

Growing Baldock

Environmental Statement Volume 2: Figures & Appendices

Chapter 12: Ground Conditions and Soils

Appendix 12.5 Ground Investigation Interpretive Report BA10 Area



SHADBOLT
ENVIRONMENTAL



Baldock, North Hertfordshire

Ground Investigation Interpretive Report –
Area BA10

Urban and Civic

Issue V2

February 2025



SHADBOLT
GROUP

Baldock, North Hertfordshire

Ground Investigation Interpretive Report – Area BA10

Project Reference: 2899

Client	Urban and Civic
Our Reference	2899 – Baldock, North Hertfordshire
Produced by	Ron Kurian
Checked by	Mike Taylor
Submitted	Issue V2 – February 2025

Urban&Civic



Accclaim
Accreditation



Passionate about innovation

Autodesk® Revit®
Certified Professional

CONTENTS

1.0	INTRODUCTION.....	4
1.1	Aims and Objectives	4
1.2	Proposed Development	4
1.3	Scope of Works	4
1.4	Limitations	5
2.0	SITE INFORMATION.....	6
2.1	General	6
2.2	Site Description	6
3.0	HISTORICAL LAND USE	8
4.0	PREVIOUS INVESTIGATIONS.....	9
5.0	SITE INVESTIGATION	10
5.1	Proposed Development	10
5.2	Scope of Investigation	10
5.3	In-Situ Testing	10
5.4	Geotechnical Laboratory Testing.....	10
5.5	Chemical Laboratory Testing	11
5.6	Groundwater and Gas Monitoring	11
5.7	Limitations	11
6.0	GROUND CONDITIONS	12
6.1	Topsoil.....	12
6.2	Made Ground	12
6.3	Superficial Deposits	12
6.4	Solid Deposits	12
6.5	Groundwater	13
6.6	Ground Obstructions	13
6.7	Observed Contamination.....	13
6.8	Geotechnical Testing.....	14
7.0	GROUND CONTAMINATION ASSESSMENT	16
7.1	Legislation.....	16
7.2	Assessment Methodology	16
7.3	Derivation of Soils SSVs.....	17
7.4	Soil Contamination Assessment	17
7.4.1	Soils Statistical Assessment	17
7.5	Leachate Contamination Assessment	17
7.6	Groundwater Contamination Assessment.....	18
7.7	Gas and Groundwater Monitoring	18
8.0	ENVIRONMENTAL RISK ASSESSMENT.....	19
8.1	Gas Monitoring.....	19
8.2	Gas Risk Assessment	19
8.3	Gas Protection Measures.....	20

8.4	Discussion	20
9.0	ENVIRONMENTAL RISK ASSESSMENT.....	21
9.1	Contamination Sources.....	21
9.2	Potential Contaminant Pathways.....	21
9.3	Potential Contamination Receptors	22
9.4	Qualitative Risk Assessment	22
9.4.1	Current and Future Site Users	25
9.4.2	Ground Excavation / Development Workers	25
9.4.3	Future Developments including Buried Structures and Services	25
9.4.4	Controlled Waters	25
9.4.5	Flora.....	25
10.0	GROUND ENGINEERING CONSIDERATIONS	26
10.1	Proposed Development	26
10.2	Ground Obstructions	26
10.3	Mining.....	26
10.4	Foundations and Settlement Issues.....	26
10.5	Earthworks.....	26
10.6	Chemical Attack on Buried Structures	27
10.7	Drainage and Infrastructure	27
11.0	CONCLUSIONS AND RECOMMENDATIONS.....	29
11.1	Conclusions.....	29
12.0	REFERENCES.....	32

APPENDICES

Appendix A	Report Conditions
Appendix B	Drawing No. 2899-003 – Exploratory Hole Location Plan Exploratory Hole Logs (Trial Pits Logs) Exploratory Hole Logs (Window Sample Borehole Logs) Exploratory Hole Logs (Rotary Borehole Logs) Infiltration Testing Results
Appendix C	Shadbolt Tier 1 Soil Screening Values
Appendix D	Chemical Laboratory Results
Appendix E	Geotechnical Laboratory Results
Appendix F	Ground Gas Monitoring Results Gas Protection Measures Assessment Tables (BS8485:2015) Gas and Groundwater Monitoring Results

1.0 INTRODUCTION

Shadbolt Group (SG) were commissioned by **Urban and Civic** to undertake an intrusive ground investigation on the site in Baldock, North Hertfordshire. The current report considers the area referred to as “BA10”, part of the proposed development and is located roughly centrally within the wider Baldock development area. The investigation on the current area (BA10) was carried out under the supervision of **SG**, with site works carried out in December 2023.

This report provides an assessment of the ground conditions encountered during the ground investigation and is a development on assessments based on information presented in a Preliminary Risk Assessment undertaken as part of area that is referred to as Baldock, North Hertfordshire by SG (Ref: 2899 – Baldock North Hertfordshire, Preliminary Risk Assessment, Issue V1, July 2022).

For the purposes of this ground investigation report “The Site” refers to area that can be seen outlined in red in Figure 2 below.

1.1 Aims and Objectives

The purpose of the investigation was to determine the existing geotechnical and geochemical ground conditions relating to artificial ground (if encountered) and underlying natural ground conditions and past uses of the site which may provide constraints to a potential future development.

1.2 Proposed Development

At this stage it is understood that the proposed development has not been finalised however we understand that the development is designated to be employment land likely comprising commercial units along with associated infrastructure such as vehicular access and peripheral soft landscaping. We understand that there is also the possibility that a new school will be included within this area.

Two new bridges are also proposed to provide pedestrian and vehicular links between Royston Road to the south and the new development areas to the north of the railway line. The data from the exploratory holes carried out for the design of the bridges is also included within the report.

1.3 Scope of Works

The works undertaken by SG to date comprise:

- Rotary boreholes.
- Windowless sample boreholes.
- Trial pitting.
- In-situ testing with the above exploratory borehole (SPTs).
- In-situ determination of CBR using TRL DCP testing.
- Infiltration testing within selected exploratory trial pits.
- Geotechnical Laboratory testing.
- Chemical laboratory testing.
- Contamination risk assessment.
- Ground gas and groundwater monitoring.

1.4 Limitations

The information presented in this report comprises data on the strata observed in the excavations and the results of the site and laboratory tests as detailed within the report. Shadbolt Group take no responsibility for ground conditions which occur between the exploratory hole positions.

Every effort has been made to interpret the conditions between investigation locations; however, such information is indicative. A detailed review of the extent of limitations of this report is included in the **Report Conditions** included in **Appendix A** and the standard terms and conditions of the agreement.

The exploratory hole locations were carried out on a grid of spacing between 50m within proposed development areas. The proposed locations were set out by SG utilising a GPS unit with the exact location positioned as near as possible to the proposed location taking into account access requirements (e.g. level surfacing for safe rig set up), services (mapped and unmapped identified by visual inspection and CAT signal) and the position of proposed archaeological excavations on site.

2.0 SITE INFORMATION

2.1 General

The site is east of the Town of Baldock, in North Hertfordshire. The site is approximately 24km southeast of Bedford. The site is irregularly shaped in plan and has an area of approximately 18.6ha.

The approximate National Grid References (NGR) for the centre of the site is **TL 25904 34556**. A general site location plan of the site is shown in Figure 1 and an aerial photograph in Figure 2.

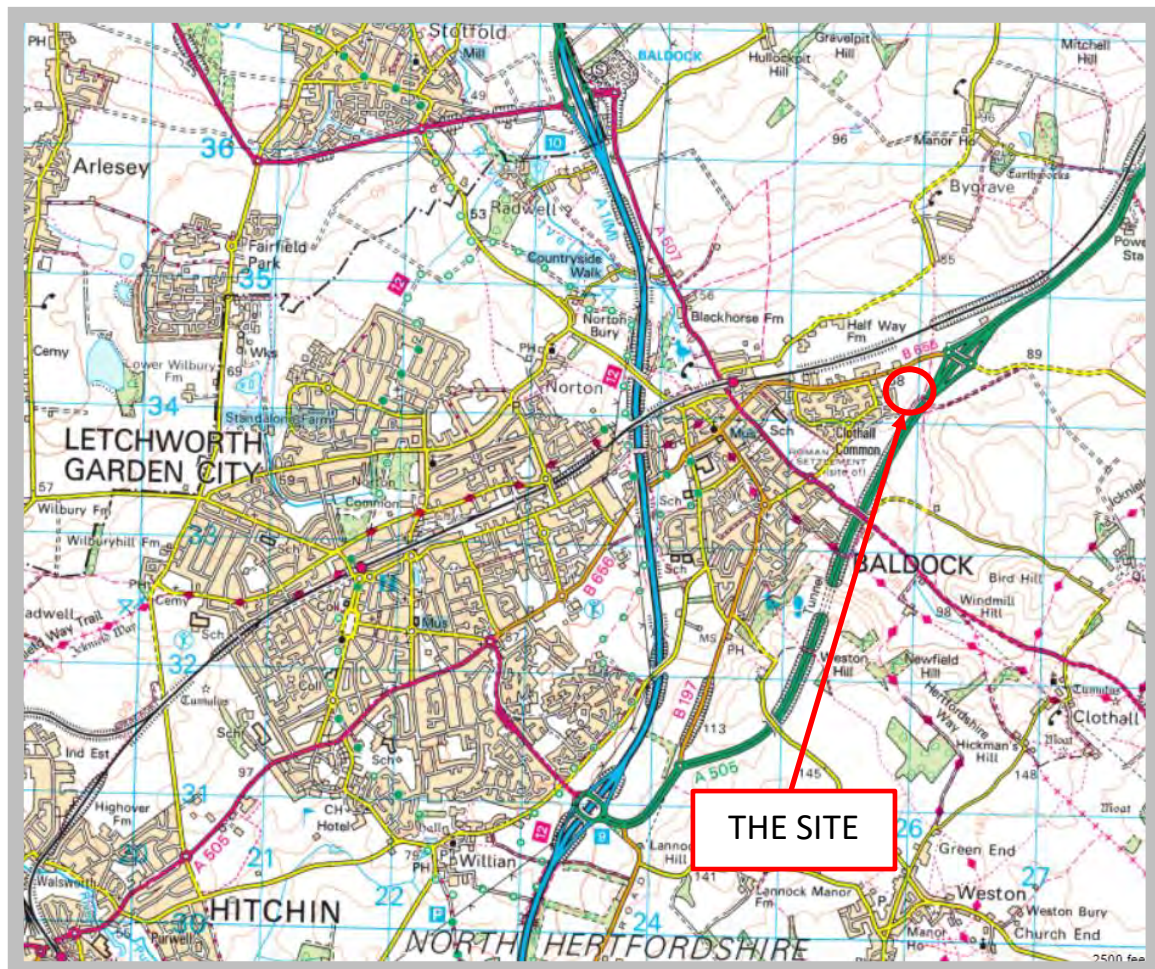


Fig. 1 – General Site Location Plan

2.2 Site Description

An initial site reconnaissance visit was undertaken in June 2022.

The site is an irregularly shaped parcel of land located east of the town centre of Baldock, approximately 23km northwest of the county town of Hertford. It comprises predominantly of agricultural land and was used as arable farmland at the time of visit.

The topography is relatively flat. The site is split by wire fencing and vegetated by trees, hedges, and non-invasive plants, including brambles, nettles, and false oat grass.

The surrounding area is comprised of agricultural land to the north, east and south areas. Directly west from the site boundary are commercial warehouses, and further west of this is the town of Baldock. The B656 passes through the southern parts of Baldock separating the residential area of Baldock and the industrial area of Letchworth.

No obvious olfactory or visual evidence of significant contamination was noted during site reconnaissance.



Fig.2 – Aerial Photograph Showing the Development Area in red (approximate).

3.0 HISTORICAL LAND USE

A phase 1 desk study was undertaken for the larger Baldock development area including the site in July 2022 by SG prior to undertaking intrusive investigations. A full description of the site history and documented geo environmental conditions were discussed in the document, referenced as follows:

2899 – Baldock North Hertfordshire, Preliminary Risk Assessment, Issue V1, July 2022 by Shadbolt Group.

The history of the site is summarised thus:

“The earliest attainable records show the site has remained as predominantly agricultural land, with associating farming building throughout its mapped history. The site has a history of allowing sections of the land to be accessible to the public with several public footpaths established. Local roads have been developed within the site, for example Bygrave Road, for farming relating access. However, some main roads have been marked on the map, for example southeast of the site is the Roman Road (Clothall Road) and Warren Lane leading east. Roman Road also intersects the site boundary in the northwest of the site. Ashwell Road and Royston Road cuts though the northeast areas of the site. In addition, the national railway line passes through the central part of the site.

The surrounding around predominantly started off as agricultural land, with smaller villages around the areas, including the town of Baldock. However, throughout the mapped history, the surrounding areas have gradually developed from both residential and industrial development. From Late 1800s to early 1900s the land relied on chalk related industries with several chalk pits marked around the surrounding areas of the site. However, 1920s onwards, the town of Baldock has expansion steadily with factories and warehouse development in Letchworth area. The chalk pits have closed due to this expansion and allowing for residential expansion in the town of Baldock to increase.”

4.0 PREVIOUS INVESTIGATIONS

SG have not had sight of any previous reports/investigations undertaken at the site other than the PRA report carried out by SG described above.

There are 107 No. shallow borehole records within 250m of the site. Approximately 48 No. records are relating to the A505 Baldock Bypass located adjacent to the site.

The strata mainly comprise topsoil overlying hard fissure chalk. The hard chalk reached at approximately 3m.

Examples of logs are included within the associated PRA report.

5.0 SITE INVESTIGATION

5.1 Proposed Development

The proposals at the site are for a development comprising residential housing, with associated infrastructure, public open space, vehicular access, and nature conservation.

5.2 Scope of Investigation

The site works comprised the following:

- 16 No. rotary boreholes to a maximum depth of 15.50m bgl.
- 29 No. machine dug trial pits/trial trenches to a maximum depth of 2.80m bgl.
- 18 No. windowless sample boreholes drilled to a maximum depth of 4.45m bgl.
- 7 No. DCP utilising the TRL Apparatus
- Appropriate sample retrieval.
- Geotechnical laboratory testing and analysis.
- Geochemical laboratory testing and analysis.
- 17 No. groundwater / ground gas monitoring wells
- 6 No. Ground gas and groundwater monitoring visits.

A plan showing the approximate location of the exploratory holes and the extent of the areas of investigation are presented as a drawing **2899-003(BA10) - Exploratory Hole Location Plan** in **Appendix B**.

The exploratory logs are included in **Appendix B**.

The soils encountered during this investigation have been logged in accordance with BS5930:2015+A1:2020 “Code of Practice for Site Investigation”. During excavation, representative samples were taken at regular intervals from the exploratory holes to assist in the identification of the soils and allow selected geotechnical and geochemical testing to be programmed.

5.3 In-Situ Testing

Hand Shear Vane (HSV) tests and Standard Penetration Tests (SPT) were undertaken in suitable deposits during the siteworks. Results of the in-situ testing are presented on the relevant exploratory hole logs included in **Appendix B**.

5.4 Geotechnical Laboratory Testing

Selected samples were submitted to our nominated geotechnical testing laboratory. Laboratory testing included Atterberg limits, Particle Sieve Distribution (PSD) 4.5kg Compaction testing and Californian Bearing Ratio (CBRs) testing, Saturation Moisture Contents and Intact Dry Density (IDD) of chalk, and point load testing of rock core. Samples scheduled for geotechnical testing were delivered to the selected UKAS accredited laboratory (i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Watford, Herts, WD18 8YS, UKAS No. 4041) where testing was carried out in accordance with BS 1377:1990 “Methods of Test for Soils for Civil Engineering Purposes” and any relevant updates to parts.

The results of geotechnical testing are presented in **Appendix E**.

5.5 Chemical Laboratory Testing

A programme of chemical laboratory analysis was scheduled by SG to determine the concentrations of potential contaminants which may be present within the soils encountered at the site. The selected samples were submitted to selected UKAS accredited laboratories (i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Watford, Herts, WD18 8YS, UKAS No. 4041).

31 No. soil samples were tested for a range of determinants including heavy and phytotoxic metals, metalloids, inorganic and organic contaminants. 34 No. samples were also screened for the presence of asbestos.

The results of the chemical analysis undertaken were compared to the **Shadbolt Group in house Tier 1 Screening Values (TSV)** for **COMMERCIAL** end purpose. A copy of the Tier 1 TSV are presented in **Appendix C**. The results of the laboratory contamination testing are presented in **Appendix D**.

5.6 Groundwater and Gas Monitoring

17 No. monitoring wells were installed as part of the recent works. In total 6 No. scheduled monitoring visits were completed over a period of 2-3 months in accordance with CIRIA guidance. An assessment of the data to date has been carried out to provide a ground gas risk assessment.

The monitoring procedure comprised the following measurements:

- Atmospheric temperature, pressure and ambient oxygen, methane and carbon dioxide concentrations on site immediately prior to and on completion of monitoring
- Emission (flow) rate
- Methane, oxygen and carbon dioxide concentrations using a GasData infra-red landfill gas analyser
- Standing water level using a dip meter.

Ground gas monitoring results are presented in **Appendix F**.

5.7 Limitations

It should be noted that although every effort has been made to ensure the accuracy of the data obtained from the investigation, the possibility exists of variations in ground and groundwater conditions between and around the exploratory hole locations; additionally, groundwater levels and ground gas concentrations will vary seasonally and with changes in weather conditions.

Archaeological investigation works are also ongoing at the site and exploratory positions were placed within the available accessible areas where it was deemed safe to excavate with reference to the service plans and CAT/Genny scanning, and further restrictions imposed by ecological constraints mean there remains the potential for variation in ground conditions, and/or potentially for unidentified contamination not encountered within this investigation.

6.0 GROUND CONDITIONS

Reference should be made to the individual exploratory hole logs presented in **Appendix B** for detailed descriptions of strata encountered at each location. However, the following ground conditions have been typically encountered across the site (except for the below any existing structures or areas of hardstanding).

6.1 Topsoil

Topsoil was encountered in 63 No. exploratory holes across the site. The topsoil encountered from ground level to between 0.15m and 0.40m bgl more typically in the range 0.25-0.40m bgl. The topsoil was generally described as Brown/ grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel includes angular to sub angular fine to coarse chalk, flint and chert.

6.2 Made Ground

Made Ground was only encountered in 2 No. rotary exploratory position across the site. Made ground was encountered as orange brown slightly gravelly clayey SAND with gravels of chalk and brick in RO25 between 1.30m-1.35m bgl and described as yellowish clay with varying proportions of sand and gravels in RO35 between 0.35m-0.55m bgl.

6.3 Superficial Deposits

Superficial Deposits were encountered in all 16 No. exploratory holes and 14 No. trial pits across the site. The Head deposits was evident beneath the Topsoil ranging from 0.15m bgl in WS-R3-03 in the west to 2.10m in TP-R2/R3-09 also to the west neighbouring the industrial warehouse. Superficial deposits attained thicknesses up to 1.85m bgl and generally described as light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravels observed within the strata comprised fine to medium angular to subangular of chalk and flint.

6.4 Solid Deposits

Bedrock deposits of Chalk were encountered in all 63 No. exploratory holes across the site from depths of 0.3m bgl –immediately beneath Topsoil.

The Chalk strata initially comprised Structureless Chalk of white mottled orange brown silty GRAVEL/gravelly SILT. Localised loose orange brown mottled white SAND and GRAVEL of chalk and flint was encountered directly below the Topsoil and up to a maximum depth of 3.45m. Given the general lack of other superficial deposits across the site and the predominance of chalk as the gravel fraction these soils are considered to be heavily weathered chalk as opposed to superficial deposits.

Structured Chalk was encountered from depth of between 1.00m and 2.00m depth and comprised extremely weak to weak low locally medium density Chalk. The Chalk strata was generally excavated to a depth of 2.00m without significant obstruction and recovered as angular fine to coarse gravel with light orange brown silty matrix typically becoming coarser with cobbles and lower matrix content at depth. The shallow structured chalk was typically considered to be of Grade B/C.

At depth the chalk typically comprised white, off white and cream locally mottled orange brown and speckled black extremely weak to very weak low to medium, locally high-density CHALK with very closely to medium spaced horizontal (bedding) and steeply inclined / vertical fractures. The fractures were typically undulating rough to smooth, planar and stepped tight clean with grey, brown and orange brown staining and black speckling but were locally up to moderately open with silty fine gravel infill.

The fractures, particularly those that are steeply inclined resulted in a heavy degree of disturbance along the fracture line resulting in some of the core lengths to disintegrate into fine to coarse gravel sized fragments. Such shattering of the core result can in some lengths of competent rock being recovered as non-intact core and can result in low SCR and RQD quotients, potentially not representative of the true rock mass properties. In addition, such fracturing can obscure other fractures or stratigraphic features.

The chalk grade ranged from A3 to C5, however it is considered that the disturbance due to the inclined fractures can result in an underestimate of chalk grade.

The base of the Chalk strata was not encountered within any of the exploratory holes the maximum depth of which was 15.50m bgl.

6.5 Groundwater

No Groundwater was encountered in any of the 63 No. exploratory holes across the site during the site investigation.

Groundwater has also been reported during return monitoring visits in the 8 No. of the 17 No. exploratory holes, more specifically the deeper rotary holes carried out for the targeted bridge investigations. The shallowest groundwater level was recorded in RO-R5-03 at 5.00m bgl with the shallowest groundwater levels ranging between 5.00m and 8.92m bgl during the 6 No. visits.

It should be noted that groundwater levels will vary seasonally.

Groundwater has been reported during any of the monitoring visits to date.

Gas and groundwater monitoring results are presented in **Appendix F**.

6.6 Ground Obstructions

No obstructions were noted during the investigation.

6.7 Observed Contamination

There was no evidence (visual / olfactory) of contamination noted during the site investigation. The presence of further contaminants cannot be ruled out given the site's history of farming activities and following the results of chemical testing.

The results of the chemical analysis carried out on samples obtained from the site are discussed in **Section 7.4**.

6.8 Geotechnical Testing

The following in-situ and laboratory geotechnical testing has been undertaken for the site

Method	Strata	Parameter	Comments
CBR (Laboratory Remoulded) (3 No.)	Superficial Deposits (Granular) (0.65-0.80m)	Indicated CBR value <1%	Lab remoulded CBR tests indicate CBR of <1% (These values are dependent on the moisture content and are consequently subject to seasonal variation)
CBR (Laboratory Remoulded) (5 No.)	Chalk (0.40-0.1.00m)	Indicated CBR value of Chalk is <1% to 4.2%	Preliminary Design value of 2% CBR can be assumed for In-situ Structureless Chalk. (These values are dependent on the moisture content and are consequently subject to seasonal variation)
CBR (In-situ TRL DCP Testing) (7 No.)	Chalk (From Surface to c.1.0m)	Indicated CBR value below Topsoil (c.0.30m depth) of 2% to 11%.	Equilibrium CBR of 2% at 0.30m depth below Topsoil should be assumed for initial design. Due to quick deterioration of chalk in inclement weather confirmatory testing should be carried out immediately prior to placement of stone/hardstanding.
Standard Penetration Test	Chalk 1.00m to 4.00m	SPT 'N-Values' in range N=9 to N=74 (Average N=33)	No correlations relating SPTs to chalk parameters or classifications.
Particle Size Distribution (PSD) (5 No.)	Superficial Deposits 0.6m to 1.40m	Very Coarse 0% Gravel 6-35% Sand 37-49% Fines <0.063mm 28-48%	Natural granular material generally Class 2A & 2B(SHW600)
Chalk Crush Value	Natural Chalk Strata 0.40m to 9.25m	Material Greater than 10mm = 20% to 45% (Average 30.3%) Moisture Content = 20% to 31% (Average 25.6%) Saturated Moisture Content = 20% to 31% (Average 26.3%) Chalk Crushing Value = 2.2 to 2.7 (Average 2.5)	Materials classified as Chalk Class A to D but predominantly B/C

Method	Strata	Parameter	Comments
Saturation Moisture Content and Intact Dry Density	Chalk Natural Chalk Strata 0.40m to 9.25m	Intact Dry Density = 1.47Mg/m ³ to 2.05Mg/m ³ (Average = 1.67 Mg/m ³)	Chalk is typically classified as Low locally Medium, High and Very High density.
Point Load Tests	Chalk 3.06m to 12.9m	Rock strength = 0.06MPa to 1.24MPa (Average = 0.356MPa)	Chalk is typically classified as extremely weak.

