50	D	3	**25.9**	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare orange staining, shell traces and debris and recently active and decayed roots	Dried at 50°C due to the presence of selenite.
WS113	2.80	D	3	**24.4**	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, selenite crystals and decayed roots	Dried at 50°C due to the presence of selenite.
WS117	3.10	D	4	**23.4**	Stiff mottled yellowish brown, bluish grey and olive slightly gravelly slightly sandy silty CLAY with rare, shell debris, selenite crystals and decayed roots. Gravel is fine and medium angular and subangular claystones	Dried at 50°C due to the presence of selenite.
WS120	0.80	D	1	**17.7**	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	
WS120	1.80	D	2	**20.2**	Very stiff closely fissured mottled bluish grey and olive CLAY with a network of recently active and decayed roots and occasional selenite crystals	Dried at 50°C due to the presence of selenite.

Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022
Method of Test: BS EN ISO: 17892-1: 2014+A1:2022
Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:

Remarks to Include: Sample disturbance, loss of moisture, variation from test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110C

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Serial No.	**48593_1**

SUMMARY OF WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasti-city Index (%)	Liquid-ity Index	Sample Preparation				Description	Class
									Method	Ret'd 0.425mm (%)	Corr'd W/C <0.425mm	Curing Time (hrs)		
TP111	1.30	D	1	**18.2**	43	20	23	-0.08	Wet Sieved	7 (M)	19.5*	24	Stiff mottled bluish grey and olive silty CLAY with calcareous aggregations of sand and fine gravel size and rare decayed roots	CI
TP112	2.30	D	3	**12.8**	32	20	12	-0.60	From Natural	0 (A)		69	Hard mottled bluish grey and olive silty CLAY with rare shell traces and debris	CL
TP115	1.00	D	1	**15.5**	58	27	31	-0.37	From Natural	0 (A)		68	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and occasional recently active and decayed roots	CH
TP117	2.00	D	1	**21.9**	55	21	34	0.03	From Natural	0 (A)		25	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare recently active and decayed roots	CH
TP118	1.00	D	1	**15.2**	58	26	32	-0.34	From Natural	0 (A)		24	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare decayed roots	CH
TP120	2.80	B	1	**25.6**	60	25	35	0.02	From Natural	0 (A)		27	Stiff fissured mottled bluish grey and olive CLAY with a network of decayed roots and rare selenite crystals	CH
TP121	1.30	D	1	**21.7**	60	23	37	-0.03	From Natural	0 (A)		24	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare shell traces	CH
TP122	0.90	D	1	**20.0**	69	26	43	-0.14	From Natural	0 (A)		69	Very stiff closely fissured mottled bluish grey and olive CLAY with rare recently active and decayed roots	CH

Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:4.2
Method of Test: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:3.2, 4.4, 5.3, 5.4
Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments: *Corrected water content assume material greater than 0.425mm is non-porous. See BS1377: Part 2: 1990 Clause 3 Note 1.

Table Notation: Ret'd 0.425mm: (A) = Assumed, (M) = Measured

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SUMMARY OF WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasti-city Index (%)	Liquid-ity Index	Sample Preparation				Description	Class
									Method	Ret'd 0.425mm (%)	Corr'd W/C <0.425mm	Curing Time (hrs)		
TP122	1.10	D	2	**17.9**	59	24	35	-0.17	From Natural	0 (A)		26	Very stiff closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare recently active and decayed roots	CH
TP123	2.00	D	2	**23.6**	59	27	32	-0.11	From Natural	0 (A)		26	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional orange staining and rare shell traces and selenite crystals	CH
TP124	1.60	D	3	**23.0**	56	24	32	-0.03	From Natural	0 (A)		26	Stiff closely fissured mottled bluish grey and olive CLAY with rare selenite crystals, shell traces and decayed roots	CH
TP125	0.80	D	1	**26.0**	73	30	43	-0.09	From Natural	0 (A)		70	Very stiff mottled bluish grey and olive yellow CLAY with occasional orange staining and recently active and decayed roots	CV
TP127	2.80	B	1	**24.5**	57	28	29	-0.12	From Natural	0 (A)		25	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, rare selenite crystals, shell traces and recently active and decayed roots	CH
WS108	0.80	D	1	**16.8**	49	19	30	-0.07	From Natural	0 (A)		24	Very stiff fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	CI
WS108	3.80	D	4	**13.4**	35	17	18	-0.20	From Natural	0 (A)		24	Very stiff fissured friable olive silty CLAY with rare orange staining, shell and fossil traces and debris and selenite crystals	CL/CI
WS110	0.80	D	1	**20.6**	66	24	42	-0.08	From Natural	0 (A)		26	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots	CH

Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:4.2
Method of Test: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:3.2, 4.4, 5.3, 5.4
Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:

Table Notation: Ret'd 0.425mm: (A) = Assumed, (M) = Measured

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SUMMARY OF WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT, PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole /Pit No.	Depth (m)	Type	Ref.	Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasti-city Index (%)	Liquid-ity Index	Sample Preparation				Description	Class
									Method	Ret'd 0.425mm (%)	Corr'd W/C <0.425mm	Curing Time (hrs)		
WS110	2.50	D	3	**25.9**	63	25	38	0.02	From Natural	0 (A)		24	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare orange staining, shell traces and debris and recently active and decayed roots	CH
WS113	2.80	D	3	**24.4**	63	25	38	-0.02	From Natural	0 (A)		25	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, selenite crystals and decayed roots	CH
WS117	3.10	D	4	**23.4**	57	25	32	-0.05	Wet Sieved	18 (M)	28.5*	24	Stiff mottled yellowish brown, bluish grey and olive slightly gravelly slightly sandy silty CLAY with rare, shell debris, selenite crystals and decayed roots. Gravel is fine and medium angular and subangular claystones	CH
WS120	0.80	D	1	**17.7**	56	22	34	-0.13	From Natural	0 (A)		68	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	CH
WS120	1.80	D	2	**20.2**	57	26	31	-0.19	From Natural	0 (A)		25	Very stiff closely fissured mottled bluish grey and olive CLAY with a network of recently active and decayed roots and occasional selenite crystals	CH

Method Of Preparation: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:4.2

Method of Test: BS EN ISO: 17892-1: 2014+A1:2022 & BS 1377: Part 2:1990:3.2, 4.4, 5.3, 5.4

Type of Sample Key: U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter

Comments: *Corrected water content assume material greater than 0.425mm is non-porous. See BS1377: Part 2: 1990 Clause 3 Note 1.

Table Notation: Ret'd 0.425mm: (A) = Assumed, (M) = Measured

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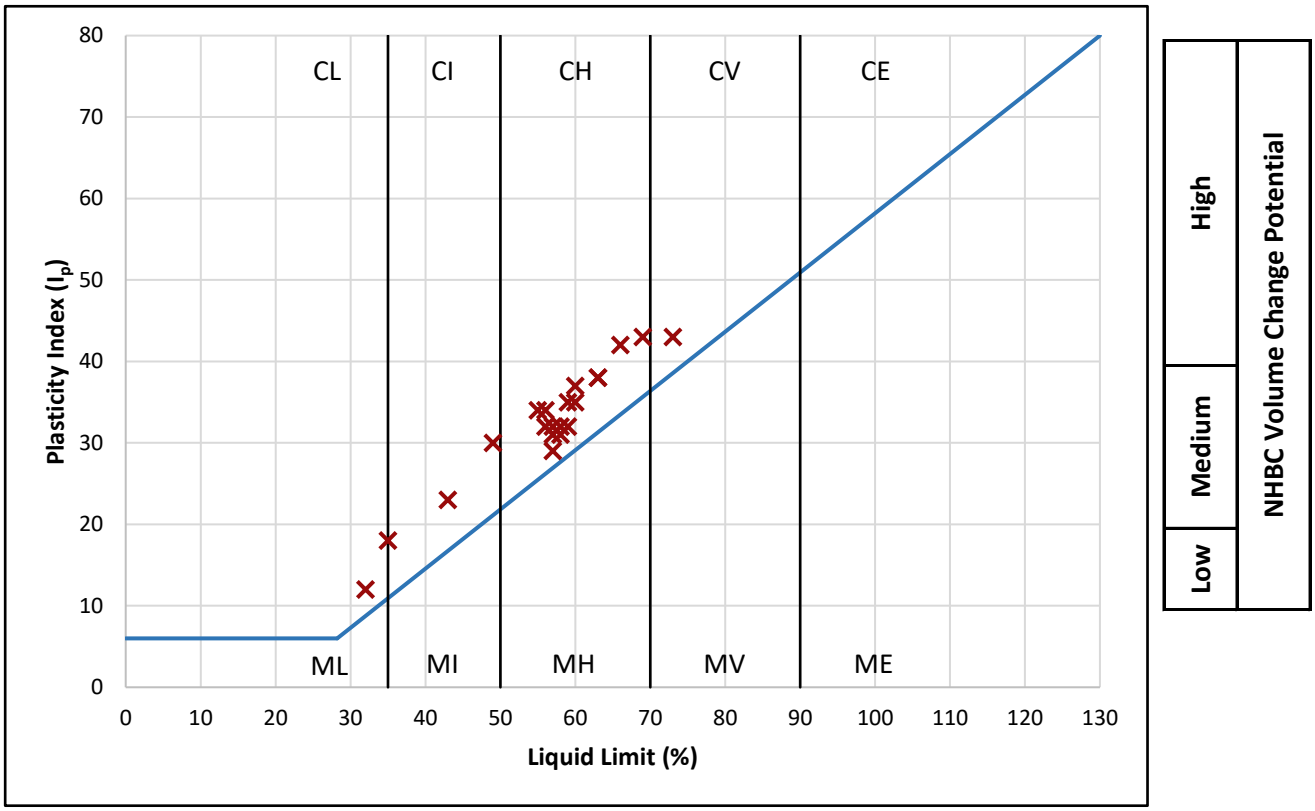
PLOT OF PLASTICITY INDEX AGAINST LIQUID LIMIT USING CASAGRANDE CLASSIFICATION CHART

Plasticity				
Low	Medium	High	Very High	Extremely High



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS 1377: Part 2: 1990: 4.2
Method of Test:	BS1377: Part 2: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index

