



Phase 2a Preliminary Ground Investigation

Land off Trowbridge Road, Bradford-on-Avon

Report: GCE01390/R2v3

April 2026

GCE01390/R2

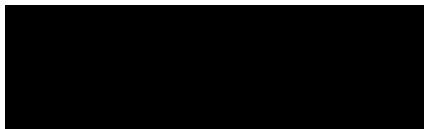
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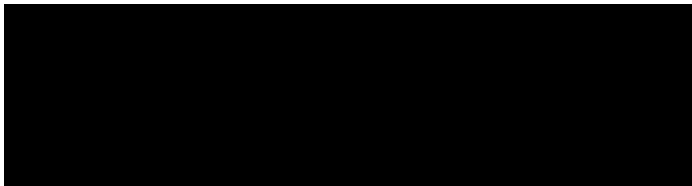
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EXECUTIVE SUMMARY

*Version 2 of this report contains the latest groundwater and ground gas monitoring results.
 Version 3 of this report updates references to the proposed development and masterplan.*

Features	Summary
Site Location	The site is located on the south-east edge of the developed area of Bradford-on-Avon.
Red Line Site Boundary	The defined site boundary is shown on Figure 1. The proposed development area comprises Field 1 and Field 2.
Proposed Development	Residential development of up to 224 homes and a care home with adjoining sports pitches, allotments and country park.
Site Area/ Site Zones	Overall, the site comprises eight fields with the western two fields, Field 1 and 2, proposed for residential development. Field 1 covers an area of circa 4.7ha is roughly rectangular and measures circa 280m NE-SW and between 140m and 185m NW-SE. Field 2 covers an area of circa 5.3ha is rectangular and measures circa 305m NE-SW by 175m NW-SE.
Current Ground Investigation	This investigation comprised trial pitting with large scale infiltration testing, rotary boreholes with installation of groundwater and ground gas monitoring wells, dynamic cone penetrometers, groundwater and ground gas monitoring, chemical laboratory analysis of soil and groundwater samples, geotechnical analysis of soil samples.
Made Ground	Not encountered in any of the exploratory holes.
Natural Transported Engineering Soils	Head deposits of soft and firm sandy clay were encountered in BH01 and BH02 up to 4.75m. Further investigation required in this area.
Natural In-Situ Engineering Soils	Gravel and cobbles over typically sandy gravelly clay, gravel and sandy gravelly clay of the weathered Cornbrash Formation, seen across the site apart from the northern part of Field 2.
In-Situ Rock	Limestone of the Cornbrash Formation found typically at around 2.0m, but ranging from 1.0 to 3.0m depth across the site, apart from the northern part of Field 2 where it is not found.
Groundwater	The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06.

Features	Summary
Ground Gas	Three boreholes in the north of the proposed development area and one off-site borehole to the north of Field 2 have been monitored for ground gas. No detections above typical threshold values for carbon dioxide (5%) and methane (1%) have been measured in any of the boreholes. Flow was measured on two occasions, once in BH01 on 24th November of 2.4l/hr and once in BH02 on 12th February 2026 of 1.8l/hr. The ground gas monitoring has been completed and recorded no obvious significant gas levels. A ground gas risk assessment should now be undertaken to evaluate the risk to the proposed development. Irrespective of gas monitoring results, the proximity to the former landfill site may result in the regulators (LPA and/or NHBC) requiring a degree of gas protection for new residential development.
Chemical Results Above NBC/ Screening Levels	No concentrations above the relevant thresholds were measured in any of the soil or groundwater samples.
Pollutant Linkages	No elevated sources of contamination were found and therefore no pollutant linkages have been found.
Geotechnical Index Testing	The modified Plasticity Index indicates the silty clays are of medium volume change potential.
Geotechnical Hazards	Hard strata breakout, differential settlement, variable depth to competent bearing stratum, volume change potential of near surface soils, potential for historic mining, dissolution features in the Cornbrash Formation, groundwater, Made Ground and natural mineralisation of geology.
Foundation Options	Trench fill foundations likely placed on stiff sandy gravelly clays of the weathered Cornbrash Formation at a depth of 0.90m where outside the influence of trees, occasionally in the clayey/silty sandy gravels of the weathered Cornbrash Formation. Further work required in northern part of Field 2 to delineate and characterise soft and firm clays found in BH01 and BH02 before foundation recommendations can be given.
Floor Slabs	Suspended floor slabs are recommended due to the potential for volume change in the near surface sandy gravelly clay of the weathered Cornbrash Formation.
Buried Concrete	The pH and water-soluble sulphate results indicate that buried concrete can be designed in accordance with design sulphate class DS-1 AEC class AC-1 of BRE Special Digest 1(2005), assuming mobile groundwater conditions.
Equilibrium Suction Index CBR/ In-Situ Results	For preliminary budgeting purposes a CBR of 2% may be assumed whilst recognising the need to remove localised soft spots/ disturbed or Made Ground.
Infiltration Testing	Four deep infiltration tests excavated to depths of between 2.15m and 2.55m. Two shallow infiltration tests excavated to depths of between 1.00m and 1.30m. Testing shows deep infiltration drainage may be viable in the south-east of Field 2 and shallow drainage in the south-east of Field 1, depending on the results of the groundwater monitoring.

Features	Summary
Identified Targeted Investigations	Soft and firm clays were encountered in BH01 and BH02, located in the northern part of Field 2, to a maximum depth of 4.75m. Further work required to delineate and characterise this ground before foundation recommendations can be given. This is likely to include supplementary trial pitting and dynamic sampling. Due to access and scope of work restrictions exploratory holes were positioned on larger grid size than would normally be expected for a change of land use to residential development. On a normal 50m grid size across the proposed development area a further fourteen exploratory holes would be required in Field 1 and a further twenty-two exploratory holes would be required in Field 2. Groundwater monitoring is due to be undertaken until late spring 2026 to assess seasonal variation. The ground gas monitoring has been completed and recorded no obvious significant gas levels. A ground gas risk assessment should now be undertaken to evaluate the risk to the proposed development.

GLOSSARY

Abbreviation	Description
ACEC	Aggressive chemical environment for concrete
ACM	Asbestos containing material
AST	Above ground storage tank
BGS	British Geological Survey
BH	Borehole
BRE	Building Research Establishment
BS	British Standard
CBR	California Bearing Ratio
CDM	Construction Design & Management
CI	Consistency Index
CIEH	Chartered Institute of Environmental Health
CIRIA	Construction Industry Research and Information Association
CLEA	Contaminated land exposure assessment
CSM	Conceptual Site Model
C4SL	Category 4 Screening Level
DCP	Dynamic Cone Penetrometer
DNAPL	Dense non-aqueous phase liquid
DP	Dynamic Probe
DPC	Damp Proof Course
DPM	Damp Proof Membrane
DS	Dynamic Sample
DWS	Drinking Water Standard (UK)
EA	Environment Agency
EQS	Environmental Quality Standards
GAC	Generic assessment criteria
GSV	Gas Screening Value
HPA	Health Protection Agency (now known as Public Health England)
IBC	Intermediate bulk container
LL	Liquid Limit
LLFA	Lead Local Flood Authority

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Abbreviation	Description
LNAPL	Light non-aqueous phase liquid
LPA	Local Planning Authority
LQM	Land Quality Management
magl	Metres above ground level
mAOD	Metres above Ordnance Datum
mbgl	Metres below ground level
NBC	Normal background concentrations
NHBC	National House Building Council
OS	Ordnance Survey
PAH	Polycyclic aromatic hydrocarbons
PHE	Public Health England
PI	Plasticity Index
PID	Photoionisation detector
PL	Plastic Limit
SPT	Standard Penetration Test
SGV	Soil Guideline Value
SHW	Specification for Highway Works
SOM	Soil organic matter
SVOC	Semi-volatile organic compound
S4UL	Suitable 4 Use Level
TOC	Total organic carbon
TP	Trial Pit
TPH	Total petroleum hydrocarbons
TRRL	Transport & Road Research Laboratory
UKWIR	United Kingdom Water Industry Research
UST	Underground storage tank
UXO	Unexploded ordnance
VOC	Volatile organic compound

1.0 INTRODUCTION

1.1 Instruction

Geo Consulting Engineering Ltd (GCEL) was commissioned by Waddeton Park Ltd to undertake a Phase 2a Preliminary Ground Investigation at the site of the proposed residential development, as identified in Figure 1.

The works have been carried out in accordance with proposal ref: GCE01390/P2; dated: May 2025 and addressed to Waddeton Park Ltd.

1.2 Background

The site comprises six fields with the west two fields, covering an area of circa 10.5ha, proposed for residential development of up to 224 homes and a care home. The rest of the site is proposed for Public Open Space land including sports pitches, allotments and country park.

Geo Consulting Engineering Ltd has undertaken a Phase 1 Desk Study for the site, ref: GCE01390/R1v2, dated: April 2026.

This Phase 2A Preliminary Ground Investigation covers the southern field of the proposed development area as well as preliminary information on the northern field of the proposed development due to access restriction, noting that further investigation is recommended when full access becomes available.

Version 2 of this report contains the latest groundwater and ground gas monitoring results.

Version 3 of this report updates references to the proposed development and masterplan.

1.3 Objectives

A preliminary ground investigation is required to provide initial information on the ground and groundwater conditions at the site for a residential development.

1.4 Methodology

The British Standard for Ground Investigation (BS5930:2015+A1:2020) Introduction states. *“The ground is naturally variable and often the nature of these variations is not known. A ground investigation is a process starting with initial documentation about the site and its environs followed by continuous exploration and interpretation, with the scope of the investigation requiring regular amendment in the light of the data being obtained.”*

A ground investigation should be undertaken in phases. The following table provides a summary of the usual investigation sequence:

Table 1.4.1 – Typical Investigation Sequence

Phase	Description	Scope of works
1	Preliminary Sources Review (Desk study) and field reconnaissance. (NHBC initial assessment)	Walkover survey, environmental database review, historical map review for development of conceptual site model, geotechnical risk assessment and a sampling and analysis plan.
2	Preliminary Ground Investigation. (NHBC Basic Investigation)	To be reviewed subject to Phase 1. Phase 2A may typically include a limited number of exploratory holes used to confirm the ground model. This may require a number of intrusive investigation techniques subject to actual ground conditions, requiring a sequence of Phases 2B, 2C etc.
3	Detailed Ground Investigations. (NHBC Detailed Investigation and Further Assessment)	Subject to Phase 1 and 2 findings. This may require a regular close space grid (50m by 50m for example) of exploratory holes. This may significantly increase the number of exploratory holes but reduce uncertainty in terms of variability between locations.
4	Control investigation, construction review including follow up investigations during construction.	Scope subject to construction design, layout, and complexity of the ground conditions.

Eurocode 7 EN 1997-1:2004 identifies the requirements of a ground investigation report, which shall form part of the Geotechnical Design Report. This document is not a Geotechnical Design Report.

1.5 Limitations

A number of utility services are known to cross the site, including a public surface water sewer and private water supply pipes. Exploratory hole locations were positioned such to avoid these services. Similarly, the project ecologists have identified stand-off areas around badger setts which exploratory holes have been sited outside of.

Access was restricted in the northern field to the north and west margins and over the eastern boundary in the neighbouring field. Further investigation in the northern field is recommended when access becomes available.

Subsoils are inherently variable and by their very nature are hidden from view such that no investigation can be exhaustive to the extent that all soil conditions are revealed. Conditions may therefore be present beneath the site that were not apparent from the data available for review. Similarly, this assessment has been based in part on third party data with particular respect to the Phase 1 information. This data has been taken at face value and has not been subjected to any external validation.

Groundwater levels are subject to seasonal variation and therefore may change from the levels recorded during this investigation.

Where areas of a site are overgrown/ inaccessible/ obscured by buildings or hardstanding, it may not be possible for a walkover inspection to identify features that may subsequently come to light when site clearance is carried out.

Assessment of asbestos in the ground is outside the scope of our report and expertise. The potential for asbestos or other hazardous or deleterious substances in structures and substructures should be assessed by a competent person.

This is not an ecological report. The assessment of invasive species and other ecological constraints is beyond the scope of this report.

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Unless specifically noted to the contrary, it should be assumed that this report has not been submitted to any regulatory authorities for approval.

This report is not a remediation strategy or design document.

Recommendations made in this report in respect of land contamination are based on guidance values that are current at the time of writing. Should any extended period of time elapse between the date of this report and the commencement of construction it would be prudent to confirm that the screening values used are current.

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Existing infrastructure, such as highways and utilities, crossing the site present a constraint on both areas that can be investigated and potential future development.

2.0 PHASE 1 DESK STUDY

GCEL has produced a Phase 1 Desk Study and Site Walkover report for the site, ref: GCE01390/R1, dated: August 2025. A summary of the findings can be found below.

The site is located on the south-east edge of the developed area of Bradford-on-Avon.

Overall, the site comprises eight fields, with the western two fields, Field 1 and 2, proposed for residential development. Field 1 covers an area of circa 4.7ha, is roughly rectangular and measures circa 280m NE-SW and between 140m and 185m NW-SE. Field 2 covers an area of circa 5.3ha, is rectangular and measures circa 305m NE-SW by 175m NW-SE. General gentle fall across Fields 1, 2 and 3, towards the south-east from high point of circa 43mAOD on NW boundary. Fields 4, 5 and 6 fall to north-east to the River Avon. Fields 7 and 8 are largely level with very gentle fall to north-east.

The site walkover identified that the field was grass surfaced throughout with the exception of Field 2 which is currently in arable use. There is hardstanding in the yard area in the west corner of Field 3 which also includes a tractor shed. There is a Sailing Club building and boat storage area in central part of Field 6. Field boundaries typically comprise hedgerows with occasional mature trees. Overgrown margins to NW and NE sides of Field 2.

The proposed development area of Field 1 and 2 has remained in agricultural use since the first available mapping of 1886. Field 2 is mapped as two fields until the mapping of 1993, Field 1 has two 'stones' mapped near its south-east boundary from the first mapping to the 1901 mapping. The rest of the site is in agricultural use from the first edition mapping with the sailing club mapped from 1969 and the yard area in the south-west corner of Field 3 from the 2014 Google Earth Image.

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The British Geological Survey mapping indicates the site to be underlain by limestone of the Cornbrash Formation across Field 1, 2, 3, south-east half of 6, 7 and 8. Mudstone of the Forest Marble Formation is mapped across much of Field 4, 5, north-east corner of 3, north-west half of 6. Superficial deposits of Alluvium - clay, silt, sand and gravel are mapped in the north half of Field 4, 5 and 6, in proximity to the River Avon. Whilst not mapped we would expect superficial deposits of fine-grained Head to mantle the solid geology across the site.

The Envirocheck® report identifies the site to be in an intermediate probability radon area (1-3% of homes are estimated to be at or above the Action Level). No radon protective measures are necessary in the construction of new dwellings or extensions, however installation of basic protection measures is recommended in properties in intermediate probability areas, as post construction monitoring and radon detection would require retrospective installation of protection measures.

The Envirocheck identifies there to be a risk of 'rock' mining on-site, noting that no evidence of on-site quarrying was seen on the historical Ordnance Survey mapping. The Envirocheck report highlights evidence of mining 76m and 151m west of the site. Historical mapping and the Envirocheck report show nearby historical stone quarries listed as 'opencast' circa 400m west of the site and 'underground' circa 600m north-west of the site. A separate mining specific desk study is recommended for the site.

Potential sources of contamination from historical land use as agricultural land may include localised Made Ground, hydrocarbon spills and elevated PAHs from stubble burning.

Potential off-site contamination sources include a historical landfill recorded 58m north of site. Tipped waste included putrescible waste. Ground gas monitoring, groundwater testing and soils chemical testing recommended.

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Potential geotechnical hazards include hard strata breakout, differential settlement, variable depth to competent bearing stratum, volume change potential of near surface soils, potential for historic mining, dissolution features in the Cornbrash Formation, groundwater, Made Ground and natural mineralisation of geology.

3.0 PHASE 2A PRELIMINARY GROUND INVESTIGATION

3.1 Introduction

The following table provides a brief overview of typical ground investigation techniques:

Table 3.1.1 – Typical Ground Investigation Techniques

Techniques	Description
Trial Pitting	Low cost on agricultural sites where reinstatement requirements are minimal. Provides best bulk observation of near surface soils. Limited to 3-4m depth, depth limited by groundwater and unstable ground.
Infiltration Testing in Trial Pits	Required to estimate the infiltration rate for soakaway drainage design. preliminary investigation should provide an indication of viability. Phase 3 and 4 investigations required to target actual soakaway locations.
Hand Excavated Trial Pits	To locate depths to existing foundations (maximum depth of 1.20m).
Dynamic Sampling	Good for existing developed site, where access is restricted, and reinstatement costs are likely to be high. Dynamic sampling boreholes allow in-situ testing (SPT) and a typical penetration depth of 4-5m. Allows for installation of shallow monitoring wells.
Dynamic Probing	Good for rapid profiling of relative density of soils and depth to hard material. Dynamic probing is normally undertaken with a track mounted rig. Where access is limited a portable mechanically driven dynamic probe is used. Where access is very limited handheld dynamic probing can be undertaken. No samples are collected with this method.
Cable Percussive Boreholes	Used for drilling deeper boreholes into engineering soils to allow in-situ testing (SPT) and U(T)100 sampling within installation of deeper monitoring wells. Requires good access for erection of rig and working area.
Rotary Boreholes	These can be combined with dynamic sampling techniques to investigate the soils, U(T)100 sampling and in-situ testing (SPT). Able to drill through hard strata and recover rock core. Allows installation of deep monitoring wells.
Monitoring Wells for Groundwater and Ground Gas.	Monitoring wells can be installed in boreholes to allow measurement of shallow groundwater depths and ground gas concentrations.

Appendix A sets out a brief description of the above techniques.

Appendix B provides basic references to the commonly encountered soil and rock types along with methods of description and interpretation.