7.0 GROUND CONTAMINATION ASSESSMENT

7.1 Legislation

Part IIA of the Environmental Protection Act 1990 provides for the control of specific threats to health or the environment from existing land contamination. In accordance with the Act, the statutory guidance document, and The Contaminated Land (England) Regulations 2000, the definition of contaminated land is intended to embody the concept of risk assessment. Therefore, land is only “contaminated land” where it appears to the regulatory authority, by reason of substances within, on, or under the land that:

Significant harm is being caused, or there is significant possibility of such harm being caused; or

Pollution of controlled waters is being, or is likely to be, caused.

The guidance defines “risk” as the combination of:

Probability, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and

Magnitude (including the seriousness) of the consequences.

For a risk of pollution or environmental harm to occur as a result of ground contamination, all the following elements must be present:

Source, i.e. a substance that is capable of causing pollution or harm.

Receptor (or target), i.e. something which could be adversely affected by the contaminant; and

Pathway, i.e. a route by which the contaminant can reach the receptor.

If one of these elements is missing (source, pathway, or receptor) there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

7.2 Assessment Methodology

To assess the environmental risk posed by potential contaminants within the underlying soils to human health and controlled waters, Shadbolt Group undertook an initial screen of the laboratory results using Shadbolt Group Tier 1 Screening Values (TSVs). This screening was undertaken using TSVs derived for the and proposed **COMMERCIAL** end use.

Contaminant concentrations below the TSVs are considered not to warrant further risk assessment. Concentrations of potential contaminants above the TSVs require further consideration of the potential pollutant linkages.

It should be noted that exceedance of the TSVs does not necessarily require that the site be remediated.

7.3 Derivation of Soils SSVs

A discussion on the development of **Shadbolt** TSVs is presented, along with the relevant values at the time of writing in **Appendix C**.

7.4 Soil Contamination Assessment

In total 31 No. soil samples from the ground investigation, were submitted from for testing against a suite of common contaminants and asbestos screening. The laboratory chemical results have been compared to the **Shadbolt Group Tier 1 TSVs** for **COMMERCIAL** end use as this represents the most sensitive end-use receptor and materials may be moved between parcels as part of any remediation and/or earthworks phases.

31 No. samples were tested for Total Petroleum Hydrocarbons (TPH), of these, 25 No. reported concentrations of TPH below the laboratory detection limit of 10mg/kg. 6 No. samples reported above the laboratory detection limit was scheduled for additional TPH CWG testing. However, the samples reported to be within the limits of the allowable concentrations of TPH and also the speciated TPH CWG results indicated none of the aliphatic/aromatic hydrocarbon bands above the Commercial threshold.

1 No. samples reported elevated pH levels, a pH level of 9.1 within WS-R2-03 at 0.50m-0.60m depth. Gravel sized fragments of chalk were noted within the Topsoil which may account for the very slightly elevated pH level.

The reported speciated PAH concentrations were below their respective assessment criteria for all samples. when compared to the Shadbolt TSV assessment criteria for COMMERCIAL end purpose.

Exploratory Position	Depth (m)	Strata Type	Determinant	Threshold	Recorded Concentration
WS-R2-03	0.50	Gravelly Sand (subsoil)	pH	9 pH	9.1 pH

Table 7.4.2 – Summary of Elevated Concentrations

The area is utilised as agricultural farmland with no visual or olfactory evidence of contamination or odours encountered during the investigation. As such scheduling for more specialised contaminants such as PFAS, PCBs, or Volatiles was not deemed warranted at this time. Should further evidence of contamination be uncovered during the site strip further testing including for a broader range of potential contaminants may be required.

Concentrations of other contaminants scheduled were reported to be within their respective assessment criteria.

34 No. samples were also scheduled for qualitative Asbestos analysis. **No samples reported the presence of asbestos.**

7.4.1 Soils Statistical Assessment

Soil statistical assessment was not required.

7.5 Leachate Contamination Assessment

Leachate analysis has not been undertaken due to the generally low concentrations of contaminants reported.

7.6 Groundwater Contamination Assessment

Significant groundwater was not encountered during the trial pitting and drilling works.

7.7 Gas and Groundwater Monitoring

17 No. monitoring wells were installed by SE as part of the commissioned works. Results are reported within Appendix F.

8.0 ENVIRONMENTAL RISK ASSESSMENT

8.1 Gas Monitoring

Ground gas and water monitoring wells have been monitored in accordance with CIRIA C665 and BS8576:2013.

8.2 Gas Risk Assessment

NHBC Foundation have developed a guidance document (NF94) 'Hazardous ground gas - an essential guide for housebuilders' to be used in conjunction with BS 8485:2015+A1:2019 to characterize sites using Gas Screening Value (GSV), the term Gas Screening Value (GSV) was originally used in CIRIA C665 and is a value derived from the assessment of gas monitoring data obtained from either spot monitoring or continuous data as set out in BS8485.

The borehole hazardous gas flow rate is obtained for each hazardous gas, by multiplying the relevant gas concentration by the flow rate. It is calculated for each gas, on each monitoring event in each well.

The individual values of borehole hazardous gas flow rate (Qhg) obtained from several monitoring locations over a number of visits are considered collectively to establish a Gas Screening Value (GSV) for the site as a whole (a site characteristic GSV). This requires consideration of the results in relation to the conceptual site model.

The site characteristic GSV for both methane and carbon dioxide are then used to determine the characteristic situation (CS), with CS1 representing the lowest risk and CS6, the highest.

The Characteristic Situation system has been designed for both methane and carbon dioxide, with the worst-case value adopted for assessment.

Ground Gas Monitoring Data

6 No. planned visits have been completed on the 15 No. monitoring installations. The gas monitoring results to date are presented in **Appendix F**.

The maximum Methane and Carbon Dioxide emissions, which are representative of the Typical Maximum Concentrations, were as follows:

Methane:	0.0% v/v
Carbon Dioxide:	1.9% v/v

The maximum recorded steady state concentration of methane was 0.0% v/v, for calculations 0.1l/h is assumed as this is the limit of detection for the device.

The maximum representative recorded concentration of Carbon Dioxide to date was 1.9% (steady). The maximum recorded flow rate in the boreholes was 0.0l/hr.

The gas steady flow rate during the gas and groundwater monitoring was 0.0%, however, 0.1% v/v will be used for calculations as this is the limit of detection of the instrument. This value will be used to calculate the GSV for the site.

The maximum borehole hazardous gas flow rates (Qhg) for Carbon Dioxide was recorded in RO-R1-04 on 09-01-2024 and were calculated as follows.

Methane: $(0.1/100) \times 0.1 = 0.0001 \text{ l/hr}$

Carbon Dioxide: $(1.9/100) \times 0.1 = 0.0019 \text{ l/hr}$

The monitoring data has been compared to the values in BS 8485. The Gas monitoring results to date are presented within **Appendix F**.

The site as a whole is classified as **Characteristic Situation 1 (CS1)** under the BS 8485 system for Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.

8.3 Gas Protection Measures

BS8485:2015, "Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings" sets out a methodology for determining an appropriate level of protection against ground gases in respect of the Characteristic Situation classification and the proposed building type.

The proposed development is understood to be **COMMERCIAL** in nature. For a site classified as **CS1**, no ground gas protection measures are required when the development is assessed BS8485.

8.4 Discussion

Using calculated GSVs for Methane and Carbon Dioxide based on monitoring to date and following guidance outlined in NHBC NF94, the site as a whole is **Low Risk** and classified as **Characteristic Situation 1 (CS1)** under the BS 8485 system for Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.

For site classified as CS1 under BS8485 no ground gas protection measures are required.

The site is not in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment and confirmed by the UK Radon interactive map.

9.0 ENVIRONMENTAL RISK ASSESSMENT

All available data has been collated and evaluated to establish an initial conceptual model of the site in its current condition and post development identifying sources, pathways and receptors and pollutant linkages. The conceptual site model has been developed in accordance with BS10175: 2011.

The proposed end use for the site is residential and a Tier 1 risk assessment has been undertaken using the Shadbolt Group Tier 1 Screening Value (TSV) guidelines for a **COMMERCIAL** end use.

9.1 Contamination Sources

In total 31 No. soil samples were submitted for chemical testing of a suite of common contaminants from the SG ground investigation with 34 No. samples submitted screened for the presence of Asbestos.

Reported concentrations of potential contaminants are discussed in Section 7.4.

Made Ground was only encountered in 2 No. rotary exploratory position across the site. Made ground was encountered as orange brown slightly gravelly clayey SAND with gravels of chalk and brick in RO25 between 1.30m-1.35m bgl and described as yellowish clay with varying proportions of sand and gravels in RO35 between 0.35m-0.55m bgl.

No samples were reported to contain Asbestos.

Considering the chemical testing undertaken to date and the general prevailing ground conditions it is unlikely that other significant contamination will be encountered during foreseeable works and post-development occupation; however, it is possible that isolated instances of contaminants may be present on site through leakages, spillages, localised historic importing of contaminants or soils or unrecorded fly-tipping of wastes.

No other elevated concentrations were reported that would constitute evidence of significant contamination and no further remedial measures are considered to be required based on the testing carried out to date.

It is also noted that the investigation typically avoided conducting exploratory point in the vicinity of service runs to avoid damage to services. As services are typically laid in trenches with either loose Made Ground backfilled around the service or coarse gravel these are typically permeable and can provide significant pathways for contamination. As such there remains a risk of encountering potentially unidentified contamination within such service runs across the site.

There exists a similar risk of unidentified contamination in areas which the investigation avoided due to ecological and archaeological constraints.

9.2 Potential Contaminant Pathways

The following potential contaminant pathways are possible and should be considered during the construction phase and the post development end use.

- Inhalation / ingestion of dust, gases, and vapour.
- Ground gas / vapour migration.
- Dermal contact.
- Ingestion of soils and / or groundwater.
- Leaching of contaminants from made ground soils to groundwater.
- Groundwater flow.

- Soil gas migration through Made Ground, granular soils, fissures and mine entries.
- Migration and leakage through service conduits.

9.3 Potential Contamination Receptors

The potential receptors listed below are proposed considering the current status of the site and surrounding area, and a potential RESIDENTIAL end use.

Human Health

- Current site users.
- Future site users.
- Site development workers.
- Maintenance workers

Environmental

- Future establishment of flora and fauna.
- Buildings and underground services.
- Controlled waters and aquifers.

9.4 Qualitative Risk Assessment

By considering the sources, pathways and receptors, an assessment of the environmental risks is made with reference to the significance and degree of the risk to the development for current and future site users.

The qualitative risk assessment has been undertaken in accordance with BS10175:2011 and CIRIA Document C552: Contaminated Land Risk assessment, A Guide to Good Practice.

The risk assessment has been carried out by assessing the severity of the potential consequence, taking into account both the potential severity of the hazard and the sensitivity of the target, based on the categories given in Table 9.4.1 below.

<i>Category</i>	<i>Definition</i>
Severe	Acute risks to human health, catastrophic damage to buildings / property, major pollution of controlled waters
Medium	Chronic risk to human health, pollution of sensitive controlled waters, significant effects on sensitive ecosystems or species, significant damage to buildings or structures
Mild	Pollution of non-sensitive waters, minor damage to buildings or structures
Minor	Requirement for protective equipment during site works to mitigate health effects, damage to non-sensitive ecosystems or species

Table 9.4.1 – Definition of Risk Severity

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given in Table 9.4.2 below.

<i>Category</i>	<i>Definition</i>
High Likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low Likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable

Table 9.4.2 – Definition of Risk Probability

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix, Table 9.4.3 below, in order to give a level of risk for each potential hazard.

		<i>Potential Severity</i>			
		<i>Severe</i>	<i>Medium</i>	<i>Mild</i>	<i>Minor</i>
<i>Probability of Risk</i>	<i>High Likelihood</i>	Very high	High	Moderate	Low/Moderate
	<i>Likely</i>	High	Moderate	Low/Moderate	Low
	<i>Low likelihood</i>	Moderate	Low/Moderate	Low	Very low
	<i>Unlikely</i>	Low/Moderate	Low	Very low	Very low

Table 9.4.3 – Risk Matrix of Potential Hazard

The contamination risk assessment for the site based on identified sources is presented in Table 9.4.4. Further discussion of the more significant

Hazard / Pollutant	Source	Pathway	Receptor	Potential severity	Probability of risk	Level of risk
The site has Historically been used as agricultural land. The ground investigation has identified no significant elevated contaminant concentration. Made Ground, Metals, Metalloids, Hydrocarbons (including fuels, lubricants, residues), Asbestos.	Potential Made former and current off-site and on-site sources. Contaminants may be present in the soils surrounding the subject site. Tested samples have reported no elevated levels of contamination compared against the SG Tier 1 SSVs. No asbestos reported from samples subject to testing.	Inhalation, Dermal contact, and Ingestion	Future site users, future buildings, and structures.	Medium	Unlikely	Low
		Inhalation, Dermal contact, and Ingestion	Development workers.	Medium	Unlikely	Low
		Root Uptake	Plants	Minor	Unlikely	Very Low
		Contaminated Groundwater Migration	Superficial Aquifer - No significant superficial deposits encountered during site works	N/A	N/A	N/A
			Principal Aquifer (Chalk)	Medium	Unlikely	Low
			Water Courses	Medium	Unlikely	Low
		Leaching of Soil Contamination	Superficial Aquifer - No significant superficial deposits encountered during site works	N/A	Unlikely	Very Low
			Principal Aquifer (Chalk)	Medium	Unlikely	Low
			Water Courses	Medium	Unlikely	Low
		Migration through service conduits, foundations, drainage solutions)	Superficial Aquifer - No significant superficial deposits encountered during site works	N/A	N/A	N/A
			Principal Aquifer (Chalk)	Medium	Unlikely	Low
			Water Courses	Medium	Unlikely	Low
		Surface Run-off	Superficial Aquifer - No significant superficial deposits encountered during site works	N/A	N/A	N/A
			Principal Aquifer (Chalk)	Medium	Unlikely	Low
			Water Courses	Medium	Unlikely	Low
		Volatilisation (vapour phase migration and portioning into sorbed / dissolved phase).	Superficial Aquifer - No significant superficial deposits encountered during site works	N/A	N/A	N/A
			Unproductive Aquifer	Medium	Low Likelihood	Low
			Culvert / Water Course	Medium	Unlikely	Low
Hazardous gas and volatile compounds	Concentrations of methane and carbon dioxide generally are low.	Inhalation, Explosion	Future site users, Structures	Medium	Unlikely	Low
			Site development workers	Medium	Unlikely	Low

Table 9.4.4 – Contamination Risk Assessment

9.4.1 Current and Future Site Users

Potential pathways considered significant to current and future site uses are dermal contact, ingestion of contaminated soil / groundwater and inhalation of fibres, gases, vapours or dusts.

Based on the chemical analysis data it is considered that the site presents a **LOW** risk to current site users from the soils located at the site. Should the site be developed in the future the risk to site users would be **LOW** based on the chemical analysis data.

9.4.2 Ground Excavation / Development Workers

Significant earthworks are not envisaged ahead of future construction. Limited cut and fill works are likely to be undertaken to create a suitable development platform utilising existing site won soils.

It is considered that the risk to construction and/or maintenance workers during redevelopment works and post-development maintenance works is **LOW** owing to the low concentrations of reported contaminants. However, site development workers should remain vigilant for the evidence of contamination.

Should any materials, including suspected Asbestos Containing Materials, suspected of being contaminated be observed during site works these works should cease and specialist environmental advice sought.

9.4.3 Future Developments including Buried Structures and Services

The risk to buried structures and services (i.e. possible migration of contamination within service corridors) is considered to be Low.

9.4.4 Controlled Waters

Given the concentrations of potential contaminants identified on site and the general lack of groundwater it is considered that there is very low risk to controlled waters within the vicinity of the site and the underlying aquifer due to the generally low contaminants concentrations identified.

Further assessment should be carried out should any suspected contamination be identified during the construction works.

9.4.5 Flora

It is considered soils encountered at the site would pose a very low risk to any planting at the site.

10.0 GROUND ENGINEERING CONSIDERATIONS

10.1 Proposed Development

It is understood that the proposed development is intended for Commercial end use.

10.2 Ground Obstructions

Ground obstructions were not encountered during intrusive investigations with the exception of shallow rockhead. Similar obstructions may be reasonably expected during onward development works. The presence of any relict structures is considered unlikely but cannot be ruled out. Rows of hedges/ small trees bound the site and are also noted throughout the east of the site.

10.3 Mining

The site is not located within a known coal mining affected area as verified by The Coal Authority's Coal Mining Gazetteer for England and Wales.

There are no other records of Historical Mining, JPB Mining Areas, Non-Coal Mining Cavities, Natural Cavities, Brine Extraction, Tin Mining and Clay Mining within 1000m of the site.

10.4 Foundations and Settlement Issues

Traditional pad foundations or strip footings are considered to be suitable for a commercial development founded at a minimum depth of 0.90m bgl (below the depth of frost susceptibility, 450mm, and the maximum depth of disturbed Topsoil/Sub-soil due to agricultural action) based upon Insitu testing and observation. Bearing capacities in the order of 100kPa should be available in shallow Structureless Chalk soils which are generally not considered to be subject to volume change potential with changes in moisture content. Higher bearing capacities in the order of 150-200 kPa are considered readily achievable at depths of c.2.0m within the structured chalk. The possibility of localised soft spots at founding depth cannot be ruled out. Foundations may require deepening in these areas to reach more competent strata.

Piling could be another feasible option on site if substantial column loads are proposed in the design as shallow strip or pad footings may be inadequate to support the structure. It would need to be founded within the Structured Chalk. Stabilisation with the use of lime or cement techniques may be required for the structureless chalk if a higher CBR value is to be achieved or if structured chalk comprises too much fines.

In all instances the depth of foundations may need to be assessed on a plot-by-plot basis to allow for the influence of changes in level following earthworks, plot specific bearing capacity and existing trees and hedgerows and any planned planting.

10.5 Earthworks

Significant earthworks are not anticipated across the site however some minor cut and fill works to provide a suitable development platform is likely to be required at the site.

Earthworks involving underlying chalk bedrock are considered feasible - however care is required when handling chalk material – particularly if Class 3 chalk material is encountered (which must be compacted in accordance with the specific requirements for Class 3 materials under SHW Series 600).

However, given that no significant superficial deposits were encountered, and the strata consisted of Topsoil directly over Chalk and some areas with Head deposits beneath the Topsoil. The majority of any excavations and earthworks cut/fill will consist predominantly of chalk material. Where >30% of excavated material is chalk the material should be assumed to be Class 3. Care should still be taken to minimise handling of chalk and to avoid excessive exposure to moisture. Chalk material should not be placed within the upper 450mm of road construction due to frost susceptibility.

No significant groundwater was encountered during SI works but may be expected in limited quantities.

An Earthworks/Remediation Strategy should be developed for the site to further assess and dictate the works required to create a development platform appropriate to the proposed development.

Excavations in shallow soils remained stable over short periods during the investigation but excavations may require shoring or benching, and edges should be protected in line with current guidance / best practise if they are to remain open.

10.6 Chemical Attack on Buried Structures

The water-soluble sulphate test results generally recorded concentrations between, 7.7mg/l (WS-R2-03) and 439mg/l (TP-149), with an average of 37.35mg/l SO₄. The soil pH was between 7.4 (WS-R5-04) and 9.1 (WS-R2-03) with an average of 8.0 indicating slightly alkali conditions).

The results have been assessed in accordance with the guidance given in BRE Special Digest 1:2005. Assuming Brownfield locations with static groundwater the Design Sulphate Class across the site is DS-1 to DS-1, ACEC Class AC-1s (assuming static groundwater).

10.7 Drainage and Infrastructure

The planned development is for commercial end use and associated infrastructure.

Soil infiltration rates have, therefore, been derived by Shadbolt using the soil infiltration calculation as stated within the BRE DG 365 and the raw data recorded as part of the ground investigation to give an indication of likely values for preliminary design purposes. The full infiltration testing data is presented within **Appendix B**.

Table 10.7 Summary of calculated Soil infiltration Rates

Location	Depth of Test (m)	Soil Infiltration Calculated (m/s)
TP-094	1.65	1.42 x 10 ⁻⁴
TP-127	1.50	2.84 x 10 ⁻⁵
TP-137	1.90	2.40 x 10 ⁻⁴
TP-139	1.50	1.12 x 10 ⁻⁴
TP-149	1.65	5.34 x 10 ⁻⁶
SA-01	1.20	2.36 x 10 ⁻⁵
SA-02	1.40	3.48 x 10 ⁻⁵

As shallow Chalk has been encountered across the entirety of the site, shallow soakaways may be feasible, however, careful considerations need to be given to soakaways in chalk due to the risk of dissolution from the concentrated discharge of a soakaway.

In accordance with CIRIA C574 Engineering in Chalk where dissolution features are present soakaways should be avoided if possible or, if unavoidable, sited at least 20m away from any foundation, road or site boundary. Where no dissolution features are present the offset is typically determined by the density of the chalk, as determined by field logging and laboratory intact dry density testing (IDD). Where the chalk is typically of low density soakaways should be sited at least 10m away from any foundation, road or site boundary. Where the chalk is of medium density (or higher) soakaways should be sited at least 5m away from any foundation, road or site boundary.

The density of the chalk strata across the site was typically low locally medium with laboratory testing indicating Intact Dry Densities of between 1.47Mg/m³ to 2.05Mg/m³ with 11 of 44 results (25%) classified as low and 33 as medium or above, and an average of 1.67 Mg/m³ (medium).

On this basis the chalk stratum on site is considered to be of variable density with respect to the CIRIA C574 guidance in relation to soakaways and some zoning may be appropriate. Therefore, soakaways should be sited at an appropriate distance from any foundation, road and boundary.

Flexible jointed pipes should be used wherever possible, and care should be taken for the avoidance of leaks in both water supply and drainage pipework.

As the Chalk is classified as a principal aquifer the Environment Agency as well as the local authority should be consulted regarding installation of soakaway.

Drainage may also utilise existing formal drainage surrounding the site.

Chalk material should not be placed within the upper 450mm of road construction due to frost susceptibility.

Excavations on site were generally stable during exploratory works. However, these excavations were open for a relatively short period of time and did not experience heavy rainfall. Should excavations be required to be left open for longer periods trench support may be required and careful considerations need to be given - particularly with wet weather.

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Conclusions

Shadbolt Environmental (SE) part of the **Shadbolt Group (SG)** were commissioned by **Urban and Civic** to undertake an intrusive ground investigation on the Baldock BA10 site in Baldock, North Hertfordshire which is part of an investigation within a larger development area. The investigation was carried out under the supervision of SG.

A total of 63 No. exploratory holes consisting of Trial Pits and Boreholes (Windowless Sampling and Rotary) have been undertaken as part of this investigation.

Topsoil was encountered in all 63 No. exploratory holes across the site. The topsoil encountered from ground level to between 0.25-0.40m bgl. The topsoil was generally described as Brown/ grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel includes angular to sub angular fine to coarse chalk, flint and chert.

Made Ground was only encountered in 2 No. rotary exploratory position across the site. Made ground was encountered as orange brown slightly gravelly clayey SAND with gravels of chalk and brick in RO25 between 1.30m-1.35m bgl and described as yellowish clay with varying proportions of sand and gravels in RO35 between 0.35m-0.55m bgl.

Superficial Deposits were encountered in all 16 No. exploratory holes and 14 No. trial pits across the site. The Head deposits was evident beneath the Topsoil ranging from 0.15m bgl in WS-R3-03 in the west to 2.10m in TP-R2/R3-09 also to the west neighbouring the industrial warehouse. Superficial deposits attained thicknesses up to 1.85m bgl and generally described as light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravels observed within the strata comprised fine to medium angular to subangular of chalk and flint.