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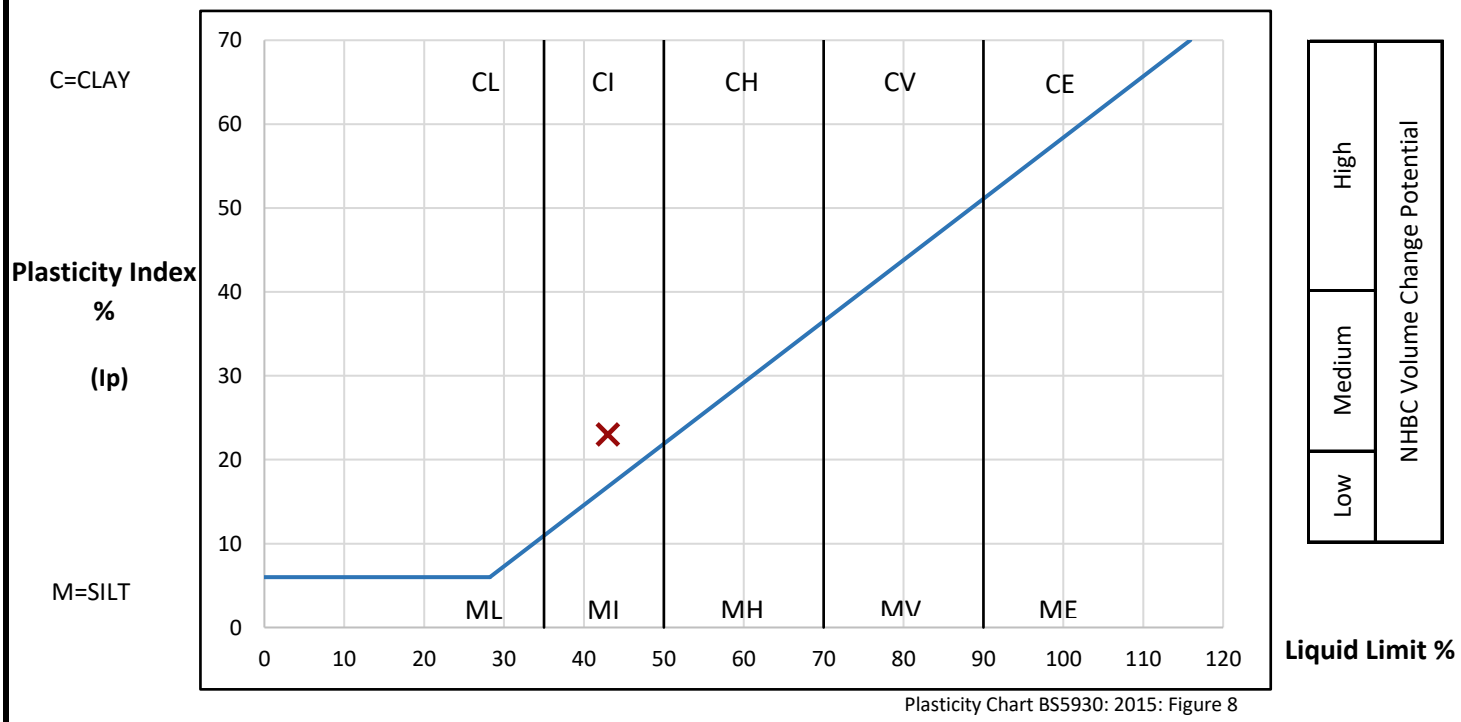
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP111	1.30	D	1	18.2	Stiff mottled bluish grey and olive silty CLAY with calcareous aggregations of sand and fine gravel size and rare decayed roots	

PREPARATION				Liquid Limit	43 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	20 %
Sample retained 0.425mm sieve	(Measured)	7 %		Plasticity Index	23 %
Corrected water content for material passing 0.425mm		19.5 %		Liquidity Index	-0.08
Sample retained 2mm sieve	(Measured)	7 %		NHBC Modified (I'p)	21 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

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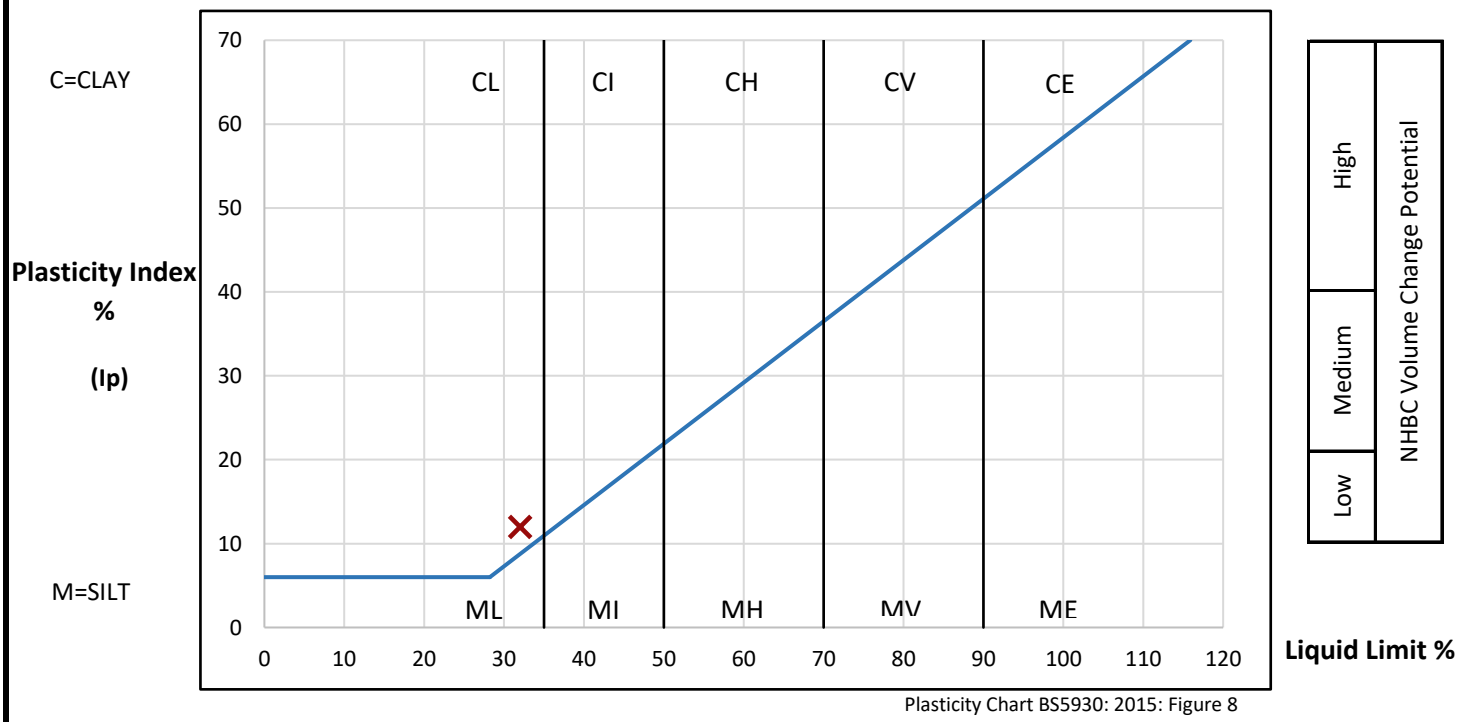
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP112	2.30	D	3	12.8	Hard mottled bluish grey and olive silty CLAY with rare shell traces and debris	