3.2 Proposed Phase 2a Preliminary Ground Investigation

The following table summarises the proposed preliminary ground investigation following the Phase 1 Desk Study report:

Table 3.2.1 – Proposed Preliminary Ground Investigation

Target	Field	Method	Detail
Shallow Made Ground	Sitewide	Trial Pits & Boreholes	Spread of exploratory holes across the site to assess ground conditions.
Shallow Head Soils	Sitewide	Trial Pits & Boreholes	Spread of exploratory holes across the site to assess ground conditions.
Hard Strata	Sitewide	Trial Pits & Boreholes	Spread of exploratory holes across the site to assess ground conditions.
Groundwater	Sitewide	Installation of monitoring wells	Spread of groundwater monitoring wells across the site with groundwater monitoring to assess groundwater levels and seasonal variation.
Ground Gas	Field 2	Installation of monitoring wells	Ground gas monitoring wells with ground gas monitoring initially installed along the north-east boundary of the site closest to the landfill for assessment of gas concentrations.
Infiltration Potential	Sitewide	Large scale infiltration testing	Spread of large-scale infiltration tests to assess potential as a drainage strategy.
Volume Change Potential	Sitewide	Sampling & geotechnical analysis of soils	Testing of near surface fine grained soils to assess volume change potential.
Contaminated Soils	Sitewide	Sampling & chemical analysis of soils	Testing of soils at a range of depths and locations to assess extent of contamination.
Contaminated Groundwater	Sitewide	Sampling & chemical analysis of groundwater	Testing of groundwater to assess extent of contamination.
Potential Highway Sub-grade	Sitewide	DCPs	Spread of DCPs across the site to inform a preliminary design CBR.

Access restrictions in Field 2 and the limited scope of the intrusive investigation meant that although all of these proposed targets were investigated, the exploratory hole spacing was much larger than what would typically be expected for a change of land use to residential development.

3.3 Implemented Phase 2a Preliminary Ground Investigation

The following table summarises the ground investigation methods used at this stage:

Table 3.3.1 – Implemented Preliminary Ground Investigation

Method	Detail	Targets	Remarks
Exploratory Hole Locations	Targeted sampling and/ or regular grid spacing.	Widespread shallow soils including Made Ground, topsoil, engineering soils. Targets as identified in Table 3.2.	See Figures 4 and 5 for exploratory hole locations.
Trial Pitting	16 th & 19 th June 2025 – two days. Fourteen locations undertaken to depths of between 1.00mbgl and 2.55mbgl.	TP01 to TP04 locations determined by SLR Consulting	Trial Pit Logs are presented in Appendix C.
Infiltration Testing	16 th to 19 th June 2025 – four days. Four deep infiltration tests excavated to depths of between 2.15m and 2.55m. Two shallow infiltration tests excavated to depths of between 1.00m and 1.30m.	Locations determined by SLR Consulting Limited. Excavated to a target depth of 2.50m, TP02 to TP04 encountered hard strata at 2.15m and were terminated at that depth. TP03 and TP04 deep (2.15m) tests failed so shallow infiltration tests excavated and undertaken adjacent deeper ones.	Infiltration Test Records are presented in Appendix D.
Rotary Boreholes	12 th and 13 th June 2025 – two days. Eight boreholes drilled to depths of between 5.00m and 5.70m using a combination of dynamic sampling, SPTs and open-hole drilling.	Spread across the site for preliminary groundwater and ground gas monitoring.	Rotary Borehole Logs are presented in Appendix E.
Dynamic Cone Penetrometer	Ten Dynamic Cone Penetrometers undertaken across Field 1.	Undertaken on an approximate grid, proposed route of highways unknown at this time.	Test results are presented in Appendix F.

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Method	Detail	Targets	Remarks
Groundwater and Ground Gas Monitoring Wells	Installed to the base of all boreholes, BH01 to BH08. BH01, BH02 and BH03 installed as combined groundwater and ground gas monitoring wells. BH04 to BH08 installed as groundwater monitoring wells.	Positioned on field margins adjacent infiltration tests (BH03 to BH06), closest to the off-site landfill for gas monitoring (BH01 to BH03) and across the topography to allow for groundwater triangulation (BH07 and BH08).	All locations comprised one monitoring well to the base of the borehole. The monitoring well comprised slotted pipe from the base to a depth of 1mbgl. A 1m-thick bentonite seal was placed from ground level with a gravel filter surrounding the rest of the installation. The tops were finished with a steel flush cover and timber marker stake where possible.
Chemical Analysis (Soil)	Chemical testing on soil samples comprised: - 6 No. Metals/ Metalloids - 6 No. pH soil - 6 No. Total Organic Carbon - 6 No. Speciated Polycyclic Aromatic Hydrocarbons (PAHs) - 6 No. speciated Total Petroleum Hydrocarbons - 6 No. BTEX & MTBE - 6 No. Asbestos Identification	Soil sampling and chemical analysis undertaken across the site at a range of stratum and depths.	Results are presented in Appendix H.
Chemical Analysis (Water)	Chemical testing on groundwater samples comprised: - 4 No. pH & sulphate - 4 No. Metals (dissolved) - 4 No. TPH CWG - 4 No. BTEX & MTBE - 4 No. Ammoniacal Nitrogen, Chloride	Groundwater sampling and analysis undertaken in all boreholes with enough groundwater in to obtain a sample on the July monitoring visit.	Results are presented in Appendix I.
Geotechnical Testing	Geotechnical testing on soil samples comprised: - 30 No. Moisture content - 3 No. Liquid and plastic limits - 3 No. BRE SD1 suite	Soil sampling and geotechnical analysis undertaken across the site at a range of stratum and depths.	Results are presented in Appendix J.
Groundwater and Ground Gas Monitoring	Monitoring has been undertaken on thirteen occasions at the time of reporting.	Ground gas monitoring of BH01 to BH03 and the off-site borehole, all located closest to the landfill to the north-west of the site. Groundwater monitoring in all boreholes.	Results discussed in Sections 4.3 and 4.4. Ground gas results presented in Appendix G.

4.0 PRELIMINARY GROUND INVESTIGATION FINDINGS

4.1 Introduction

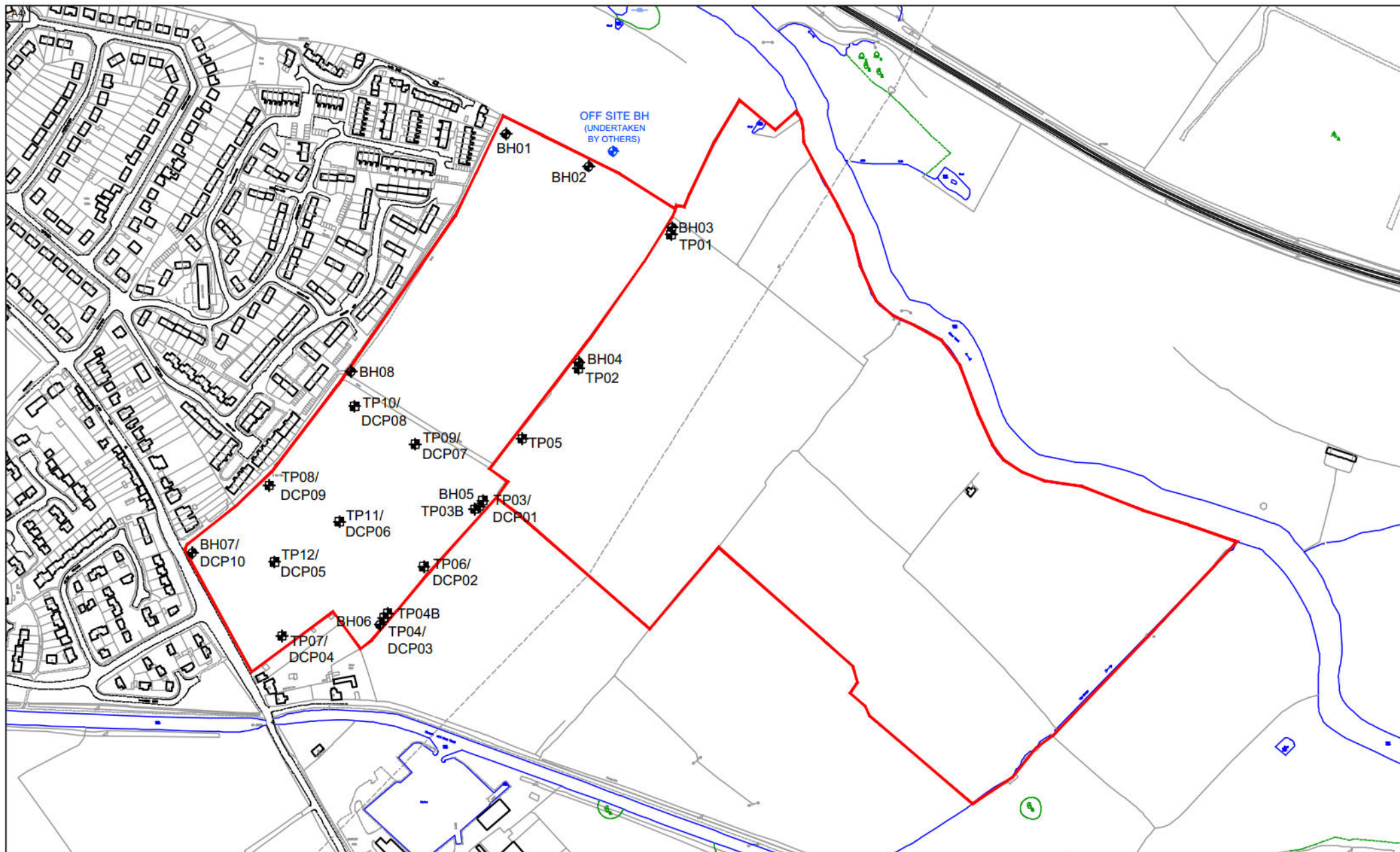
The ground investigation follows the field numbering in the Phase 1. The exploratory hole locations are shown on Figure 4 (existing layout) and Figure 5 (proposed layout).

The ground investigation has identified the following:

- Topsoil underlain by naturally occurring soils.
- Gravel and cobbles, occasionally gravel, of weathered Cornbrash Formation to a typical depth of 0.8m across the site apart from the northern part of Field 2 where it is not found.
- Weathered Cornbrash Formation deposits typically of sandy gravelly clay over gravel over sandy gravelly clay to a typical depth of 2.0m apart from the northern part of Field 2 where it is not found.
- Limestone of the Cornbrash Formation found typically at around 2.0m, but ranging from 1.0 to 3.0m depth across the site, apart from the northern part of Field 2 where it is not found.
- Clay of the Cornbrash Formation found in the boreholes at depths from 3.2 - 4.1m, apart from the northern part of Field 2 where it is not found.
- Soft and firm clay Head material found in the northern part of Field 2 to depths of up to 4.75m.
- Stiff weathered Forest Marble Formation clays found at depth in the northern part of Field 2.

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Figure 4 – Exploratory Hole Layout (Existing)



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Job Title:

Trowbridge Road
Bradford-On-Avon

Client:

Waddeton Park Limited

Dwg Title:

Exploratory Hole
Location Plan
(Existing Layout)

Drawing Status

For Information

Scale 1:5000 @ A4 Drawn SK

Date June 2025 Checked DLJ

Drawing no:
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Figure 5 – Exploratory Hole Layout (Proposed)



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W: www.geoconsultingeng.co.uk

Job Title:

Trowbridge Road
Bradford-On-Avon

Client:

Waddeton Park Limited

Dwg Title:

Exploratory Hole
Location Plan
(Proposed Layout)

Drawing Status

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Scale 1:5000 @ A4 Drawn SK

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4.2 Ground Conditions

The following tables summarise the ground conditions observed across the southern field (Field 1), with locations presented roughly from east to west (low elevation to high elevation).

Table 4.2.1 – Ground Conditions (Field 1)

Stratum	BH05	TP03	TP03B	TP06	BH06
Topsoil/subsoil	GL-0.30	GL-0.50	GL-0.35	GL-0.45	GL-0.35
GRAVEL & COBBLES (wCF)	-	0.50-0.80	0.35-0.70	0.45-0.85	-
GRAVEL (wCF)	0.30-1.20	-	-	-	0.35-0.85
sandy, gravelly silty CLAY (wCF)	1.20-2.00	0.80-1.90	0.70-0.85	0.85-1.10	0.85-1.15
GRAVEL (wCF)	-	-	0.85-1.15+	1.10-1.70	1.15-2.00
sandy, gravelly silty CLAY (wCF)	-	-	-	1.70-1.90	-
LIMESTONE (CF)	2.00-3.20	1.90-2.15+	-	1.90-2.15+	2.00-3.50
silty CLAY (CF)	3.20-5.15+	-	-	-	3.50-5.00+
Groundwater	NE	NE	NE	NE	NE

Table 4.2.2 – Ground Conditions (Field 1)

Stratum	TP04	TP04B	TP07	TP12	TP11
Topsoil/subsoil	GL-0.45	GL-0.35	GL-0.25	GL-0.25	GL-0.30
GRAVEL & COBBLES (wCF)	-	0.35-0.70	0.25-0.40	0.25-0.65	0.30-0.70
GRAVEL (wCF)	0.45-1.05	-	-	-	-
sandy, gravelly silty CLAY (wCF)	1.05-1.25	0.70-1.00+	0.40-0.80	0.65-1.00	0.70-0.95
GRAVEL (wCF)	1.25-1.80	-	0.80-1.45	1.00-1.55	0.95-1.55
sandy, gravelly silty CLAY (wCF)	1.80-2.00	-	1.45-1.60	1.55-1.85	1.55-1.75
LIMESTONE (CF)	2.00-2.15+	-	1.60-1.70+	1.85-1.90+	1.75-1.80+
Groundwater	NE	NE	NE	NE	NE

Table 4.2.3 – Ground Conditions (Field 1)

Stratum	TP09	BH07	TP08	TP10
Topsoil/subsoil	GL-0.45	GL-0.40	GL-0.70	GL-0.30
GRAVEL & COBBLES (wCF)	0.45-0.90	-	0.70-1.20	-
sandy, gravelly silty CLAY (wCF)	0.90-1.10	0.40-2.05	1.20-1.50	0.30-0.55
GRAVEL (wCF)	1.10-1.60	-	1.50-1.95	0.55-1.10
sandy, gravelly silty CLAY (wCF)	1.60-1.95	-	1.95-2.10	1.10-1.40
LIMESTONE (CF)	1.95-2.00+	2.05-3.20	2.10-2.20+	1.40-1.45+
silty CLAY (CF)	-	3.20-5.00+	-	-
Groundwater	NE	NE	NE	NE

wCF = weathered Cornbrash Formation

CF = Cornbrash Formation

NE = Not Encountered

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The following tables summarise the ground conditions observed across the northern field (Field 2), with locations presented roughly from north to south.

Table 4.2.4 – Ground Conditions (Field 2)

Stratum	BH01	BH02	BH03	TP01	BH04
Topsoil/subsoil	GL-0.40	GL-0.40	GL-0.60	GL-0.60	GL-0.40
(soft and firm) slightly sandy silty CLAY (Head)	0.40-4.75	0.40-4.60	-	-	-
slightly gravelly silty CLAY (wFMF)	4.75-5.70+	4.60-5.00+	-	-	-
GRAVEL & COBBLES (wCF)	-	-	0.60-0.90	0.60-1.40	0.40-1.00
GRAVEL (wCF)	-	-	0.90-3.00	1.40-2.55+	1.00-2.00
LIMESTONE (CF)	-	-	3.00-4.10	-	2.00-3.40
silty CLAY (CF)	-	-	4.10-4.50	-	3.40-5.00+
LIMESTONE (CF)	-	-	4.50-5.00+	-	-
Groundwater	NE	NE	NE	NE	NE

Table 4.2.5 – Ground Conditions (Field 2)

Stratum	TP02	TP05	BH08
Topsoil/subsoil	GL-0.40	GL-0.35	GL-0.25
GRAVEL & COBBLES (wCF)	0.40-0.75	0.35-0.65	-
sandy, gravelly silty CLAY (wCF)	0.75-1.05	0.65-0.95	0.25-1.00
GRAVEL (wCF)	1.05-1.70	0.95-1.90	-
sandy, gravelly silty CLAY (wCF)	1.70-2.05	-	-
LIMESTONE (CF)	2.05-2.15+	1.90-2.00+	1.00-3.80
silty CLAY (CF)	-	-	3.80-5.00+
Groundwater	NE	NE	NE

wFMF = weathered Forest Marble Formation

wCF = weathered Cornbrash Formation

CF = Cornbrash Formation

NE = Not Encountered

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Topsoil/ Subsoil

Encountered across the site, typically described as '*brown slightly sandy slightly gravelly silty clay*'.

These materials are likely disturbed by agricultural ploughing, stubble burning and may contain localised anthropogenic materials.

Head Deposits

Silty Clay

Encountered in BH01 and BH02 to a maximum depth of 4.75m and typically described as; '*Soft and firm, light brown, sandy, silty CLAY*'.

Frequently described as 'slightly sandy'. Two SPTs undertaken in this stratum had an N value of 11.

Weathered Forest Marble Formation

Silty Clay

Encountered in BH01 and BH02 to the base of the boreholes at a maximum depth of 5.7m and typically described as; '*Stiff, greenish grey occasionally orangish brown, slightly gravelly, silty CLAY*'.

Gravel typically fine to medium subangular siltstone.

Weathered Cornbrash Formation

Gravel & Cobbles

Encountered across much of the site to depths of up to 1.40m and typically described as; '*Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES*'.

Gravel typically fine to coarse, gravel and cobbles described as subangular limestone.

Described in TP09 with rare horizontal structure. Occasionally described as '*GRAVEL with a low cobble content*'.

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Sandy, gravelly, silty Clay

Encountered across much of the site typically as a layer before and after the gravel stratum to depths of up to 2.10m and typically described as; '*Stiff, light brown and light greyish brown occasionally orangish brown, sandy, gravelly, silty CLAY*'.

Gravel typically fine to medium subangular fossiliferous limestone. Occasionally described as '*slightly sandy*'.

Gravel

Encountered across much of the site to depths of up to 3.00m and typically described as; '*Light greyish brown, clayey/silty, sandy GRAVEL*'.