The Chalk strata initially comprised Structureless Chalk of white mottled orange brown silty GRAVEL/gravelly SILT. Localised loose orange brown mottled white SAND and GRAVEL of chalk and flint was encountered directly below the Topsoil and up to a maximum depth of 3.45m. Given the general lack of other superficial deposits across the site and the predominance of chalk as the gravel fraction these soils are considered to be heavily weathered chalk as opposed to superficial deposits.

Structured Chalk was encountered from depth of between 1.00m and 2.00m depth and comprised extremely weak to weak low locally medium density Chalk. The Chalk strata was generally excavated to a depth of 2.00m without significant obstruction and recovered as angular fine to coarse gravel with light orange brown silty matrix typically becoming coarser with cobbles and lower matrix content at depth. The shallow structured chalk was typically considered to be of Grade B/C.

At depth the chalk typically comprised white, off white and cream locally mottled orange brown and speckled black extremely weak to very weak low to medium, locally high-density CHALK with very closely to medium spaced horizontal (bedding) and steeply inclined / vertical fractures. The fractures were typically undulating rough to smooth, planar and stepped tight clean with grey, brown and orange brown staining and black speckling but were locally up to moderately open with silty fine gravel infill.

The chalk grade ranged from A3 to C5, however it is considered that the disturbance due to the inclined fractures can result in an underestimate of chalk grade.

The base of the Chalk strata was not encountered within any of the exploratory holes the maximum depth of which was 15.50m bgl.

No significant groundwater was encountered in any of the 63 No. exploratory holes across the site during the site investigation.

Groundwater has also been reported during return monitoring visits in the 8 No. of the 17 No. exploratory holes, more specifically the deeper rotary holes carried out for the targeted bridge investigations. The shallowest groundwater level was recorded in RO-R5-03 at 5.00m bgl with the shallowest groundwater levels ranging between 5.00m and 8.92m bgl during the 6 No. visits.

No obstructions were noted during the investigation.

There was no evidence (visual / olfactory) of contamination noted during the site investigation.

The findings of the environmental testing indicate that the soils encountered at the site are unlikely to pose a significant risk to human health or the environment with respect to the proposed residential development and materials are considered suitable for reuse at the site. The risk to the proposed development is considered to be **Low**.

34 No. samples were also scheduled for qualitative Asbestos analysis. No samples reported the presence of asbestos.

It is also noted that the investigation typically avoided conducting exploratory point in the vicinity of service runs to avoid damage to services. As services are typically laid in trenches with either loose Made Ground backfilled around the service or coarse gravel these are typically permeable and can provide significant pathways for contamination. As such there remains a risk of encountering potentially unidentified contamination within such service runs across the site.

The presence of further contaminants cannot be ruled out and development workers should remain vigilant for evidence of potential contamination and seek assistance from a suitably qualified environmental engineer.

The site has been assessed in accordance with the guidance given in BRE Special Digest 1:2005. Assuming natural soil with mobile groundwater the Design Sulphate Class for the site is DS-1, ACEC Class AC-1s (assuming static groundwater).

Traditional pad foundations or strip footings are considered to be suitable for a commercial development founded at a minimum depth of 0.90m bgl (below the depth of frost susceptibility, 450mm, and the maximum depth of disturbed Topsoil/Sub-soil due to agricultural action) based upon Insitu testing and observation. Bearing capacities in the order of 100kPa should be available in shallow Structureless Chalk soils which are generally not considered to be subject to volume change potential with changes in moisture content. Higher bearing capacities in the order of 150-200 kPa are considered readily achievable at depths of c.2.0m within the structured chalk. The possibility of localised soft spots at founding depth cannot be ruled out. Foundations may require deepening in these areas to reach more competent strata.

Piling could be another feasible option on site if substantial column loads are proposed in the design as shallow strip or pad footings may be inadequate to support the structure. It would need to be founded within the Structured Chalk. Stabilisation with the use of lime or cement techniques may be required for the structureless chalk if a higher CBR value is to be achieved or if structured chalk comprises too much fines.

It should be noted that chalk is highly susceptible to frost action and therefore pavements need to be thick enough to prevent frost action on the sub-formation. Typically, minimum pavement thicknesses of 450mm are adopted.

As CBR values were highly variable due to changes in moisture content and ground conditions, in-situ testing must be undertaken immediately prior to the installation of pavements/roads. Any soft spots at formation level should be dug out and replaced with a suitably compacted granular fill. Prior to construction the formation level should be proof rolled.

In all instances the depth of foundations may need to be assessed on a plot-by-plot basis to allow for the influence of changes in level following earthworks, plot specific bearing capacity and existing trees and hedgerows and any planned planting.

Where shallow Chalk has been encountered across the site shallow soakaways may be feasible. However, careful considerations need to be given to soakaways in chalk due to the risk of dissolution from the concentrated discharge of a soakaway. The density of the chalk strata across the site as defined by the CIRIA C574 guidance was variable and some zoning may be appropriate. Therefore, soakaways should be site at an appropriate distance from any foundation, road and boundary.

6 No. Ground gas and groundwater monitoring visits have been completed to date. Based on the concentrations of Methane and Carbon Dioxide present on site ground gas protection measures are unlikely to be required.

No further works are considered necessary at this stage.

The Shadbolt Group

12.0 REFERENCES

- Site walkover survey.
- Historical and Recent Ordnance Survey maps and plans.
- Geological Survey Sheets.
- The Environment Agency.
- Groundsure Report.
- British Geological Survey.
- Coal Authority Mining Report.
- BRE Report BR211; Radon: Protective measures for new buildings.
- NRPB-W26 'Radon Atlas of England and Wales,' NRPB, 2002.
- CIRIA 132 'A guide for safe working on contaminated sites,' CIRIA, 1996.
- CIRIA C552 'Contaminated Land Risk assessment. A guide to good practice,' CIRIA, 2001.
- BS10175 'Investigation of potentially contaminated sites – code of practice,' BS, 2011.
- LCRM 'How to assess and manage the risks from land contamination' July 2023, Environment Agency
- Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance April 2012.
- Ciria C733 Asbestos in soil and made ground: a guide to understanding and managing risks, March 2014.
- BRE Special Digest 1, 2005 (Third Edition). Concrete in aggressive ground. Construction Research Communications Ltd, Watford.
- BS 5930: 1999. Code of practice for site investigations. BSI, UK.
- BS 10175: 2011. Investigation of potentially contaminated sites – Code of Practice. BSI, UK.
- CIRIA C665: 2006. Assessing risks posed by hazardous ground gases to buildings. London UK.
- DD ENV, 1997. Eurocode 7: Geotechnical Design. Parts 1 to 3. BSI, UK.
- Environment Agency, 2008 - onwards, Science Reports SC050021 (SGVs)
- TOMLINSON, M.J., 2001 Foundation design and construction. Prentice Hall, London.
- The LQM/CIEH S4ULs for Human Health Risk Assessment (S4UL3251), November 2014
- The Water Environment (Water Framework Directive) (England and Wales) (Amendment) Regulations, September 2015.
- Keynetix Holebase SI (including connected data sources)
- RocScience Slide and Settle 3D Software.
- Introduction to Light Weight Deflectometer. International Journal of Engineering Research & Technology (IJERT) IJERTIJERT ISSN: 2278-0181.Vol 3 Issue 4, April 2014

APPENDIX A

REPORT CONDITIONS

REPORT CONDITIONS

GEO-ENVIRONMENTAL GROUND INVESTIGATION

*This report is produced for the benefit of **Urban and Civic** in accordance with the terms of the appointment.*

This report has been prepared in accordance with the terms and conditions of the appointment and relates to the condition of the site at the time of ground investigations. No warranty is provided as to the possibility of future changes in the condition of the site.

Shadbolt Environmental takes no responsibility for conditions which occur between the individual exploratory holes.

This report is prepared and written for the purposed uses stated in the report and should not be used in a different context without reference to Shadbolt Environmental. In time, improved practices or amended legislation may necessitate a re-assessment.

The report is limited to the geotechnical and environmental aspects detailed within the report and is necessarily restricted.

APPENDIX B

2899-003 – EXPLORATORY HOLE LOCATION PLAN

EXPLORATORY HOLE LOGS (Trial Pit Logs)

EXPLORATORY HOLE LOGS (Window Sample Borehole Logs)

EXPLORATORY HOLE LOGS (Rotary Borehole Logs)

INFILTRATION TESTING RESULTS

Project Id: 2899
Project Title: Baldock
Location: Baldock, North Hertfordshire
Client: Urban & Civic

Title: Site Plan
Scale: 1:4250
Engineer: Stephen J Fisk
Contractor:

- Legend Key
- Locations By Type - Empty
 - Locations By Type - RC
 - Locations By Type - TP
 - Locations By Type - WLS





Trial Pit Log

Trial Pit No
**TP-R2/
R3-10**
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525280.40 - 234298.46 Level: 68.21	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.20 Depth 2.50	Scale 1:20
Client: Urban & Civic			Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.30	67.91		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.
				0.40	67.81		Light brown friable very sandy slightly gravelly CLAY/ very clayey SAND. Gravel is fine to medium subangular chalk and coarse flint.
	0.80	B					Light brown and grey very sandy GRAVEL of fine to coarse chalk and coarse flint.
	2.20	ES		2.50	65.71		End of Pit at 2.50m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
**TP-R2/
R3-09**
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525288.02 - 234333.94 Level: 66.76	Date 29/11/2023
-----------------------	------------------	--	--------------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.40 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.60	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.25	66.51		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.
	0.65	B					Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk. Rare rounded chalk cobbles.
	1.60	ES		2.10	64.66		Brownish grey very sandy Gravel. Gravel is fine to coarse chalk and coarse flint.
				2.60	64.16		End of Pit at 2.60m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
**TP-R2/
R3-08**
Sheet 1 of 1

Project Name: Baldock				Project No. 2899		Co-ords: 525265.06 - 234346.73 Level: 66.42		Date 29/11/2023	
Location: Baldock, North Hertfordshire						Dimensions (m): 2.50 Depth 2.60		Scale 1:20 Logged RP	
Client: Urban & Civic									
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.10	ES		0.30	66.12		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.		
							Light brown friable very sandy slightly gravelly CLAY/very clayey SAND. Gravel is fine to medium subangular chalk.		
	0.60	ES		0.70	65.72		Light brown very sandy GRAVEL. Gravel is fine to coarse chalk and coarse flint.		
	1.40	B		2.60	63.82		End of Pit at 2.60m		
Remarks: No groundwater encountered.									
Stability: Stable Plant: 10T tracked excavator									





Trial Pit Log

Trial Pit No
**TP-R2/
R3-07**
Sheet 1 of 1

Project Name: Baldock				Project No. 2899		Co-ords: 525264.77 - 234379.66 Level: 65.60		Date 29/11/2023	
Location: Baldock, North Hertfordshire						Dimensions (m): 2.20 Depth 2.60		Scale 1:20 Logged RP	
Client: Urban & Civic									
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.15	ES					Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.		
	0.40	D		0.30	65.30		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.		
				0.50	65.10		Brownish cream very sandy gravel of fine to coarse CHALK with rare flint/chert.		
				1.40	64.20		Creamy white clayey structureless CHALK. Recovered as fine to coarse angular gravel. <i>1.40 - 1.60m bgl - Band of flint/ chert.</i>		
	1.70	B		2.60	63.00		End of Pit at 2.60m		
Remarks: No groundwater encountered.									
Stability: Plant: 10T tracked excavator									



Trial Pit Log

TrialPit No
TP-R1-10
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526066.78 - 234555.08 Level: 73.14	Date 28/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.50 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.60	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.40	ES		0.30 0.45	72.84 72.69	  	TOPSOIL: Grey friable slightly sandy slightly gravelly CLAY. Gravel is fine to medium of sub angular chalk. Light brown friable very sandy slightly gravelly CLAY. Gravel is fine subangular chalk. Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel.	1 2 3 4
	2.00	B		2.60	70.54		End of Pit at 2.60m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-R1-09
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526056.95 - 234587.41 Level: 72.99	Date 28/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.50 Depth 2.40	Scale 1:20
Client: Urban & Civic			Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.30	72.69		TOPSOIL: Grey friable slightly sandy slightly gravelly CLAY. Gravel is fine to medium sub angular chalk.	
	1.50	B		2.40	70.59		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.	
							End of Pit at 2.40m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-R1-08
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526063.32 - 234627.79 Level: 73.17	Date 28/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.70 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.80	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.15	ES		0.30	72.87		TOPSOIL: Grey friable slightly sandy slightly gravelly CLAY. Gravel is fine to medium of sub angular chalk and angular flint.	
	1.00	B					Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles and orangish brown staining of fissures.	1
	2.00	D						2
				2.80	70.37		End of Pit at 2.80m	3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-R1-07
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526039.57 - 234655.81 Level: 72.45	Date 28/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.60 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.50	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.30	72.15		TOPSOIL: Grey friable slightly sandy slightly gravelly CLAY. Gravel is fine to medium of sub angular chalk and angular flint.	
	1.50	B		2.50	69.95		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles and orangish brown staining of fissures.	1 2 3 4
							End of Pit at 2.50m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-148
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525334.29 - 234332.68 Level: 67.09	Date 30/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.30 Depth 2.50	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.30	66.79		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.50	ES		0.70	66.39		Brown friable very sandy slightly gravelly CLAY/ very clayey SAND. Gravel is fine to medium subangular chalk.	
	1.20	B		2.50	64.59		Brownish cream very sandy gravel of fine to coarse CHALK with occasional coarse flint.	
							End of Pit at 2.50m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-149
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525426.56 - 234348.03 Level: 66.99	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.20 Depth 2.60	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.15	ES		0.30	66.69		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.60	ES		0.85	66.14		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
	1.50	B		2.00	64.99		Brown and grey very sandy gravel of fine to coarse CHALK with rare flint/chert and some sandy pockets.	1
				2.60	64.39		Cream and white clayey structureless CHALK. Recovered as fine to coarse angular gravel. <i>2.10 - 2.30m bgl - Band of flint/ chert.</i>	2
							End of Pit at 2.60m	3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-144
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525338.00 - 234397.52 Level: 65.62	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.20 Depth 2.80	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.30	65.32		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.60	B		0.90	64.72		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
	1.50	ES		2.80	62.82		Brownish grey very sandy GRAVEL. Gravel is fine to coarse subangular chalk and coarse angular flint.	1 2 3 4
							End of Pit at 2.80m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-145
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525487.86 - 234384.25 Level: 67.00	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.40 Depth 2.60	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.15	ES		0.25	66.75		Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.60	B		0.80	66.20		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
							Brown and cream very sandy gravel of fine to coarse CHALK with rare flint/chert and occasional sandy pockets.	1
	2.10	ES		2.00	65.00		Cream and white clayey structureless CHALK. Recovered as fine to coarse angular gravel. <i>2.00 - 2.20m bgl - Band of flint/ chert.</i>	2
				2.60	64.40		End of Pit at 2.60m	3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-138
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525521.95 - 234472.92 Level: 66.09	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.50 Depth 2.70	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is sub angular fine to medium chalk.	
	0.45	B		0.30	65.79		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
				0.50	65.59		Cream becoming white clayey structureless CHALK. Recovered as fine to coarse angular gravel. <i>0.50 - 0.80m bgl - Band of flint/chert.</i>	
	1.70	ES					End of Pit at 2.70m	
				2.70	63.39			

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-139
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525795.84 - 234495.35 Level: 67.79	Date 28/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.00 Depth 2.50	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES		0.30	67.49		Greyish brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	1.30	B		1.60	66.19		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.
							End of Pit at 2.50m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-127
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526134.50 - 234575.49 Level: 74.35	Date 28/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.00 Depth 1.50	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.25	74.10		Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	0.90	B		1.50	72.85		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.
							End of Pit at 1.50m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-125
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525795.84 - 234549.58 Level: 68.28	Date 28/11/2023
-----------------------	------------------	--	--------------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.10	Scale 1:20
Client: Urban & Civic	Depth 2.00	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.30	67.98		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	0.90	B		2.00	66.28		Cream becoming white clayey structureless CHALK. Recovered as fine to coarse angular gravel. Becoming hard by end of trial pit.
							End of Pit at 2.00m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-126
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525943.88 - 234549.15 Level: 70.51	Date 28/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.60	Scale 1:20
--	-------------------------	------------

Client: Urban & Civic	Depth 2.60	Logged RP
-----------------------	------------	-----------

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.30	70.21		Greyish brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	
	0.70	ES					Cream becoming white clayey structureless CHALK. Recovered as fine to coarse angular gravel.	1
	1.50	B		2.60	67.91		End of Pit at 2.60m	2
								3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-114
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525923.37 - 234628.79 Level: 70.81	Date 28/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.60 Depth 2.60	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.28	70.53		Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	
	0.50	B		0.60	70.21		Light brownish grey sandy structureless CHALK recovered as gravel.	
	1.50	ES					Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel.	
				2.60	68.21		End of Pit at 2.60m	

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-115
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525986.69 - 234636.59 Level: 71.99	Date 28/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.70 Depth 2.60	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES					Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	0.40	B		0.30	71.69		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine subangular chalk.
				0.55	71.44		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel.
	1.80	ES					
				2.60	69.39		End of Pit at 2.60m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-128
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526378.31 - 234694.89 Level: 77.98	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.80 Depth 2.40	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.25	77.73		Grey friable slightly sandy slightly gravelly TOPSOIL. Gravel is fine to medium sub angular chalk.
	1.30	B					Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.
				2.40	75.58		End of Pit at 2.40m

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-116
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526150.99 - 234644.01 Level: 73.84	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.60 Depth 2.50	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.30	73.54		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk and flint.	
	0.50	ES		0.90	72.94		Brownish cream CHALK recovered as sandy fine to coarse angular gravel.	1
	1.50	B		2.50	71.34		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.	2
							End of Pit at 2.50m	3
								4

Remarks: No groundwater encountered.

Stability: Stable

Plant: 10T tracked excavator





Trial Pit Log

Trial Pit No
TP-092
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526142.42 - 234717.35 Level: 73.59	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.10 Depth 2.00	Scale 1:20
Client: Urban & Civic			Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.25	73.34		Greyish brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	1.00	B					Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles.	1
	1.80	ES		2.00	71.59		End of Pit at 2.00m	2
								3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-093
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526218.86 - 234699.73 Level: 74.11	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.80 Depth 2.60	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.25	73.86		Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	0.60	B		1.10	73.01		Light brown friable very sandy slightly gravelly CLAY. Gravel is fine subangular chalk.
	1.60	ES		2.60	71.51		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles. <i>1.10 - 1.30m - Including chert/flint.</i>
							End of Pit at 2.60m

Remarks: No groundwater encountered.

Stability: Stable
Plant: 10T tracked excavator





Trial Pit Log

Trial Pit No
TP-094
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526297.98 - 234726.83 Level: 75.07	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 1.70 Depth 1.65	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.15	ES		0.30	74.77		Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.
	0.50	ES		0.60	74.47		Light brown friable very sandy slightly gravelly CLAY. Gravel is fine subangular chalk.
	1.20	B		1.65	73.42		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles. 0.60 - 0.80m bgl - Brown staining observed within chalk.
							End of Pit at 1.65m

Remarks: No groundwater encountered.	
Stability: Stable Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-095
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 526373.29 - 234764.17 Level: 76.38	Date 27/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.80 Depth 2.70	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					Grey brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	
	0.40	ES		0.30	76.08		Light brown friable very sandy slightly gravelly CLAY. Gravel is fine subangular chalk.	
				0.50	75.88		Cream clayey structureless CHALK. Recovered as fine to coarse angular gravel with occasional cobbles. <i>0.50 - 0.80m bgl - Brown staining observed within chalk.</i>	
	2.00	B					End of Pit at 2.70m	
				2.70	73.68			

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

Trial Pit No
TP-137
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525519.36 - 234462.99 Level: 65.94	Date 29/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 1.80	Scale 1:20
--	----------------------	------------

Client: Urban & Civic	Depth 1.70	Logged RP
-----------------------	------------	-----------

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.25	ES					Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	
	0.50	ES		0.40	65.54		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
				0.60	65.34		Brownish cream very sandy gravel of fine to coarse CHALK with rare flint/chert.	
	1.10	B					End of Pit at 1.70m	1
				1.70	64.24			2
								3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-R4-07
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525556.11 - 234463.91 Level: 66.13	Date 29/11/2023
Location: Baldock, North Hertfordshire		Dimensions (m): 2.20 Depth 2.50	Scale 1:20 Logged RP
Client: Urban & Civic			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.15	ES					Brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.40	D		0.30	65.82		Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
				0.50	65.62		Brownish cream very sandy gravel of fine to coarse CHALK with rare flint/chert.	
				1.40	64.72		Creamy white clayey structureless CHALK. Recovered as fine to coarse angular gravel. <i>1.40 - 1.60m bgl - Band of flint/ chert.</i>	1
	1.70	B						2
				2.50	63.62		End of Pit at 2.50m	3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-R5-08
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525708.56 - 234494.28 Level:	Date 28/11/2023
-----------------------	------------------	--	--------------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.70 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.50	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.35			Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.70	B		0.90			Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine subangular chalk.	
				2.50			Cream becoming white clayey structureless CHALK. Recovered as fine to coarse angular gravel. Becoming hard at the end of trial pit.	1
							End of Pit at 2.50m	2
								3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Trial Pit Log

TrialPit No
TP-R5-09
Sheet 1 of 1

Project Name: Baldock	Project No. 2899	Co-ords: 525719.40 - 234473.39 Level:	Date 28/11/2023
-----------------------	------------------	--	-----------------

Location: Baldock, North Hertfordshire	Dimensions (m): 2.65 0.75	Scale 1:20
Client: Urban & Civic	Depth 2.50	Logged RP

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30			Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to medium chalk.	
	0.50	ES					Light brown friable very sandy slightly gravelly CLAY/ Clayey SAND. Gravel is fine to medium subangular chalk.	
	0.60	ES					Cream becoming white clayey structureless CHALK. Recovered as fine to coarse angular gravel.	1
				0.90			0.90 - 1.10m bgl - Band of flint/chert.	
	1.60	B						2
				2.50			End of Pit at 2.50m	3
								4

Remarks: No groundwater encountered.	
Stability: Stable	
Plant: 10T tracked excavator	



Windowless Sample Log

Borehole No.