PREPARATION				Liquid Limit	32 %
Method of preparation		From natural		Plastic Limit	20 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	12 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.60
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	69 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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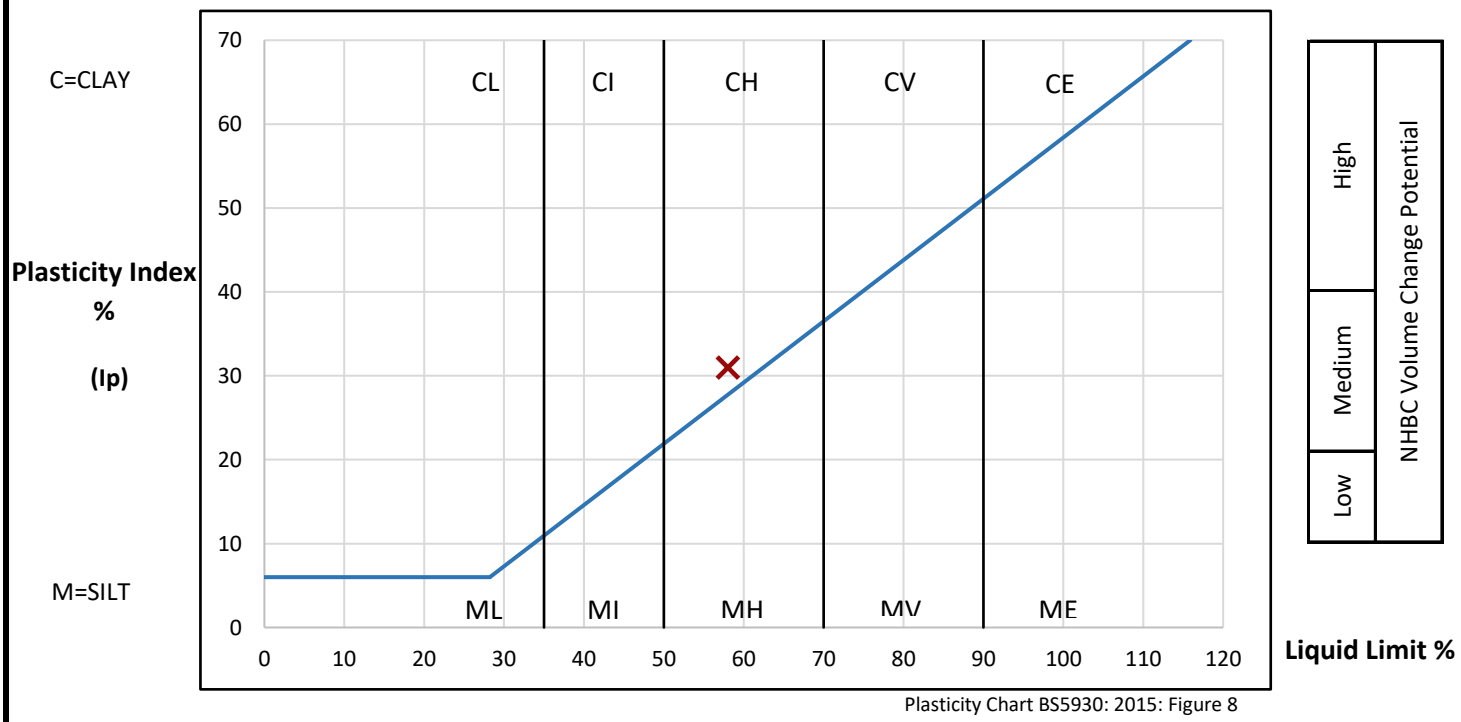
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP115	1.00	D	1	15.5	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and occasional recently active and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	58 %
Method of preparation		From natural		Plastic Limit	27 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	31 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.37
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	68 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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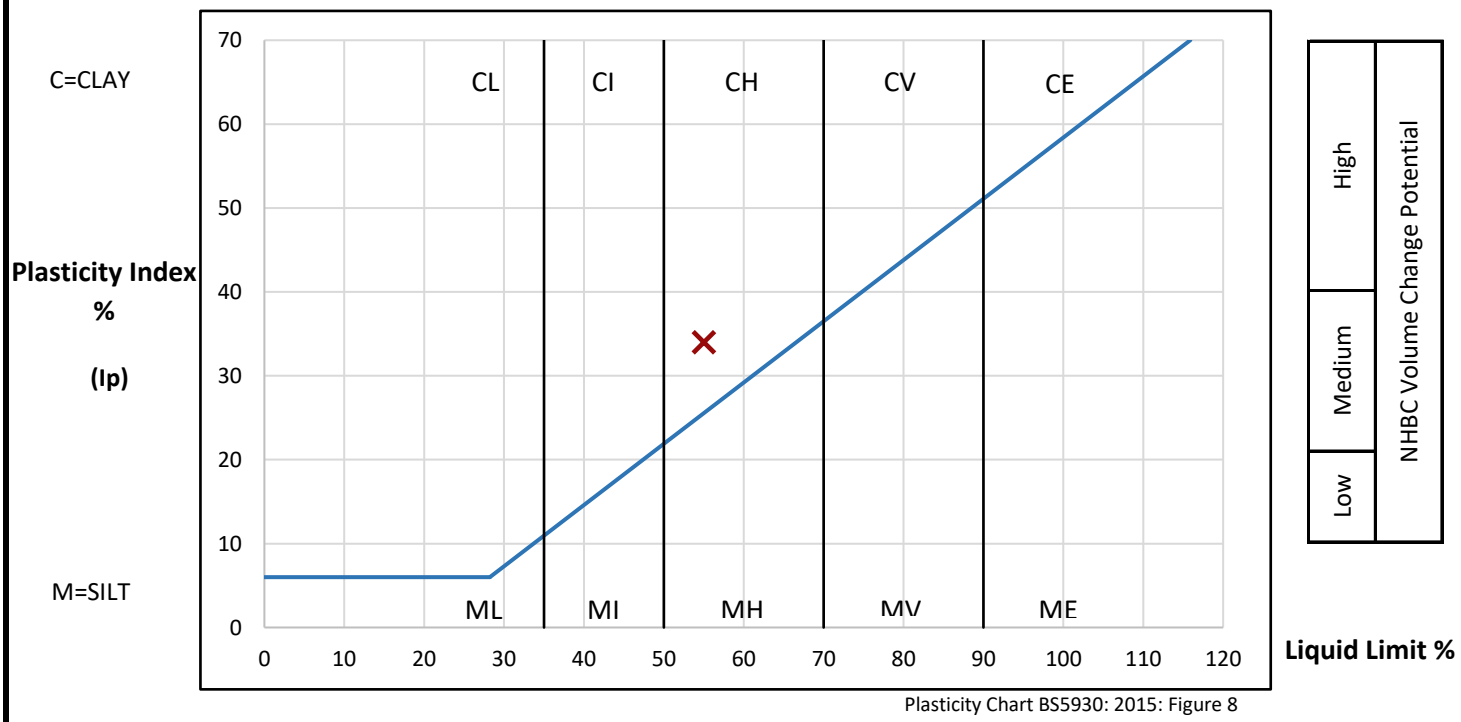
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP117	2.00	D	1	21.9	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare recently active and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	55 %
Method of preparation		From natural		Plastic Limit	21 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	34 %
Corrected water content for material passing 0.425mm				Liquidity Index	0.03
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	25 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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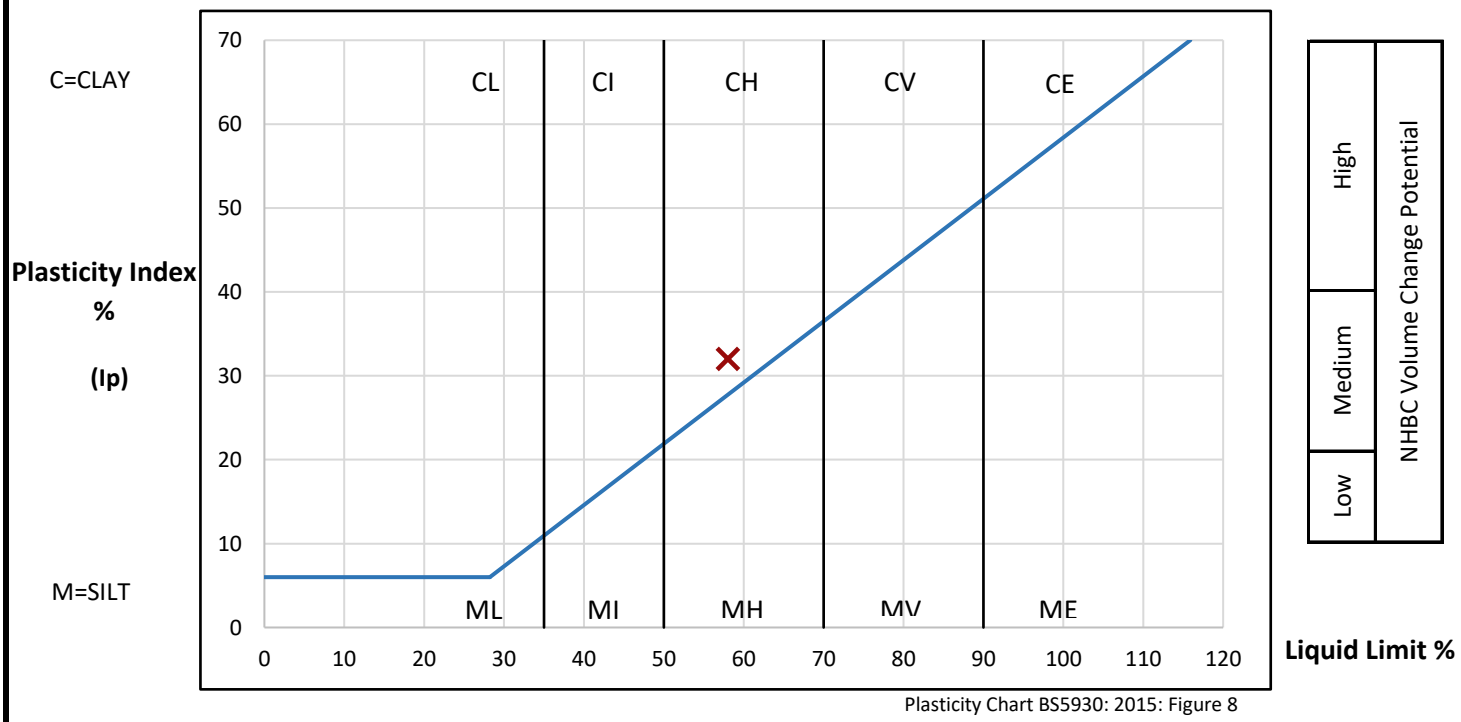
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP118	1.00	D	1	15.2	Hard closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	58 %
Method of preparation		From natural		Plastic Limit	26 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	32 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.34
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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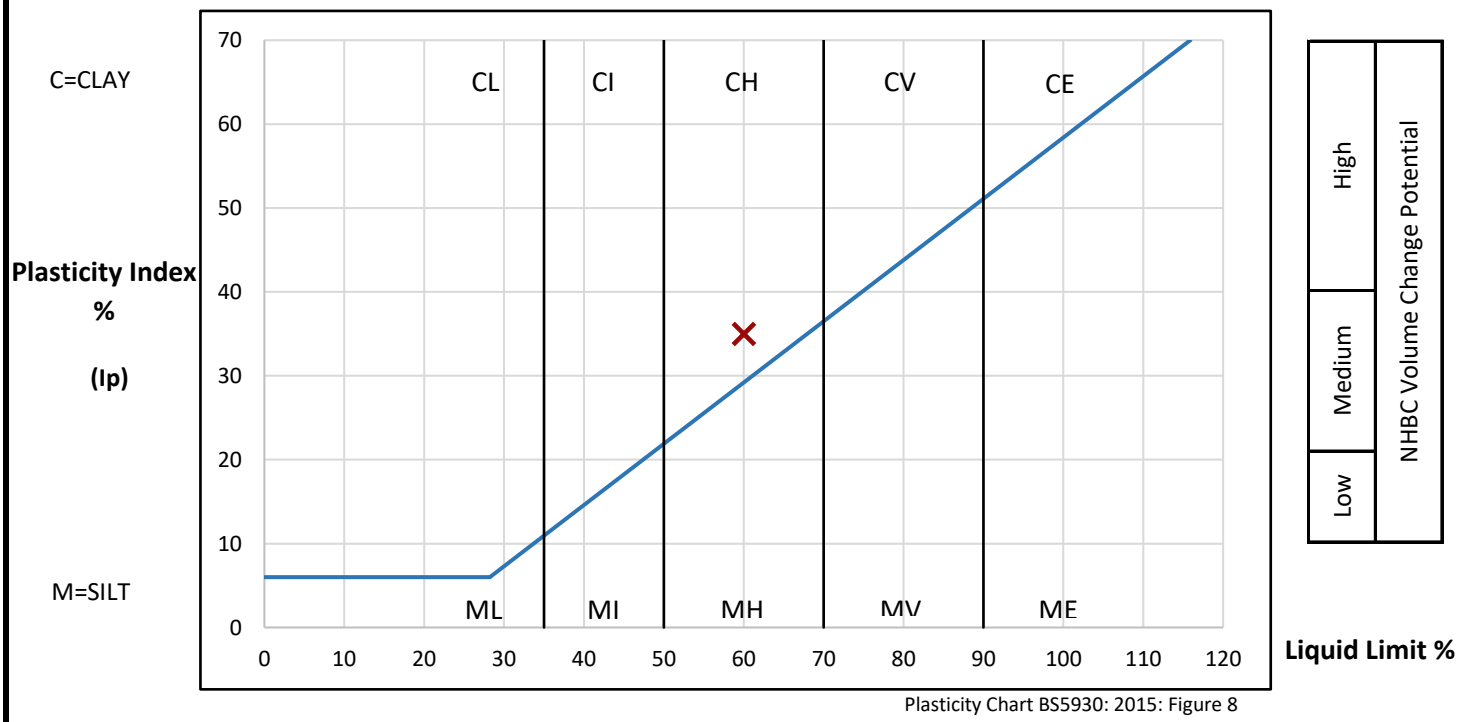
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP120	2.80	B	1	25.6	Stiff fissured mottled bluish grey and olive CLAY with a network of decayed roots and rare selenite crystals	Specimen dried at 50°C due to the presence of selenite.