Gravel typically fine to medium subangular fossiliferous limestone. Described with '*a low cobble content*' in TP01 and TP10. An SPT undertaken in this stratum in BH06 at 1.50m found a Medium Dense relative density with an SPT N Value of 29.

Cornbrash Formation

Limestone

Encountered across the site, except the northern part of Field 2, starting at depths between 1.00 to 3.00m and typically described as; '*Medium strong, light greyish brown, LIMESTONE*'.

Described in trial pits as a horizontal bed and recovered as slightly clayey/ silty, slightly sandy, gravel & cobbles. Trial pits were terminated once this stratum was encountered due to hard strata breakout and SPTs refused (N>50).

Silty Clay

Encountered below the limestone in BH03 to BH08 at depths starting from 3.20m and typically described as; '*Very stiff, dark grey, thinly laminated, silty CLAY*'.

SPTs undertaken in this stratum ranged from an N value of 42 to a refusal (N>50).

Exploratory Hole Records are attached in Appendix C and E.

See Figure 4 and 5 for Exploratory Hole Locations.

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4.3 Groundwater Monitoring

The following table presents the level data for the monitoring wells:

Table 4.3.1 – Monitoring Well Level Data

Borehole	Ground level (mAOD)	Datum	Datum height from GL (m)	Datum Level (mAOD)	Base depth of pipe (mbD)	Base level of pipe (mAOD)
BH01	42.27	TOC	0.36	42.63	5.59	36.68
BH02	40.08	TOC	0.34	40.42	5.28	34.80
BH03	38.97	TOC	0.35	39.32	5.23	33.74
BH04	38.72	TOC	0.33	39.05	5.33	33.39
BH05	39.03	TOC	0.37	39.40	5.52	33.51
BH06	39.43	TOC	0.35	39.78	5.21	34.22
BH07	42.92	TOC	0.28	43.20	4.98	37.94
BH08	43.18	TOC	0.35	43.53	5.05	38.13
Off-Site BH	38.85	TOC	0.36	39.21	2.55	36.30

GL = Ground Level

TOC = Top of Cover

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The following table presents the groundwater levels in metres above Ordnance Datum (mAOD):

Table 4.3.2 – Groundwater Monitoring Results in mAOD

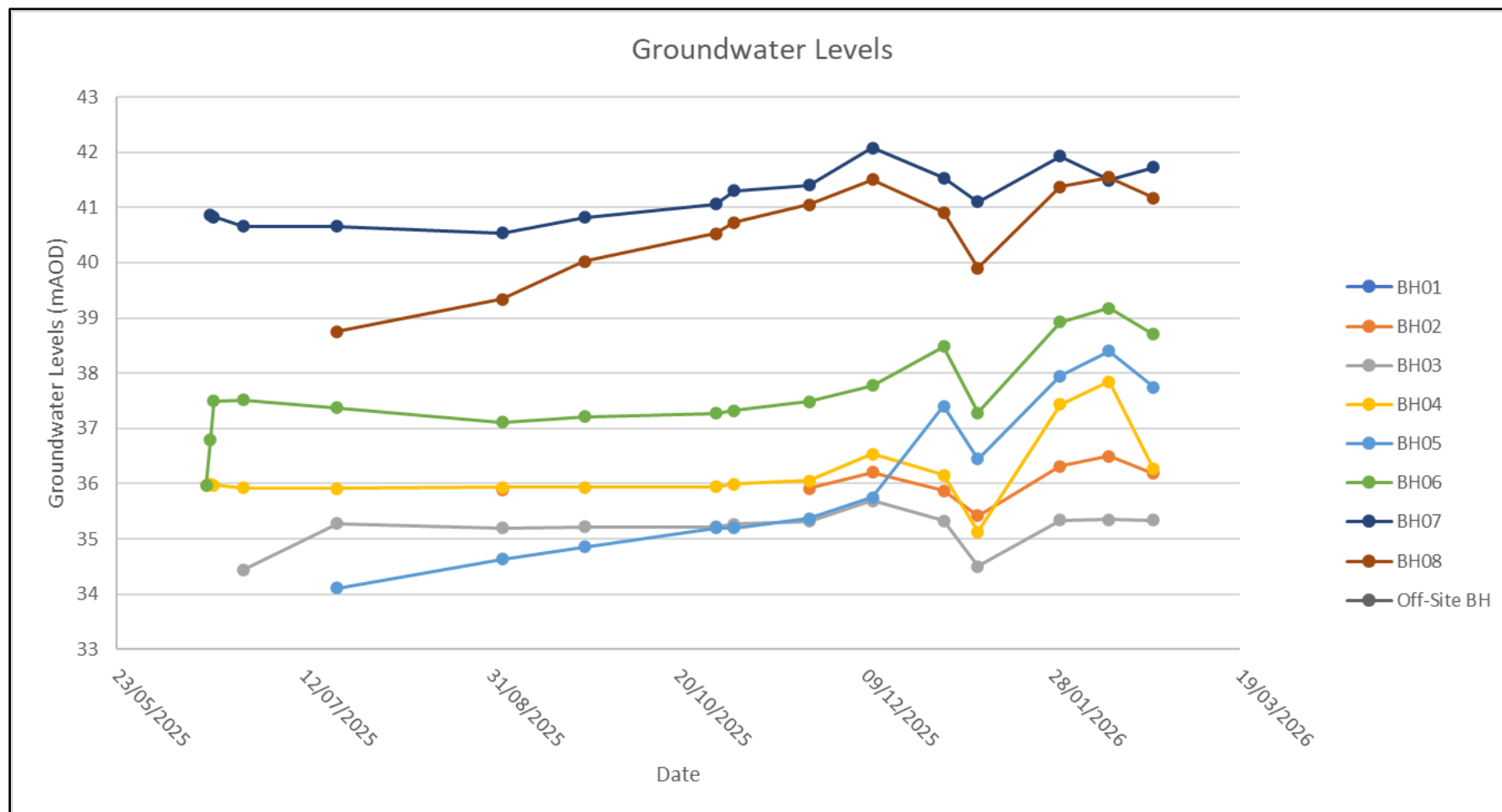
Borehole	Ground level (mAOD)	16/06/2025*	17/06/2025*	18/06/2025*	26/06/2025	21/07/2025	03/09/2025	25/09/2025	30/10/2025	04/11/2025
BH01	42.27	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)
BH02	40.08	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	35.88	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)
BH03	38.97	Dry (<33.74)	-	Dry (<33.74)	34.44	35.28	35.20	35.22	35.22	35.27
BH04	38.72	35.98	35.99	35.98	35.93	35.92	35.94	35.94	35.95	36.00
BH05	39.03	Dry (<33.51)	Dry (<33.51)	Dry (<33.51)	Dry (<33.51)	34.11	34.63	34.86	35.20	35.20
BH06	39.43	35.98	36.80	37.50	37.52	37.38	37.12	37.22	37.28	37.33
BH07	42.92	-	40.86	40.83	40.65	40.65	40.53	40.82	41.06	41.30
BH08	43.18	Dry (<38.13)	Dry (<38.13)	Dry (<38.13)	Dry (<38.13)	38.76	39.34	40.03	40.53	40.73
Off-Site BH	38.85	-	-	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)

*Measured during the infiltration testing.

Borehole	Ground level (mAOD)	24/11/2025	11/12/2025	30/12/2025	08/01/2026	30/01/2026	12/02/2026	24/02/2026
BH01	42.27	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)
BH02	40.08	35.91	36.20	35.87	35.42	36.32	36.50	36.18
BH03	38.97	35.32	35.69	35.33	34.50	35.34	35.35	35.34
BH04	38.72	36.05	36.54	36.15	35.13	37.43	37.85	36.27
BH05	39.03	35.37	35.75	37.40	36.45	37.95	38.40	37.75
BH06	39.43	37.48	37.78	38.48	37.28	38.93	39.18	38.71
BH07	42.92	41.40	42.08	41.54	41.10	41.93	41.50	41.72
BH08	43.18	41.05	41.51	40.91	39.90	41.37	41.55	41.17
Off-Site BH	38.85	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	36.78	Dry (<36.30)

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The following plot shows the trend of groundwater levels (mAOD) over the monitoring period:



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The following table present the groundwater depth in metres below ground level (mbgl):

Table 4.3.3 – Groundwater Monitoring Results in mbgl

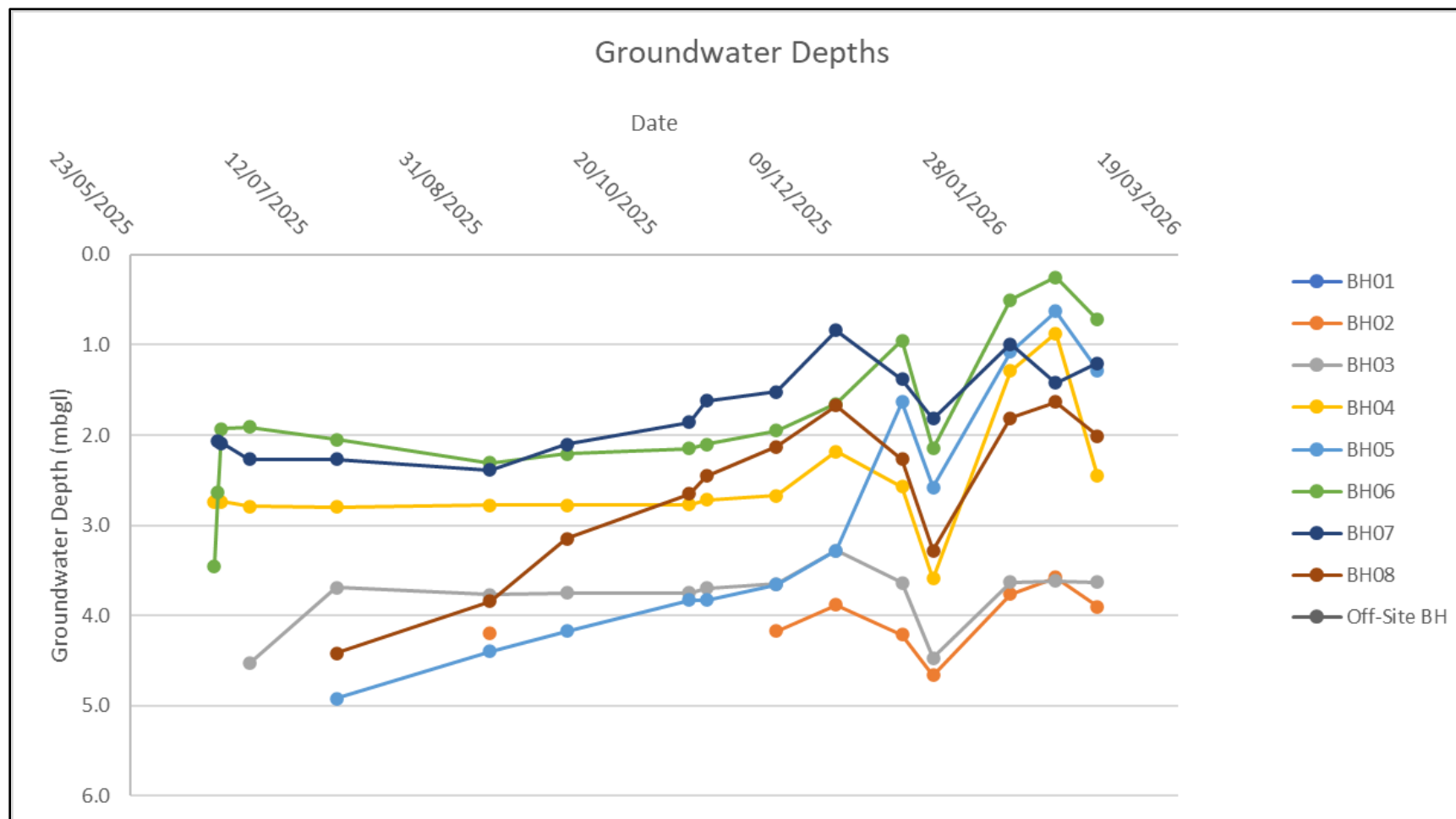
Borehole	16/06/2025*	17/06/2025*	18/06/2025*	26/06/2025	21/07/2025	03/09/2025	25/09/2025	30/10/2025	04/11/2025	24/11/2025
BH01	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)
BH02	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	4.20	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	4.17
BH03	Dry (>4.88)	-	Dry (>4.88)	4.53	3.69	3.77	3.75	3.75	3.70	3.65
BH04	2.74	2.73	2.74	2.79	2.80	2.78	2.78	2.77	2.72	2.67
BH05	-	Dry (>5.15)	Dry (>5.15)	Dry (>5.15)	4.92	4.40	4.17	3.83	3.83	3.66
BH06	3.45	2.63	1.93	1.91	2.05	2.31	2.21	2.15	2.10	1.95
BH07	-	2.06	2.09	2.27	2.27	2.39	2.10	1.86	1.62	1.52
BH08	Dry (>4.70)	Dry (>4.70)	Dry (>4.70)	Dry (>4.70)	4.42	3.84	3.15	2.65	2.45	2.13
Off-Site BH	-	-	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)

*Measured during the infiltration testing.

Borehole	11/12/2025	30/12/2025	08/01/2026	30/01/2026	12/02/2026	24/02/2026
BH01	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)
BH02	3.88	4.21	4.66	3.76	3.58	3.90
BH03	3.28	3.64	4.47	3.63	3.62	3.63
BH04	2.18	2.57	3.59	1.29	0.87	2.45
BH05	3.28	1.63	2.58	1.08	0.63	1.28
BH06	1.65	0.95	2.15	0.50	0.25	0.72
BH07	0.84	1.38	1.82	0.99	1.42	1.20
BH08	1.67	2.27	3.28	1.81	1.63	2.01
Off-Site BH	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)

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The following plot shows the trend of groundwater depths (mbgl) over the monitoring period:



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The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some pairs of boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06.

4.4 Ground Gas Monitoring

Ground gas is present on all sites, the composition would normally be similar to atmospheric however, decomposition of organics can result in production of CO₂ in aerobic and CH₄ in anaerobic conditions. Previous industrial processes may result in VOCs.

Potential gas risk was identified as a result of the off-site landfill to the north-west of the proposed development area. A borehole, labelled "Off Site BH" on the proposed exploratory hole plans, was found over the northern boundary of Field 2 within the disused golf course site, and in very close proximity to the edge of the historical landfill. This borehole has been ground gas monitored alongside BH01, BH02 and BH03 which are located along the northern boundary of the site and therefore the closest locations to the landfill. Thirteen visits have been undertaken between June 2025 and February 2026. After two visits the off-site borehole in the disused golf course was damaged and no more ground gas monitoring could be undertaken in it.

Ground gas monitoring data for bulk gas composition is compared with typical threshold values of 1% for methane and 5% for carbon dioxide to provide a preliminary screen of the data. The following is noted after thirteen visits:

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- BH01 to BH03 measured typical CO₂ levels of 1-2%, with the highest measured concentration being 2.7% in BH01.
- The off-site borehole to the north typically measures slightly higher CO₂ levels of around 3% in the two visits that were able to be undertaken.
- No detection of methane has been measured in BH01, BH03 or the off-site borehole in any of the monitoring visits. A minor detection of methane was measured in BH02 of 0.1% on 11th December 2025. All twelve other visits measured 0.0% methane.
- No concentrations of carbon monoxide or hydrogen sulphide have been measured in any of the boreholes.
- Flow was measured on two occasions, once in BH01 on 24th November of 2.4l/hr and once in BH02 on 12th February 2026 of 1.8l/hr.

5.0 POTENTIALLY CONTAMINATED LAND ASSESSMENT

The assessment of potentially contaminated land is based on source-pathway-receptor pollutant linkages. The following source characterisation, based on the chemical analysis, provides a basis for assessing the significance of potential pollutant linkages.

5.1 Source Characterisation

5.1.1 Introduction

Potential contaminant sources identified by the desk study comprised:

- On-site sources from agricultural land use including localised Made Ground, PAHs from stubble burning and localised petroleum hydrocarbons.
- Off-site sources from the historical landfill site, now disused golf course, to the north of the site including possible ground gas migration and leaching of contaminants to groundwater.

The ground investigation has identified the following:

- Topsoil underlain by naturally occurring soils.
- Gravel and cobbles, occasionally gravel, of weathered Cornbrash Formation to a typical depth of 0.8m across the site apart from the northern part of Field 2 where it is not found.
- Weathered Cornbrash Formation deposits typically of sandy gravelly clay over gravel over sandy gravelly clay to a typical depth of 2.0m apart from the northern part of Field 2 where it is not found.
- Limestone of the Cornbrash Formation found typically at around 2.0m, but ranging from 1.0 to 3.0m depth across the site, apart from the northern part of Field 2 where it is not found.

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- Clay of the Cornbrash Formation found in the boreholes at depths from 3.2 - 4.1m, apart from the northern part of Field 2 where it is not found.
- Soft and firm clay Head material found in the northern part of Field 2 to depths of up to 4.75m.
- Stiff weathered Forest Marble Formation clays found at depth in the northern part of Field 2.

Six soil samples and four groundwater samples were tested as follows:

Table 5.1.1.1 – Chemical Analysis Guide

Location	Depth (mbgl)	Material	Stratum	Notes	Chemical Testing Undertaken	
					General soil suite	General water suite
BH01	0.50	Silty CLAY	Head	-	✓	
BH08	0.20	Subsoil		Occasional rootlets	✓	
TP01	0.10	Topsoil		Numerous rootlets and occasional roots	✓	
TP03	0.70	Gravel & Cobbles	wCF	-	✓	
TP04	0.10	Topsoil		Numerous rootlets and occasional roots	✓	
TP08	0.50	Subsoil		Occasional rootlets	✓	
BH03	3.69	Groundwater		-		✓
BH04	2.80	Groundwater		-		✓
BH06	2.05	Groundwater		-		✓
BH07	2.27	Groundwater		-		✓

5.1.2 Chemical Analysis – Soils

The Normal Background Concentrations (NBC) based on the principal domain and the LQM/ CIEH Sutable 4 Use Levels (S4UL) values have been used to provide comparative screening values for residential development with home-grown produce. This provides a stringent first tier screening assessment. Results that exceed these levels require further assessment in relation to the site-specific conditions prior to determining whether a potential pollutant linkage exists.