WS-26

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 526243E - 234765N

Hole Type
WLS

Location: Baldock, North Hertfordshire

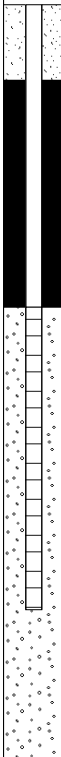
Level: 76.26

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES		0.30	75.96		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk. TOPSOIL.	1
		0.50 - 0.60	D					Structureless CHALK recovered as slightly sandy slightly silty gravelly fine to coarse GRAVEL. Clasts are weak low density light cream. Matrix is light brown.	
		1.00	SPT		N=48 (6,9/12,11,10,15)	0.80	75.46		
		1.20 - 1.30	D						
		1.50	SPT	N=63 (7,14/12,13,17,21)					
		2.00 - 2.20	D		2.50	73.76		End of Borehole at 2.50m	2
									
									3
									4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-36

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 526321E - 234667N

Hole Type
WLS

Location: Baldock, North Hertfordshire

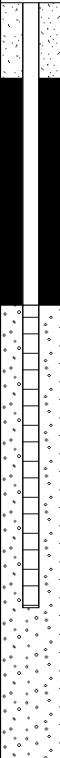
Level: 76.86

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES					Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and occasional flint. TOPSOIL	
		0.40 - 0.50	D		0.30	76.56		Structureless CHALK recovered as slightly sandy slightly silty gravelly fine to coarse GRAVEL. Clasts are very weak and weak low density light brown. Matrix is light brown.	
					0.50	76.36		Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is cream	
		1.00	SPT	N=21 (2,3/4,5,6,6)					1
		1.30 - 1.40	D						
		2.00	SPT	N=50 (7,6/9,16,15,10)					2
					2.50	74.36		End of Borehole at 2.50m	3
									4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-34

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 526096E - 234699N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 72.39

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	D		0.30	72.09		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk. TOPSOIL	1
		0.40 - 0.50	ES					Very soft to soft friable light brown sandy gravelly CLAY. Gravel is fine to coarse angular to subangular and includes chalk and flint.	
		1.00 - 1.20	D		1.10	71.29		Structureless CHALK recovered as slightly sandy slightly silty gravelly fine to coarse GRAVEL. Clasts are very weak and weak low density light brown. Matrix is light brown.	
		1.00	SPT	N=18 (3,4/4,5,5,4)				Structureless CHALK recovered as slightly sandy silty sub angular and sub rounded fine to coarse GRAVEL. Clasts are very weak and weak low and medium density light brown and cream . Matrix is light brown	
		2.00 - 2.20	D						
		2.00	SPT	N=23 (7,9/6,6,6,5)					
		3.00	SPT	N=21 (5,3/3,5,6,7)					3
		3.50 - 3.60	D						
		4.00	SPT	N=37 (9,9/7,5,11,14)					4
					4.50	67.89		End of Borehole at 4.45m	5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-47

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 526032E - 234556N

Hole Type
WLS

Location: Baldock, North Hertfordshire

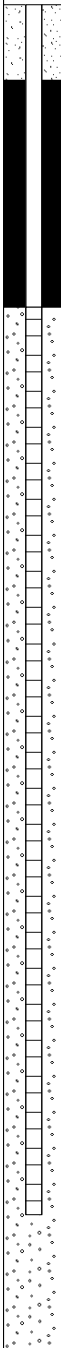
Level: 72.31

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10 - 0.20	ES		0.30	72.01		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1	
		0.50 - 0.60	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low cream/white. Matrix is white with light brown staining.		
		1.00	SPT	N=31 (3,5/6,7,9,9)	0.80	71.51		Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.		2
		1.50 - 1.60	D							
		2.00	SPT	N=24 (4,6/6,5,6,7)						
		3.00 - 3.20 3.00	D SPT	N=41 (6,4/6,7,10,18)		3				
										
										
										
										
										
										
										
										
		4.00	SPT	N=39 (10,9/6,8,10,15)					4	
										
				4.45	67.86		End of Borehole at 4.45m	5		

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-46

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525884E - 234565N

Hole Type
WLS

Location: Baldock, North Hertfordshire

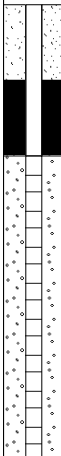
Level: 69.62

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10 - 0.20	ES	N=27 (3,6/7,7,6,7)	0.30	69.32		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL.		
		0.60 - 0.70	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.		
		1.00	SPT							
		1.30 - 1.50	D							
		2.00	SPT	N=32 (11,8/8,8,8,8)	1.55	68.07	End of Borehole at 1.55m		2	
		3.00	SPT	N=50 (8,9/14,8,14,14)					3	
										4
										5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-45

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525740E - 234542N

Hole Type
WLS

Location: Baldock, North Hertfordshire

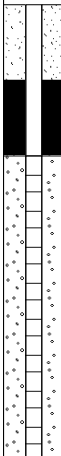
Level: 67.31

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES	N=57 (6,10/11,11,14,21)	0.25	67.06		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and occasional flint. TOPSOIL.	1
		0.40 - 0.50	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		1.00 - 1.20 1.00	D SPT						
		1.40	SPT		63 (12,16/29,34,,)				
					1.50	65.81		End of Borehole at 1.50m	2
									3
									4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-50

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525572E - 234477N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 66.07

Scale
1:25

Client: Urban & Civic

Dates: 22/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES		0.35	65.72		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.60 - 0.70	D		0.70	65.37		Very Soft light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular and includes flint and chalk.	
		1.00	SPT	N=38 (4,10/9,10,10,9)				Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low cream/white. Matrix is white with light brown staining.	
		1.50 - 1.60	D		1.40	64.67		Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	2
		2.00	SPT	N=29 (7,8/8,7,7,7)					
		2.50 - 2.60	D						
		3.00	SPT	N=38 (8,8/10,9,10,9)					3
		3.80 - 4.00	D						
		4.00	SPT	N=33 (12,11/7,8,10,8)					
					4.45	61.62		End of Borehole at 4.45m	4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-52

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525403E - 234403N

Hole Type
WLS

Location: Baldock, North Hertfordshire

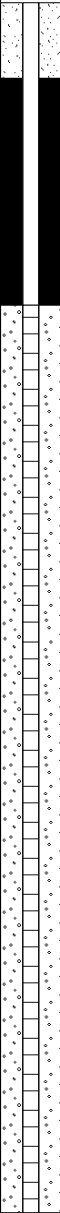
Level: 66.17

Scale
1:25

Client: Urban & Civic

Dates: 22/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	D		0.30	65.87		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.50 - 0.60	ES		0.80	65.37		Very soft light brown friable very sandy CLAY with occasional gravels. Sand is fine to medium. Gravel is fine to coarse angular to subrounded of flint and chalk.	
		1.00 - 1.20 1.00	D SPT	N=38 (9,10/11,8,10,9)	1.50	64.67		Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is light brown.	
		1.50 - 1.70	D		1.70	64.47		Light brown fine to coarse grained slightly gravelly SAND.	2
		2.00	SPT	N=19 (1,2/4,4,5,6)				Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		2.80 - 3.00	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		3.00	SPT	N=28 (6,6/7,2,5,14)				Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	3
		4.00 - 4.20 4.00	D SPT	N=74 (8,21/16,16,16,26)	4.28	61.89		End of Borehole at 4.28m	4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.

WS-53

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525727E - 234411N

Hole Type
WLS

Location: Baldock, North Hertfordshire

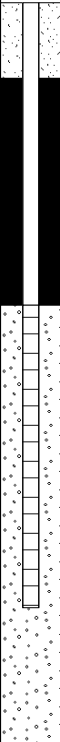
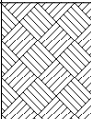
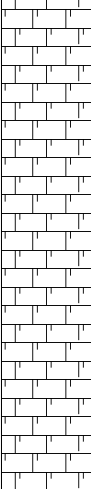
Level: 66.77

Scale
1:25

Client: Urban & Civic

Dates: 22/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	D	N=28 (3,5/7,6,7,8)	0.40	66.37		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.50 - 0.60	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low density cream/white. Matrix is white with light brown staining.	
		1.00 - 1.20 1.00	D SPT		0.80	65.97		<u>Angular coarse gravels of flint noted.</u>	
		2.00 - 2.20 2.00	D SPT					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
					2.45	64.32		End of Borehole at 2.45m	2
									3
									4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.
WS-R1-03
Sheet 1 of 1

Project Name:	Baldock	Project No.	2899	Co-ords:	526046E - 234667N	Hole Type	WLS
Location:	Baldock, North Hertfordshire			Level:	72.28	Scale	1:25
Client:	Urban & Civic			Dates:	23/11/2023	Logged By	RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES		0.30	71.98		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.40 - 0.50	D					Structureless CHALK recovered as sandy angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low density white. Matrix is light brown.	
		1.00 - 1.20 1.00	D SPT	N=27 (4,8/9,5,5,8)	0.80	71.48		Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		2.00 - 2.20 2.00	D SPT	N=32 (3,8/7,6,9,10)					
		3.00 - 3.20 3.00	D SPT	N=48 (7,12/10,8,14,16)	3.45	68.83		End of Borehole at 3.45m	3
									4
									5

Remarks
No groundwater encountered.





Windowless Sample Log

Borehole No.
WS-R1-04
Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 526058E - 234619N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 73.20

Scale
1:25

Client: Urban & Civic

Dates: 23/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		0.10 - 0.20	ES	N=27 (4,5/7,7,7,6)	0.30	72.90		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL.			
		0.60 - 0.70	D					Structureless CHALK recovered as slightly sandy angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low density white. Matrix is light brown.			
		1.00	SPT		N=35 (12,16/10,6,8,11)	0.70	72.50			Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is off white.	
		1.40 - 1.50	D								
		1.55	SPT								
		2.00	SPT					N=53 (5,9/13,11,13,16)			
		2.45									

Remarks
No groundwater encountered.





Windowless Sample Log

Borehole No.
WS-R2-03

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525266E - 234369N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 65.78

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
HB

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES		0.30	65.48		Grass over TOPSOIL - Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to sub-angular of chert.	1
		0.40 - 1.00	D					Orangish brown slightly gravelly SAND. Gravel is sub-angular fine to coarse flint.	
		1.00	SPT	N=49 (3,5/11,13,13,12)	1.20	64.58			
		1.40 - 1.50	D					Structureless CHALK composed of cream and white mottled gravelly SILT. Gravel consist of very weak medium density angular to sub-angular fine to coarse chalk, Grade D.	
		1.70 - 1.80	D		1.60	64.18		Yellowish brown gravelly SAND. Gravel is anuglar fine to coarse chalk and flint.	2
		2.00	SPT	N=26 (7,8/9,8,5,4)					
		2.40 - 2.50	D		2.20	63.58		Structureless CHALK composed of cream and white mottled gravelly SILT. Gravel consist of very weak medium density angular to sub-angular fine to coarse chalk, Grade D.	
		3.00	SPT	N=13 (2,2/2,4,3,4)					
					3.45	62.33			3
								End of Borehole at 3.45m	4
									5

Remarks

No groundwater identified





Windowless Sample Log

Borehole No.
WS-R2-04

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525281E - 234306N

Hole Type
WLS

Location: Baldock, North Hertfordshire

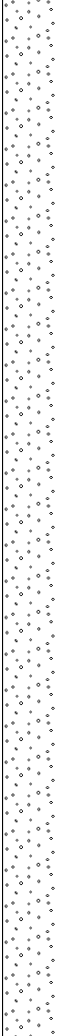
Level: 67.85

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
HB

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10 - 0.15	D	N=29 (3,6/7,6,8,8)	0.30	67.55		Grass over TOPSOIL - Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to sub-angular of chert.	1	
		0.40 - 0.50	ES					Soft to firm brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse flint.		
		0.60			1.00	67.25		Firm light brown slightly sandy slightly gravelly CLAY. Gravel is sub-rounded fine to coarse chalk.		
		0.90 - 1.00	D					Light brown mottled white silty sub-angular GRAVEL of chalk and flint.		
		1.00	SPT	N=20 (5,3/2,6,5,7)	1.50	66.85				
		1.20 - 1.30	D							
		1.60 - 1.70	D							
		2.00	SPT	N=17 (4,3/5,3,4,5)	3.45	66.35		Structureless CHALK composed of cream, brown and white mottled gravelly SILT. Gravel consist of very weak medium density angular to sub-angular fine to coarse chalk, Grade D.		2
		3.00	SPT						3	

Remarks
No groundwater identified





Windowless Sample Log

Borehole No.
WS-R3-03
Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525243E - 234356N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 65.90

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
HB

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description					
		Depth (m)	Type	Results									
		0.05 - 0.10	D	N=27 (3,4/5,6,7,9)	0.15	65.75		Grass over TOPSOIL - Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to sub-angular of chert.	1				
		0.40 - 0.50	ES		0.80	65.10		Orangish brown sandy CLAY.					
		0.90 - 1.00	D					Yellowish brown gravelly SAND. Gravel is anuglar fine to coarse chalk and flint.					
		1.00	SPT										
		1.20 - 1.50	D	N=33 (6,7/8,8,9,8)	1.60	64.30		Structureless CHALK composed of cream, brown and white mottled gravelly SILT. Gravel consist of very weak medium density angular to sub-angular fine to coarse chalk and flint, Grade D.	2				
		2.00	SPT		1.90	64.00		Yellowish brown mottled white gravelly SAND. Sand is fine. Gravel is angular fine to coarse flint and chalk.					
		2.30 - 2.40	D										
		3.00	SPT										
		3.20 - 3.45	D										
				N=9 (3,3/2,2,2,3)	3.45	62.45		End of Borehole at 3.45m	3				
										4			
										5			

Remarks
No groundwater identified





Windowless Sample Log

Borehole No.
WS-R3-04

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525252E - 234320N

Hole Type
WLS

Location: Baldock, North Hertfordshire

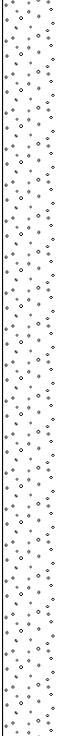
Level:

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
HB

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10 - 0.15	D	N=12 (1,2/2,3,3,4)	0.30			Grass over TOPSOIL - Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to sub-angular of chert.	1	
		0.40 - 0.50	D					Orangish brown slightly gravelly SAND. Gravel is sub-angular fine to coarse flint.		
		1.00 - 1.10 1.00	ES SPT		1.00			Cream, brown and white mottled gravelly silty SAND. Gravel is angular fine to coarse flint and chalk.		
		1.60 - 1.70	D	N=52 (10,12/17,13,12,10)	2.45			End of Borehole at 2.45m	2	
		2.00 - 2.10 2.00	D SPT						3	
									4	
									5	

Remarks

No groundwater identified





Windowless Sample Log

Borehole No.

WS-46

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525884E - 234565N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level: 69.62

Scale
1:25

Client: Urban & Civic

Dates: 21/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	ES		0.30	69.32		Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.60 - 0.70	D					Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		1.00	SPT	N=27 (3,6/7,7,6,7)					
		1.30 - 1.50	D						
		2.00	SPT	N=32 (11,8/8,8,8,8)					
		3.00	SPT	N=50 (8,9/14,8,14,14)	3.45	66.17		End of Borehole at 1.55m	3
									4
									5

Remarks

No groundwater encountered.





Windowless Sample Log

Borehole No.
WS-R2-04

Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525281E - 234306N

Hole Type
WLS

Location: Baldock, North Hertfordshire

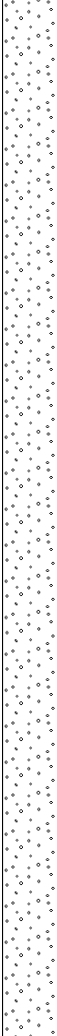
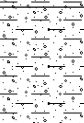
Level: 67.85

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
HB

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		0.10 - 0.15	D	N=29 (3,6/7,6,8,8)	0.30	67.55		Grass over TOPSOIL - Brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to sub-angular of chert.	1		
		0.40 - 0.50	ES			67.25		Soft to firm brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse flint.			
		0.90 - 1.00	D		1.00	66.85		Firm light brown slightly sandy slightly gravelly CLAY. Gravel is sub-rounded fine to coarse chalk.			
		1.00	SPT								
		1.20 - 1.30	D	N=20 (5,3/2,6,5,7)	1.50	66.35		Light brown mottled white silty sub-angular GRAVEL of chalk and flint.	2		
		1.60 - 1.70	D								
		2.00	SPT		N=17 (4,3/5,3,4,5)	3.45	64.40			Structureless CHALK composed of cream, brown and white mottled gravelly SILT. Gravel consist of very weak medium density angular to sub-angular fine to coarse chalk, Grade D.	3
							End of Borehole at 3.45m	4			
								5			

Remarks

No groundwater identified





Windowless Sample Log

Borehole No.
WS-R5-04
Sheet 1 of 1

Project Name: Baldock

Project No.
2899

Co-ords: 525727E - 234457N

Hole Type
WLS

Location: Baldock, North Hertfordshire

Level:

Scale
1:25

Client: Urban & Civic

Dates: 22/11/2023

Logged By
RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	ES	N=28 (5,5/6,7,8,7)	0.35			Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.50 - 0.60	D					Very soft to soft friable light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to sub angular of chalk and flint.	
		1.00	SPT					Structureless CHALK recovered as sandy angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low density light brown cream. Matrix is light brown.	
		1.50 - 1.60	D	N=24 (4,5/7,5,7,5)	1.20			Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white and light brown staining.	2
		2.00	SPT						
		3.00	SPT	N=65 (5,8/10,19,15,21)	3.45				3
					3.45				4
					3.45				5
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				
					3.45				



Windowless Sample Log

Borehole No.
WS-R5-03
Sheet 1 of 1

Project Name:	Baldock	Project No.	2899	Co-ords:	525704E - 234509N	Hole Type	WLS
Location:	Baldock, North Hertfordshire			Level:		Scale	1:25
Client:	Urban & Civic			Dates:	22/11/2023	Logged By	RK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.15	D		0.30			Scrub grass over brown friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is fine to coarse, angular to sub rounded of chalk and flint. TOPSOIL	1
		0.50 - 0.60	ES		0.70			Very soft to soft friable light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to sub angular of chalk and flint.	
		1.00 - 1.20 1.00	D SPT	N=30 (3,5/7,7,8,8)	1.40			Structureless CHALK recovered as sandy angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density light cream. Matrix is light brown.	
		2.00 - 2.20 2.00	D SPT	N=31 (4,3/4,7,10,10)				Structureless CHALK recovered as angular to subrounded fine to coarse GRAVEL. Clasts are very weak to weak low and medium density white. Matrix is white.	
		3.00 - 3.45 3.00	D SPT	N=33 (8,9/8,9,8,8)	3.40			End of Borehole at 3.40m	3
									4
									5

Remarks
No groundwater encountered.





Rotary Core Log

Borehole No.

RO-12

Sheet 1 of 1

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526338.46 - 234801.54

Location: Baldock, North Hertfordshire

Level: 77.34

Scale
1:50

Client: Urban & Civic

Dates: 23/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=25 (1,3/4,5,6,10) 1.20 - 2.00	C				0.30	77.04		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	1	
							1.20	76.14		Structureless CHALK composed of white silty angular fine to coarse GRAVEL. Gravel is extremely weak low to medium density chalk and rare black flint. (Grade Dc)		
							1.30	76.04		None Intact Core Recovery: White speckled black, orange brown sub-rounded coarse GRAVEL of very weak high density chalk.		
		2.00 - 3.50		63	0	0	1.70	75.64		Structureless CHALK composed of white slightly mottled orange brown gravelly SILT. Gravel is angular fine to coarse extremely to very weak medium density chalk. (Grade Dm).	2	
							2.00	75.34		Assessed Zone of Core Loss.		
				93	40	30				White speckled black slightly mottled orange brown very weak low to medium density CHALK with closely spaced sub-vertical undulating tight clean with black speckling fractures. (Grade A4)		
		3.50 - 5.00					3.40	73.94		Assessed Zone of Core Loss.	3	
							3.50	73.84		None Intact Core Recovery: White sub-angular fine to coarse GRAVEL of very weak mdium to high density chalk.		
				100	0	0	4.20	73.14		Structureless CHALK composed of white occasionally mottled orange brown silty GRAVEL. Gravel is sub-angular fine to coarse extremely to very weak medium density chalk. (Grade Dc).		
		5.16 - 5.68					5.00	72.34		White with occasional light orange brown staining extremely weak to very weak medium density CHALK with core disturbance due to steeply inclined/vertical fractures. Horizontal/bedding fractures are closely spaced undulating rough tight clean. Vertical fractures are undulating rough tight clean with some brown staining. (Grade A4)	5	
		5.00 - 6.50		97	71	64				Assessed Zone of Core Loss.	6	
		7.07 - 7.20 6.50 - 8.00					6.46	70.88		White extremely weak to very weak medium density CHALK with horizontal to sub-vertical fracture. Fractures are closely to medium spaced undulating rough locally striated tight clean with some grey and brown staining. (Grade A4)	7	
				100	18	18	6.50	70.84		Assessed Zone of Core Loss.		
										Assessed Zone of Core Loss.		
		8.00 - 9.50		100	33	19				Assessed Zone of Core Loss.	8	
										Assessed Zone of Core Loss.	9	
										Assessed Zone of Core Loss.	10	
						9.50	67.84		End of Borehole at 9.50m			

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-17

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526038.34 - 234683.45

Location: Baldock, North Hertfordshire

Level: 71.64

Scale
1:25

Client: Urban & Civic

Dates: 24/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=17 (2,2/3,3,6,5)	C				0.30	71.34		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	1	
										Structureless CHALK composed of white silty angular fine to coarse GRAVEL. Gravel is extremely weak low to medium density chalk and rare black flint. (Grade Dc)		
		1.20 - 2.00					1.20 1.25	70.44 70.39		None Intact Core Recovery: White sub-angular coarse GRAVEL of high density chalk and shattered nodular flint (brown externally and black internally).	2	
				88	0	0				Structureless CHALK composed of white silty sub-angular fine to coarse GRAVEL of extremely weak to very weak medium to high density chalk and flint. (Grade Dc)		
		2.00 - 3.50 2.83 - 2.90					1.90 2.00	69.74 69.64		Assessed Zone of Core Loss.	3	
				100	93	40				White locally speckled black and orange brown extremely weak low to medium density CHALK with core disturbance due to steeply inclined fractures. Horizontal fracture are obscured due to core disturbance. Inclined/vertical fractures are planar to undulating rough tight clean with light orange brown staining. (Grade A5) <u>None Intact between 2.00m and 2.10m depth.</u>		
		3.90 - 4.05								None Intact between 2.00m and 2.10m depth. With light grey staining.	4	
										None Intact between 2.00m and 2.10m depth. With light grey staining.		
		3.50 - 5.00										5
				97	93	14				Assessed Zone of Core Loss.		
							4.95 5.00	66.69 66.64		Continued on Next Sheet		

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-17

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526038.34 - 234683.45

Location: Baldock, North Hertfordshire

Level: 71.64

Client: Urban & Civic

Dates: 24/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50	C	96	92	47	6.44 6.50	65.20 65.14		White extremely weak low to medium density CHALK with core disturbance due to steeply inclined fractures. Horizontal fracture are obscured due to core disturbance. Inclined/ vertical fractures are planar to undulating rough tight clean with light orange brown staining. (Grade A5) <u>None Intact between 2.00m and 2.10m depth.</u>	6
		6.50 - 8.00		93	90	39				Assessed Zone of Core Loss. White locally grey brown and orange brown extremely weak low to medium density CHALK with core disturbance due to steeply inclined fractures. Horizontal fracture are obscured due to core disturbance. Inclined/ vertical fractures are planar to undulating rough tight clean with light grey brown and orange brown staining. (Grade A5) <u>None Intact between 6.50m and 6.55m depth.</u>	7
		7.70 - 7.79					7.90	63.74		<u>None Intact between 7.80m and 7.90m depth.</u>	
		8.03 - 8.20					8.00	63.64		Assessed Zone of Core Loss.	8
		8.00 - 9.50	C	100	91	16				White locally speckled black and orange brown extremely weak low to medium density CHALK with core disturbance due to steeply inclined fractures. Horizontal fracture are very closely to closely spaced undulating rough tight clean with grey brown staining. Inclined/ vertical fractures are planar to undulating rough tight clean with orange brown staining. (Grade A4) <u>None Intact between 8.36m and 8.50m depth.</u>	9
							9.50	62.14		End of Borehole at 9.50m	10

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-18

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525874.25 - 234609.38

Location: Baldock, North Hertfordshire

Level: 69.92

Client: Urban & Civic

Dates: 28/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=35 (1,3/16,5,6,8) 1.20 - 2.00	C				0.30	69.62		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	1	
										Structureless CHALK composed of white silty angular fine to coarse GRAVEL. Gravel is extremely weak low to medium density chalk and rare black flint. (Grade Dc)		
							1.20 1.30	68.72 68.62		None Intact Core Recovery: White sub-angular coarse GRAVEL of very weak medium density chalk.		
							90 0 0			None Intact Core Recovery: White silty sub-angular to angular coarse GRAVEL of very weak low to medium density chalk.		
		2.00 - 3.50					1.92 2.00	68.00 67.92		Assessed Zone of Core Loss.	2	
										White extremely weak low to medium density CHALK with core disturbance due to steeply inclined fractures. Horizontal fracture are obscured due to core disturbance. Inclined/ vertical fractures are undulating rough tight clean. <i>None Intact between 2.00m and 2.15m depth.</i>		
				3.33 - 3.50							White speckled black slightly orange brown extremely weak medium density CHALK with core disturbance due to steeply inclined/ vertical fractures. Horizontal fractures are very closely to closely spaced undulating rough tight clean with ligh brown staining. Inclined/ vertical fractures are undulating rough tight clean with ligh brown staining <i>None Intact between 3.60m and 3.95m depth.</i>	3
		3.50 - 5.00								Continued on Next Sheet	4	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-18