PREPARATION			Liquid Limit	60 %
Method of preparation		From natural	Plastic Limit	25 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	35 %
Corrected water content for material passing 0.425mm			Liquidity Index	0.02
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	27 hrs	Clay Content: Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2

Method of Test: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4

Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter

Comments:

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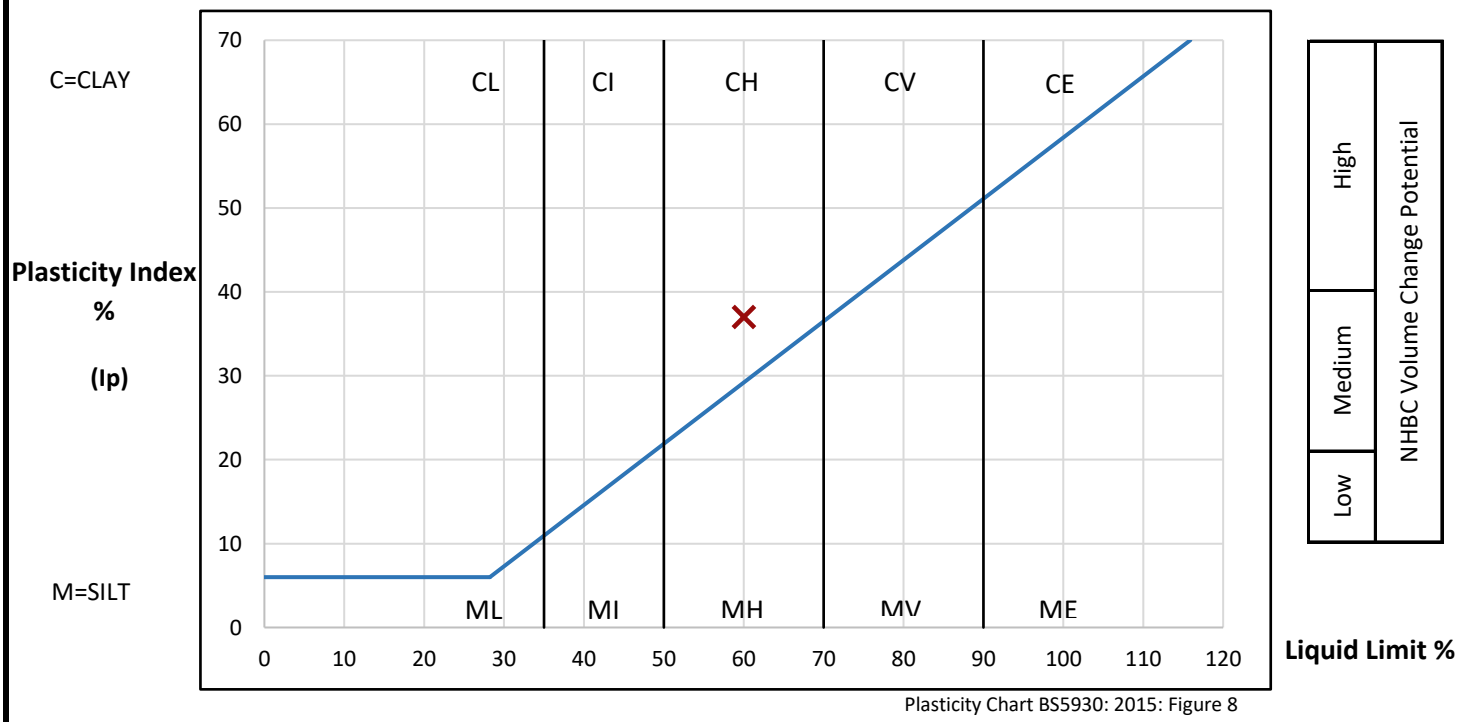
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP121	1.30	D	1	21.7	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare shell traces	

PREPARATION				Liquid Limit	60 %
Method of preparation		From natural		Plastic Limit	23 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	37 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.03
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

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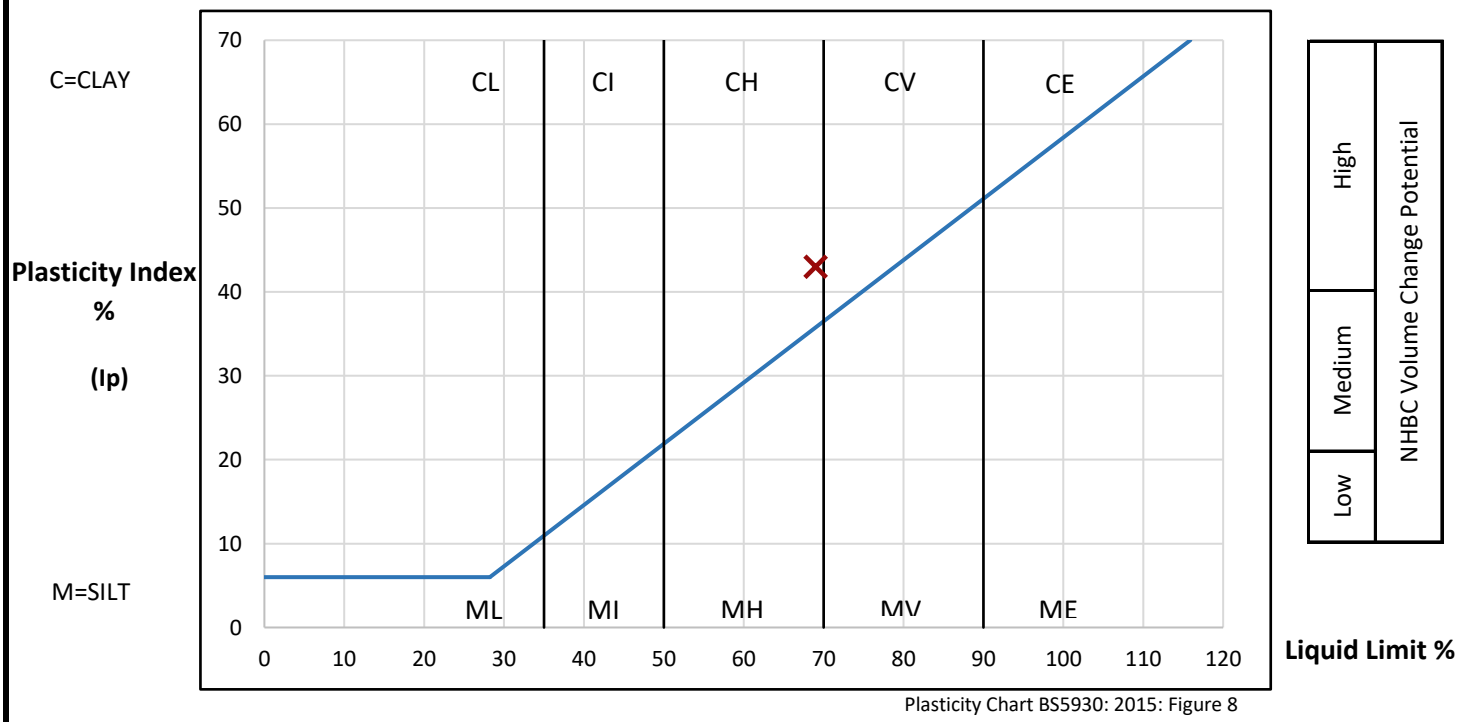
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP122	0.90	D	1	20.0	Very stiff closely fissured mottled bluish grey and olive CLAY with rare recently active and decayed roots	

PREPARATION			Liquid Limit	69 %
Method of preparation		From natural	Plastic Limit	26 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	43 %
Corrected water content for material passing 0.425mm			Liquidity Index	-0.14
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	69 hrs	Clay Content Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2

Method of Test: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4

Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter

Comments:

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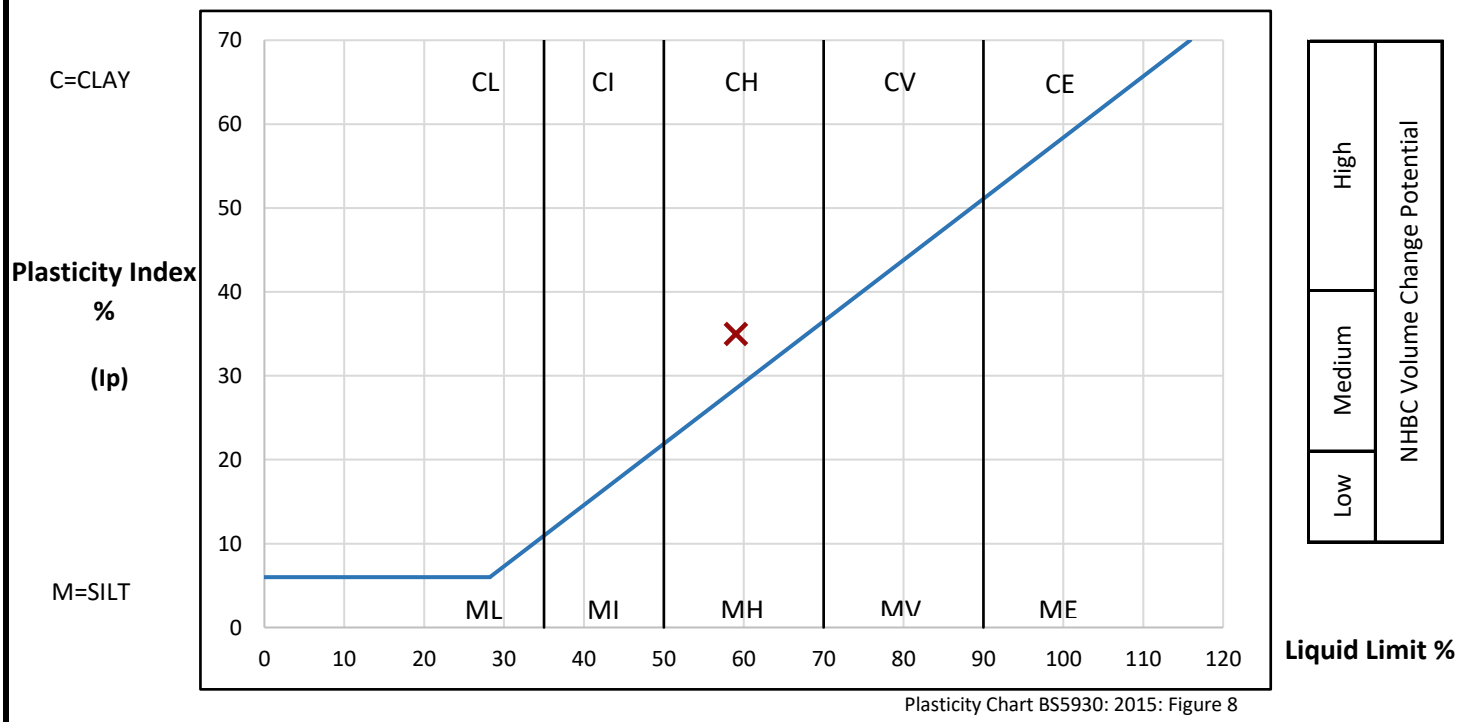
DETERMINATION OF WATER CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY INDEX AND LIQUIDITY INDEX

Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP122	1.10	D	2	17.9	Very stiff closely fissured mottled bluish grey and olive CLAY with frequent selenite crystals and rare recently active and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	59 %
Method of preparation		From natural		Plastic Limit	24 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	35 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.17
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	26 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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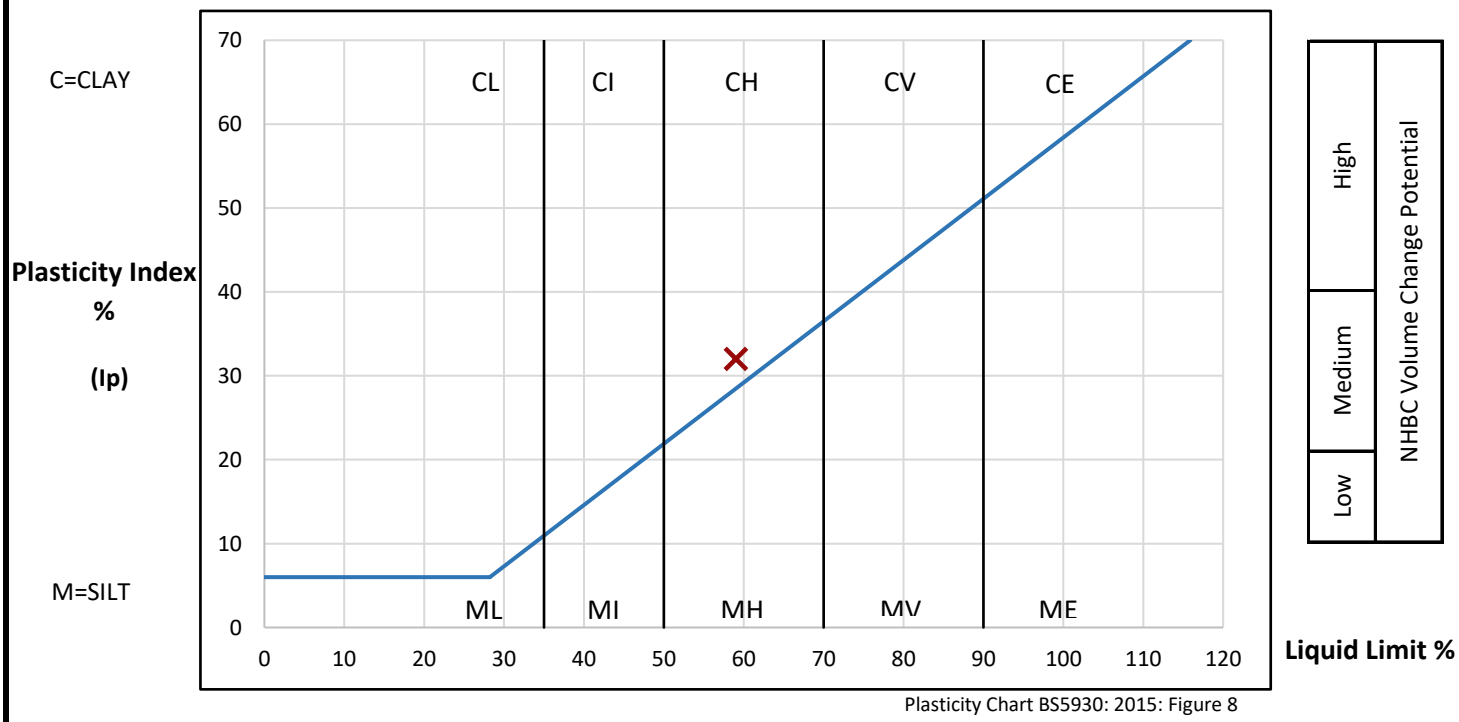
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP123	2.00	D	2	23.6	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional orange staining and rare shell traces and selenite crystals	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	59 %
Method of preparation		From natural		Plastic Limit	27 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	32 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.11
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	26 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

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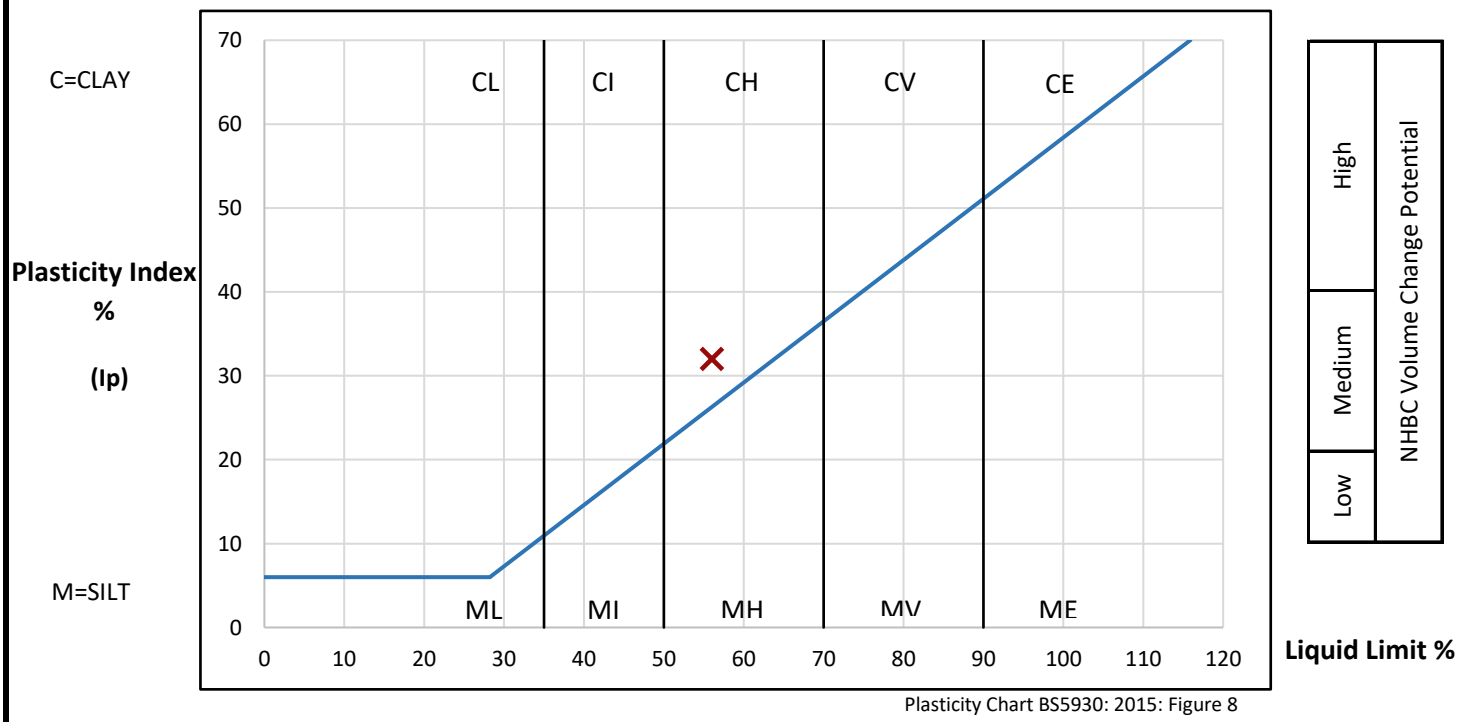
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP124	1.60	D	3	23.0	Stiff closely fissured mottled bluish grey and olive CLAY with rare selenite crystals, shell traces and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	56 %
Method of preparation		From natural		Plastic Limit	24 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	32 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.03
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	26 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

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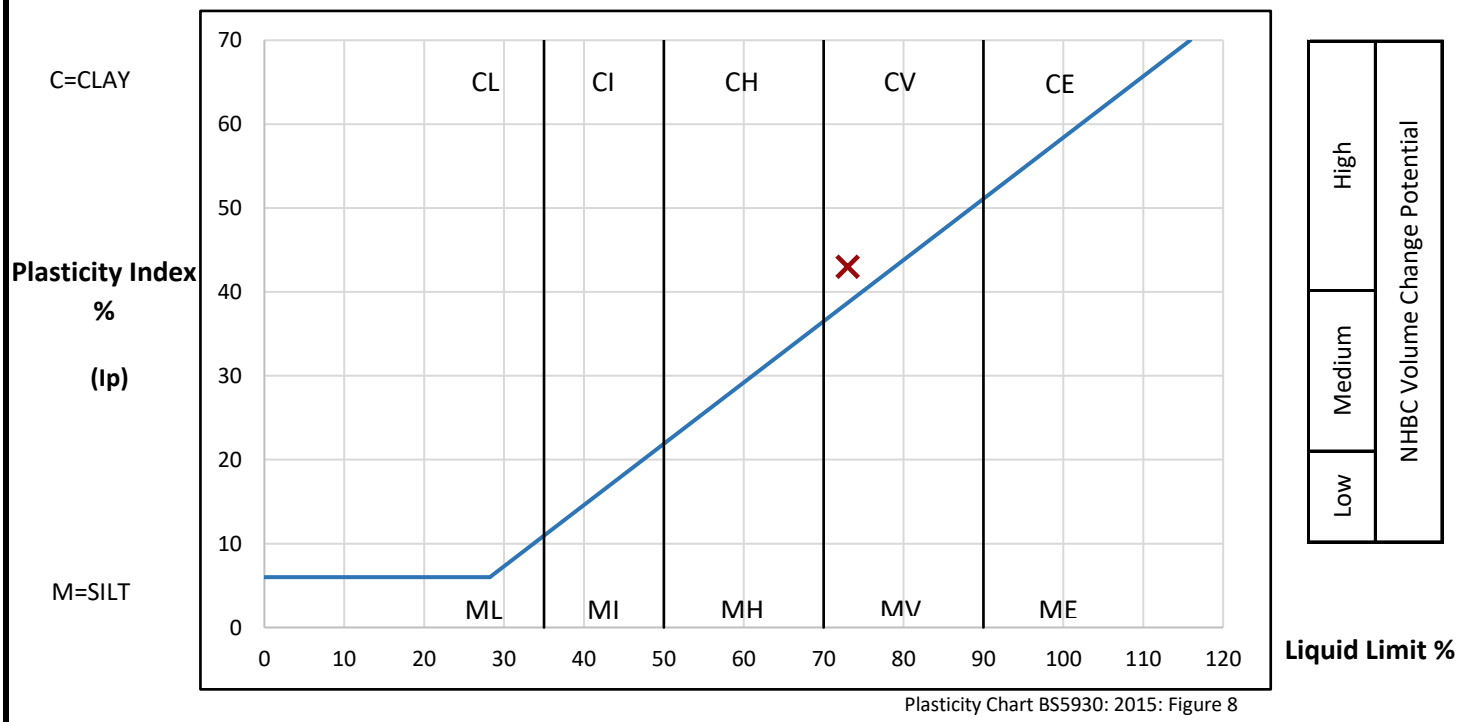
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP125	0.80	D	1	26.0	Very stiff mottled bluish grey and olive yellow CLAY with occasional orange staining and recently active and decayed roots	

PREPARATION			Liquid Limit	73 %
Method of preparation		From natural	Plastic Limit	30 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	43 %
Corrected water content for material passing 0.425mm			Liquidity Index	-0.09
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	70 hrs	Clay Content Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2