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The LQM/ CIEH S4ULs are subject to 'Copyright Land Quality Management Limited reproduced with permission' Publication Number S4UL3432.

Metals

Six soil samples collected from across the site were analysed for a generic suite of metals/ metalloids:

Table 5.1.2.1 – Metals/ Metalloids (Soils) Analysis

Determinand	Number of samples >LOD	Minimum mg/kg	Maximum mg/kg	Max>NBC	Max>S4UL * Resi w HGP
Arsenic	6	8.3	28	No	No
Cadmium	2	<0.2	0.4	No	No
Chromium (Hex)	0	<1.8	-	NA	No
Chromium	6	16	35	NA	No
Copper	6	11	22	No	No
Lead*	6	12	48	No	No*
Mercury	1	<0.3	0.3	No	No
Nickel	6	12	27	No	No
Selenium	5	<1.0	1.9	NA	No
Zinc	6	37	110	NA	No

* = C4SL used for Lead

Resi w HGP = Residential with home grown produce

The above table shows that none of the results exceeded either the Normal Background Concentration or Suitable 4 Use Level (S4UL) guidance for residential properties with home grown produce and are therefore of no further concern.

Total Organic Carbon (TOC)

Two soil samples below the topsoil/ subsoil were tested for their Total Organic Carbon:

Table 5.1.2.2 – TOC (Soils) Analysis

Location	BH01	TP03
Depth (mbgl)	0.50	0.70
Stratum	Silty Clay	Gravel & Cobbles
TOC (%)	0.4	0.7
SOM	0.69	1.20

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The above table shows that both of the samples below the topsoil/ subsoil had low TOC of between 0.4-0.7%.

Total Petroleum Hydrocarbons (TPH) Criteria Working Group (CWG) - Aliphatic

Six soil samples were analysed for TPH CWG - Aliphatic:

Table 5.1.2.3 – Aliphatic TPH (Soils) Analysis

Determinand		BH01	BH08	TP01	TP03	TP04	TP08
	mbgl	0.50	0.20	0.10	0.70	0.10	0.50
Ali. TPH >C5-C6	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ali. TPH >C6-C8	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ali. TPH >C8-C10	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ali. TPH >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ali. TPH >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	2.2	< 2.0
Ali. TPH >C16-C21	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Ali. TPH >C21-C35	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	13	< 8.0
Ali. TPH >C35-C40	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	16	< 10

The above table shows that minor concentrations above the laboratory limit of detection were made in the sample from TP04 at 0.1m Aliphatic TPH C12-C16 band of 2.2mg/kg and the TPH C21-C35 band of 13mg/kg. Both concentrations are well below their respective S4UL with home grown produce (1% SOM) thresholds of 1100mg/kg and 65000mg/kg and are therefore of no further concern.

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Total Petroleum Hydrocarbons (TPH) Criteria Working Group (CWG) - Aromatic

Six soil samples were analysed for TPH CWG - Aromatic:

Table 5.1.2.4 – Aromatic TPH (Soils) Analysis

Determinand		BH01	BH08	TP01	TP03	TP04	TP08
	mbgl	0.50	0.20	0.10	0.70	0.10	0.50
Aro. TPH >C5-C7	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aro. TPH >C7-C8	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aro. TPH >C8-C10	mg/kg	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Aro. TPH >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aro. TPH >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aro. TPH >C16-C21	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aro. TPH >C21-C35	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aro. TPH >C35-C44	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Total Aliphatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

No detections above the laboratory limit of detection were made in any of the samples.

Polycyclic Aromatic Hydrocarbons (PAHs)

Six soil samples were analysed for a suite of Polycyclic Aromatic Hydrocarbons:

Table 5.1.2.5 – Speciated PAH (Soils) Analysis

Determinand	Number of samples >LOD	Minimum Detection (mg/kg)	Maximum Detection (mg/kg)	Max> NBC (1% SOM)	Max>S4UL (1% SOM) Resi w HGP
Naphthalene	0	<0.05	-	NA	No
Acenaphthylene	1	<0.05	0.05	NA	No
Acenaphthene	0	<0.05	0	NA	No
Fluorene	0	<0.05	0	NA	No
Phenanthrene	1	<0.05	1	NA	No
Anthracene	1	<0.05	0.15	NA	No
Fluoranthene	2	<0.05	3.2	NA	No
Pyrene	2	<0.05	2.6	NA	No
Benzo[a]anthracene	2	<0.05	1.4	NA	No
Chrysene	2	<0.05	1.5	NA	No
Benzo[b]fluoranthene	1	<0.05	2	NA	No
Benzo[k]fluoranthene	1	<0.05	1	NA	No
Benzo[a]pyrene	1	<0.05	1.7	Yes	No
Indeno(1,2,3-c,d)Pyrene	2	<0.05	1	NA	No
Dibenz(a,h)Anthracene	1	<0.05	0.15	NA	No
Benzo[g,h,i]perylene	2	<0.05	1.1	NA	No

Resi w HGP = Residential with home grown produce

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Benzo[a]pyrene

The sample from BH08 at 0.2m had elevated Benzo[a]pyrene of 1.7mg/kg, which is above the NBC of 0.5mg/kg but within the S4UL with home grown produce (1% SOM) of 2.2mg/kg, and is therefore of no further concern.

Volatile Organic Compounds

Six soil samples were analysed for MTBE, Benzene, Toluene, Ethylbenzene, p & m-Xylene and o-Xylene, and no detections above the laboratory limit of detection were made in any of the samples.

Asbestos

Six soil samples were tested for the presence of asbestos and no asbestos was detected.

5.1.3 Chemical Analysis – Water

Four groundwater samples were taken during the July 2025 monitoring visit. The boreholes were initially bailed of up to 10 litres of water to obtain a representative sample of the groundwater at each location.

The results have been compared against British Geological Survey (BGS) baseline quality data for groundwater in England and Wales (*Research report RR/07/06, Technical Report NC/99/74/24*):

Dissolved Metals

Four water samples were analysed for a suite of dissolved metals:

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Tables 5.1.3.1 – Dissolved Metals (Water) Analysis

Determinand	Number of samples >LOD	Minimum Detection (µg/l)	Maximum Detection (µg/l)	BGS Baseline Data		
				Minimum (µg/l)	Maximum (µg/l)	Mean (µg/l)
Arsenic	4	0.37	0.84	<1	355	3.2
Cadmium	0	-	< 0.02	<0.05	28.5	0.25
Chromium	4	0.7	1.8	<0.5	385	1.25
Copper	4	1	4.7	<0.1	1261	14
Mercury	0	-	< 0.05	<0.1	2.3	<0.1
Nickel	4	4.9	7.3	<0.2	78	2.73
Lead	2	< 0.2	0.4	<0.1	6650	10.3
Selenium	3	< 0.6	1.7	NA	NA	NA
Zinc	4	1.9	16	0.06	23500	102

The sample in BH06 had marginally elevated chromium of 1.8µg/l above the BGS Baseline Data mean of 1.25µg/l.

Petroleum Hydrocarbons

Four water samples were analysed for speciated petroleum hydrocarbons and no detections above the laboratory limit of detection were made in any of the aliphatic or aromatic chain lengths.

Volatile Organic Compounds

Four water samples were analysed for the VOCs MTBE and BTEX and no detections above the laboratory limit of detection were made.

5.1.4 Ground Gas

Three boreholes in the north of the proposed development area and one off-site borehole to the north of Field 2 have been monitored for ground gas.

No detections above typical threshold values for carbon dioxide (5%) and methane (1%) have been measured in any of the boreholes. Flow was measured on two occasions, once in BH01 on 24th November of 2.4l/hr and once in BH02 on 12th February 2026 of 1.8l/hr. The flow in BH01 reduced to 0.0l/hr from a peak of 2.4l/hr at the start, suggesting some

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sort of piston effect from differential pressure between the well and atmospheric pressure on the ground surface.

The ground gas monitoring has been completed and recorded no obvious significant gas levels. A ground gas risk assessment should now be undertaken to evaluate the risk to the proposed development. Irrespective of gas monitoring results, the proximity to the former landfill site may result in the regulators (LPA and/or NHBC) requiring a degree of gas protection for new residential development.

5.2 Pathways

The proposed residential end use will provide the following exposure pathways that are considered in the CLEA model for residential development with home-grown vegetable consumption and used to calculate the S4UL values.

- Soil and indoor dust ingestion
- Home-grown vegetable consumption
- Indoor and outdoor inhalation of dust
- Indoor and outdoor inhalation of vapours
- Indoor and outdoor dermal contact

Additional pathways not included in the CLEA model include:

- Permeation through potable water supply pipes.
- Ingress of ground gas into confined spaces and buildings.
- Leaching of mobile contaminants to groundwater/ surface water

5.3 Receptors

The following receptors require consideration:

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- Construction workers/ future site users/ off-site land users
- Property
- Controlled waters and associated eco-systems

5.4 Pollutant Linkages

No elevated sources of contamination have been found from the soil samples, groundwater samples and ground gas analysed, therefore no pollutant linkages have initially been found.

The ground gas monitoring has been completed and recorded no obvious significant gas levels. A ground gas risk assessment should now be undertaken to evaluate the risk to the proposed development. Irrespective of gas monitoring results, the proximity to the former landfill site may result in the regulators (LPA and/or NHBC) requiring a degree of gas protection for new residential development.

Unexpected Made Ground if encountered during the construction should be assessed separately.

5.5 Waste Assessment Process

“Technical guidance WM3: Guidance on the classification and assessment of waste” requires a screening process to determine whether source concentrations in soils are hazardous or non-hazardous. This assessment process is separate from the contaminated land assessment methodology and the waste acceptance criteria.

Waste classification requires source segregation and characterisation. The location and quantum of soil arisings destined for re-use and disposal are currently not known therefore

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waste classification is beyond the scope of this report. Waste classification is recommended as a subsequent stage in the assessment process.

6.0 GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

6.1 Introduction

The ground investigation has been carried out to characterise the ground on which the proposed residential development will be constructed.

The British Geological Survey mapping indicates the proposed development area is underlain by limestone of the Cornbrash Formation. No superficial deposits are mapped across the proposed development area.

Ground conditions encountered within the exploratory holes indicate:

- Topsoil underlain by naturally occurring soils.
- Gravel and cobbles, occasionally gravel, of weathered Cornbrash Formation to a typical depth of 0.8m across the site apart from the northern part of Field 2 where it is not found.
- Weathered Cornbrash Formation deposits typically of sandy gravelly clay over gravel over sandy gravelly clay to a typical depth of 2.0m apart from the northern part of Field 2 where it is not found.
- Limestone of the Cornbrash Formation found typically at around 2.0m, but ranging from 1.0 to 3.0m depth across the site, apart from the northern part of Field 2 where it is not found.
- Clay of the Cornbrash Formation found in the boreholes at depths from 3.2 - 4.1m, apart from the northern part of Field 2 where it is not found.
- Soft and firm clay Head material found in the northern part of Field 2 to depths of up to 4.75m.
- Stiff weathered Forest Marble Formation clays found at depth in the northern part of Field 2.

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Groundwater monitoring wells were installed in all boreholes, BH01 to BH08. The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some pairs of boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06.

Three boreholes in the north of the proposed development area and one off-site borehole to the north of Field 2 have been monitored for ground gas.

No detections above typical threshold values for carbon dioxide (5%) and methane (1%) have been measured in any of the boreholes. Flow was measured on two occasions, once in BH01 on 24th November of 2.4l/hr and once in BH02 on 12th February 2026 of 1.8l/hr.

The Envirocheck® report identifies the site to be in an intermediate probability radon area (1-3% of homes are estimated to be at or above the Action Level). No radon protective measures are necessary in the construction of new dwellings or extensions, however installation of basic protection measures is recommended in properties in intermediate probability areas, as post construction monitoring and radon detection would require retrospective installation of protection measures.

6.2 Geotechnical Test Results

Plasticity Index

Three soil samples were tested for Plasticity Index (PI). The table below also provides the moisture content (Wn), Liquid Limit (LL), Plastic Limit (PL), modified Plasticity Index, equivalent moisture content (We), and Consistency Index (CI):

Table 6.2.1 – Geotechnical Index Testing

Field	Location	Depth (m)	Stratum	Wn%	LL%	PL%	PI	% pass 0.425	PI mod	We%	CI
2	BH01	1.0	Slightly sandy silty CLAY (Head)	16.2	55	21	34	100	34	16	1.14
1	TP03	0.9	Sandy, gravelly, silty CLAY (wCF)	7.4	-	NP	-	2	-	370	-
1	TP07	0.6	Sandy, gravelly, silty CLAY (wCF)	23.2	48	17	31	82	25	28	0.64

The modified Plasticity Index indicates the silty clays are of medium volume change potential. The Consistency Index results confirm the stiff to very stiff field description.

Moisture Content

Thirty soil samples were tested to determine their moisture content (Wn). The moisture content results are shown in the plot below which shows depth versus moisture content by stratum:

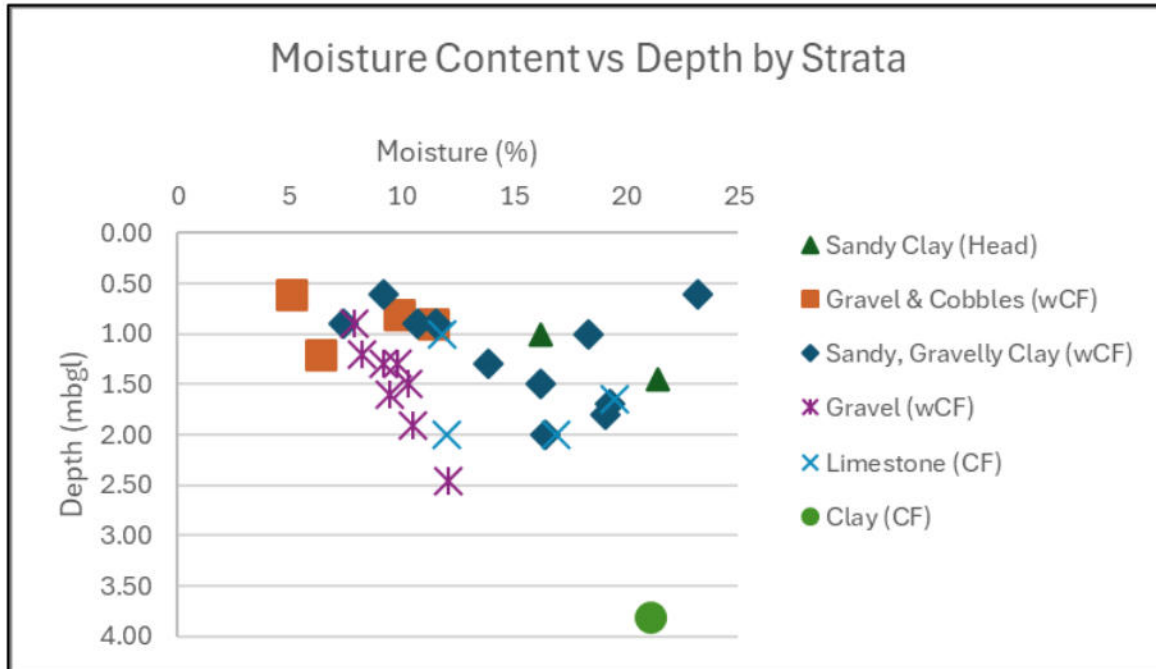


Table 6.2.2 – Moisture Content Summary

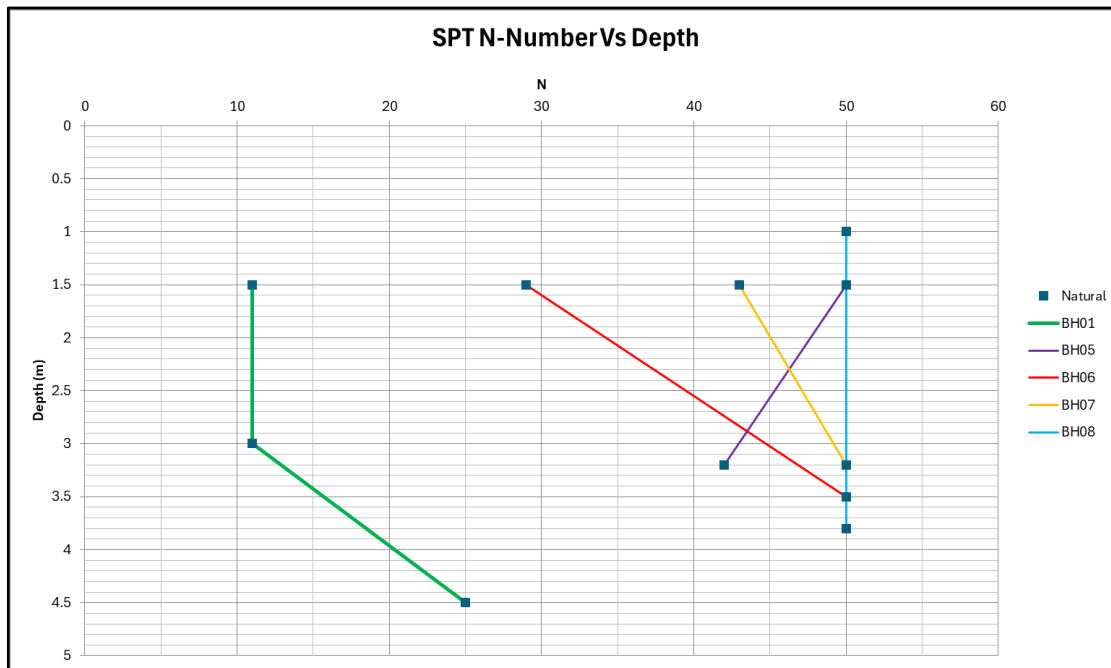
Stratum	No. Samples	Minimum Wn (%)	Maximum Wn (%)	Mean Wn (%)
Sandy clay (Head)	2	16.2	21.4	18.8
Gravel & Cobbles (wCF)	4	5.1	11.4	8.2
Sandy, gravelly clay (wCF)	11	7.4	23.2	15.1
Gravel (wCF)	8	7.9	12.1	9.7
Limestone (CF)	4	11.8	19.5	15.1
Clay (CF)	1	-	21.1	-

The results indicate that moisture content does not change significantly with depth. The moisture content range appears to narrow with depth from around 5 to 25% in the near surface to around 10 to 15% at 2.0m.