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525874.25 - 234609.38

Location: Baldock, North Hertfordshire

Level: 69.92

Client: Urban & Civic

Dates: 28/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50	C	100	0	0				White speckled black slightly orange brown extremely weak medium density CHALK with core disturbance due to steeply inclined/ vertical fractures. Horizontal fractures are very closely to closely spaced undulating rough tight clean with ligh brown staining. Inclined/ vertical fractures are undulating rough tight clean with ligh brown staining	6
		6.00 - 6.12									
		6.74 - 6.90	C								7
		6.50 - 8.00		100	0	0					
		8.00 - 9.50		100	0	0					8
							9.50	60.42		End of Borehole at 9.50m	9
											10

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-19

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526219.92 - 234622.94

Location: Baldock, North Hertfordshire

Level: 74.76

Scale
1:25

Client: Urban & Civic

Dates: 23/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		N=15 (1,3/3,3,5,4) 1.20 - 2.00					1.45	73.31		White occasionally mottled orange brown silty angular coarse GRAVEL of extremely weak low to medium density chalk.	1
		2.00 - 3.50		100	0	0				Structureless CHALK composed of white silty sub-angular fine to coarse GRAVEL of extremely weak to very weak medium to high density chalk. (Grade Dc)	2
		3.50 - 5.00		97	0	0	3.45 3.50	71.31 71.26		Assessed Zone of Core Loss. No Recovery.	3
				0	0	0	5.00	69.76		Continued on Next Sheet	4
											5

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-19

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526219.92 - 234622.94

Location: Baldock, North Hertfordshire

Level: 74.76

Scale
1:25

Client: Urban & Civic

Dates: 23/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50		100	0	0				White locally slightly orange brown weak medium density CHALK with core disturbance due to steeply inclined fractures. Fractures are undulating rough clean with slight grey and orange brown staining. (Grade A5)	6
		6.50 - 8.00		92	0	0					
		8.00 - 9.50		97	67	67					
							7.88 8.00	66.88 66.76		Assessed Zone of Core Loss.	8
							9.45 9.50	65.31 65.26		White locally slightly orange brown weak medium density CHALK with core disturbance due to steeply inclined fractures. Fractures are undulating rough clean with slight grey and orange brown staining. (Grade A5)	
										Assessed Zone of Core Loss.	9
										End of Borehole at 9.50m	
											10

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-24

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525641.51 - 234504.65

Location: Baldock, North Hertfordshire

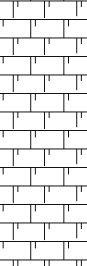
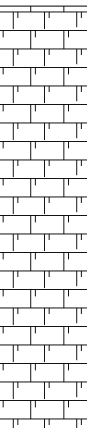
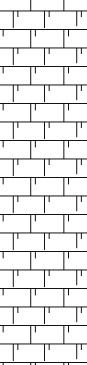
Level: 70.21

Client: Urban & Civic

Dates: 29/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description						
				TCR	SCR	RQD										
		N=23 (2,3/5,6,6,6)					0.30	69.91		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	1					
																Structureless CHALK composed of white silty angular fine to coarse GRAVEL. Gravel is extremely weak low to medium density chalk and rare black flint. (Grade Dc)
		1.20 - 2.00		75	0	0	1.20	69.01		None Intact Core Recovery: White angular to sub-angular coarse GRAVEL of extremely weak medium to high density chalk and black flint.	2					
							1.30	68.91		None Intact Core Recovery: White mottled orange brown silty angular fine to coarse GRAVEL of extremely weak medium to high density chalk.						
							1.80	68.41		Assessed Zone of Core Loss.						
		2.00 - 3.50		97	0	0	2.00	68.21		Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures.	3					
							3.45	66.76				Assessed Zone of Core Loss.				
							3.50	66.71				Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures.				
		3.50 - 5.00		87	0	0					Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures.	4				
4.80	65.41		Assessed Zone of Core Loss.													
5.00	65.21		Continued on Next Sheet													

Remarks

No groundwater identified. Terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-24

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525641.51 - 234504.65

Location: Baldock, North Hertfordshire

Level: 70.21

Scale
1:25

Client: Urban & Civic

Dates: 29/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description										
				TCR	SCR	RQD														
		5.00 - 6.50		85	0	0	6.28	63.93		Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures. <i>Non-intact between 5.00m and 5.25m.</i>	6									
										Assessed Zone of Core Loss.										
												6.50 - 8.00	100	0	0	6.50	63.71		Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures. (Grade C4)	7
																			Extremely weak low to medium density white with orange brown staining CHALK with core disturbance due to steeply inclined/vertical fractures. Vertical/steeply inclined fractures are rough tight with light brown/orange brown staining and black speckling. (Grade C4)	
		<i>Non-intact between 9.00m and 9.25m.</i>																		
				9.50	60.71		End of Borehole at 9.50m	10												

Remarks

No groundwater identified. Terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-25

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525915.10 - 234476.73

Location: Baldock, North Hertfordshire

Level: 69.37

Client: Urban & Civic

Dates: 07/12/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		N=34 (8,5/8,8,7,11) 1.20 - 2.00	C				1.30 1.35	68.07 68.02		Orange brown slightly gravelly clayey SAND. Gravel is chalk and brick.	1
		2.00 - 3.50 2.88 - 3.06		100	80	50				Structureless CHALK composed of white mottled brown silty sub-angular fine to coarse GRAVEL of low density chalk.	2
										White weak medium density CHALK with some core disturbance along steeply inclined/vertical fractures. Horizontal fractures are very closely to closely spaced undulating rough tight to moderately wide clean locally with silty gravel infill and grey brown staining. Inclined fractures are undulating rough tight clean with light orange brown staining. (Grade C5).	3
		3.50 - 5.00		100	95	89				None Intact between 3.67m and 3.74m depth.	4
										Continued on Next Sheet	5

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-25

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525915.10 - 234476.73

Location: Baldock, North Hertfordshire

Level: 69.37

Client: Urban & Civic

Dates: 07/12/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50	C	100	96	96	7.95 8.00	61.42 61.37		White weak medium density CHALK with some core disturbance along steeply inclined/vertical fractures. Horizontal fractures are very closely to closely spaced undulating rough tight to moderately wide clean locally with silty gravel infill and grey brown staining. Inclined fractures are undulating rough tight clean with light orange brown staining. (Grade C5).	6
		6.20 - 6.48									
		6.50 - 8.00	C	97	87	87				None Intact between 7.65m and 7.87m depth.	7
		8.00 - 9.50	C	100	57	49	9.50	59.87		Assessed Zone of Core Loss. White weak medium density CHALK with some core disturbance along steeply inclined/vertical fractures. Horizontal fractures are very closely to closely spaced undulating rough tight to moderately wide with grey brown staining and silty gravel infill. Inclined fractures are undulating rough tight clean with light orange brown staining. (Grade C5). None Intact between 8.14m and 8.78m depth.	8
		9.25 - 9.46									
										End of Borehole at 9.50m	10

Remarks
No groundwater identified





Borehole No.

RO-28

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525473.00 - 234419.90

Location: Baldock, North Hertfordshire

Level: 67.37

Client: Urban & Civic

Dates: 29/11/2023

Scale
1:25

Logged By
SJF

Remarks	
No groundwater identified	





Rotary Core Log

Borehole No.

RO-28

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525473.00 - 234419.90

Location: Baldock, North Hertfordshire

Level: 67.37

Client: Urban & Civic

Dates: 29/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50		100	0	0				White mottled orange brown extremely weak low to medium density CHALK with core disturbance due to steeply inclined/vertical fractures. Horizontal fractures are closely to medium spaced undulating rough tight to partly open with orange brown staining and silty angular fine gravel infil. Vertical fractures are undulating rough very tight to partly open with orange brown staining and silty angular fine gravel infil. (Grade C4) <i>None Intact between 5.40m and 5.60m depth.</i> <i>None Intact between 5.90m and 6.30m depth.</i>	6
		6.50 - 8.00		100	0	0				<i>None Intact between 6.60m and 6.80m depth.</i>	7
		8.00 - 9.50		90	43	0				Assessed Zone of Core Loss.	8
										<i>None Intact between 9.00m and 9.30m depth.</i>	9
							9.35	58.02		White extremely weak low to medium density CHALK with some core disturbance due to steeply inclined/vertical fractures and very closely spaced wispy marls. Horizontal fractures are closely spaced undulating rough tight to partly open with orange brown staining and silty angular fine gravel infil. Vertical fractures are undulating rough very tight to partly open with orange brown staining and silty angular fine gravel infil. (Grade C4) End of Borehole at 9.50m	10
							9.50	57.87			

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-27

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525285.02 - 234386.56

Location: Baldock, North Hertfordshire

Level: 65.31

Client: Urban & Civic

Dates: 30/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		N=36 (6,11/11,12,7,6)					0.40	64.91		Grey friable slightly sandy slightly gravelly clayey TOPSOIL. Gravel is angular to sub angular fine to coarse chalk.	1
										Structureless CHALK composed of white mottled brown and orange brown silty angular fine to coarse GRAVEL of extremely weak low density chalk. (Grade Dc)	
		1.20 - 2.00		59	0	0	1.67	63.64		Assessed Zone of Core Loss.	2
		2.00 - 3.50					2.00	63.31		Structureless CHALK composed of white mottled brown and orange brown silty angular fine to coarse GRAVEL of extremely weak low density chalk. (Grade Dc)	
				85	0	0	3.28	62.03		White extremely weak low to medium density CHALK with core disturbance due to steeply inclined/vertical fractures. Horizontal fractures are closely spaced undulating rough partly open to moderately wide with orange brown staining and silty angular fine gravel fill. Inclined fractures are undulating rough tight to partly open with orange brown staining and locally silty fine gravel infil. (Grade C4)	4
		3.50 - 5.00		84	25	0	4.76	60.55		Assessed Zone of Core Loss.	
							5.00	60.31		Continued on Next Sheet	5

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-27

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525285.02 - 234386.56

Location: Baldock, North Hertfordshire

Level: 65.31

Client: Urban & Civic

Dates: 30/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50		100	0	0				White extremely weak low to medium density CHALK with core disturbance due to steeply inclined/vertical fractures. Horizontal fractures are closely spaced undulating rough partly open to moderately wide with orange brown staining and silty angular fine gravel fill. Inclined fractures are undulating rough tight to partly open with orange brown staining and locally silty fine gravel infil. (Grade C4) <i>None Intact between 5.00m and 5.40m depth.</i> <i>None Intact between 5.60m and 5.90m depth.</i>	6
										<i>None Intact between 6.30m and 6.50m depth.</i>	
		6.50 - 8.00		85	12	0				<i>None Intact between 7.20m and 7.30m depth.</i> <i>None Intact between 7.50m and 7.77m depth.</i>	7
										Assessed Zone of Core Loss.	
		8.00 - 9.50		100	10	0				White extremely weak low to medium density CHALK with core disturbance due to steeply inclined/vertical fractures. Horizontal fractures are closely spaced undulating rough partly open to moderately wide with orange brown staining and silty angular fine gravel fill. Inclined fractures are undulating rough tight to partly open with orange brown staining and locally silty fine gravel infil. (Grade C4) <i>None Intact between 8.40m and 9.00m depth.</i>	8
											9
							9.50	55.81		End of Borehole at 9.50m	10

Remarks
No groundwater identified





Borehole No.

RO-35

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525373.82 - 233308.10

Location: Baldock, North Hertfordshire

Level:	78.77
--------	-------

Scale
1:25

Client: Urban & Civic

Dates: 19/03/2024

Logged By
TJS

Remarks
No groundwater identified. Borehole terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-35

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525373.82 - 233308.10

Location: Baldock, North Hertfordshire

Level: 78.77

Client: Urban & Civic

Dates: 19/03/2024

Scale
1:25

Logged By
TJS

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.52 - 5.69	C							Structureless weak low density white CHALK (A4) <i>horizontal, very close to closely, stepped to undulating rough to smooth very tight to open with chalk infill.</i>	
		5.00 - 6.50	7	100	79	49					
										Weak low density chalk (B4/B5) between 5.93 and 6.00m bgl. <i>Horizontal to oblique (50°), extremely close to close undulating to stepped rough to striated, very tight open with reddish brown staining.</i>	6
		6.60 - 6.80	C							Weak to moderately strong medium to high density chalk (A2/A3) between 6.00m and 9.50m bgl. <i>Horizontal to sub-horizontal (30°) very close to close, planar to undulating smooth to rough, very tight to open, clean to reddish brown surface staining.</i>	7
		6.50 - 8.00	5	96	88	73				<i>Horizontal to oblique (40°) very close to closely, undulating to stepped rough to striated, very tight to open, clean.</i>	
											8
		8.30 - 8.60	C							<i>horizontal to oblique (30° to 45°) close to medium spaced, undulating to stepped smooth to rough, very tight to open, clean to reddish brown surface staining.</i>	
		8.00 - 9.50	5	88	74	61				<i>horizontal to vertical, closely, stepped rough, very tight to open, clean with reddish brown surface staining.</i>	9
							9.50	69.27		End of Borehole at 9.50m	10

Remarks

No groundwater identified. Borehole terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-36

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525222.51 - 233273.26

Location: Baldock, North Hertfordshire

Level: 79.04

Client: Urban & Civic

Dates: 19/03/2024

Scale
1:25

Logged By
TJS

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.30	78.74		Scrub over TOPSOIL: Brown slightly clayey slightly silty slightly gravelly fine to medium SAND with high root content. Gravel is angular to sub-round fine to coarse and includes chalk, flint, chert and brick. Structureless weak, low density white CHALK (B4-B5).	
		50 (7,11/50 for 200mm)								Incipient fractures.	1
		1.20 - 2.00		86	0	0				Weak to moderately strong low to very high density chalk (A3/A5)	2
		2.00 - 3.50	14	91	63	0				Horizontal to oblique (35°) very close closely, undulating to stepped smooth to rough, very tight to tight, clean. horizontal, very close to closely, undulating to planar rough, very tight to tight, clean.	3
		4.10 - 4.23 3.50 - 5.00	C 10		79	50	29		 	Horizontal to oblique (35°) closely to medium spaced, planar to undulating smooth to rough, very tight to open, clean. Horizontal to sub-horizontal (15°) very close to closely, undulating to stepped rough, very tight to partly open, clean.	4
										Incipient fractures.	
										Horizontal, closely, undulating rough, tight, clean.	5
Continued on Next Sheet											

Remarks

No groundwater identified. Borehole terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-36

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525222.51 - 233273.26

Location: Baldock, North Hertfordshire

Level: 79.04

Client: Urban & Civic

Dates: 19/03/2024

Scale
1:25

Logged By
TJS

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.13 - 5.22	C							Structureless weak, low density white CHALK (B4-B5). <i>Horizontal to vertical, very close to closely, undulating to stepped rough, very tight to open, clean to reddish brown surface staining.</i>	6
		5.00 - 6.50	10	100	66	12					
		6.50 - 8.00		81	19	19				<i>Incipient fractures.</i>	
		8.00 - 9.50		97	35	35					
							9.50	69.54		End of Borehole at 9.50m	10

Remarks
No groundwater identified. Borehole terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-37

Sheet 1 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525428.31 - 233104.87

Location: Baldock, North Hertfordshire

Level: 87.66

Scale
1:25

Client: Urban & Civic

Dates: 19/03/2024

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=50 (8.9/50 for 265mm) 1.20 - 2.00 1.80 - 1.90	C				0.35	87.31		Grey brown slightly gravelly sandy silty clayey TOPSOIL. Gravel is angular fine chalk and sub-angular fine to coarse flint.	1	
										Structureless CHALK composed of white and light brown silty GRAVEL. Gravel is angular fine to coarse very weak low density chalk with a light brown silt matrix. (Grade Dc).		
							1.40	86.26			2	
							1.60	86.06		Brown and white mottled structureless CHALK composed of weak low to medium density silty GRAVEL.		
										Very weak medium density white mottled cream CHALK.	3	
										Horizontal Fracture - rough, closed to partly open with creamy brown staining.		
										Horizontal Fracture - rough, closed to partly open with creamy brown staining.	4	
							2.00	85.66		None Intact Core Recovery: Very weak medium density white mottled cream CHALK.		
							2.15	85.51		Very weak medium density white mottled cream CHALK.		
					2.55 - 2.65 2.00 - 3.50	C						
											Horizontal Fracture - rough closed light brown staining.	
											Horizontal Fracture - rough closed with no staining.	
											Horizontal Fracture - rough open with gravel infill.	
											Horizontal Fracture - rough partly open with yellow staining.	
			3.50 - 5.00	C				3.50	84.16		None Intact Core Recovery: Very weak medium density white mottled cream CHALK.	6
					3.79	83.87		Very weak medium density white mottled cream CHALK.				
									Vertical and sub-vertical fractures,			
	4.83 - 4.93	C				5.00	82.66			7		
									Continued on Next Sheet			

Remarks

No groundwater encountered. Terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-37

Sheet 2 of 2

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525428.31 - 233104.87

Location: Baldock, North Hertfordshire

Level: 87.66

Client: Urban & Civic

Dates: 19/03/2024

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50	C	90	35	13	5.14	82.52		None Intact Core Recovery: Very weak medium density white mottled cream CHALK. Very weak medium density white mottled cream CHALK. <i>Two sub-vertical fractures along entire core sample between 5.40 - 6.50m.</i>	6
		6.50 - 8.00 7.35 - 7.55		100	87	74				<i>Horizontal Fracture - rough closed with no staining.</i>	7
		8.68 - 9.06 8.00 - 9.50		82	77	63				<i>Horizontal Fracture - rough closed and no staining.</i> <i>Horizontal Fracture - rough, open, orange staining with some gravel infill.</i> <i>Horizontal Fracture - rough closed with orange staining.</i>	8 9
							9.50	78.16		End of Borehole at 9.50m	10

Remarks

No groundwater encountered. Terminated at scheduled depth.





Rotary Core Log

Borehole No.

RO-R1-03

Sheet 1 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526021.13 - 234672.39

Location: Baldock, North Hertfordshire

Level: 71.77

Client: Urban & Civic

Dates: 28/11/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.30	71.47		TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-angular fine to coarse chalk.	
										Structureless CHALK composed of white rare speckled black and mottled orange brown silty GRAVEL of angular medium to high density chalk.	
		N=22 (3,7/4,4,8,6)									1
		1.20 - 2.00		94	0	0					
							1.95 2.00	69.82 69.77		Assessed Zone of Core Loss. Non-intact Core Recovery: Structureless CHALK recovered as white rare speckled black and mottled orange brown silty GRAVEL of angular medium to high density chalk.	2
		2.00 - 3.50		100	45	0	2.74 2.75	69.03 69.02		Grey brown MARL seam. White locally speckled black weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean locally with light brown/orange brown staining.	3
		3.50 - 5.00		100	0	0					4
											5
										Continued on Next Sheet	

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-03

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526021.13 - 234672.39

Location: Baldock, North Hertfordshire

Level: 71.77

Scale
1:25

Client: Urban & Civic

Dates: 28/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.06 - 6.60	C	90	76	7	6.35	65.42		White locally speckled black weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean locally with light brown/orange brown staining. <i>Non-intact between 5.22m and 6.35m</i>	6
							6.50	65.27		Assessed Zone of Core Loss.	
		6.50 - 8.00		100	80	80				White locally speckled black weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean locally with light brown/orange brown staining.	7
										<i>Non-intact between 7.7m and 8m</i>	8
		8.50 - 8.68	C								
		8.00 - 9.50		98	91	47					
							9.47	62.30		Assessed Zone of Core Loss.	9
							9.50	62.27		Non-intact Core Recovery: White mottled light brown grey sub-angular fine to coarse GRAVEL of weak medium density chalk..	
							9.62	62.15		White locally speckled black sandy weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely to medium spaced, rough undulating, tight to moderately wide (possibly due to drilling disturbance) with silty gravel fill and grey brown/orange brown staining and black speckling. Inclined fractures are undulating rough tight clean with light brown/orange brown staining and black speckling.	10
										Continued on Next Sheet	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-03

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526021.13 - 234672.39

Location: Baldock, North Hertfordshire

Level: 71.77

Scale
1:25

Client: Urban & Civic

Dates: 28/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		9.50 - 11.00		100	79	70	12.50	59.27		White locally speckled black sandy weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely to medium spaced, rough undulating, tight to moderately wide (possibly due to drilling disturbance) with silty gravel fill and grey brown/orange brown staining and black speckling. Inclined fractures are undulating rough tight clean with light brown/orange brown staining and black speckling.	11
		11.00 - 12.50		100	70	61				<i>Non-intact between 11m and 11.35m</i>	
		12.50 - 14.00		96	67	0				Cream weak medium density CHALK. Bedding fractures are very closely to medium spaced undulating rough tight. Inclined fractures are undulating rough tight clean locally with light brown staining. <i>Non-intact between 12.5m and 12.74m</i>	13
		13.82 - 13.96	C							<i>Non-intact between 13.5m and 13.59m</i>	
		14.12 - 14.17	C							<i>Non-intact between 13.74m and 13.8m</i>	14
		14.40 - 14.50 14.00 - 15.50	C	93	57	0	13.94 14.00	57.83 57.77		Assessed Zone of Core Loss. Cream weak medium density CHALK with very closely to medium spaced moderately wide grey brown marl seams. Bedding fractures are very closely to medium spaced undulating rough tight. Inclined fractures are undulating rough occasionally striated tight clean locally with grey and orange brown staining. <i>Non-intact between 14m and 14.15m</i> <i>Non-intact between 14.55m and 14.92m</i>	15
Continued on Next Sheet											

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-03

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526021.13 - 234672.39

Location: Baldock, North Hertfordshire

Level: 71.77

Scale
1:25

Client: Urban & Civic

Dates: 28/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description				
				TCR	SCR	RQD								
							15.40	56.37		Cream weak medium density CHALK with very closely to medium spaced moderately wide grey brown marl seams. Bedding fractures are very closely to medium spaced undulating rough tight. Inclined fractures are undulating rough occasionally striated tight clean locally with grey and orange brown staining. Assessed Zone of Core Loss. End of Borehole at 15.50m				
		15.50		56.27										
											16			
											17			
											18			
											19			
											20			

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-04

Sheet 1 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526060.70 - 234690.94

Location: Baldock, North Hertfordshire

Level: 71.71

Scale
1:25

Client: Urban & Civic

Dates: 27/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
			C				0.30	71.41		TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is angular to sub-angular fine to coarse chalk.		
									Structureless CHALK composed of white rare speckled black and mottled orange brown silty GRAVEL of angular medium to high density chalk.			
		N=19 (3,3/4,3,5,7)					1.20	70.51		Non-intact Core Recovery: Black and white coarse sub-rounded flint GRAVEL. Non-intact Core Recovery: Structureless CHALK composed of white mottled orange brown silty angular to sub-angular fine to coarse GRAVEL of weak medium dense chalk and black flint. Assessed Zone of Core Loss.	1	
							1.30	70.41				
							1.44	70.27				
		1.20 - 2.00		30	0	0						
		2.00 - 2.07					2.00	69.71		White to cream weak medium to high density CHALK with core disturbance due to vertical/ steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with slight brown/grey staining. Inclined fractures are undulating rough tight clean with slight brown/grey staining. <u>Non-intact between 2.0m and 2.30m</u> <u>Non-intact between 2.70m and 3.41m</u>	2	
		2.00 - 3.50		94	32	0						
							3.41	68.30			... slightly mottled orange brown from 3.25m.	3
							3.50	68.21		Assessed Zone of Core Loss.		
		3.50 - 5.00		100	87	0				White weak medium to high density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with slight brown/grey staining. Inclined fractures are undulating rough tight clean with slight brown/grey staining. <u>... very closely spaced marl seams of 2mm thickness.</u>	4	
										5		
Continued on Next Sheet												

Continued on Next Sheet

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-04

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526060.70 - 234690.94

Location: Baldock, North Hertfordshire

Level: 71.71

Scale
1:25

Client: Urban & Civic

Dates: 27/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50		100	0	0				White weak medium to high density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with slight brown/grey staining. Inclined fractures are undulating rough tight clean with slight brown/grey staining.	6
		6.50 - 8.00		100	0	0					
		8.00 - 9.50		67	0	0					
							8.00	63.71		Non-intact Core Recovery: Cream with orange brown staining slightly sandy angular fine to coarse GRAVEL of weak medium density chalk.	8
							9.00	62.71		Assessed Zone of Core Loss.	9
							9.50	62.21		Cream slightly sandy weak medium density CHALK with closely spaced wispy marl seams and core disturbance due to vertical/steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean to partly open with silt infill. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling.	10
										Non-intact between 9.65m and 10.15m.	