Method of Test: BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4

Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter

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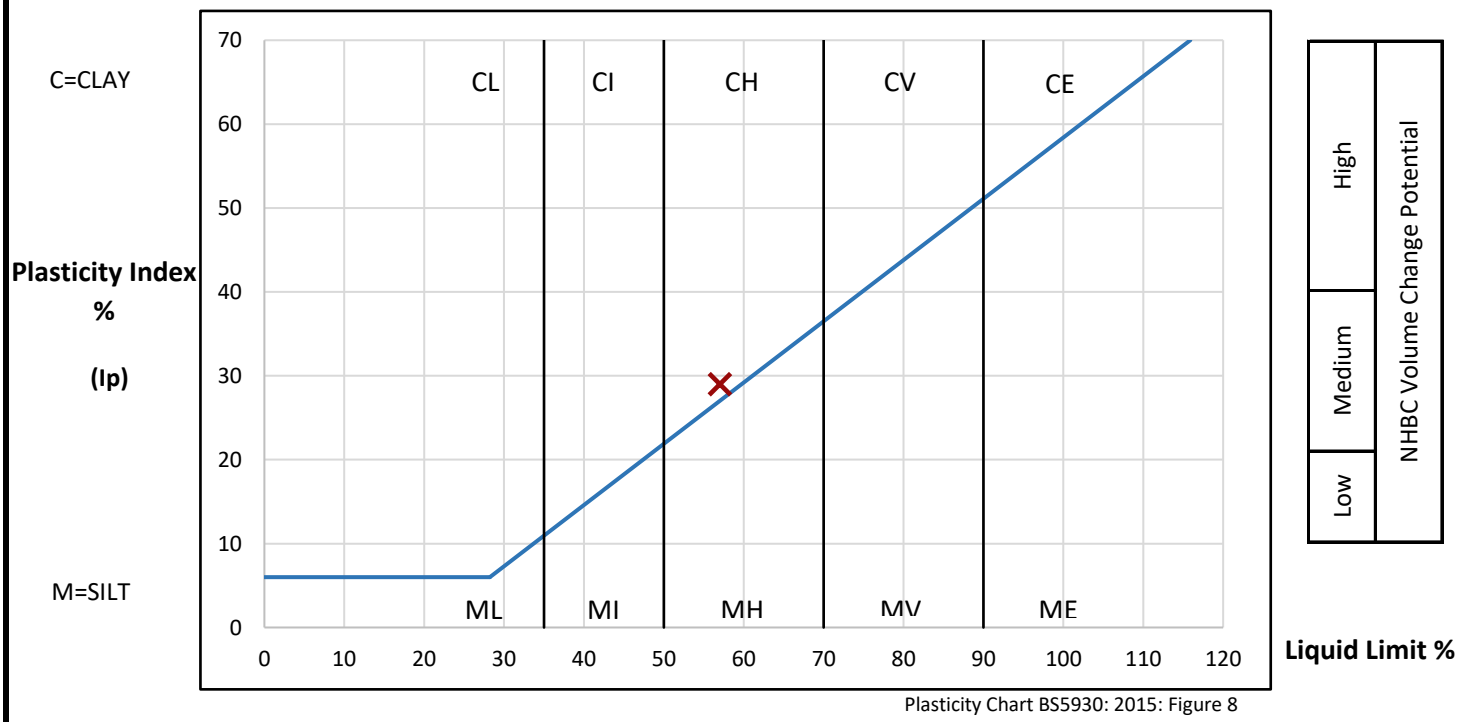
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
TP127	2.80	B	1	24.5	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, rare selenite crystals, shell traces and recently active and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	57 %
Method of preparation		From natural		Plastic Limit	28 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	29 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.12
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	25 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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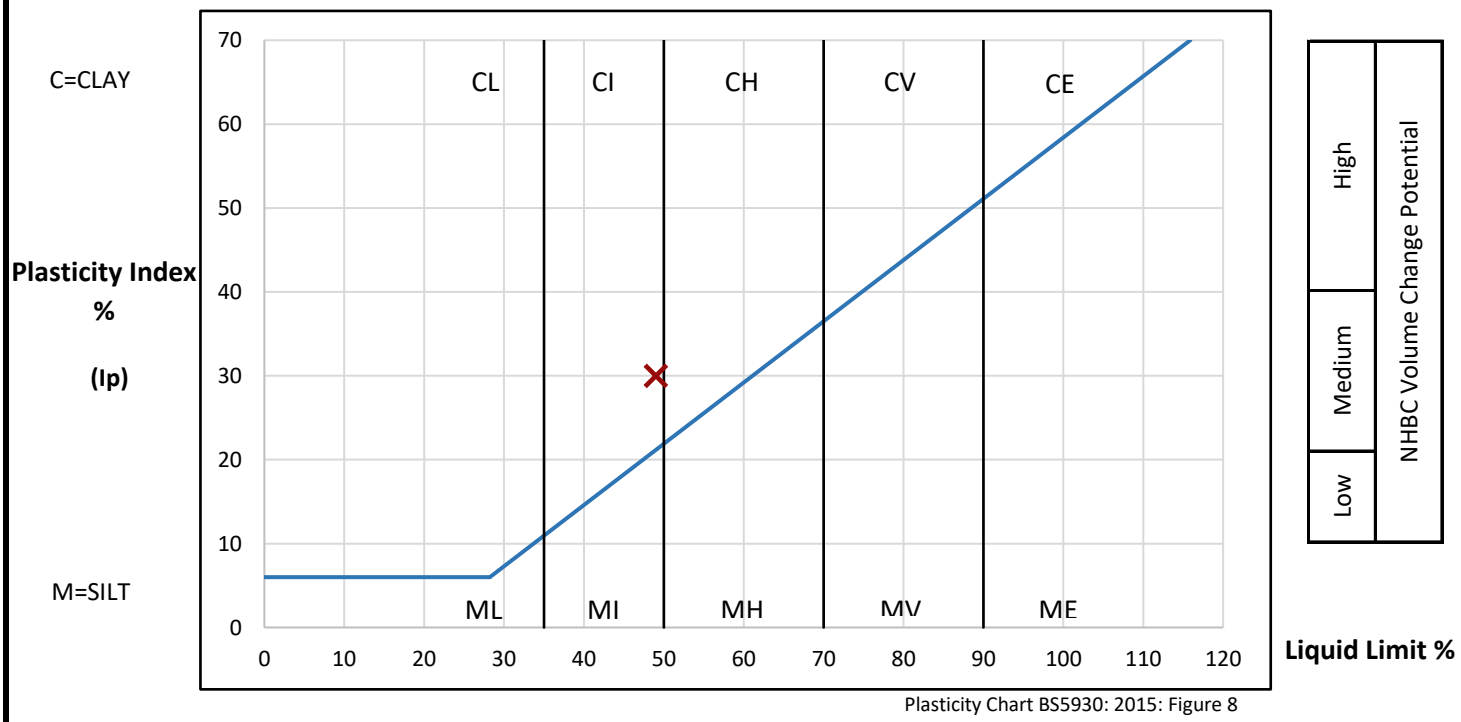
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS108	0.80	D	1	16.8	Very stiff fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	

PREPARATION				Liquid Limit	49 %
Method of preparation		From natural		Plastic Limit	19 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	30 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.07
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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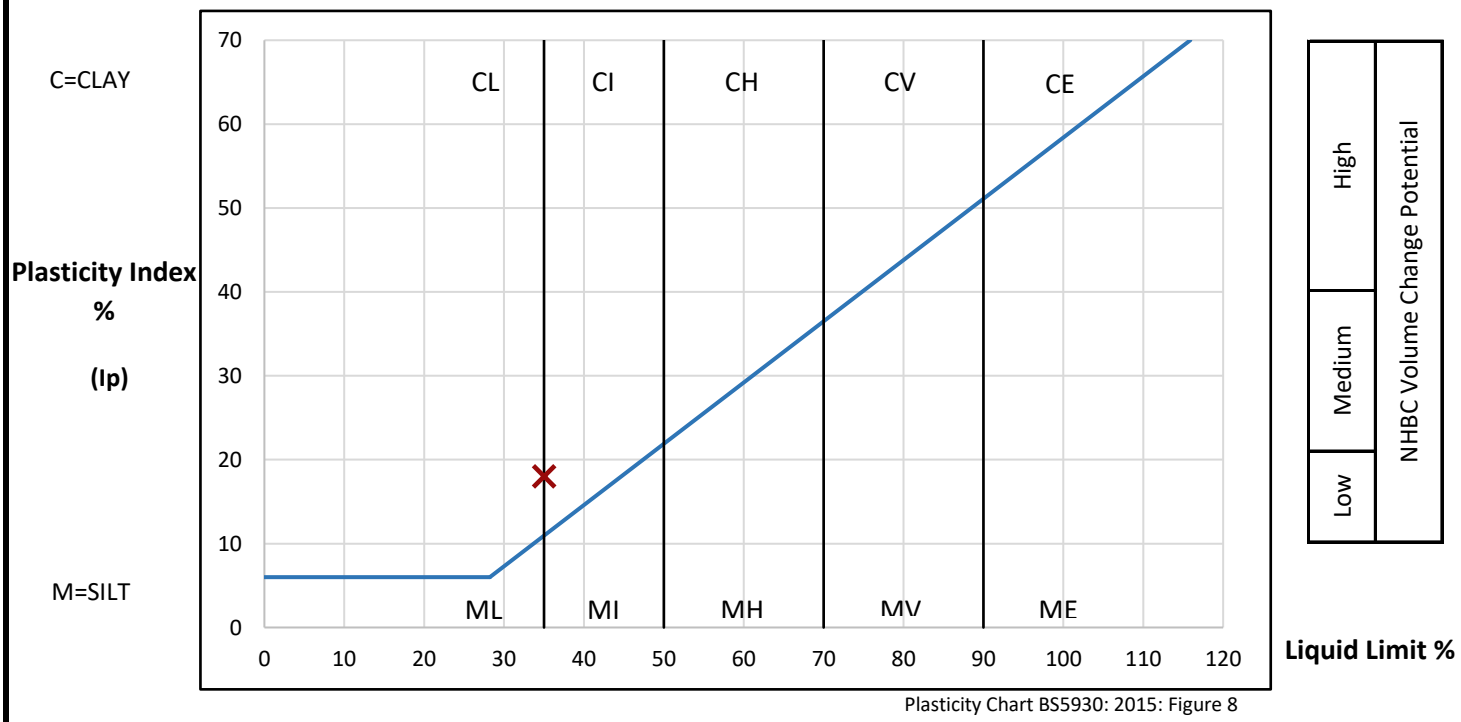
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS108	3.80	D	4	13.4	Very stiff fissured friable olive silty CLAY with rare orange staining, shell and fossil traces and debris and selenite crystals	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	35 %
Method of preparation		From natural		Plastic Limit	17 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	18 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.20
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