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Standard Penetration Test Results

Standard Penetration Tests (SPTs) were undertaken in all dynamic sampling boreholes and the SPT N-values are given in the following plot:



Results indicate generally increasing N values with depth, which suggest the competence of the soils increases with depth.

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BRE SD1 Suite

Three soil samples were selected for BRE SD1 suite testing and four groundwater samples were obtained for pH and sulphate testing; the table below shows the results:

Table 6.2.3 – BRE SD1 Suite Summary

Sample location	Depth (mbgl)	Stratum	pH	Acid Soluble Sulphate (%SO ₄)	Water Soluble Sulphate (mg/ISO ₄)	Total Sulphur (%S)	Total Potential Sulphate (%SO ₄)	Oxidisable Sulphides (%SO ₄)
BH01	1.45	Sandy clay (Head)	8.5	0.02	59	0.01	0.03	0.01
TP03	1.30	Sandy, gravelly, clay (wCF)	8.6	0.11	17	0.05	0.15	0.04
TP09	0.60	Gravel & Cobbles (wCF)	8.5	0.12	55	0.05	0.15	0.03
BH03	3.69	Groundwater	7.2	-	73.3	-	-	-
BH04	2.80	Groundwater	7.5	-	122	-	-	-
BH06	2.05	Groundwater	7.5	-	121	-	-	-
BH07	2.27	Groundwater	7.4	-	50.2	-	-	-

The pH and Sulphate results indicate that buried concrete can be designed in accordance with design sulphate class DS-1 ACEC class AC1 of BRE Special Digest 1(2005), assuming mobile groundwater is present.

Where the oxidisable sulphides exceed 0.3% and thereby the potential for pyrite exists, the total potential sulphate will dictate the design sulphate class in disturbed ground. Disturbed ground is defined by the BRE as:

“This is, initially, natural ground that is substantially disturbed; for example, by cutting and filling to terrace a site, or by excavation and backfilling, so that air can enter and oxidise any pyrite contained therein.”

6.3 Excavations and Groundwater

The following table presents the groundwater levels in metres above Ordnance Datum (mAOD):

Table 6.3.1 – Groundwater Monitoring Results in mAOD

Borehole	Ground level (mAOD)	16/06/2025*	17/06/2025*	18/06/2025*	26/06/2025	21/07/2025	03/09/2025
BH01	42.27	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)
BH02	40.08	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	35.88
BH03	38.97	Dry (<33.74)	-	Dry (<33.74)	34.44	35.28	35.20
BH04	38.72	35.98	35.99	35.98	35.93	35.92	35.94
BH05	39.03	Dry (<33.51)	Dry (<33.51)	Dry (<33.51)	Dry (<33.51)	34.11	34.63
BH06	39.43	35.98	36.80	37.50	37.52	37.38	37.12
BH07	42.92	-	40.86	40.83	40.65	40.65	40.53
BH08	43.18	Dry (<38.13)	Dry (<38.13)	Dry (<38.13)	Dry (<38.13)	38.76	39.34
Off-Site BH	38.85	-	-	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)

*Measured during the infiltration testing.

Borehole	25/09/2025	30/10/2025	04/11/2025	24/11/2025	11/12/2025	30/12/2025	08/01/2026
BH01	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)
BH02	Dry (<34.80)	Dry (<34.80)	Dry (<34.80)	35.91	36.20	35.87	35.42
BH03	35.22	35.22	35.27	35.32	35.69	35.33	34.50
BH04	35.94	35.95	36.00	36.05	36.54	36.15	35.13
BH05	34.86	35.20	35.20	35.37	35.75	37.40	36.45
BH06	37.22	37.28	37.33	37.48	37.78	38.48	37.28
BH07	40.82	41.06	41.30	41.40	42.08	41.54	41.10
BH08	40.03	40.53	40.73	41.05	41.51	40.91	39.90
Off-Site BH	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)	Dry (<36.30)

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Borehole	30/01/2026	12/02/2026	24/02/2026
BH01	Dry (<36.68)	Dry (<36.68)	Dry (<36.68)
BH02	36.32	36.50	36.18
BH03	35.34	35.35	35.34
BH04	37.43	37.85	36.27
BH05	37.95	38.40	37.75
BH06	38.93	39.18	38.71
BH07	41.93	41.50	41.72
BH08	41.37	41.55	41.17
Off-Site BH	Dry (<36.30)	36.78	Dry (<36.30)

The following table present the groundwater depth in metres below ground level (mbgl):

Table 6.3.2 – Groundwater Monitoring Results in mbgl

Borehole	16/06/2025*	17/06/2025*	18/06/2025*	26/06/2025	21/07/2025	03/09/2025	25/09/2025
BH01	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)
BH02	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	Dry (>4.94)	4.20	Dry (>4.94)
BH03	Dry (>4.88)	-	Dry (>4.88)	4.53	3.69	3.77	3.75
BH04	2.74	2.73	2.74	2.79	2.80	2.78	2.78
BH05	-	Dry (>5.15)	Dry (>5.15)	Dry (>5.15)	4.92	4.40	4.17
BH06	3.45	2.63	1.93	1.91	2.05	2.31	2.21
BH07	-	2.06	2.09	2.27	2.27	2.39	2.10
BH08	Dry (>4.70)	Dry (>4.70)	Dry (>4.70)	Dry (>4.70)	4.42	3.84	3.15
Off-Site BH	-	-	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)

*Measured during the infiltration testing.

Borehole	30/10/2025	04/11/2025	24/11/2025	11/12/2025	30/12/2025	08/01/2026	30/01/2026
BH01	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)	Dry (>5.23)
BH02	Dry (>4.94)	Dry (>4.94)	4.17	3.88	4.21	4.66	3.76
BH03	3.75	3.70	3.65	3.28	3.64	4.47	3.63
BH04	2.77	2.72	2.67	2.18	2.57	3.59	1.29
BH05	3.83	3.83	3.66	3.28	1.63	2.58	1.08
BH06	2.15	2.10	1.95	1.65	0.95	2.15	0.50
BH07	1.86	1.62	1.52	0.84	1.38	1.82	0.99
BH08	2.65	2.45	2.13	1.67	2.27	3.28	1.81
Off-Site BH	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)	Dry (>2.19)

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Borehole	12/02/2026	24/02/2026
BH01	Dry (>5.23)	Dry (>5.23)
BH02	3.58	3.90
BH03	3.62	3.63
BH04	0.87	2.45
BH05	0.63	1.28
BH06	0.25	0.72
BH07	1.42	1.20
BH08	1.63	2.01
Off-Site BH	Dry (>2.19)	Dry (>2.19)

The following table summarises the ground related hazards associated with excavation:

Table 6.3.3 – Ground Related Hazards Associated with Excavation

Excavation Depth	Ground Condition	Ground Hazard	Mitigation
Above GW	Unsaturated clay with fissures	Small localised failure possible with need to re-dig.	Consider benched excavation, trench fill or temporary shoring with trench box or similar if not backfilled quickly or if entry required.
Above GW	Unsaturated sands/gravels with pockets of perched sub-surface water	Small localised failure probable with need to re-dig.	Consider benched excavation, trench fill or temporary shoring with trench box or similar if not backfilled quickly or if entry required.
Below GW	Saturated clay with fissures.	Large failure and sidewall collapse possible.	Trench box required with sump pumping to control sub-surface water.
Below GW	Unsaturated clay with fissures overlying water bearing sands or gravels	Large failure and sidewall collapse possible. Base heave, boiling or piping.	Re-design invert levels and foundation levels or use of pile foundations. Consider cut-off drainage and groundwater monitoring prior to excavations. Water pumping may result in loss of fines and subsidence. Trench box required with filter sump pumping to limit loss of fines. Base heave, boiling or piping requires consideration.

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Excavation Depth	Ground Condition	Ground Hazard	Mitigation
Below GW	Water bearing sands or gravels	Large failure and sidewall collapse possible. Base heave, boiling or piping.	Re-design invert levels and foundation levels or use of pile foundations. Consider cut-off drainage and groundwater monitoring prior to excavations. Water pumping may result in loss of fines and subsidence. Trench box required with filter sump pumping to limit loss of fines. Base heave, boiling or piping requires consideration.

Provision should be made for trench support, hard breakout, geotechnical overbreak, and sub-surface water control. It should be noted that NHBC Standards 3.1.14 states *“Concrete should not be placed in or under water, unless it has been specially designed for that use.”*

Ground gas monitoring to date has not identified any concentrations of methane or carbon dioxide above NHBC Amber 1 thresholds. Following completion of the ground gas monitoring a ground gas risk assessment is now required. If elevated levels of ground gas are recorded consideration will need to be given to appropriate protection measures where entry into below ground confined spaces is required.

Groundwater was not encountered in any of the exploratory holes during the fieldwork. The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some pairs of boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06.

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Trial pits were terminated once limestone bedrock was encountered, typically at around 2.0m. The JCB 4CX wheeled excavator with a toothed bucket could not break the horizontally bedded bedrock.

6.4 Foundations

6.4.1 Introduction

The application of an increased load through foundations of a structure results in deformation of the ground and settlement. Foundation design should ensure that foundation movements are within limits that can be tolerated by the structure without impairing its function. Foundation movements occur from the application and removal of load and ground movement independent of load. The following conditions may result in movements resulting from the application or removal of load:

- Shear deformation and failure (EC7 Ultimate Limit State condition)
- Settlement (EC7 Serviceability Limit State condition)

Shear deformation and failure may be guarded against using the traditional methods by determining the ultimate bearing capacity and application of a factor of safety of between 2 and 3 to limit deformation.

Settlement may result from immediate elastic settlement and primary consolidation settlement and in some cases secondary settlement of fine-grained low permeability strata, subject to the stress history. Differential settlement may result from non-uniform soil conditions, Made Ground or fill, peaty and organic soils and non-level sites.

Eurocode 7: Geotechnical design Part 1: General Rules (BS EN 1997-1:2004) provides the following:

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- Principle rules (P) are general statement and definitions for which there is no alternative; requirements and analytical models for which no alternative is permitted unless specifically stated.
- Application rules are examples of generally recognised rules, which follow the principles and satisfy their requirements.
- EC7 design requirements: P for each geotechnical design situation it shall be verified that no relevant limit state, as defined by EN 1990:2002, is exceeded.
- EC7 design situations: P Both short-term and long-term design situation shall be considered.
- EC7 Durability: P At the geotechnical design stage, the significance of environmental conditions shall be assessed in relation to durability and to enable provisions to be made for the protection or adequate resistance of materials.
- Geotechnical design by calculation: (1) P design by calculation shall be in accordance with the fundamental requirements of EN 1990:2002 and with the particular rules of the standard. (2) It should be considered that knowledge of the ground conditions depends on the extent and quality of the geotechnical investigations. Such knowledge and the control of workmanship are usually more significant to fulfilling the fundamental requirements than is precision in the calculation method.
- EC7 Actions: (1) P The definition of actions shall be taken from EN 1990:2002. The values of actions shall be taken from EN1991, where relevant. (2) P The values of geotechnical actions to be used shall be selected, since they are known before a calculation is performed; they may change during that calculation. (3) Any interaction between the structure and the ground shall be taken into account when determining the actions to be adopted in the design.
- EC7 Ground properties: (1) P Properties of soil and rock masses, as quantified for design calculation by geotechnical parameters, shall be obtained from test results, either directly or through correlation, theory or empiricism, and from other relevant data. (2) P Values obtained from test results and other data shall be interpreted appropriately for the limit state considered. (3) Account shall be taken of the

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- possible differences between the ground properties and the geotechnical parameters obtained from the test results and those governing the behaviour of the geotechnical structure. (6) Calibration factors shall be applied where necessary to convert laboratory or field test results according to EN 1997-2 into values that represent the behaviour of the soil and rock in the ground, for the actual limit state, or to take account of correlations used to obtain derived values from test results.
- EC7 Geometrical data: P The level and slope of the ground surface, water levels, levels of interfaces between strata, excavation levels and the dimensions of the geotechnical structure shall be treated as geometrical data.
 - EC7 Characteristic Values of actions: (1) P Characteristic and representative values of actions shall be derived in accordance with EN 1990:2002 and the various parts of EN 1991.
 - EC7 Characteristic values of geotechnical parameters: (1) P The selection of characteristic values for geotechnical parameters shall be based on results and derived values from laboratory and field tests, complemented by well established experience. (2) P The characteristic value of geotechnical parameter shall be selected as a cautious estimate of the value affecting the occurrence of the limit state. (12) When using standard tables of characteristic values related to soil investigation parameters, the characteristic value shall be selected as a very cautious estimate.

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6.4.2 Foundation Design Independent of Load

The following conditions influencing foundation design are independent of load (*ref: BS8004 Section 2.1.2.4*):

Table 6.4.2.1 – Conditions Influencing Foundation Design Independent of Load

Condition	Yes/ No	Requirements
Seasonal volume change	Yes	Medium volume change potential requiring a minimum founding depth of 0.90m where outside the influence of trees or bushes.
Building near trees	Yes	NHBC Chapter 4.2 Guidance should be followed. Selected and controlled planting would require minimum depth of 1.25m, deeper for adjacent medium to high water demand trees.
Frost Heave	Yes	Minimum construction depth 0.45m
Application of artificial heat or cold to supporting ground	No	
Changes in groundwater level.	Yes	The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some pairs of boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06.
Loss of ground due to erosion (internal erosion) or solution by percolating water or pumping.	Unlikely	Sub-surface water and drainage control is essential. Soakaways may be deemed viable for the site. Consideration will need to be given to the potential for washout of dissolution features within the limestone. No such features were identified in any exploratory holes.
Changes in state of stress due to adjacent structures, dredging, scour or erosion by streams or floods (loss of support) or due to erection of adjacent structures.	Yes	Foundations to be placed below adjacent service pipes, taking account of adjacent foundation stress zones.

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Condition	Yes/ No	Requirements
Continuing settlement of natural deposits or fill	Yes	Soft and firm clay deposits encountered in BH01 and BH02 up to 4.75m. Further work required to delineate this and inform foundation recommendations.
Soil creep or landslides, ground sloping >1v:10h	No	
Movement of ground resulting from sink or swallow holes or underground workings (including mining and tunnelling)	Unknown	Limestone was encountered across the site, apart from the northern part of Field 2, which are Jurassic in age and therefore are typically less likely to have significant karstic weathering features. No such features encountered in any exploratory holes during the investigation. Use of soakaway drainage will channel excess water into the limestone and may cause any dissolution features to wash out sediment and collapse. Envirocheck report identified a risk of stone mining on-site. Phase 1 Mining Desk Study is recommended to be obtained to better understand the risk.
Vibration including seismic disturbances	No	
Deterioration of Made Ground or fill	Unlikely	Made Ground not encountered in any of the exploratory holes across the site, if encountered foundations should be placed below.
Deterioration of the structure	Unlikely	BRE Special Digest 1 testing undertaken for buried concrete design. Mix design to be in accordance with SD1 recommendations where the ground has not been disturbed.
Alteration of the properties of the ground due to natural or artificial processes	No	
Coast erosion	No	
Existing foundations	No	

Depth of Foundations

NHBC Chapter 4.2 building near trees provides the following guidance regarding fine grained soils that exhibit volume change potential:

Table 6.4.2.2 – NHBC Foundation Depths for Building Near Trees

Volume change potential	Modified Plasticity Index	Minimum foundation depth no trees	Minimum foundation depth with selected planting	Building near trees
High	>40%	1.00	1.50	NHBC Chapter 4.2
Medium	20-40%	0.90	1.25	NHBC Chapter 4.2
Low	10-<20%	0.75	1.00	NHBC Chapter 4.2

The modified Plasticity Index of 25% to 34% indicates a medium volume change potential should be adopted for design purposes with a site-wide minimum founding depth of 0.90m deepened accordingly in the vicinity of trees.

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6.4.3 Generic Foundation Types

The following table identifies typical foundation types and limitations:

Table 6.4.3.1 – Generic Foundation Types

Foundation Type	Typical depth to bearing stratum (m)	Application	Limitations	Use at this site
Raft and Box	<1.0	Limits applied stress to prevent excessive settlement. Shallow groundwater prevents deep excavation.	Construction time and costs increase due to detail for edge thickening, removal, and replacement of volume change potential soils. May require ground improvement.	Unlikely to be used as foundations at least 0.9m deep due to medium volume change potential of cohesive soils.
Shallow strip	<1.0	Shallow competent ground of granular soils or weathered rock without volume change potential or on low volume change potential soils without trees.	Shallow groundwater, weak unstable or fissured ground resulting in collapse of excavation.	Unlikely to be used as foundations at least 0.9m deep due to medium volume change potential of cohesive soils.

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Foundation Type	Typical depth to bearing stratum (m)	Application	Limitations	Use at this site
Trench fill	1.0-2.5	Competent soils/ strata within 2.5m of construction depth, where excavation stand-up time allows excavation and inspection/ approval prior to pouring concrete.	Shallow groundwater, weak unstable or fissured ground resulting in collapse of excavation. Installation of heave precautions.	Viable across the site subject to groundwater levels at the time of construction.
Pile and beam	>2.5m	Weak/ loose/ soft and unstable ground combined with high groundwater near surface with little realistic potential for trench excavation/inspection/ approval of soils within upper 2.5m or where competent strata is >2.5m below the construction surface.	Pile construction method requires consideration of the actual ground conditions identified by boreholes	May be required in the northern part of Field 2. Further investigation required in this area.