Continued on Next Sheet

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-04

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526060.70 - 234690.94

Location: Baldock, North Hertfordshire

Level: 71.71

Scale
1:25

Client: Urban & Civic

Dates: 27/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description											
				TCR	SCR	RQD															
11		9.50 - 11.00	C	100	0	0	13.77	57.94		Cream slightly sandy weak medium density CHALK with closely spaced wispy marl seams and core disturbance due to vertical/steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean to partly open with silt infill. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. <u>Non-intact between 10.50m and 11.00m.</u> ... frequent marl seams from 10.90m.	11										
		11.00 - 12.50		100	0	0				<u>Non-intact between 11.35m and 11.85m.</u>		12									
		12.50 - 14.00		85	0	0				<u>Non-intact between 12.20m and 12.50m.</u> <u>Non-intact between 12.50m and 13.50m.</u>			13								
		14.12 - 14.17								Assessed Zone of Core Loss.				14							
		14.00 - 15.50		100	0	0				Cream slightly sandy weak medium density CHALK with closely spaced wispy marl seams and core disturbance due to vertical/steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean to partly open with silt infill. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. <u>Non-intact between 14.30m and 14.80m.</u>					15						
		Continued on Next Sheet																			

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R1-04

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 526060.70 - 234690.94

Location: Baldock, North Hertfordshire

Level: 71.71

Scale
1:25

Client: Urban & Civic

Dates: 27/11/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
1							15.50	56.21		Cream slightly sandy weak medium density CHALK with closely spaced wispy marl seams and core disturbance due to vertical/steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean to partly open with silt infill. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. End of Borehole at 15.50m	16
											17
											18
											19
											20

Remarks

No groundwater identified





Rotary Core Log

Borehole No.
RO-R2/R3-03

Sheet 1 of 4
Hole Type
RC

Scale
1:25

Logged By
SJF

Project Name: Baldock

Project No. 2899

Co-ords: 525247.79 - 234377.16

Location: Baldock, North Hertfordshire

Level: 65.37

Client: Urban & Civic

Dates: 30/11/2023 - 01/12/2023

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description			
				TCR	SCR	RQD							
							0.30	65.07		TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse chalk and flint.	1		
									Light brown and orange brown very sandy slightly gravelly CLAY/ clayey SAND. Gravel is sub-angular fine to medium chalk and occasional flint.				
		N=19 (3,6/5,5,4)					1.20	64.17		No Recovery	2		
		1.20 - 2.00											
		2.00 - 3.50					2.00	63.37		Non-intact Core Recovery: Structureless CHALK composed of cream mottled orange brown silty angular fine to coarse GRAVEL of chalk and black flint.	3		
							2.25	63.12		Non-intact Core Recovery: Structureless CHALK composed of cream mottled orange brown silty angular fine to coarse GRAVEL of chalk.			
						97	0	0					
		3.50 - 5.00					3.45	61.92		Assessed Zone of Core Loss.	4		
							3.50	61.87		Non-intact Core Recovery: Structureless CHALK composed of cream mottled orange brown silty angular fine to coarse GRAVEL of chalk.			
			87	0	0								

Remarks
No groundwater identified





Rotary Core Log

Borehole No.
RO-R2/R3-03

Sheet 2 of 4
Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525247.79 - 234377.16

Location: Baldock, North Hertfordshire

Level: 65.37

Client: Urban & Civic

Dates: 30/11/2023 - 01/12/2023

Scale
1:25
Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50	C	97	0	0	5.00	60.37		White with orange brown staining weak medium density CHALK. Bedding fractures are extremely closely to closely spaced undulating rough tight to partly open with white/cream silt infill and orange brown staining.	6
		6.50 - 8.00		95	0	0	6.45 6.50	58.92 58.87		Assessed Zone of Core Loss.	7
										White with orange brown staining weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight to partly open with white/cream silt infill and orange brown staining. Inclined fractures are undulating rough tight clean to partly open with white/cream silt infill and orange brown staining.	
										Assessed Zone of Core Loss.	
		8.09 - 8.19		100	0	0	7.93 8.00	57.44 57.37		White with orange brown staining weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight with black speckling. Inclined fractures are undulating rough tight with black speckling.	
8.00 - 9.50											
										10	
Continued on Next Sheet											

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R2/R3-03

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525247.79 - 234377.16

Location: Baldock, North Hertfordshire

Level: 65.37

Scale
1:25

Client: Urban & Civic

Dates: 30/11/2023 - 01/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		9.50 - 11.00	C	100	0	0	12.50	52.87		White with orange brown staining weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight with black speckling. Inclined fractures are undulating rough tight with black speckling.	11	
		11.21 - 11.33										
		11.00 - 12.50		100	59	43				<u>Non-intact between 11.85m and 12.5m.</u>	12	
		12.50 - 14.00		99	27	11				White weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to very closely spaced undulating rough tight with black speckling. Inclined fractures are undulating rough tight with black speckling. <u>Non-intact between 12.58m and 12.7m.</u>	13	
										<u>Non-intact between 13.72m and 13.9m.</u>		
		14.00 - 15.50		99	9	0	13.98 14.00	51.39 51.37		Assessed Zone of Core Loss. Cream with black speckling weak high density CHALK with very closely to closely spaced marl seams. Bedding fractures are extremely closely to very closely spaced undulating rough tight with black speckling. Inclined fractures are undulating rough tight with black speckling.. <u>Non-intact between 14m and 14.2m.</u> <u>Non-intact between 14.34m and 14.5m.</u>	14	
Continued on Next Sheet											15	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R2/R3-03

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525247.79 - 234377.16

Location: Baldock, North Hertfordshire

Level: 65.37

Scale
1:25

Client: Urban & Civic

Dates: 30/11/2023 - 01/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							15.48	49.89		Cream with black speckling weak high density CHALK with very closely to closely spaced marl seams. Bedding fractures are extremely closely to very closely spaced undulating rough tight with black speckling. Inclined fractures are undulating rough tight with black speckling.. Assessed Zone of Core Loss. End of Borehole at 15.50m	
							15.50	49.87			
											16
											17
											18
											19
											20

Remarks

No groundwater identified





Rotary Core Log

Borehole No.
RO-R2/R3-04

Sheet 1 of 4
Hole Type
RC

Scale
1:25

Logged By
SJF

Project Name: Baldock

Project No. 2899

Co-ords: 525268.07 - 234363.04

Location: Baldock, North Hertfordshire

Level: 65.86

Client: Urban & Civic

Dates: 04/12/2023

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
							0.40	65.46		TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse chalk and flint.	1	
										Light brown and orange brown very sandy slightly gravelly CLAY/ clayey SAND. Gravel is sub-angular fine to medium chalk and occasional flint.		
		N=41 (3,9/9,10,11,11)					1.20	64.66		No Recovery	2	
		1.20 - 2.00										
		2.00 - 3.50					2.00	63.86		Non-intact Core Recovery: Structureless CHALK composed of white and orange brown silty sandy angular fine to coarse GRAVEL of chalk.		
							2.20	63.66		Non-intact Core Recovery: White, grey and black angular fine to coarse GRAVEL of flint.		
							2.35	63.51				
										Non-intact Core Recovery: Structureless CHALK composed of White mottled orange brown silty angular fine to coarse GRAVEL of weak medium density chalk.		
				77	0	0	3.15	62.71		Assessed Zone of Core Loss.	3	
							3.50	62.36		White mottled orange brown weak medium density CHALK with and core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to very closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean.		
							4.88	60.98		Assessed Zone of Core Loss.	5	
							5.00	60.86		Continued on Next Sheet		

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R2/R3-04

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525268.07 - 234363.04

Location: Baldock, North Hertfordshire

Level: 65.86

Scale
1:25

Client: Urban & Civic

Dates: 04/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description			
				TCR	SCR	RQD							
		5.00 - 6.50		87	0	0	6.30	59.56		White mottled orange brown locally black speckled weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to very closely spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. <i>Non-intact between 5m and 5.12m.</i>	6		
		6.50 - 8.00		100	0	0	6.50	59.36		Assessed Zone of Core Loss.			
										White mottled orange brown and black speckled weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. <i>Non-intact between 6.9m and 7m.</i>	7		
		8.00 - 9.50		87	12	0				<i>Non-intact between 8m and 8.15m.</i>	8		
							9.30	56.56		Assessed Zone of Core Loss.			
								9.50	56.36		White mottled orange brown and black speckled weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with orange brown staining and grey with black speckling. Inclined fractures are undulating rough tight clean with orange brown staining and grey with black speckling.	9	

Continued on Next Sheet

10

Continued on Next Sheet

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R2/R3-04

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525268.07 - 234363.04

Location: Baldock, North Hertfordshire

Level: 65.86

Scale
1:25

Client: Urban & Civic

Dates: 04/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
11		9.50 - 11.00	C	100	0	0	12.50	53.36		White mottled orange brown and black speckled weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with orange brown staining and grey with black speckling. Inclined fractures are undulating rough tight clean with orange brown staining and grey with black speckling.	11
		11.00 - 12.50		100	0	0					
		12.50 - 14.00		85	43	30					
		13.88 - 14.11									
		14.00 - 15.50		93	0	0					
13							13.78	52.08		White weak medium density CHALK with light brown extremely closely to closely spaced wispy marl seams with some core disturbance due to inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with light grey brown staining and black speckling. Inclined fractures are undulating rough tight clean with light grey brown staining and black speckling. <i>Non-intact between 12.5m and 12.58m.</i> <i>Non-intact between 12.63m and 12.8m.</i> <i>Non-intact between 12.83m and 12.92m.</i> <i>Non-intact between 13.4m and 13.78m.</i>	13
							14.00	51.86			
							14.28	51.58			
14							14.66	51.20		Assessed Zone of Core Loss. Cream weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean. <i>Non-intact between 14m and 14.28m.</i> Non-intact Core Recovery: Structureless CHALK composed of cream silty sub-angular to angular fine GRAVEL of chalk. Cream weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean.	14
15										Continued on Next Sheet	15

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R2/R3-04

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525268.07 - 234363.04

Location: Baldock, North Hertfordshire

Level: 65.86

Scale
1:25

Client: Urban & Civic

Dates: 04/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							15.39	50.47		Cream weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean. Assessed Zone of Core Loss. End of Borehole at 15.50m	
							15.50	50.36			
											16
											17
											18
											19
											20

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-R4-03

Sheet 1 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525536.62 - 234461.63

Location: Baldock, North Hertfordshire

Level: 66.05

Scale
1:25

Client: Urban & Civic

Dates: 05/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
							0.30	65.75		TOPSOIL: Brown friable slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse chalk.	1
							0.60	65.45		Light brown friable very sandy slightly gravelly CLAY/Clayey SAND. Gravel is sub-angular fine to medium chalk.	
										Structureless CHALK composed of white mottled orange brown silty fine to coarse GRAVEL of weak low density chalk.	
		N=44 (2,8/9,11,11,13)					1.20	64.85		Non-intact Core Recovery: Structureless CHALK composed of white mottled orange brown silty fine to coarse GRAVEL of weak low density chalk.	2
		1.20 - 2.00		100	0	0					
											3
		2.00 - 3.50		97	0	0					
							3.46 3.50	62.59 62.55			
		3.50 - 5.00		85	53	23				Assessed Zone of Core Loss. White mottled orange brown weak low to medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean. <u>Non-intact between 3.5m and 3.66m.</u> <u>Non-intact between 4m and 4.07m.</u>	4
		4.70 - 4.78	C				4.78	61.27		<u>Non-intact between 4.58m and 4.5m.</u>	
							5.00	61.05		Assessed Zone of Core Loss.	5
										Continued on Next Sheet	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R4-03

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525536.62 - 234461.63

Location: Baldock, North Hertfordshire

Level: 66.05

Scale
1:25

Client: Urban & Civic

Dates: 05/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		5.00 - 6.50		100	37	30				White mottled orange brown weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean with orange brown and grey brown staining. <i>Non-intact between 5.14m and 5.18m.</i>	
										<i>Non-intact between 5.76m and 6.5m.</i>	6
										<i>Non-intact between 6.5m and 6.88m.</i>	
		6.50 - 8.00		85	44	23				<i>Non-intact between 6.94m and 6.98m.</i> <i>Non-intact between 7.07m and 7.16m.</i> <i>Non-intact between 7.3m and 7.35m.</i>	7
							7.78	58.27		Assessed Zone of Core Loss.	
							8.00	58.05		White mottled orange brown weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean with orange brown and grey brown staining. <i>Non-intact between 8m and 8.14m.</i>	8
		8.00 - 9.50		91	40	21				<i>Non-intact between 8.94m and 9.01m.</i> <i>Non-intact between 9.01m and 9.37m.</i>	9
							9.37	56.68		Assessed Zone of Core Loss.	
							9.50	56.55		Off white mottled orange brown weak high density CHALK with occasional marl seams and some core disturbance due to fractures. Bedding fractures are closely to medium spaced undulating rough tight clean to moderately wide with silty matrix infill and black speckling. Inclined fractures are <i>Non-intact between 9.63m and 9.76m.</i>	10

Continued on Next Sheet

Remarks

No groundwater identified





Rotary Core Log

Borehole No.

RO-R4-03

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525536.62 - 234461.63

Location: Baldock, North Hertfordshire

Level: 66.05

Scale
1:25

Client: Urban & Civic

Dates: 05/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		9.50 - 11.00	C	100	42	37	10.08 10.35	55.97 55.70		Off white mottled orange brown weak high density CHALK with occasional marl seams and some core disturbance due to fractures. Bedding fractures are closely to medium spaced undulating rough tight clean to moderately wide with silty matrix infill and black speckling. Inclined fractures are Non-intact Core Recovery: Off white angular fine to medium chalk gravelly SILT. White occasionally black speckled weak medium density CHALK with occasional marl seams. <u>Non-intact between 10.55m and 10.8m. ... with strong orange brown staining.</u>	11
		11.00 - 11.21									
		11.00 - 12.50		97	25	25	11.40	54.65		Non-intact Core Recovery: White slightly silty sandy weak low to medium density CHALK with shaley texture.	12
		12.50 - 14.00		97	21	21	12.45 12.50	53.60 53.55		Assessed Zone of Core Loss. White with occasional orange brown staining weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures very closely to medium spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling.	13
		14.00 - 15.50		100	0	0	13.96 14.00	52.09 52.05		Assessed Zone of Core Loss. Non-intact Core Recovery: White slightly silty sandy weak medium density CHALK with shaley texture. <u>Non-intact between 14m and 14.18m.</u>	14
Continued on Next Sheet											15

Remarks
No groundwater identified





Borehole No.
RO-R4-03

Sheet 4 of 4
Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525536.62 - 234461.63

Location: Baldock, North Hertfordshire

Level:	66.05
--------	-------

Client: Urban & Civic

Dates: 05/12/2023

Scale
1:25
Logged By
SJF

[illegible]

Remarks	No groundwater identified
---------	---------------------------





Rotary Core Log

Borehole No.

RO-R4-04

Sheet 1 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525585.32 - 234472.60

Location: Baldock, North Hertfordshire

Level: 66.22

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=40 (3,4/8,12,9,11) 1.20 - 2.00	C				0.30	65.92		TOPSOIL: Brown friable slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to medium chalk.	1	
							0.80	65.42		Light brown friable very sandy slightly gravelly CLAY/Clayey SAND. Gravel is sub-angular fine to coarse chalk.		
							1.20	65.02		Structureless CHALK composed of white mottled orange brown silty fine to coarse GRAVEL of weak low density chalk and flint.		
							1.35	64.87		Non-intact Core Recovery: Structureless CHALK composed of white mottled orange brown silty fine to coarse GRAVEL of weak low density chalk and flint.		
							1.80	64.42		Non-intact Core Recovery: White mottled orange brown silty fine to coarse GRAVEL of very weak low to medium density chalk.		
		2.00 - 3.50					2.00	64.22		Assessed Zone of Core Loss.	2	
				3.00 - 3.11								Non-intact Core Recovery: White mottled orange brown silty fine to coarse GRAVEL of very weak low to medium density chalk. ... chalk becoming medium density from 2.0m depth.
		3.50 - 5.00					3.50	62.72		Non-intact Core Recovery: White mottled orange brown silty fine to coarse GRAVEL of very weak low to medium density chalk. Non-intact between 3.5m and 3.7m. Assessed Zone of Core Loss.	4	
							3.52	62.70				



Rotary Core Log

Borehole No.
RO-R4-04

Sheet 2 of 4
Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525585.32 - 234472.60

Location: Baldock, North Hertfordshire

Level: 66.22

Client: Urban & Civic

Dates: 06/12/2023

Scale
1:25
Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
1		5.00 - 6.50	C	90	17	13	6.35	59.87		Non-intact Core Recovery: White weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are extremely closely to closely spaced undulating rough tight clean with black speckling. Inclined fractures are undulating rough tight clean with black speckling.	6
		6.50 - 6.62					6.50	59.72		Assessed Zone of Core Loss.	
		6.50 - 8.00	C	83	40	15	7.74	58.48		White mottled cream weak medium density CHALK with closely spaced marl seams and with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely, rarely medium, spaced undulating rough tight clean with black speckling.	7
		8.00 - 8.16					8.00	58.22		Assessed Zone of Core Loss.	
		8.00 - 9.50	C	100	0	0	8.30	57.92		White mottled cream weak medium density CHALK with marl seams. Bedding fractures are closely spaced undulating rough tight clean with brown staining. Grey and orange brown MARL band.	8
							8.54	57.68		White mottled cream weak medium density CHALK with marl seams and with core disturbance due to vertical/steeply inclined fractures. Bedding fractures closely spaced undulating rough tight clean to partly open with silty infill and heavy black speckling and brown staining. Inclined fractures are undulating rough tight clean to partly open with silty gravel infill and black speckling. ... becoming light grey and marly from 8.90m.	9
							9.50	56.72		White locally black speckled weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are medium spaced undulating rough tight clean with black speckling. Inclined fractures are undulating rough tight clean with heavy black speckling.	10
										Non-intact between 9.5m and 10.22m.	
										Continued on Next Sheet	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R4-04

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525585.32 - 234472.60

Location: Baldock, North Hertfordshire

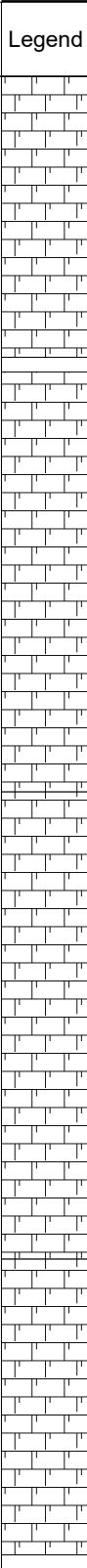
Level: 66.22

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
		9.50 - 11.00	C	97	45	45	10.95 11.00	55.27 55.22		White locally black speckled weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are medium spaced undulating rough tight clean with black speckling. Inclined fractures are undulating rough tight clean with heavy black speckling.	11
		11.00 - 12.50		95	63	63				Assessed Zone of Core Loss. White locally black speckled weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely t medium spaced undulating rough tight clean with black speckling. Inclined fractures are undulating rough tight clean with heavy black speckling. <i>Non-intact between 11.6m and 11.65m.</i>	
										<i>Non-intact between 11.98m and 12.5m.</i>	12
										13.16 - 13.49 12.50 - 14.00	
		<i>Non-intact between 13.3m and 13.6m.</i> <i>Non-intact between 13.75m and 14m.</i>									
14.00 - 15.50	100	15	15	14.00	52.22	White with orange brown staining weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to closely undulating rough tight clean with orange brown staining. Inclined fractures are undulating rough tight clean with orange brown staining. <i>Non-intact between 14m and 15.23m.</i>	14				
									Continued on Next Sheet	15	

Remarks
No groundwater identified





Borehole No.
RO-R4-04

Sheet 4 of 4
Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525585.32 - 234472.60

Location: Baldock, North Hertfordshire

Level: 66.22

Scale
1:25
logged
SJF

Client: Urban & Civic

Dates: 06/12/2023

[illegible]

Remarks	
No groundwater identified	





Rotary Core Log

Borehole No.