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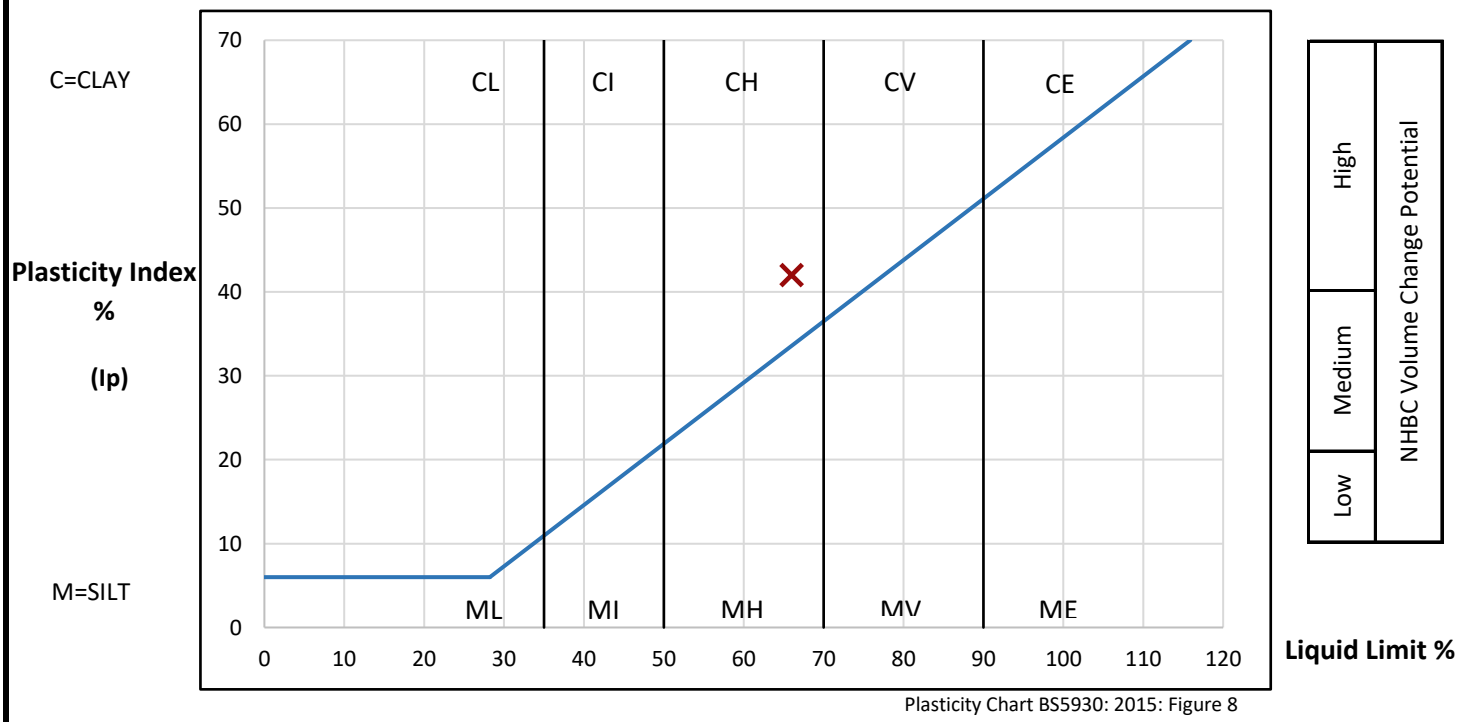
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS110	0.80	D	1	20.6	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots	

PREPARATION			Liquid Limit	66 %
Method of preparation		From natural	Plastic Limit	24 %
Sample retained 0.425mm sieve	(Assumed)	0 %	Plasticity Index	42 %
Corrected water content for material passing 0.425mm			Liquidity Index	-0.08
Sample retained 2mm sieve	(Assumed)	0 %	NHBC Modified (I'p)	n/a
Curing time	26 hrs	Clay Content Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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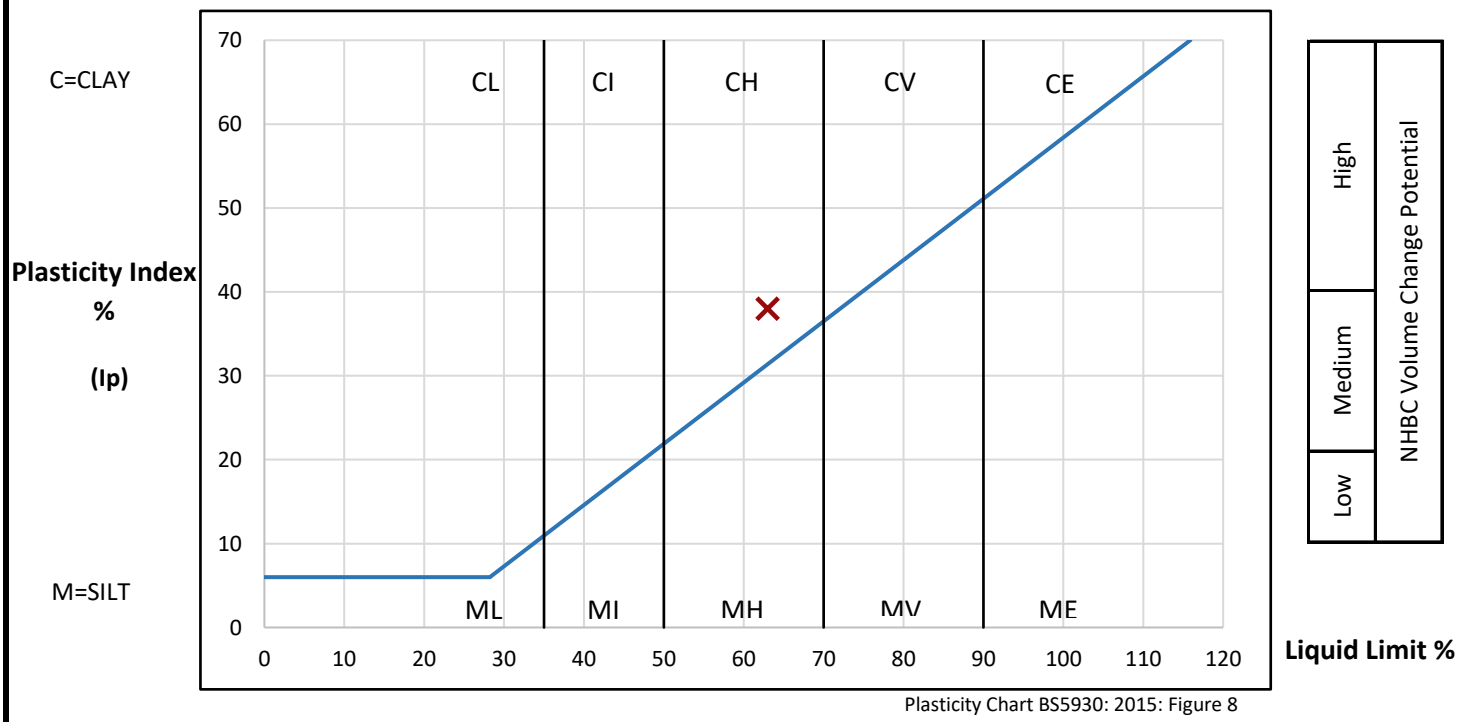
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS110	2.50	D	3	25.9	Stiff closely fissured mottled bluish grey and olive CLAY with occasional selenite crystals and rare orange staining, shell traces and debris and recently active and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	63 %
Method of preparation		From natural		Plastic Limit	25 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	38 %
Corrected water content for material passing 0.425mm				Liquidity Index	0.02
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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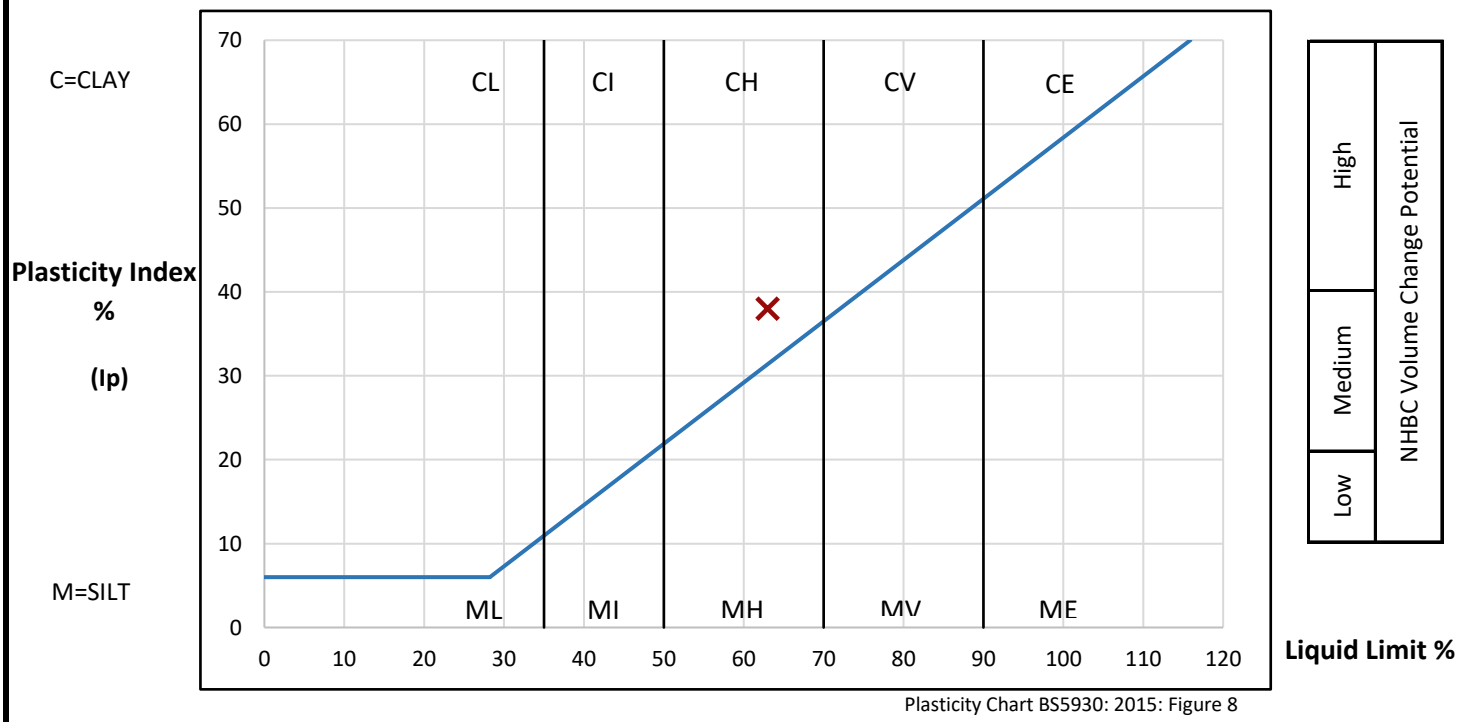
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS113	2.80	D	3	24.4	Very stiff fissured mottled bluish grey and olive CLAY with occasional orange staining, selenite crystals and decayed roots	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	63 %
Method of preparation		From natural		Plastic Limit	25 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	38 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.02
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	25 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	