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The following limitations are normally applied to the depth and selection of foundations:

- Foundation stratum should be continuous across the footprint of the building to minimise differential settlement.
- Foundation depth should be below adjacent service trenches for utilities and drainage.
- Foundation depth will be subject to volume change potential of soils combined with proximity of trees.

The site-specific ground conditions indicate the foundation types are limited to the following:

- Trench fill foundations are likely to be suitable across the site.
- Pile and beam foundations may be required in the northern part of Field 2 due to the presence of deep soft and firm clays encountered in this area.

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6.4.4 Bearing Stratum and Allowable Bearing Pressure

The following table summarises the typical strata, characteristics, and allowable bearing pressure assuming total settlement less than 25mm:

Table 6.4.4.1 – Bearing Stratum and Allowable Bearing Pressure

Strata	Example	Characteristics	Use as Bearing Stratum	Foundation Construction Requirements	Allowable Bearing Pressure	Site Specific
Made Ground	Anthropogenic soils	Variable, unpredictable.	Not recommended.	Excavation trench support, potential for contamination, unacceptable waste arisings. If deep, consider pile foundations.	Not recommended.	Not encountered during the investigation. If encountered foundations should be placed below.
Very soft, soft and soft to firm clay/silts	Alluvium/ Valley Head deposits	Very low strength (<10kPa); low strength (20-40kPa); soft-firm consistency (40-50kPa) moderate to high compressibility, highly variable. May be overlain by unsaturated firm clays creating a risk of punching shear or consolidation settlement.	Not recommended without ground improvement. Raft or box foundation with ground improvement or no net load.	Excavation trench support, potential for shallow groundwater. If deep, consider pile and beam foundations.	Not recommended.	Encountered in BH01 and BH02 to depths of up to 4.75mbgl. Further investigation required.

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Strata	Example	Characteristics	Use as Bearing Stratum	Foundation Construction Requirements	Allowable Bearing Pressure	Site Specific
Stiff and very stiff clays/ silts	Head deposits/ completely weathered mudstone.	Stiff slightly gravelly/ gravelly clays or silty clays. Stiff clays have a minimum undrained shear strength of clays 75kPa to maximum 150kPa. Very stiff clays 150-300kPa.	Depth subject to VCP and proximity and type of trees.	VCP and building near trees will determine foundation depth. Step detail required for localised soft spots.	Typical ABP = 125 to 150kPa*. Raft foundations typically 25-35kPa.	ABP of 125kPa. Encountered site wide, apart from northern part of Field 2.
Medium dense sands and gravels	Granular Head/ River Terrace Gravels	Low compressibility, potential for excavation side collapse in combination with shallow groundwater creating running sand.	Favourable above shallow groundwater where the absence of soft clay/ silt or VCP soils can be verified.	Excavation trench support, potential for shallow groundwater.	ABP**=125kPa to 150kPa. Raft foundations typically 25-35kPa.	ABP of 125kPa. Encountered site wide, apart from northern part of Field 2.
Weathered rock	Limestone	Hard rock with little potential for volume change.	If shallow consider strip foundations, if deep may require pile with rock socket.	Variable depth due to differential weathering. Hard spots will require breakout. Close inspection required if used as a bearing stratum to confirm an absence of karst features.	ABP*** range of 250kPa – 300kPa, may increase in competent rock.	ABP of 200kPa. Encountered site wide, apart from northern part of Field 2.

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* Determination of the Allowable Bearing Pressure requires knowledge of the settlement sensitivity of the proposed structures and the form and depth of foundations. Values quoted are therefore indicative assuming total and differential settlements of up to 25mm can be tolerated and assuming foundation width of <1m and depth of <1m (strip) or <2m (trench fill).

** Strip or trench fill foundations 1m deep <1m width. Allowable bearing pressure subject to relative density and effective stress.

*** Allowable bearing pressure subject to fracture frequency and degree of weathering.

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It is likely that foundations will be placed on stiff sandy gravelly clays of the weathered Cornbrash Formation at a depth of 0.90m where outside the influence of trees, occasionally in the clayey/silty sandy gravels of the weathered Cornbrash Formation. A gravel & cobble stratum was encountered across much of the site from below the topsoil/ subsoil to depths of between 0.40 and 1.40m. Due to the variability in thickness and presence of this deposit as well as the underlying fine grained deposits foundations should be placed at 0.9m where outside the influence of trees to account for volume change potential.

Soft and firm clays were encountered in BH01 and BH02 to a maximum depth of 4.75m. Further work is required to delineate and characterise this ground before foundation recommendations can be given.

EC7 requirements include a Geotechnical Design Report, which should include identification of supervision and monitoring of groundworks.

6.5 Floor Slabs

The selection of ground bearing or suspended floor slabs will be subject to the proposed floor level of the particular plot relative to the original ground level. The requirements of the building regulations and NHBC should be satisfied in the selection of the ground floor slab.

The use of ground bearing floor slabs is possible in the following conditions:

- In-fill less than 600mm, this includes the backfilling of the foundation trench.
- Effect of sloping ground on the depth of in-fill is less than 600mm.
- Uniform non-shrinkable soils across entire area of floor slab.
- Non-frost susceptible soils within the upper 450mm.
- Topsoil and organic soils removed, including root penetrated sub-soils.
- Localised soft-spots and hard-spots removed to prevent differential settlement.
- No contaminated ground, water-logged ground or sulphates.
- Ground is unlikely to settle under the design floor loading.
- No radon protection measures required.
- No ground gas protection measures required.
- Where existing land-drains are captured and diverted to a suitable outfall.

The use of suspended floor slabs is recommended in the following conditions:

- Depth of in-fill, including backfilled foundation trench is equal to or more than 600mm.
- Relatively level site without the need for stepped floor construction.
- Soils exhibit Modified Plasticity of 10% or greater, requiring the adoption of the NHBC heave protection measures.
- Where frost susceptible soils exist.
- Where variable ground exists or potential for soft spots and/ or hard spots creating either hogging or sagging ground.
- Where root penetration into the sub-soils is possible.
- Where shallow sub-surface water and/or groundwater is or could be present.

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- Where contaminants and/or sulphates create potential for heave or expansive reactions.
- Where radon protection measures are required in combination with passive ventilation.
- Where ground gas protection measures require passive ventilation.
- Where moisture protection measures are required with passive ventilation.
- Where the design loading conditions indicate potential for ground movement and settlement of the bearing stratum.
- Where first time inundation of the placed and compacted fill could result in collapse settlement.

Suspended floor slabs are recommended due to the potential for volume change in the near surface clay soils of sandy gravelly clay of the weathered Cornbrash Formation.

The following table provides the NHBC recommended void dimensions for potential ground movement based on volume change potential of the fine-grained soils:

Table 8.6.1 – NHBC Foundation Depths for Building Near Trees

Volume change potential	Against side of foundation/ ground beam (mm)	Underground beam and suspended in-situ concrete ground floor (mm)	Pre-cast concrete and suspended timber floors (mm)	Drainage construction minimum allowance for potential movement (mm)
High	35	150	300	150
Medium	25	100	250	100
Low	0	50	200	50

The modified Plasticity Index indicates the near surface soils are characterised as medium volume change potential.

It is recommended, for planning and budgeting purposes, to assume suspended floor slabs.

6.6 Buried Concrete

The pH and water-soluble sulphate results indicate that buried concrete can be designed in accordance with design sulphate class DS-1 ACEC class AC-1 of BRE Special Digest 1(2005), assuming mobile groundwater conditions.

Where the oxidisable sulphides exceed 0.3% and thereby the potential for pyrite exists, the total potential sulphate will dictate the design sulphate class in disturbed ground. Disturbed ground is defined by the BRE as:

“This is, initially, natural ground that is substantially disturbed; for example, by cutting and filling to terrace a site, or by excavation and backfilling, so that air can enter and oxidise any pyrite contained therein.”

6.7 Infiltration Testing

Large-scale infiltration testing was carried out in TP01, TP02, TP03, TP03B, TP04 and TP04B. The following table summarises the results of the testing:

Table 6.7.1 – Infiltration Test Results

Location	Test Range (mbgl)	Test Range Strata	Infiltration Rate (ms ⁻¹)		
			Test 1	Test 2	Test 3
TP01	0.79-2.55	0.79-1.40m Gravel & cobbles (wCF) 1.65-2.55m Gravel (wCF)	1.77x10 ⁻⁵	9.03x10 ⁻⁶	1.26x10 ⁻⁵
TP02	1.00-2.15	1.00-1.05m Gravelly clay (wCF) 1.05-1.70m Gravel (wCF) 1.70-2.05m Gravelly clay (wCF) 2.05-2.15m Limestone (CF)	2.91x10 ⁻⁶	3.04x10 ⁻⁶	3.09x10 ⁻⁶
TP03	1.00-2.15	1.00-1.90m Gravelly clay (wCF) 1.90-2.15m Limestone (CF)	-*	-	-
TP03B	0.33-1.15	0.35-0.70m Gravel & cobbles (wCF) 0.70-0.85m Gravelly clay (wCF) 0.85-1.15m Gravel (wCF)	4.99x10 ⁻⁵	4.01x10 ⁻⁵	3.84x10 ⁻⁵
TP04	1.01-2.15	1.05-1.25m Gravelly clay (wCF) 1.25-1.80m Gravel (wCF) 1.80-2.00m Gravelly clay (wCF) 2.00-2.15m Limestone (CF)	-*	-	-
TP04B	0.30-1.00	0.35-0.70m Gravel (wCF) 0.70-1.00m Gravelly clay (wCF)	2.41x10 ⁻⁵	3.52x10 ⁻⁵	3.28x10 ⁻⁵

*Test did not reach 25% effective depth required to calculate an infiltration rate.

The above results should be used by the appointed drainage engineer taking into account the recommendations of CIRIA C753 and BRE365 in relation to risks associated with infiltration of water into the ground and subsequent changes of stress resulting in unintended consequences. For example, potential hazards include but are not limited to:

- Slope instability
- Retaining wall instability
- Contaminant mobilisation (creation of new pollutant linkages)
- Groundwater/ sub-surface water levels and seasonal variation
- Internal erosion/ washout and undermining of foundations
- Down-gradient flooding
- Re-activation washout of choked dissolution features
- Volume change shrink and swell

6.8 Road Pavement Design

The sub-grade CBR is normally used to select the minimum capping thickness for road foundation construction. Testing is confined to the near surface soils and the preliminary sub-grade CBR is based on the soils below the topsoil, organic rich layers, soft spots or Made Ground. It is assumed that the topsoil, organic rich layers, soft spots and Made Ground will be removed. The removal of this may increase the thickness of capping required to make up the finished road level, which is not known at the time of this investigation.

The Specification for Highway Works provides guidance on the methods normally adopted for road construction. Useful details may be found in, but not limited to, Series 200 Site Clearance details the requirements for clearance of the site and removal of existing trees, hedges and bushes; Series 500 Drainage and Service Ducts provides details for drainage excavation, backfilling and land drains; Series 600 Earthworks identifies unacceptable materials and provides details for sub-formation capping materials and prohibits the use of the sub-formation and formation for construction traffic without appropriate protection in addition to weather protection.

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Road construction in cutting or embankment would require additional consideration outside the scope of this report.

The sub-grade CBR will be a function of soil type and moisture sensitivity. The effectiveness of sub-surface water drainage and the surface water conditions during construction can also affect the actual sub-grade strength and stiffness at the time of construction. TRRL 1132 Appendix C Table C1 provides equilibrium suction index CBR values based on the Plasticity Index of soil, road construction thickness and the depth to groundwater. It is recommended that in-situ test results are calibrated with the site conditions when selecting a design CBR value.

The Plasticity Index ranges from 25% to 34%. The moisture contents ranged from 5.1% to 23.2%. TRRL 1132 Appendix C Table C1 provides equilibrium suction index CBR values based on the Plasticity Index of soil, road construction thickness and the depth to groundwater. A CBR of 2.5% for high groundwater and 3% for low groundwater. Higher values may be present in favourable construction conditions.

The DCP results were all well above the equilibrium suction index CBR.

The need to remove Made Ground or weak, organic rich soils or disturbed ground is often a requirement of the local authority or the management company assuming the road is built to an adoptable standard.

A minimum non-frost susceptible construction thickness of 450mm is typically required, this may be relaxed by the local highway authority or management company.

The surface soils will be subject to exposure and deterioration during wet weather and therefore protection layers and early placement of capping layers is essential. Clause 617 of the Specification for Highway Works states that construction plant and other vehicular traffic shall not be operated on the sub-formation unless adequate protection, if necessary, in addition to any weather protection, is provided.

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For preliminary budgeting purposes a CBR of 2% may be assumed whilst recognising the need to remove localised soft spots/ disturbed or Made Ground.

The removal of old hedge lines or trees will often require the removal of large roots and organics to the approval of the adopting authority. This can result in greater excavation depth to an acceptable sub-grade layer.

The local authority may require undertaking their own investigations for the highway if it is to be adopted. This would typically require knowledge of the finished road levels and alignment in order to test the appropriate sub-grade strata.

The use of a geotextile separator and geogrid reinforcement may be required in addition provision for a starter layer is suggested below earthworks or capping construction for the roads.

The DCP test results are given in Appendix F.

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6.9 Updated Geotechnical Risk Assessment

Risk classification and required action:

Table 6.9.1 – Risk Score Calculation Matrix						
Likelihood (L)		Severity (S)				
		1	2	3	4	5
		Minor	Moderate	Serious	Major	Catastrophic
1	Extremely unlikely	1	2	3	4	5
2	Unlikely	2	4	5	8	10
3	Likely	3	6	9	12	15
4	Extremely likely	4	8	12	16	20
5	Almost certain	5	10	15	20	25

Table 6.9.2 - Potential severity of harm occurring		
1	Minor	Minor damage or loss – (no human injury)
2	Moderate	Moderate damage or loss – (slight injury illness)
3	Serious	Substantial damage or loss – (serious injury or illness)
4	Major	Major damage or loss – (fatal injury)
5	Catastrophic	Catastrophic loss or damage – (Multiple fatalities)

Table 6.9.3 - Risk Classification	
Low (1-8)	Ensure assumed control measures are maintained and reviewed as necessary.
Medium (9-19)	Additional control measure needed to reduce risk rating to a level that is equivalent to a test of 'reasonably required' for
High (20-25)	Activity not permitted. Hazard to be avoided or risk to be reduced to tolerable level.

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Table 6.9.4 – Updated Geotechnical Risk Assessment

Risk ID	Hazard	Consequence	L	S	R	Mitigation	L	S	Residual Risk
1	Cornbrash Formation – Hard Strata	Hard strata at potentially shallow depth requiring excavation hard strata break-out and potential excavation over-break.	4	3	12	Gravel and cobbles strata encountered across much of the site below the topsoil/ subsoil to depths of up to 1.40m. Limestone bedrock encountered typically at depths from 2.0m, where encountered trial pits were terminated due to hard strata. Provision in ground works contract for hard strata break-out and over-break of excavations.	3	3	9
2	Geological boundary between the Cornbrash Formation and Forest Marble Formation. (North Field 2)	Differential settlement from possibly hard strata of the limestone bedrock and weaker weathered mudstone clay deposits.	4	3	12	Boundary unknown at this stage. Further intrusive work required. Design foundations accordingly, foundation should be placed on continuous bearing stratum.	3	3	9
3	Forest Marble Formation - Mudstone	Variable depth to competent bearing stratum. Potential for weathered clay layers between more competent bedrock.	3	3	9	Weathered deposits encountered from depths of 4.60m in BH01 and BH02. Further work required in this area to delineate soft and firm clay deposits above. Design foundations accordingly, deepening in soft spots.	3	2	6
4	Volume change potential deposits.	Heave of near-surface soils resulting in damage of foundations and ground floor slabs.	3	3	9	Near surface fine grained soils of weathered Cornbrash Formation are of medium volume change potential requiring a minimum founding depth of 0.90m where outside the influence of trees or bushes.	3	2	6

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Risk ID	Hazard	Consequence	L	S	R	Mitigation	L	S	Residual Risk
5	Potential historical mining on-site.	Mine subsidence, ground collapse, unacceptable settlement, increased infiltration of water through the system.	2	4	8	Site-specific Mining Desk Study for further information of possible known mines/quarries on-site. Targeted ground investigation if credible mine risk is found to assess significance of mining to development.	2	3	6
6	Cornbrash Formation – Dissolution Features	Inter-connected infilled solution-widened joints, caves and cavities. Infiltration of surface and movement of sub-surface water with potential for wash-out and development of sink holes. Void migration may undermine structures and infrastructure with potential for significant failure.	2	4	8	No limestone dissolution identified in the exploratory holes. If encountered, they should be assessed before continuing.	2	3	6

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Risk ID	Hazard	Consequence	L	S	R	Mitigation	L	S	Residual Risk
7	High groundwater table.	Inundation of excavations. Collapse of loose/ soft deposits.	2	3	6	The groundwater monitoring completed to date has shown relatively stable levels during the summer months of 2025 with levels typically starting to rise around November. Two groundwater peak events have been measured so far, one in December, typically on the 11th December 2025 visit and one in February 2026, typically on the 12th February 2026 visit. Groundwater depths above 1m have been measured in BH04, BH05, BH06 and BH07. Some pairs of boreholes appear closely linked in terms of timing and magnitude of groundwater rise and fall between visits, they are; BH07 and BH08, BH02 and BH03, BH05 and BH06. Provision for excavation support and groundwater pumping.	2	2	4

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Risk ID	Hazard	Consequence	L	S	R	Mitigation	L	S	Residual Risk
8	Made Ground associated with historical site uses. Buried services/ culverts.	Unacceptable level of settlement within proposed development. Possibility of difficult excavation and/ or excavation collapse/ overbreak.	2	3	6	Made Ground not encountered in any of the exploratory holes. If encountered placement of foundations beneath and outside influencing distance of any Made Ground encountered. Removal of Made Ground may be required beneath highways, gardens, infrastructure etc.	2	2	4
9	Pyrite and sulphates	Naturally occurring pyrite and sulphates can result in aggressive ground conditions for buried concrete potentially resulting in expansion and/ or degradation of cement. Anthropogenic materials, such as plasterboard, may also result in sulphates.	2	3	6	The pH and water-soluble sulphate results indicate that buried concrete can be designed in accordance with design sulphate class DS-1 AEC class AC-1 of BRE Special Digest 1(2005), assuming mobile groundwater conditions.	2	2	4

7.0 IDENTIFIED TARGETED INVESTIGATIONS

7.1 Introduction

The British Standard for Ground Investigation (BS5930:2015+A1:2020) Introduction states. *“The ground is naturally variable and often the nature of these variations is not known. A ground investigation is a process starting with initial documentation about the site and its environs followed by continuous exploration and interpretation, with the scope of the investigation requiring regular amendment in the light of the data being obtained.”*

A ground investigation should be undertaken in phases. The following table provides a summary of the usual investigation sequence:

Table 7.1.1 – Typical Investigation Sequence

Phase	Description	Scope of works
1	Preliminary Sources Review (Desk study) and field reconnaissance. (NHBC initial assessment)	Walkover survey, environmental database review, historical map review for development of conceptual site model, geotechnical risk assessment and a sampling and analysis plan.
2	Preliminary Ground Investigation. (NHBC Basic Investigation)	To be reviewed subject to Phase 1. Phase 2A may typically include a limited number of exploratory holes used to confirm the ground model. This may require a number of intrusive investigation techniques subject to actual ground conditions, requiring a sequence of Phases 2B, 2C etc.
3	Detailed Ground Investigations. (NHBC Detailed Investigation and Further Assessment)	Subject to Phase 1 and 2 findings. This may require a regular close space grid (50m by 50m for example) of exploratory holes. This may significantly increase the number of exploratory holes but reduce uncertainty in terms of variability between locations.
4	Control investigation, construction review including follow up investigations during construction.	Scope subject to construction design, layout, and complexity of the ground conditions.