RO-R5-03

Sheet 1 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525677.11 - 234518.80

Location: Baldock, North Hertfordshire

Level: 65.91

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
							0.40	65.51		TOPSOIL: Grey brown friable slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse chalk.	1	
										Soft brown slightly gravelly sandy CLAY/ gravelly very clayey SAND. Gravel is sub-angular fine chalk and occasional flint.		
		1.20 - 2.00			100	0	0	1.20	64.71		Non-intact Core Recovery: Light grey brown silty sub-angular fine to coarse GRAVEL of chalk and flint.	2
											Non-intact Core Recovery: Light grey brown silty sub-angular fine to coarse GRAVEL of chalk.	
		2.00 - 3.50			83	0	0	2.00	63.91		Non-intact Core Recovery: Light grey brown silty sub-angular fine to coarse GRAVEL of chalk.	3
											Non-intact Core Recovery: White with orange brown staining angular medium to coarse GRAVEL of weak medium density CHALK.	
								3.25	62.66		Assessed Zone of Core Loss.	
								3.50	62.41		Cream/grey locally mottled orange and black speckled weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fracture are very closely to closely spaced undulating rough tight to open with light brown silt infill. Inclined fracture are undulating rough tight clean with light brown staining and black speckling. <i>Non-intact between 3.5m and 3.6m.</i>	
		3.50 - 5.00			95	0	0	4.93	60.98		Assessed Zone of Core Loss.	5
								5.00	60.91		Continued on Next Sheet	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-03

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525677.11 - 234518.80

Location: Baldock, North Hertfordshire

Level: 65.91

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		5.00 - 6.50	C	79	0	0	6.18	59.73		Non-intact Core Recovery: White silty angular fine to coarse GRAVEL of weak medium density chalk.	6	
		6.50 - 8.00 7.33 - 7.62		100	0	0	6.50	59.41		Assessed Zone of Core Loss.	7	
										White weak medium density CHALK with very closely to closely spaced wispy marl seams and core disturbance due to vertical / steeply inclined fractures. Bedding fracture are closely to medium spaced undulating rough tight. Inclined fracture are undulating rough tight clean to open with silty gravel infill.		
										<i>Non-intact between 6.5m and 6.74m.</i>		
										<i>Non-intact between 6.86m and 6.88m.</i>		
		8.00 - 9.50		95	39	29	8.60	57.31		Non-intact Core Recovery: Grey and white speckled black weak medium density CHALK with closely spaced cream wispy marl seams.	8	
										<i>Non-intact between 7.6m and 8m.</i>		
							9.43 9.50	56.48 56.41		Assessed Zone of Core Loss. Grey and white speckled black weak medium density CHALK with closely spaced cream wispy marl bands and with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean to open with silty gravel infill.	9	
										<i>Non-intact between 9.5m and 9.72m.</i>		
Continued on Next Sheet											10	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-03

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525677.11 - 234518.80

Location: Baldock, North Hertfordshire

Level: 65.91

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description				
				TCR	SCR	RQD								
		9.50 - 11.00	C	100	49	11	11.00	54.91		Grey and white speckled black weak medium density CHALK with closely spaced cream wispy marl bands and with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean to open with silty gravel infill. <i>Non-intact between 10.05m and 11m.</i>	11			
		11.00 - 12.50		97	50	15				Grey / cream speckled black weak medium density CHALK. Bedding fractures are medium spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean. <i>Non-intact between 11m and 11.12m.</i>				
		13.11 - 13.32 12.50 - 14.00		93	7	7	12.46 12.50	53.45 53.41		Assessed Zone of Core Loss. Grey / cream speckled black weak medium density CHALK. Bedding fractures are medium spaced undulating rough tight clean. Inclined fractures are undulating rough tight clean to open with silt infill. <i>Non-intact between 12.5m and 13.7m.</i>	13			
							13.90 14.00	52.01 51.91		Assessed Zone of Core Loss.				
		14.24 - 14.51		C	100	74	12				White mottled light brown and grey weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean with grey staining. Inclined fractures are undulating rough tight clean with grey staining. <i>Non-intact between 14.16m and 14.27m.</i>	14		
		14.00 - 15.50												
		Continued on Next Sheet											15	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-03

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525677.11 - 234518.80

Location: Baldock, North Hertfordshire

Level: 65.91

Scale
1:25

Client: Urban & Civic

Dates: 06/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
1							15.50	50.41		White mottled light brown and grey weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean with grey staining. Inclined fractures are undulating rough tight clean with grey staining. End of Borehole at 15.50m	
											16
											17
											18
											19
											20

Remarks

No groundwater identified





Rotary Core Log

Borehole No.
RO-R5-04

Sheet 1 of 4
Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525722.82 - 234536.38

Location: Baldock, North Hertfordshire

Level: 66.81

Client: Urban & Civic

Dates: 07/12/2023

Scale
1:25

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
		N=39 (4,4/8,7,11,13) 1.00 - 2.00	C				0.30	66.51		TOPSOIL: Grey brown friable slightly sandy slightly gravelly CLAY. Gravel is sub-angular fine to coarse chalk.	1	
							0.70	66.11		Soft light brown slightly gravelly sandy CLAY/ gravelly very clayey SAND. Gravel is sub-angular fine to medium chalk and occasional flint.		
							1.00	65.81		Structureless CHALK composed of white sub-angular to sub-rounded fine to coarse GRAVEL of weak medium density chalk and occasional black flint.		
							1.36	65.45		Non-intact Core Recovery: Structureless CHALK composed of white sub-angular to sub-rounded fine to coarse GRAVEL of weak medium density chalk and occasional black flint.		
							1.95	64.86		Grey occasionally black speckled locally stained orange brown weak medium density CHALK with core disturbance along vertical / steeply inclined fractures. Bedding fractures are closely spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough clean with orange brown staining and black speckling.		
		2.00 - 3.50		100	60	0	2.00	64.81		Assessed Zone of Core Loss.	2	
							2.30	64.51		Non-intact Core Recovery: White mottled orange brown and speckled black silty angular fine to medium GRAVEL of weak medium density chalk.		
										Grey/cream occasionally speckled black and occasional orange brown staining weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough clean with orange brown staining and black speckling.		
		3.50 - 5.00 4.30 - 4.50		100	92	83				Non-intact between 3.5m and 3.62m.	4	
							5.00	61.81		Continued on Next Sheet	5	

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-04

Sheet 2 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525722.82 - 234536.38

Location: Baldock, North Hertfordshire

Level: 66.81

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description																																																																																																																																																																																																																																																																																																																																																																																																																																										
				TCR	SCR	RQD																																																																																																																																																																																																																																																																																																																																																																																																																																														
		5.00 - 6.50		97	56	29	5.51	61.30		Non-intact Core Recovery: White mottled orange brown and speckled black silty angular fine to coarse GRAVEL of weak medium density chalk.	6																																																																																																																																																																																																																																																																																																																																																																																																																																									
							Grey/cream occasionally speckled black and occasional orange brown staining weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are closely spaced undulating rough tight clean with orange brown staining and black speckling. Inclined fractures are undulating rough clean with orange brown staining and black speckling. <i>Non-intact between 5.9m and 6m.</i>																																																																																																																																																																																																																																																																																																																																																																																																																																													
		6.50 - 8.00		85	77	58	6.45 6.50	60.36 60.31		Assessed Zone of Core Loss. Cream slightly mottled grey weak medium to high density CHALK with closely spaced wispy grey marl seams and core disturbance due to vertical / steeply inclined fractures. Bedding fractures are closely spaced undulating rough tight clean with orange brown and grey brown staining. Inclined fractures are undulating rough tight clean with orange brown and grey brown staining. <i>Non-intact between 7.38m and 7.46m.</i>	7																																																																																																																																																																																																																																																																																																																																																																																																																																									
							7.78	59.03		Assessed Zone of Core Loss.																																																																																																																																																																																																																																																																																																																																																																																																																																										
							8.00	58.81		White slightly mottled grey weak medium to high density CHALK with closely spaced wispy grey marl seams and core disturbance due to vertical / steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean with orange brown and grey brown staining. Inclined fractures are undulating rough tight clean with orange brown and grey brown staining. <i>Non-intact between 8m and 8.14m.</i> <i>Non-intact between 8.84m and 9.11m.</i>		8																																																																																																																																																																																																																																																																																																																																																																																																																																								
							8.00 - 9.50			100			93	62																																																																																																																																																																																																																																																																																																																																																																																																																																						
															9																																																																																																																																																																																																																																																																																																																																																																																																																																					
																				10																																																																																																																																																																																																																																																																																																																																																																																																																																

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-04

Sheet 3 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525722.82 - 234536.38

Location: Baldock, North Hertfordshire

Level: 66.81

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description		
				TCR	SCR	RQD						
1		10.43 - 10.67 9.50 - 11.00	C	97	60	55	10.95 11.00	55.86 55.81		White rarely mottled orange brown weak medium density CHALK with core disturbance due to vertical / steeply inclined fractures. Bedding fractures are closely to medium spaced undulating rough tight clean with grey staining. Inclined fractures are undulating rough tight clean with light grey staining. <u>Non-intact between 10.21m and 10.26m.</u>	11	
										Assessed Zone of Core Loss.		
		11.00 - 12.50	C	100	17	0	13.82 14.00	52.99 52.81		White weak medium density CHALK with core disturbance due to vertical/steeply inclined fractures. Bedding fractures are very closely to medium spaced undulating rough tight clean with grey staining. Inclined fractures are undulating rough tight clean with grey staining. <u>Non-intact between 12.11m and 12.18m.</u> <u>Non-intact between 12.36m and 12.5m.</u>	12	
		12.83 - 12.92									13	
		12.50 - 14.00		88	79	59						
			C				14.00	52.81		Assessed Zone of Core Loss.	14	
										White weak medium density CHALK with core disturbance along vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with orange brown staining. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. <u>Non-intact between 14m and 14.17m.</u>		
		14.00 - 15.50		98	69	43					15	

Continued on Next Sheet

Continued on Next Sheet

Remarks
No groundwater identified





Rotary Core Log

Borehole No.

RO-R5-04

Sheet 4 of 4

Hole Type
RC

Project Name: Baldock

Project No.
2899

Co-ords: 525722.82 - 234536.38

Location: Baldock, North Hertfordshire

Level: 66.81

Scale
1:25

Client: Urban & Civic

Dates: 07/12/2023

Logged By
SJF

Well	Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description	
				TCR	SCR	RQD					
1							15.47 15.50	51.34 51.31		White weak medium density CHALK with core disturbance along vertical / steeply inclined fractures. Bedding fractures are very closely to closely spaced undulating rough tight clean with orange brown staining. Inclined fractures are undulating rough tight clean with orange brown staining and black speckling. Assessed Zone of Core Loss. End of Borehole at 15.50m	16 17 18 19 20

Remarks

No groundwater identified

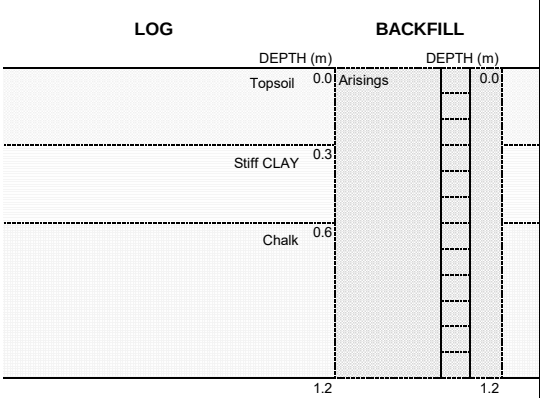
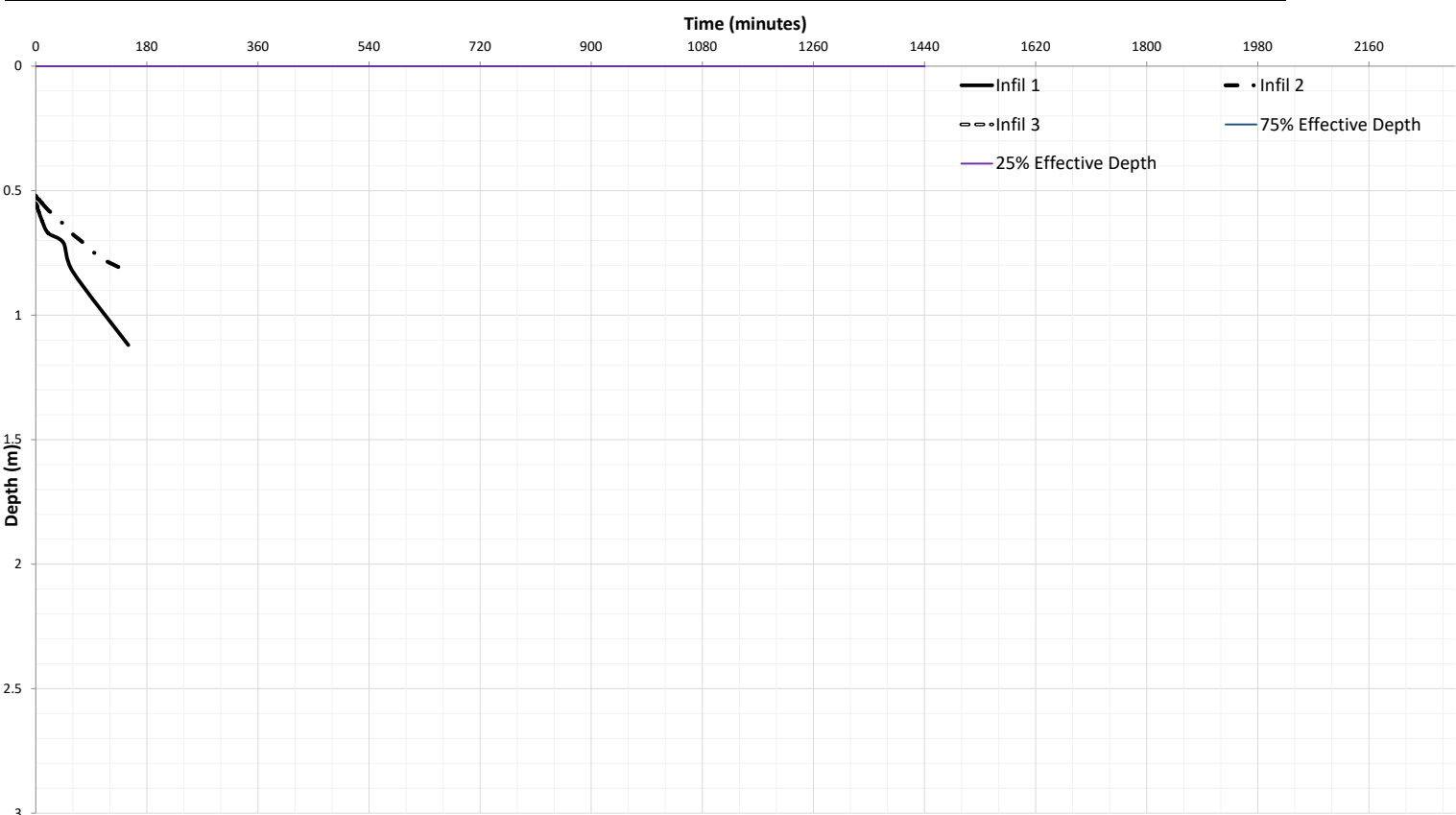


	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.12	0.83	
Pit depth	m		1.20	
Pit length	m		1.10	
Pit width	m		0.50	
Depth to first reading	m	0.55	0.52	
Maximum effective depth	m	0.57	0.31	
Depth at 75% full	m	0.69	0.60	
Depth at 25% full	m	0.98	0.75	
Time at 75% full	mins	45.33	29.13	
Time at 25% full	mins	124.83	94.67	
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.179	0.084	
Mean surface area for outflow (50% effective depth)	m2	1.59	1.64	
Time for outflow	mins	79.50	65.54	
Soil infiltration rate, f =		0.0000235671	0.0000130212	
or		2.36E-05	1.30E-05	

Recommended soil infiltration rate	
2.36E-05	m/s

NOTE:

Water level did not fall to below the 25% full level within 24 hrs for fills 2 and 3 - Soil infiltration rate based on effective drainage only

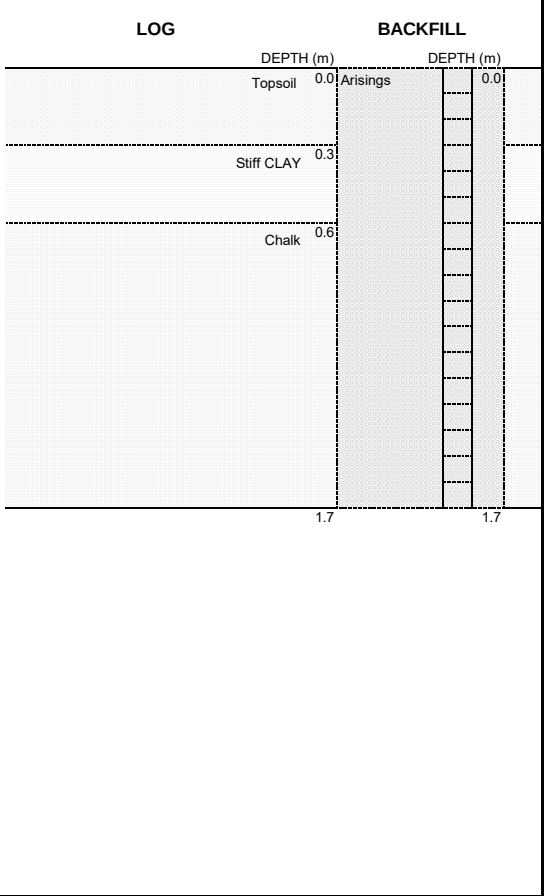
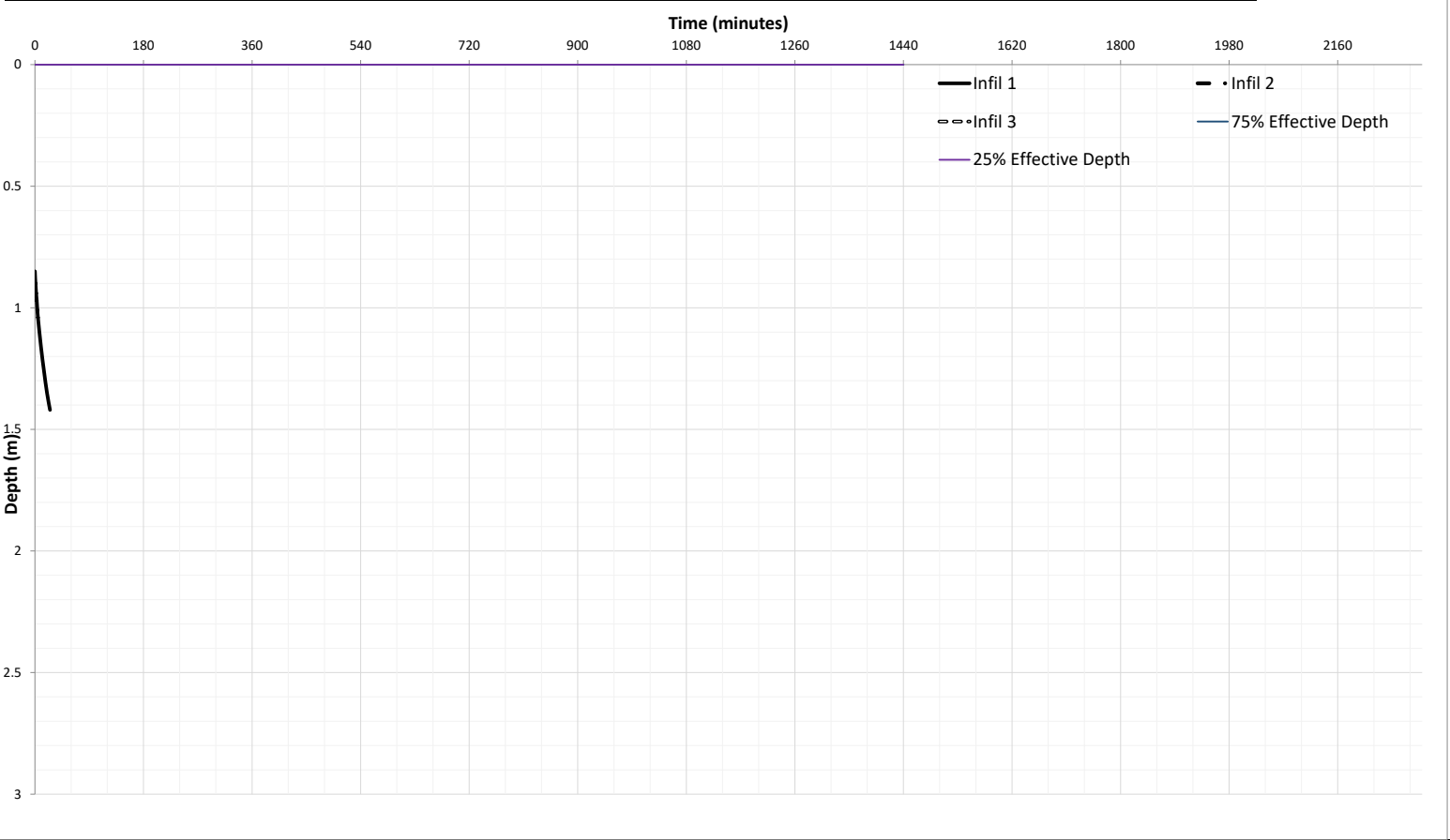


	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Dec-23	2899.00
	CLIENT		SOAKAWAY NUM	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)	SA-01	1-2

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.42		
Pit depth	m		1.65	
Pit length	m		1.70	
Pit width	m		0.65	
Depth to first reading	m	0.85		
Maximum effective depth	m	0.57		
Depth at 75% full	m	0.99		
Depth at 25% full	m	1.28		
Time at 75% full	mins	3.56		
Time at 25% full	mins	15.97		
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.315		
Mean surface area for outflow (50% effective depth)	m2	2.99		
Time for outflow	mins	12.41		
Soil infiltration rate, f =		0.0001416934		
or		1.42E-04		

Recommended soil infiltration rate	
1.42E-04	m/s

NOTE:
Water level did not fall to below the 25% full level within 24 hrs for fills 1, 2 and 3 - Soil infiltration rate based on effective drainage only

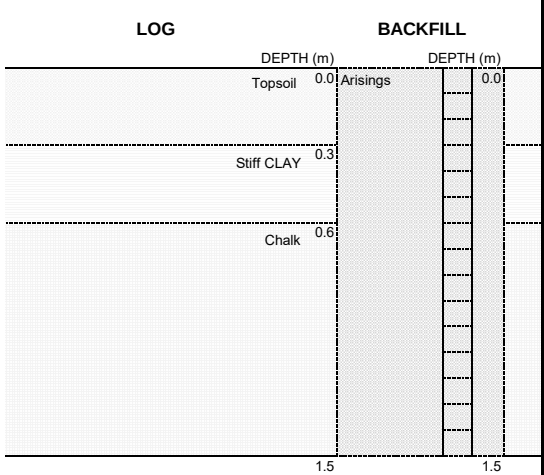
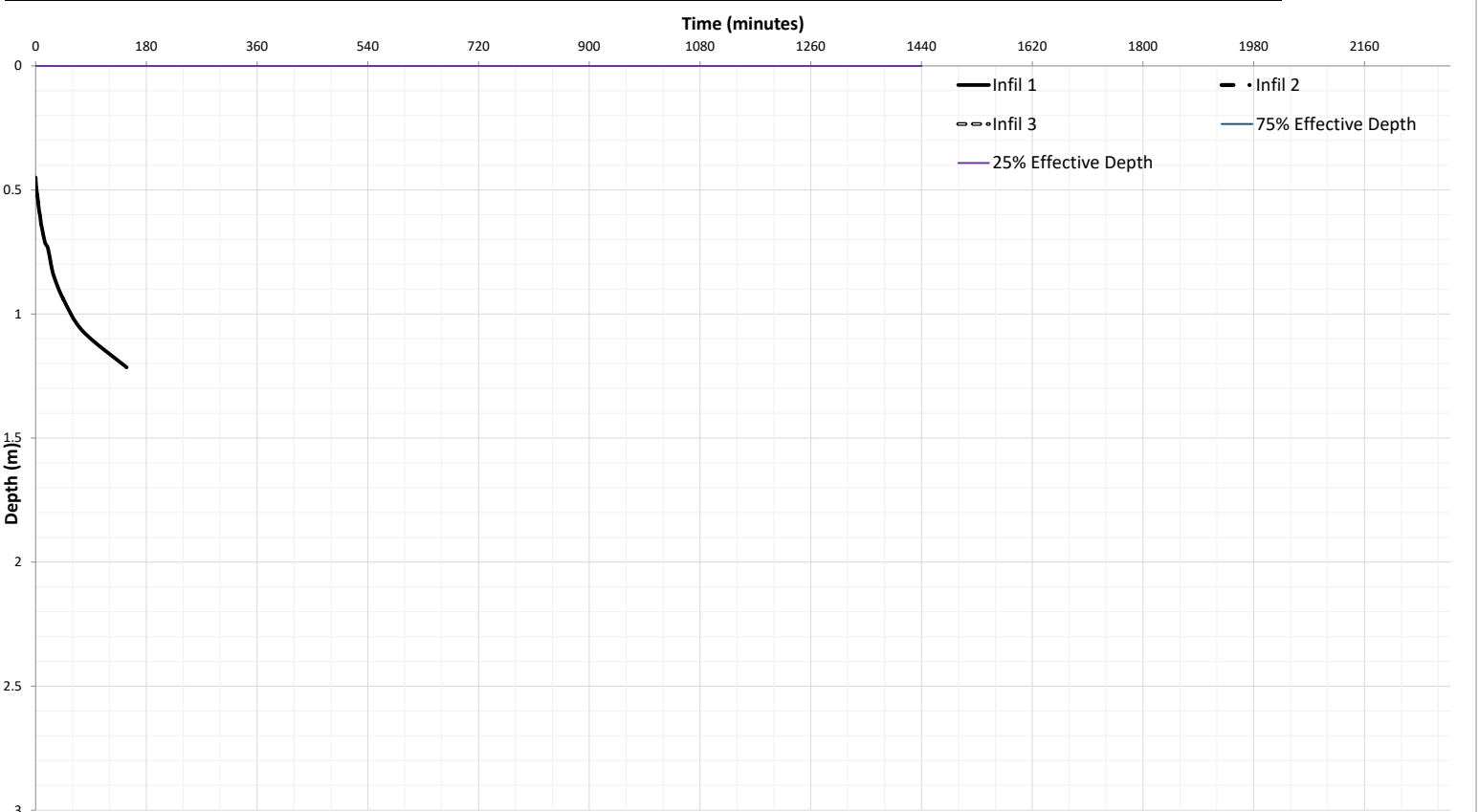


	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Nov-23	2899.00
	CLIENT		SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)	SA94	1

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.22		
Pit depth	m		1.50	
Pit length	m		1.20	
Pit width	m		0.50	
Depth to first reading	m	0.45		
Maximum effective depth	m	0.77		
Depth at 75% full	m	0.64		
Depth at 25% full	m	1.02		
Time at 75% full	mins	9.13		
Time at 25% full	mins	65.62		
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.230		
Mean surface area for outflow (50% effective depth)	m2	2.39		
Time for outflow	mins	56.49		
Soil infiltration rate, f =		0.0000283902		
or		2.84E-05		

Recommended soil infiltration rate	
2.84E-05	m/s

NOTE:
Water level did not fall to below the 25% full level within 24 hrs for fills 1, 2 and 3 - Soil infiltration rate based on effective drainage only