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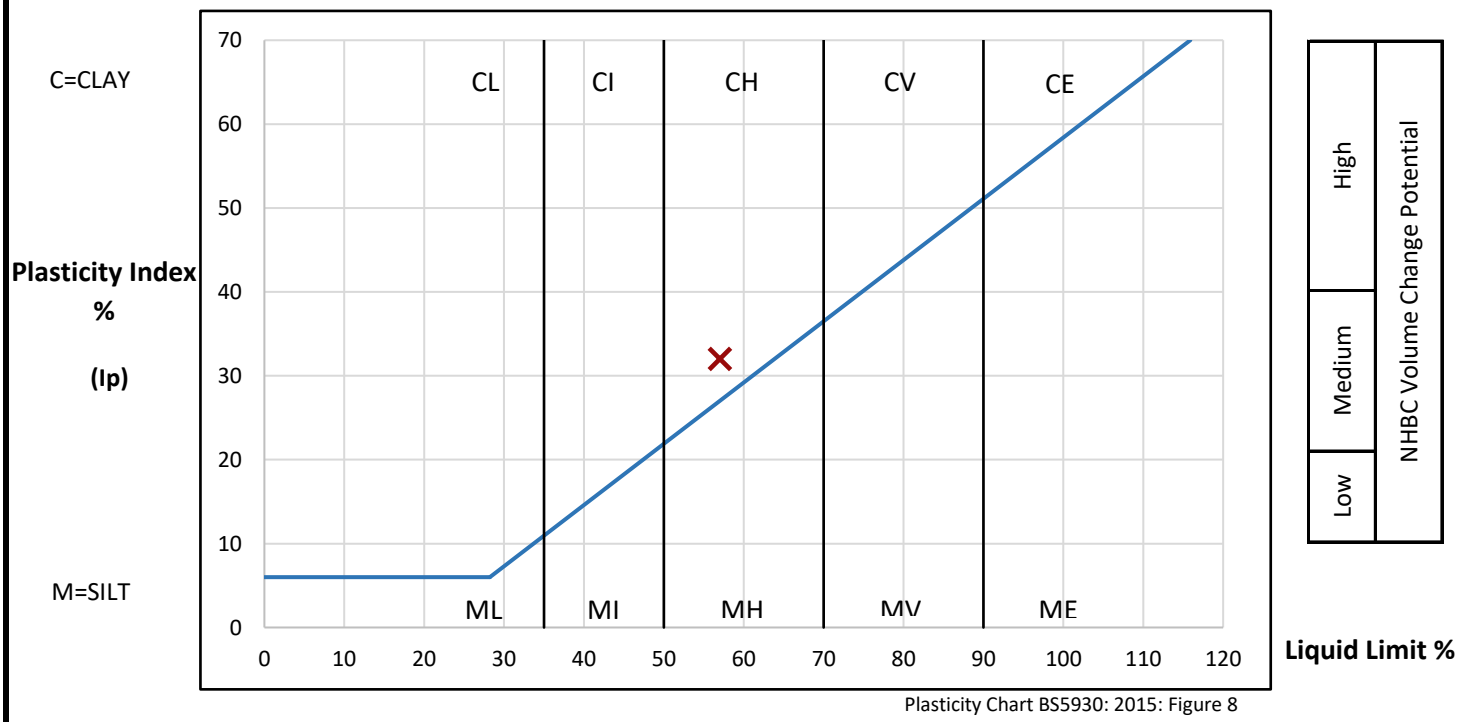
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS117	3.10	D	4	23.4	Stiff mottled yellowish brown, bluish grey and olive slightly gravelly slightly sandy silty CLAY with rare, shell debris, selenite crystals and decayed roots. Gravel is fine and medium angular and subangular claystones	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	57 %
Method of preparation	Wet sieved over 0.425mm sieve			Plastic Limit	25 %
Sample retained 0.425mm sieve	(Measured)	18 %		Plasticity Index	32 %
Corrected water content for material passing 0.425mm		28.5 %		Liquidity Index	-0.05
Sample retained 2mm sieve	(Measured)	18 %		NHBC Modified (I'p)	26 %
Curing time	24 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	Corrected water content assume material greater than 0.425mm non-porous. See BS1377: Part2: 1990 Clause 3 Note 1 Volume Change Potential: NHBC Standards Chapter 4.2 Unmodified Plasticity Index Note: Modified Plasticity Index I'p = Ip x (% less than 425microns/100)

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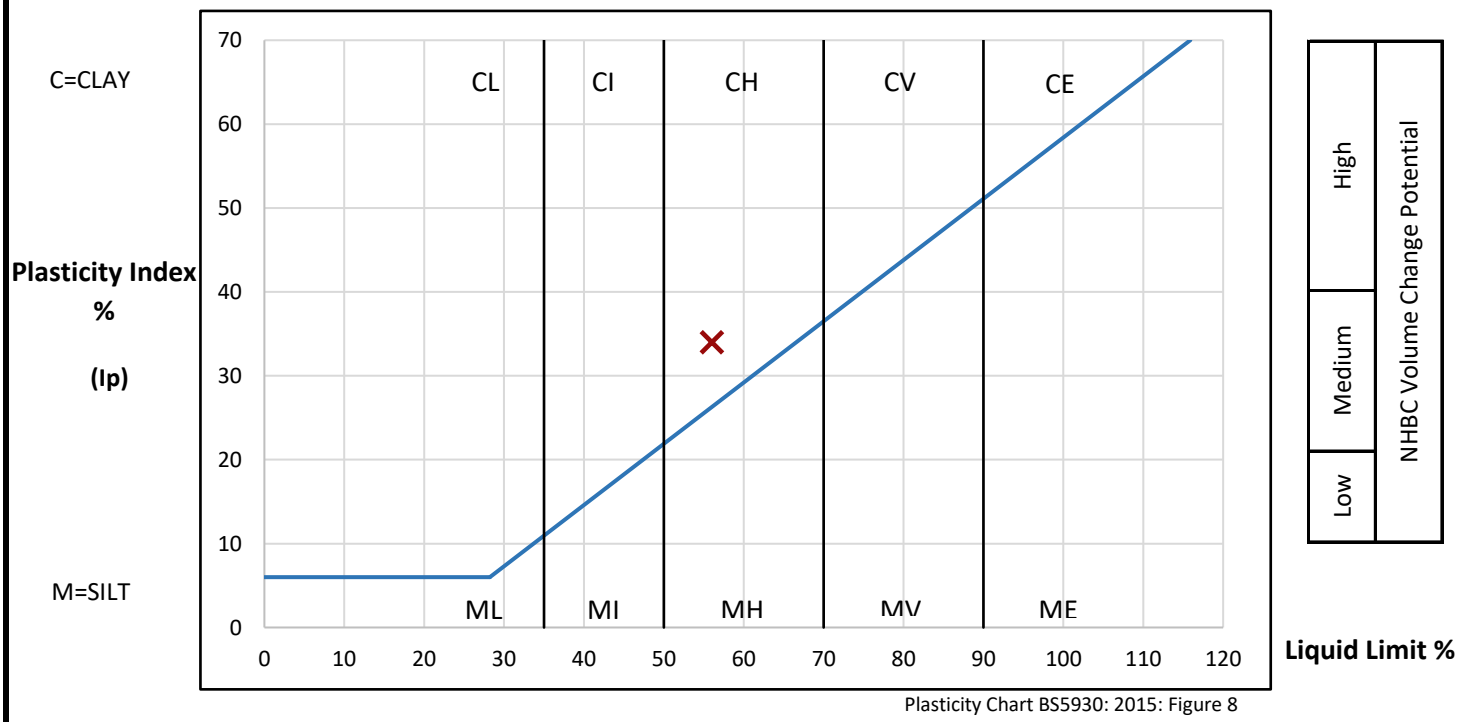
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS120	0.80	D	1	17.7	Very stiff closely fissured mottled bluish grey and olive CLAY with occasional recently active and decayed roots and rare calcareous aggregations	

PREPARATION				Liquid Limit	56 %
Method of preparation		From natural		Plastic Limit	22 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	34 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.13
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	68 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
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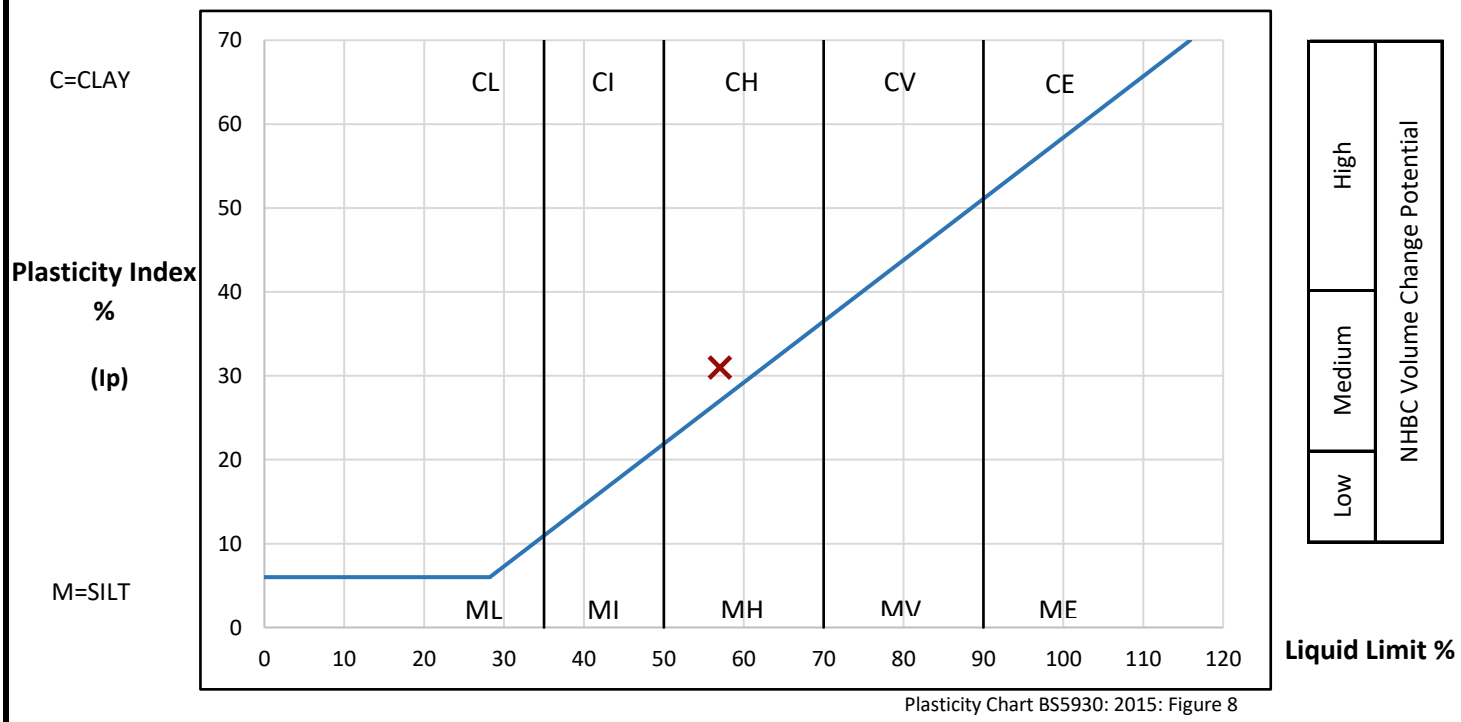
Borehole / Pit No.	Depth m	Sample Type	Sample Reference	Water Content (W) %	Description	Remarks
WS120	1.80	D	2	20.2	Very stiff closely fissured mottled bluish grey and olive CLAY with a network of recently active and decayed roots and occasional selenite crystals	Specimen dried at 50°C due to the presence of selenite.

PREPARATION				Liquid Limit	57 %
Method of preparation		From natural		Plastic Limit	26 %
Sample retained 0.425mm sieve	(Assumed)	0 %		Plasticity Index	31 %
Corrected water content for material passing 0.425mm				Liquidity Index	-0.19
Sample retained 2mm sieve	(Assumed)	0 %		NHBC Modified (I'p)	n/a
Curing time	25 hrs	Clay Content	Not analysed	Derived Activity	Not analysed



Plasticity Chart BS5930: 2015: Figure 8

Method of Preparation:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 4.2
Method of Test:	BS EN ISO: 17892-1: 2014 & BS 1377: Part 2: 1990: 3.2, 4.4, 5.3, 5.4
Type of Sample Key:	U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
Comments:	