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7.2 Specific Targets

Soft and firm clays were encountered in BH01 and BH02, located in the northern part of Field 2, to a maximum depth of 4.75m. Further work is required to delineate and characterise this ground before foundation recommendations can be given. This is likely to include supplementary trial pitting and dynamic sampling.

Due to access and scope of work restrictions exploratory holes were positioned on larger grid size than would normally be expected for a change of land use to residential development. On a normal 50m grid size across the proposed development area a further fourteen exploratory holes would be required in Field 1 and a further twenty-two exploratory holes would be required in Field 2.

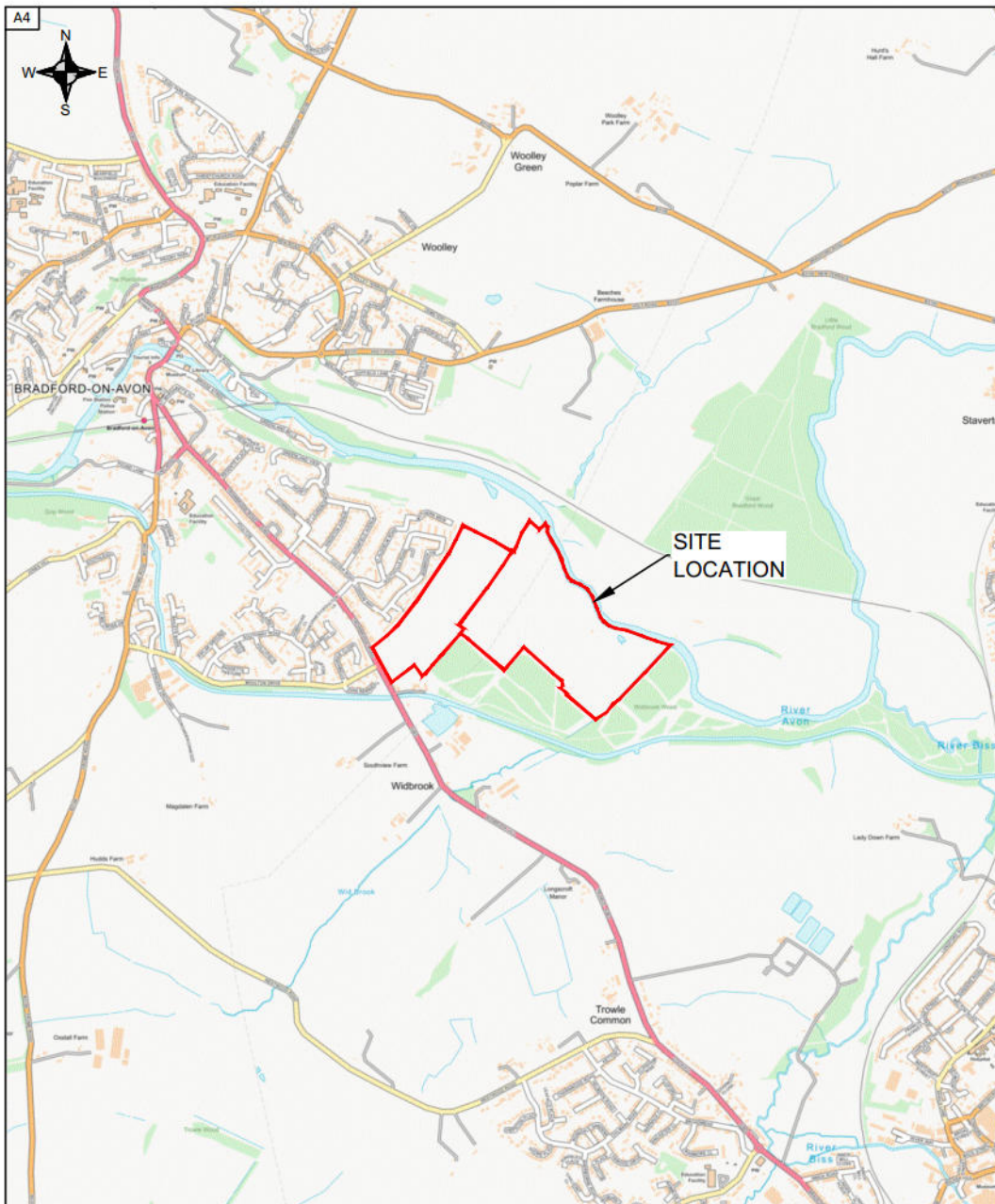
Groundwater monitoring is due to be undertaken until late spring 2026 to assess seasonal variation.

The ground gas monitoring has been completed and recorded no obvious significant gas levels. A ground gas risk assessment should now be undertaken to evaluate the risk to the proposed development.

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FIGURES

- | | |
|-----------------|--|
| Figure 1 | Site Location Plan |
| Figure 2 | Site Layout Plan |
| Figure 3 | LIDAR Plan |
| Figure 4 | Exploratory Hole Location Plan (Existing site layout) |
| Figure 5 | Exploratory Hole Location Plan (Proposed site layout) |



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Dwg Title:
Site Location Plan

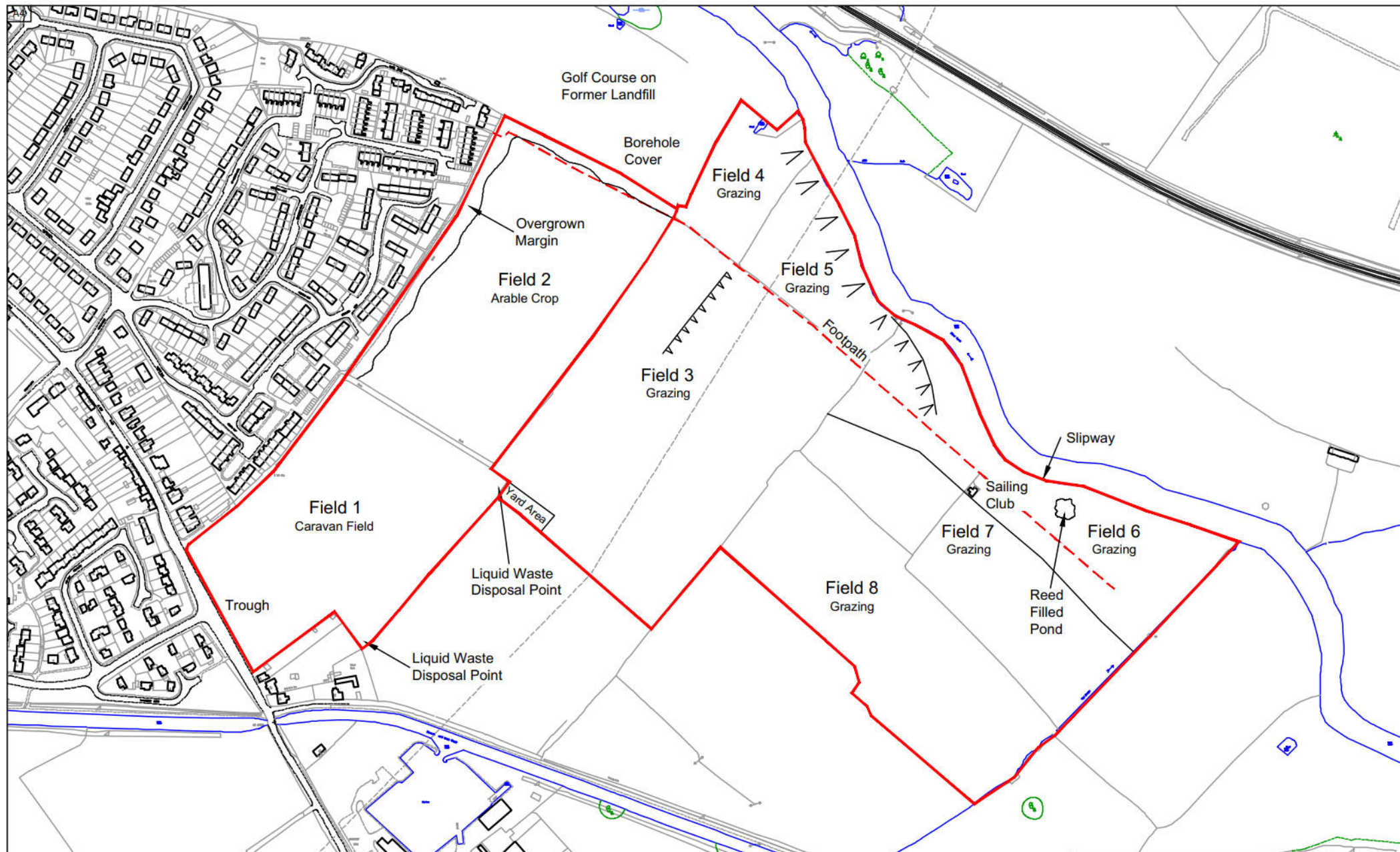
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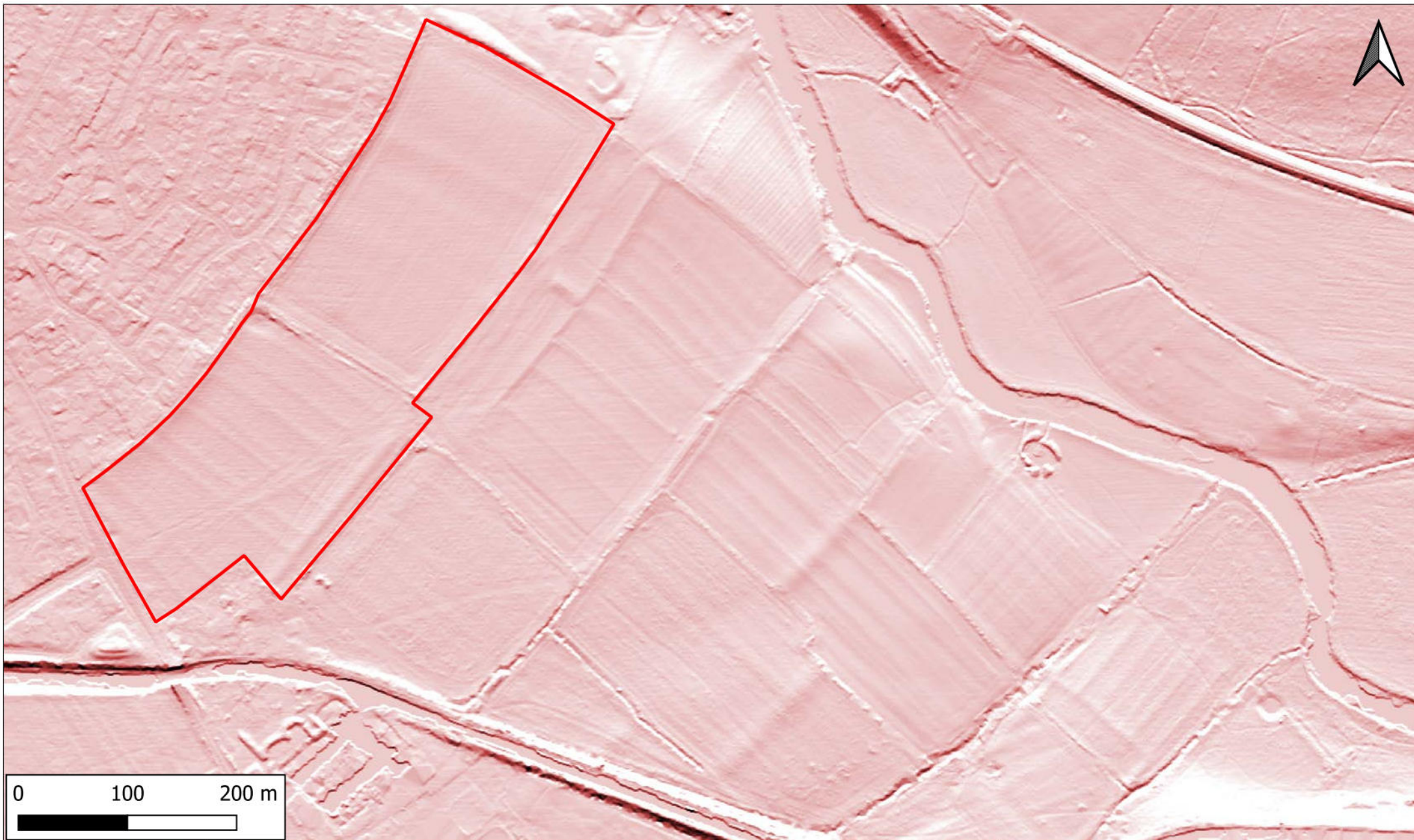
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Walkover Observations

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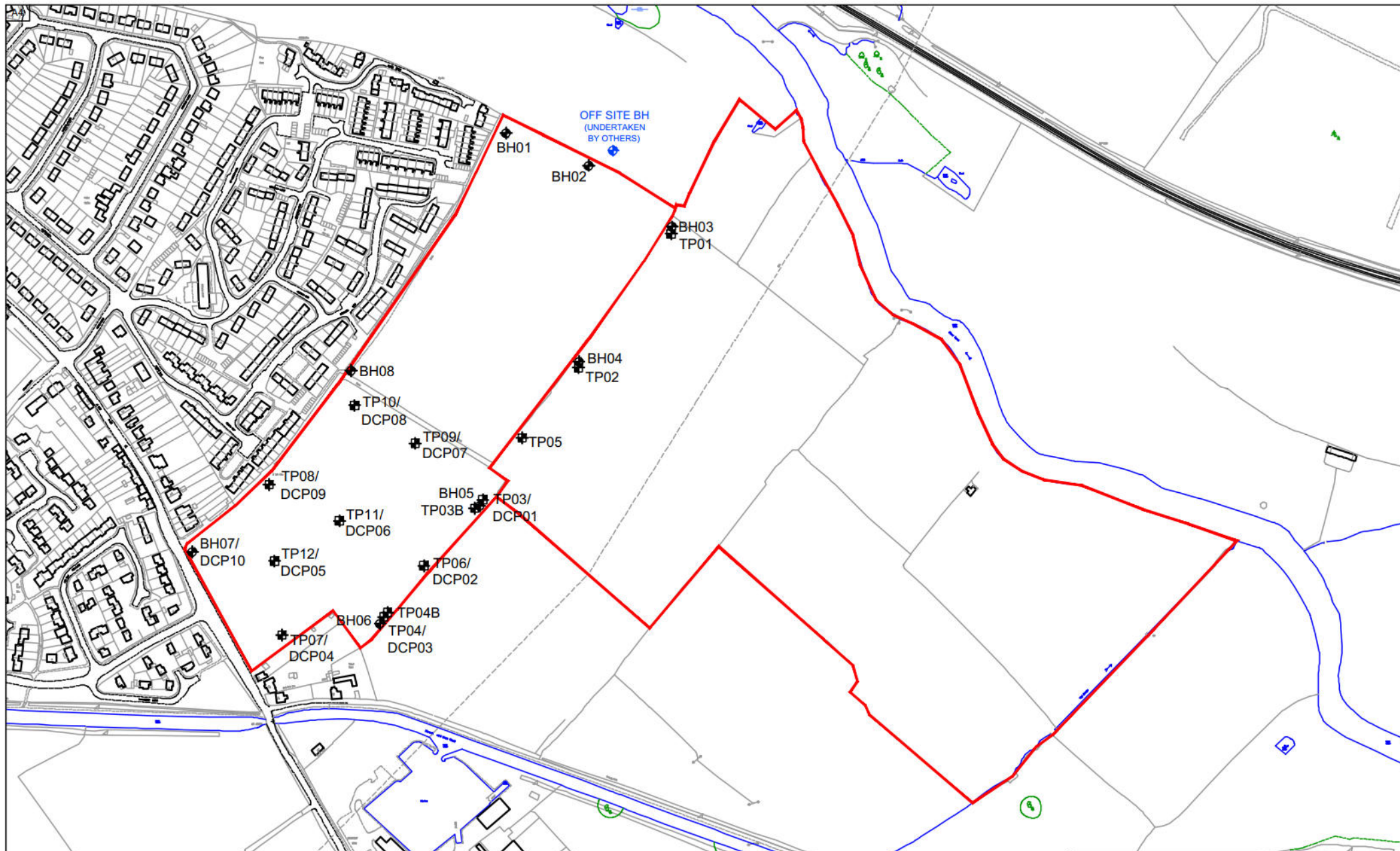
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Trowbridge Road
Bradford-On-Avon

Client:

Waddeton Park Limited

Dwg Title:

Exploratory Hole
Location Plan
(Existing Layout)

Drawing Status

For Information

Scale 1:5000 @ A4 Drawn SK

Date June 2025 Checked DLJ

Drawing no:
GCE01390/Fig4

Rev

APPENDICES

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Appendix A – Investigation Methods

Investigation Methods

The following brief of Ground Investigation techniques summarises their methodology.