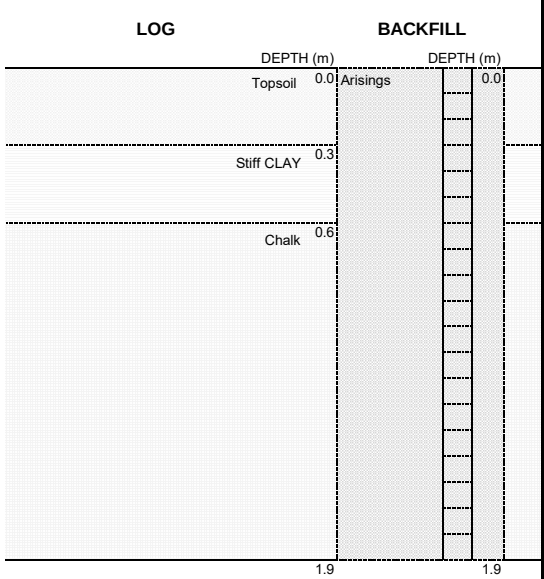
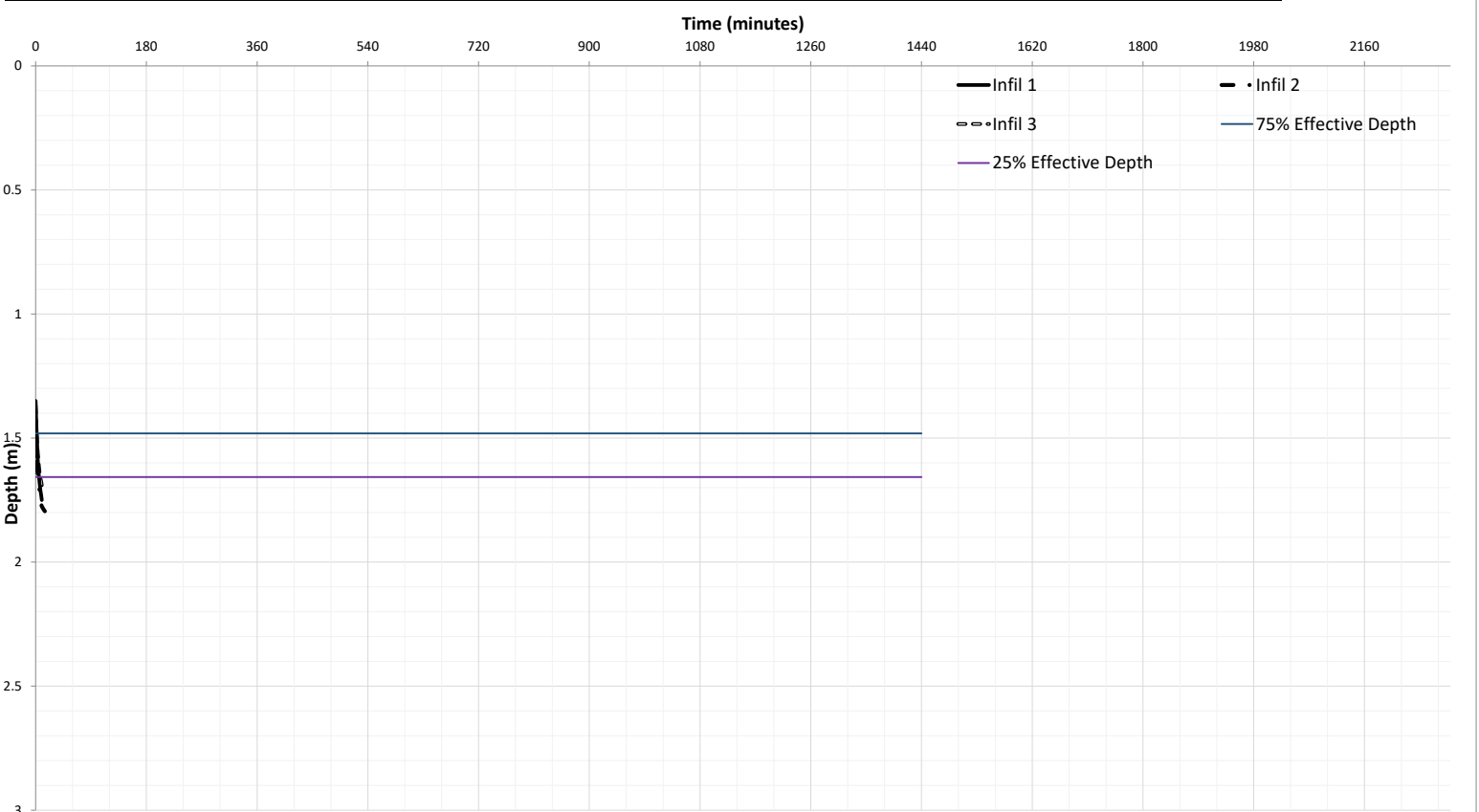


	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Nov-23	2899.00
	CLIENT		SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)	TP-127	1

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.75	1.80	1.69
Pit depth	m		1.90	
Pit length	m		1.30	
Pit width	m		0.50	
Depth to first reading	m	1.35	1.46	1.37
Maximum effective depth	m	0.40	0.34	0.32
Depth at 75% full	m	1.45	1.54	1.45
Depth at 25% full	m	1.65	1.71	1.61
Time at 75% full	mins	1.81	1.08	1.13
Time at 25% full	mins	#N/A	6.31	5.20
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.179	0.109	0.104
Mean surface area for outflow (50% effective depth)	m2	1.64	1.44	1.60
Time for outflow	mins	#N/A	5.24	4.07
Soil infiltration rate, f =		#N/A	0.0002402634	0.0002651857
or		#N/A	2.40E-04	2.65E-04

Recommended soil infiltration rate	
#N/A	m/s

NOTE:
Water level did not fall to below the 25% full level within 24 hrs for fills 2 and 3 - Soil infiltration rate based on effective drainage only



	PROJECT NAME	SOAKAWAY TEST RESULTS		DATE	PROJECT NUMBER
	Baldock			Nov-23	2899.00
	CLIENT			SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)			1-3

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.42	1.38	1.39
Pit depth	m		1.50	
Pit length	m		1.60	
Pit width	m		0.50	
Depth to first reading	m	1.00	1.00	1.00
Maximum effective depth	m	0.42	0.38	0.39
Depth at 75% full	m	1.11	1.10	1.09
Depth at 25% full	m	1.32	1.29	1.29
Time at 75% full	mins	5.20	4.50	5.50
Time at 25% full	mins	21.25	17.73	20.63
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.200	0.152	0.156
Mean surface area for outflow (50% effective depth)	m2	1.85	1.85	1.86
Time for outflow	mins	16.05	13.23	15.13
Soil infiltration rate, f =		0.0001122618	0.0001035262	0.0000923950
or		1.12E-04	1.04E-04	9.24E-05

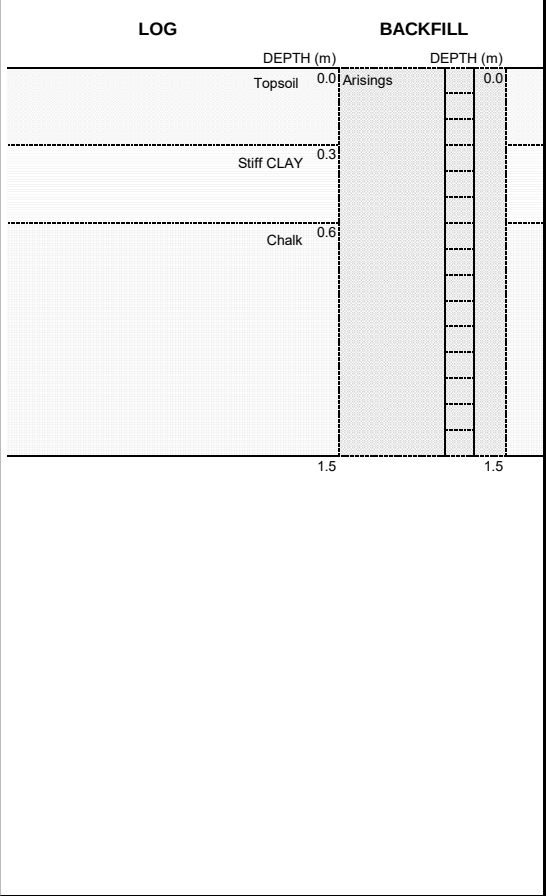
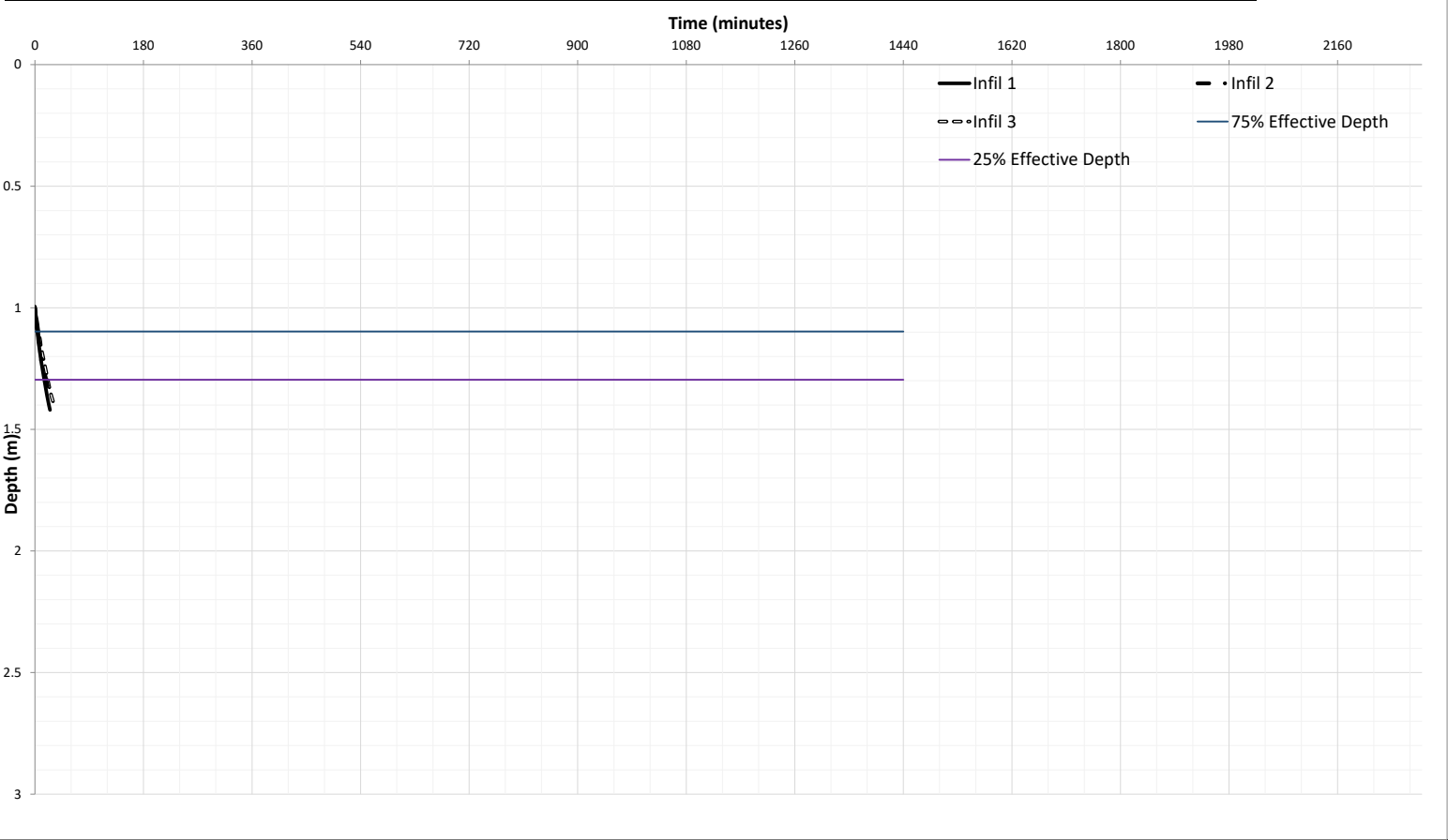
Recommended soil infiltration rate

1.12E-04

m/s

NOTE:

Water level did not fall to below the 25% full level within 24 hrs for fills 2 and 3 - Soil infiltration rate based on effective drainage only

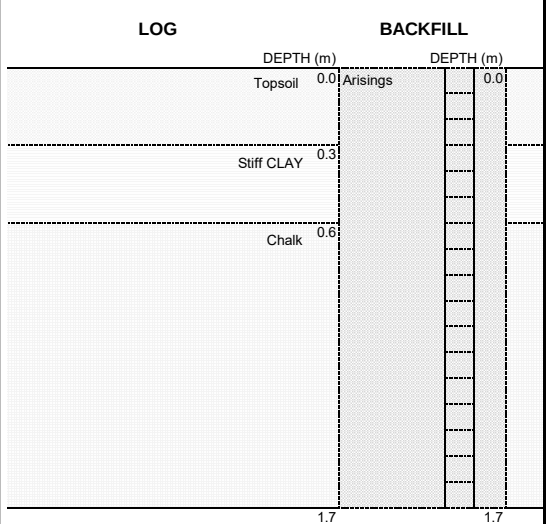
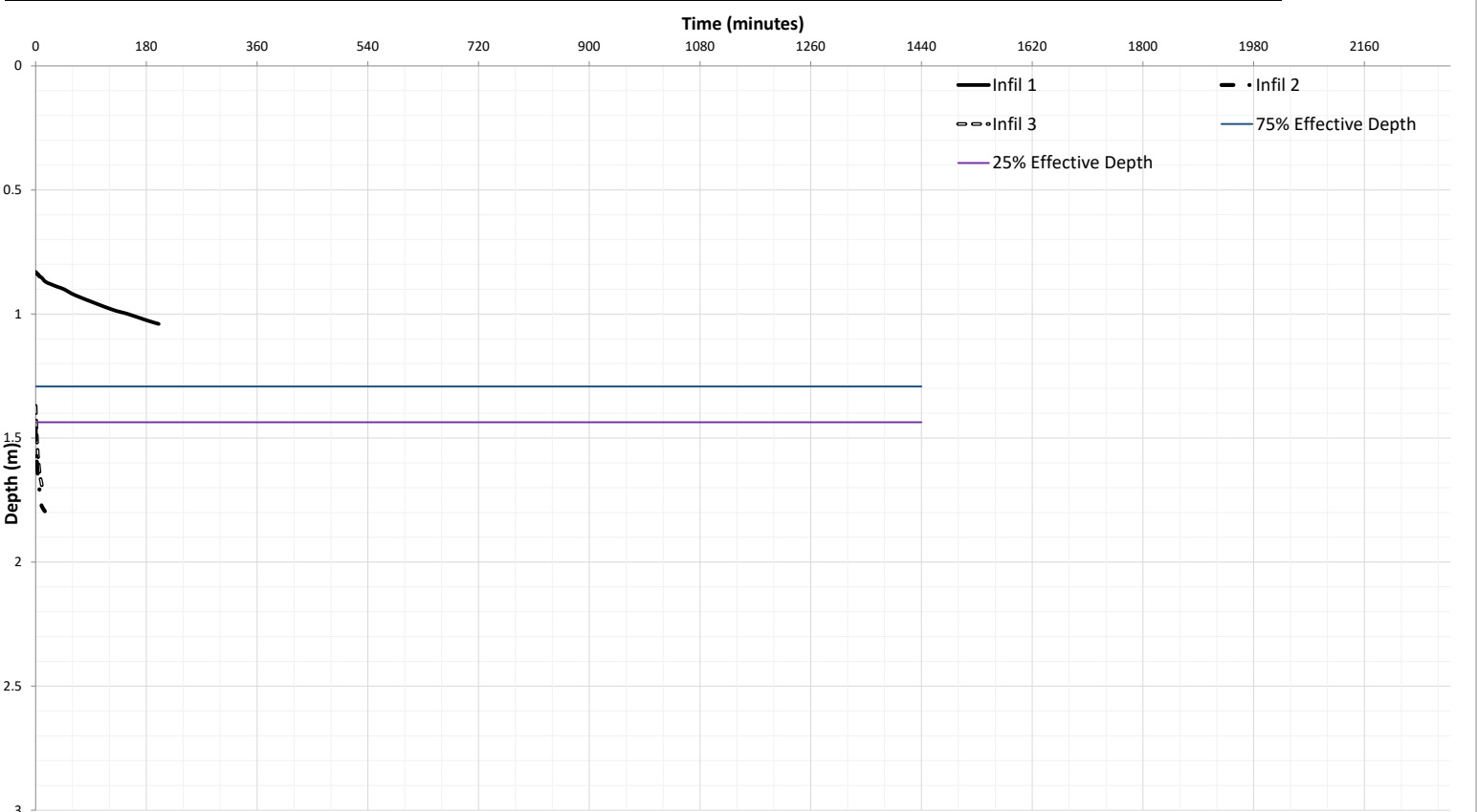


	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Nov-23	2899.00
	CLIENT		SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)	TP-139	1-3

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.04	1.80	1.69
Pit depth	m	1.65		
Pit length	m	1.70		
Pit width	m	0.50		
Depth to first reading	m	0.83	1.46	1.37
Maximum effective depth	m	0.21	0.34	0.32
Depth at 75% full	m	0.88	1.54	1.45
Depth at 25% full	m	0.99	1.71	1.61
Time at 75% full	mins	27.50	1.08	1.13
Time at 25% full	mins	132.50	6.31	5.20
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.089	0.142	0.136
Mean surface area for outflow (50% effective depth)	m2	2.65	1.27	1.47
Time for outflow	mins	105.00	5.24	4.07
Soil infiltration rate, f =		0.0000053379	0.0003573051	0.0003794251
or		5.34E-06	3.57E-04	3.79E-04

Recommended soil infiltration rate	
5.34E-06	m/s

NOTE:
Water level did not fall to below the 25% full level within 24 hrs for fills 1, 2 and 3 - Soil infiltration rate based on effective drainage only



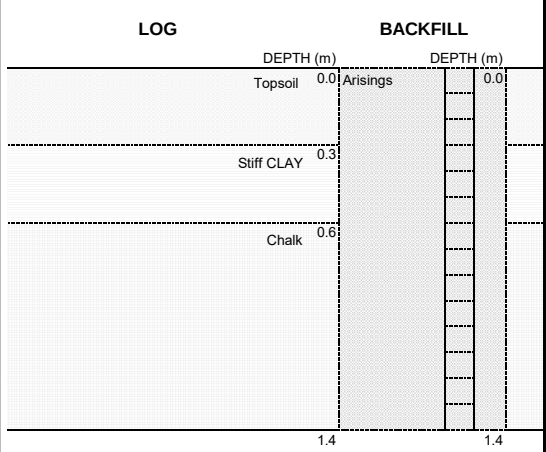
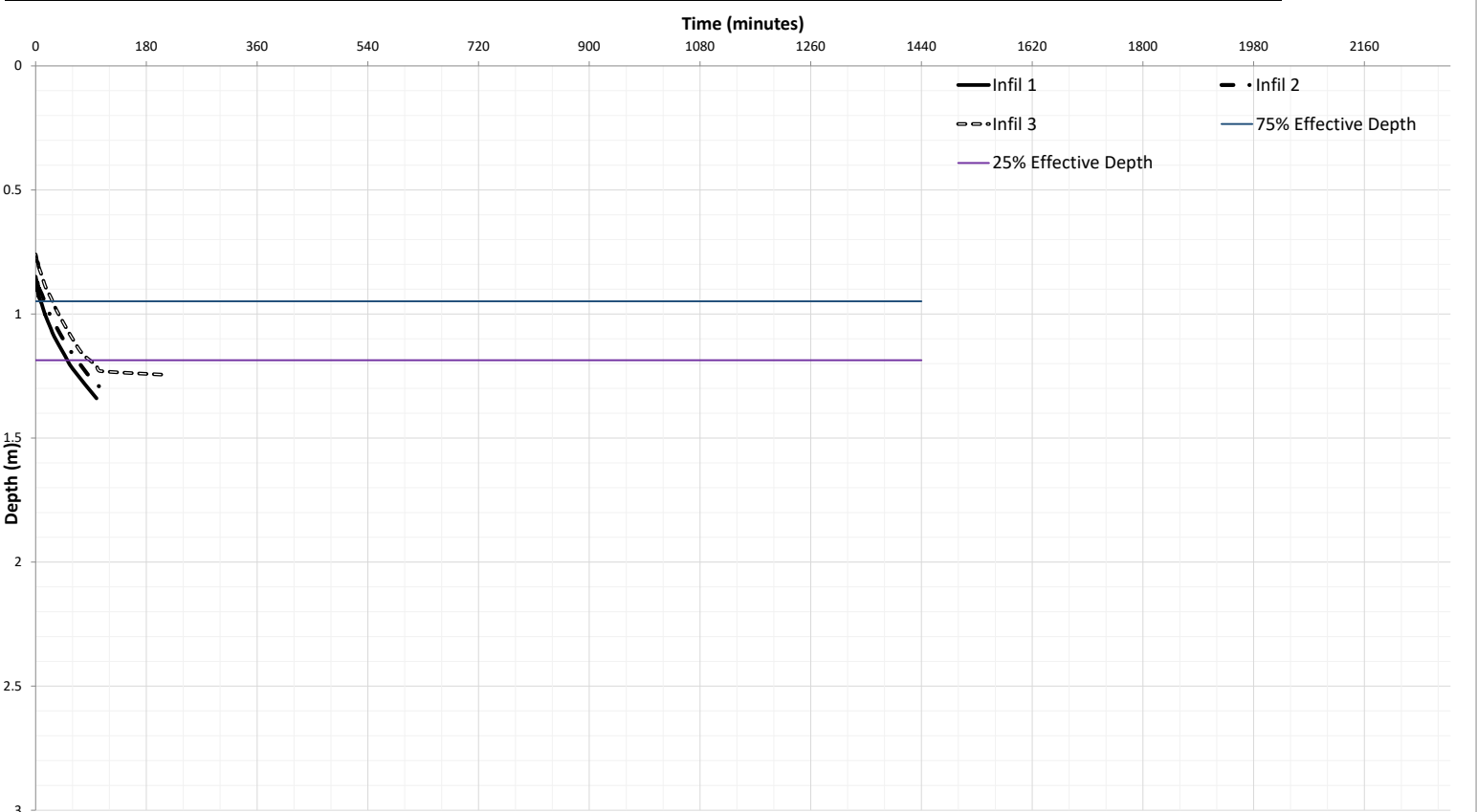
	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Nov-23	2899.00
	CLIENT		SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)		1-3

	units	Fill 1	Fill 2	Fill 3
Depth (final reading)	m	1.34	1.33	1.25
Pit depth	m	1.40		
Pit length	m	1.50		
Pit width	m	0.70		
Depth to first reading	m	0.88	0.85	0.76
Maximum effective depth	m	0.46	0.48	0.49
Depth at 75% full	m	1.00	0.97	0.88
Depth at 25% full	m	1.23	1.21	1.12
Time at 75% full	mins	16.67	17.60	14.83
Time at 25% full	mins	76.25	74.55	66.33
Vp75 - 25 (volume outflowing between 75% and 25% effective depth)	m3	0.273	0.252	0.255
Mean surface area for outflow (50% effective depth)	m2	2.19	2.26	2.46
Time for outflow	mins	59.58	56.95	51.50
Soil infiltration rate, f =		0.0000348057	0.0000326349	0.0000335244
or		3.48E-05	3.26E-05	3.35E-05

Recommended soil infiltration rate	
3.48E-05	m/s

NOTE:

Water level did not fall to below the 25% full level within 24 hrs for fills 2 and 3 - Soil infiltration rate based on effective drainage only



	PROJECT NAME	SOAKAWAY TEST RESULTS	DATE	PROJECT NUMBER
	Baldock		Dec-23	2899.00
	CLIENT		SOAKAWAY NUMBER	FILL NUMBER
	U&C	In accordance with BRE Digest 365 (1991 with amendments in 2003 and 2007)	sa-02	1-3