Soils and bedrock have been described in accordance with BS5930 2015. Prior to undertaking exploratory holes on site service plans are checked and locations are CAT scanned.

Ground conditions should be monitored during the construction of the works by groundworkers and the recommendations of the report re-evaluated as necessary.

Trial Pits

Trial pits provide an effective method of assessing ground conditions at shallow depth on site and advantages include a rapid check of ground conditions. Trial pits are normally excavated with a wheeled back acting excavator to up to 4m depth, to provide information on ground conditions. Where information is required for existing foundation details or services hand excavated trial pits are normally excavated to up to 1.20m depth. The strata within each trial pit are logged on site by an experienced Engineering Geologist and soil samples are collected for subsequent laboratory testing. The trial pits are entered at shallow depth where safe to do so to allow logging, in-situ testing and sampling. On completion the trial pits are backfilled with arisings.

The excavator will be operated by a trained driver with appropriate experience of the particular machine and suitable certification. A brief explanation of the works and site specific hazards will be provided at the beginning of the working day and reviewed as the work progresses. A bucket width of 0.6m will normally be selected, other widths may be used depending on particular conditions, and a trial pit length of 2m to 3m will be excavated in order to reach the maximum depth of the excavator boom. The arisings will be placed a safe distance from the pit sides in order to prevent overloading of the ground and collapse of the pit sides. Excavation in the upper layers will be undertaken

carefully in thin layers in order to reveal any warning tape indicating buried services. If the trial pit becomes unstable excavation will be stopped.

Large Scale Infiltration Testing

Infiltration testing is undertaken in general accordance with the BRE365 methodology.

Infiltration testing will involve the safe delivery of water into the trial pit via a pipe from a tractor towed bowser. Measurements of water depth will be recorded against time, together with pit dimensions, to allow calculation of an infiltration factor in accordance with BRE365.

Dynamic Drive (Window) Sampling

Dynamic Drive Sampling is used where access is restricted and/or where gas and groundwater installations are required or where hard surfacing is present. Depths of between 3-6m are normally achieved in suitable ground.

The Sampling rig is track mounted, with dimensions of 2.7m long, 0.75m wide and 2.4m high when in operation and 1.3m high when being tracked to position. A four stroke diesel engine is used to operate a chain lifted weight of 63.5kg, which is dropped a distance of 0.76m onto a hardened steel anvil, which in turn drives the steel sampling tubes vertically into the ground. The sample tubes are typically 1m long and 100mm to 75mm in diameter and contain a plastic liner. The sample tubes are retrieved using integral hydraulic rams. Additional driving rods are attached and tubes of gradually reducing diameter used to reach the required depth. Standard Penetration Testing and U100 sampling may be undertaken. Samples are collected from the soil samples recovered. The resulting hole may be completed as a monitoring well or backfilled with arisings. The rig will be operated by trained and experienced crew. Concrete coring is normally undertaken prior to window sampling where concrete surfacing is present, this is normally undertaken with the Archway rig with a coring attachment.

In areas where there is very limited access Dynamic Sampling is undertaken using a hand held jack hammer and separate power pack to drive the sample tubes into the ground. The diameter of the sample tubes are reduced as drilling proceeds. The sample tubes are jacked out of the ground using hydraulic jacks and the power pack. The soils are logged and samples are collected from the tubes.

Supervision of the works will be undertaken by competent Engineering Geologist/ Geotechnical Engineer.

Dynamic Probing

This technique measures the number of blows of a standard weight falling over a standard height. The weight is dropped onto an anvil delivering a set energy onto a hardened steel probe, which is driven into the ground. The number of blows per set 100mm increment is recorded. Dynamic Probing is normally undertaken with a track mounted Archway rig. Where access is limited a portable mechanically driven dynamic probe is used. Depths of up to 10m are typically achieved in suitable ground conditions. The normal weight used is 63.5kg (DPSH). Where access is very limited hand held dynamic probing can be undertaken, which uses a 10kg weight (DPL) with a separate power pack. The rods are jacked out of the ground using a hand held jack. No samples are collected with this method.

Dynamic Cone Penetrometer (DCP)

The hand driven DCP probing device has been calibrated by TRL to provide a profile of CBR values, normally to 0.85m depth.

Cable Percussion Boreholes

The technique can determine ground conditions to depths of in excess of 30m in suitable ground conditions. The method is used in ground conditions other than rock. Soil samples are recovered for logging purposes. Samples are normally collected at 1.00m

intervals or at a change of strata. Standard Penetration Testing and U100/UT100 sampling may be undertaken. Insitu testing is normally undertaken at 1m intervals to 5m depth and thereafter at 1.50m intervals. Steel casing is normally used to prevent hole collapse.

The following description is taken from British Standard BS5930 2015.

Cable percussion boring is an adaptation of standard well-boring methods, and normally uses a mobile rig specially designed for ground investigation work. For most investigations, the rig has a winch of 1 tonne to 2 tonne capacity, which is driven by a diesel engine and a derrick of about 6 m in height. With many types of rig, the legs of the derrick fold down to form a simple trailer that can be towed by a light vehicle. The drill tools, which are worked on a wire rope using the clutch of the winch for the percussive action, consist of the clay cutter for dry cohesive soils, the shell or bailer for granular soils and the chisel for breaking up rock and other hard layers.

The sizes of borehole casings and tools are usually 150 mm and 200 mm. For special projects 250 mm and 300 mm are available. This gives a maximum borehole depth of about 60m in suitable strata. The clay cutter should be used in cohesive soil in a damp or dry borehole. Where the borehole contains water, it might be necessary to use a combination of the clay cutter and the shell in cohesive soil. The shell should be used in granular soils and there should be sufficient water in the bottom of the borehole to cover the shell (about 2.5 m); it is, therefore, necessary to add water to a borehole in order to bore through dry granular strata that require the use of the shell. When the boring advances below the water table in granular strata, water should be added to the borehole to sufficient maintain water in the hole at a level above that of the surrounding groundwater. This reduces, but might not eliminate, the tendency for loosening the ground below the base of the hole by 'blowing'. The shell should be withdrawn slowly and, if necessary, an undersized shell should be used.

Cable percussion boring may be used for soil and weaker rocks. The clay cutter and shell bring up disturbed material which is usually sufficiently representative to permit identification of the strata.

Rotary Drilling

The technique can determine ground conditions to depths of in excess of 30m in suitable ground conditions. The method is used for drilling in soil and rock. The drilling is undertaken using a rotary drilling rig. The boreholes are initially drilled by dynamic sampling methods from ground level and stopped when effective refusal for this technique is reached as defined by a Standard Penetration Test (SPT) N value >50.

Soils samples are recovered for logging purposes. Samples are normally collected at 1.00m intervals or at a change of strata. Standard Penetration Testing and U100/UT100 sampling may be undertaken. Insitu testing is normally undertaken at 1m intervals to 5m depth and thereafter at 1.50m intervals. The boreholes are then ODEX cased and continued by rotary coring. The coring is normally undertaken using a 1.50m long T6-116 core barrel, giving a core diameter of 92mm. A combined air and water flush is used to assist coring and maximise the core recovery. The rotary coring technique includes a plastic core liner within the metal barrel; the liner is removed after sampling and placed into a wooden core box. The rock cores are logged, sampled and photographed by an Engineering Geologist. Examination of the cores allows detailed rock description and generally enables angled discontinuity surfaces to be observed.

The following description is taken from British Standard BS5930 2015.

Rotary drilling methods, in which the drill bit is rotated on the bottom of the borehole, are used to drill rocks and soils for investigation purposes. The drilling fluid, which is passed from the surface through hollow drill rods to the face of the bit, cools and lubricates the bit, transports drill cuttings to the ground surface and, when using particular types of drilling fluids, stabilizes the borehole. Common drilling fluids include clean water, air or a mixture of both. Mud, polymers or foam are also frequently used to maintain or assist

borehole stability, aid the transport of drill cuttings to the surface and maximize core recovery, particularly in soils and weaker rock formations.

There are two basic types of rotary drilling: open hole (or full hole) drilling, where the drill bit cuts all the material within the diameter of the borehole; and core drilling, where an annular bit, fixed to the bottom of the outer rotating tube of a core barrel, cuts a core, which is recovered within the innermost tube of the core barrel assembly and brought to the surface for examination and testing. Rotary drilling for ground investigation is usually core drilling.

When open hole drilling or coring, temporary casing is normally used to support unstable ground or to seal off fissures or voids, which cause excessive loss of drilling fluid. Drilling fluid additives or cement grouting can sometimes be satisfactory alternatives.

The rotary drilling rig should be well maintained and should be capable both of controlling rotational speed and providing axial load and torque to suit the nature and hardness of the material penetrated, the diameter of the core barrel and drill string, drilling fluid and flushing system, weight of drill string and installation of temporary casing(s). When recirculating, the drill fluid should be cleaned as an integral part of the process so that it is suitable for continuing reuse.

Open Hole Drilling

The technique is normally used for installing groundwater and gas monitoring wells or for determining the presence or otherwise of voids in bedrock to depths of in excess of 30m in suitable ground conditions. The drilling is undertaken using a rotary drilling rig. The boreholes are normally drilled by open hole methods with air flush. The boreholes are logged from risings and rates of penetration by an Engineering Geologist.

The following description is taken from British Standard BS5930 2015.

Open hole drilling is sometimes used in soils and weaker rocks as a rapid and economical means of making holes in the ground for the purpose of advancing the hole to a sampling depth, progressing a hole to a specified depth or material type, for carrying out in-situ tests, for installing instruments, etc. The technique can also be used to probe for voids such as mine workings, solution cavities, etc. Systems are available whereby casings are driven simultaneously with the open hole bit. While drilling, only drill cuttings are returned in the drill fluid.

The rate of progress of drilling and observations of the flushing medium and the cuttings should be recorded. These records may be made by the lead driller or a separate logger. The cuttings constitute very low quality samples and it is usually difficult to detect a change in strata, unless there is a good contrast in properties such as colour, mineral content or hardness. Where such contrast prevails, open hole drilling can be used as a probing technique.

NOTE The use of suitable instrumentation, termed “drilling parameter recording” (DPR) or “measurements while drilling” (MWD), in order to record the progress of the drilling rig can considerably enhance the results obtained (see BS EN ISO 22476-15).

Static Cone Penetration Test (SCPT)

Static cone penetration testing uses a hydraulic drive system to push a cone into the ground at a constant velocity from ground level on hollow extension rods each 1m long, which have a readout cable running through the hollow centre. Internal load sensing devices measure the axial thrust on the cone and the frictional force on the sleeve; an inclinometer checks vertical alignment and drift. The electrical signals are transmitted by the umbilical cable to the recorders at ground level as the tip is pushed into the ground at a constant rate of penetration of 20 mm/second.

The cone is 35.7mm in diameter, so that its projected area is 10cm², and the friction sleeve area is 150cm². The cone and sleeve resistances are automatically recorded in MPa.

A piezometric sensor and filter can be incorporated in the penetrometer to record equilibrium pore water pressures at intervals and excess pore water pressures during penetration.

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Appendix B – Common Strata, Methods of Description, and Interpretation

Common Strata, Methods of Description, and Interpretation

Soil and rock descriptions are made in general accordance with BS5930 2015 (+A1:2020).

Table 13 (BS EN ISO 14689-1:2003)

Term	Description	Grade
Fresh (rock)	No visible signs of rock material weathering; perhaps slight discoloration on major discontinuity surfaces.	0
Slightly weathered (rock)	Discolouration indicates weathering of rock material and discontinuity surfaces	1
Moderately weathered (rock:soil)	Less than half of the rock material is decomposed or disintegrated. Fresh or discoloured rock is present either as a continuous framework or as core stones.	2
Highly weathered (rock:soil)	More than half the rock material is decomposed or disintegrated. Fresh or discoloured rock is present either as discontinuous framework or as core stones.	3
Completely weathered (Soil)	All rock material is decomposed and/ or disintegrated to soil. The original mass structure/fabric is still largely intact.	4
Residual soil (Soil)	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is large volume change, but the soil has not been significantly transported.	5

Table 13 gives a typical classification which is unlikely to apply to all rock types. More specific local classification may be available and can be used where they are useful and unambiguous.

Tropical Residual Soils (Handbook 1997) Section 1.2 States ‘*The processes forming residual soils include incorporation of humus (decaying vegetation), physical and chemical weathering, leaching of soluble materials, accumulation of insoluble residues, downward movement of fine particles (lessivage) and disturbance by root penetration, animal burrowing, free fall and desiccation*’

The glossary of terms provides the following:

Residual Soil: The soil which accumulates in-situ by decomposition of rock and leaching of soluble constituents, leaving insoluble materials which are not transported any significant distance.

Lessivage. See Illuviation – Downward movement of solid particles (usually clay) through a soil profile by dispersion in percolating groundwater. An upper (eluvial) horizon is consequently depleted in the illuviated material, and a lower (illuvial) horizon is enriched.

Engineering in Mercia Mudstone provides the following:

Simplified weathering scheme for Mercia Mudstone:

Weathering grade		Description	Notes
Fully weathered	IVb	Matrix only	Can be confused with solifluction or drift deposits, but contains no pebbles. Plastic slightly silty clay. May be fissured.
Partially weathered	IVa	Matrix with occasional claystone pellets less than 30mm diameter, but more usually coarse sand size.	Little or no trace of original (grade 1) structure, though clay may be fissured. Lower permeability than underlying layers.
	III	Matrix with frequent lithorelicts up to 25mm. As weathering progresses, lithorelicts become less angular	Water content of matrix greater than that of lithorelicts.
	II	Angular blocks of unweathered marl with virtually no matrix	Spheroidal weathering. Matrix starting to encroach along joints: first indications of chemical weathering.
Unweathered	I	Mudstone (often jointed and fissured)	Water content varies due to depositional variations.

It is preferable to use the term 'weathering grade' rather than 'weathering zone'.

Commonly encountered types of engineering soil

The broad engineering characteristics and behaviour of soils is related to the environment of deposition and subsequent stress history. The following provide simplified soil types based on their origin.

Soil types according to origin (P.G. Fookes 1997: Geology for Engineers)

Organic

Formed in place by growth and decay of vegetation. Wholly organic fibrous and amorphous peat. Organic silts and clays.

Alluvial

Transportation and deposition in water.

Fine clay to coarse gravel. Coarse particles usually rounded. Soils usually sorted and often show pronounced stratification, variation in density. Finer soils may contain organic material.

If layers of alluvial sand or gravel are continuous and sufficiently thick across a site area, then these may also be described as "River Sands" or "River Gravels" or "River Sands and

Gravels". This is to distinguish the different engineering behaviour of a predominantly coarse grained material versus a finer grained low strength and highly compressible material often envisaged from the description "alluvium".

Colluvial

Transported by gravity, freeze-thaw and water.

Local in origin. Hillside creep, downwash and solifluction deposits. Variable fine grading from clay to fine gravel. Often termed 'head' (See further details for Head on Pages 2 and 3)

Taluvial

Transported by gravity.

Local in origin. Landslide debris, screes and coarse variety of colluvium. Heterogeneous. Widely variable coarse gradings. Talus can be considered an openwork taluvium.

Aeolian and loessial

Transportation and deposition by wind. May be well sorted (i.e. single size grains) and low density. Loess, usually silt and fine sand with uniform grading, often contains vertical cracks, joints and root holes.

Glacial – unusual in south-west England

Transportation and deposition from ice or meltwater from ice.

Tills and moraines, usually heterogenous and can have a wide range of gradings. Outwash (proglacial) becomes finer with distance from meltwater source. Finer material usually laminated and varved (glacial lake deposits).

Volcanic – unusual in south-west England

Ash and pumice deposited during volcanic eruptions.

Silt size particles with larger volcanic debris. Highly angular particles, often vesicular. Weathering often produces highly plastic clay with unusual properties.

Evaporites – unusual in south-west England

Soils from water containing dissolved salts, by precipitation or evaporation, e.g. oolite precipitated from sea water, gypsum precipitated from sulphate-rich desert playa lakes or coastal sabkhas. Carbonated may form cemented soils and hard sub-surface crusts.

Residual – unusual in south-west England

Formed in place mainly by chemical weathering of the parent rock or soil.

Type depends mainly on climate and weathering process, less on parent material. Pronounced structure, usually bonded, sometime porous. Heterogeneous and of variable depth. Transitional with parent material.

Fill

Deposited by man.

Loose dumped, hydraulically placed or compacted. Old fills often heterogenous and may contain organic and toxic material, and voids associated with human artefacts.

Anthropogenic Ground (BS5930:2015)

Anthropogenic soils (“made ground” or “fill”) have been placed by man and can be divided into those composed of reworked natural soils and those composed of, or containing, man-made materials. A common and useful distinction is that “fill” is placed in a controlled manner, and “made ground” is placed without strict engineering control. Mapping geologists, such as those in the British Geological Survey, might distinguish “made ground” as placed above and “infilled ground” as placed below the original ground surface.

Head (BGS Geology of the country around Exeter: Memoir for 1:50 000 Geological Sheet 325 (England and Wales))

The term ‘head’ was introduced by De la Beche (1839) to describe rubbly slope deposits in coastal sections of south-west England. It has since been widely used to describe structureless or poorly bedded mixtures of clay, silt, sand and stones which are believed to have moved down slope mainly by solifluction (soil-flow) in a periglacial climate. In these conditions, alternate freezing and thawing of the surface layers results in a slow downslope flow of waterlogged soil and other unsorted material. Grainger (1983, pp.271-272) noted that: Periglacial processes contributing to soil development consist of congelifraction (the fracturing and opening up of fissures in parent rock by freeze-thaw stresses), and congeliturbation (the mixing or differentiation of soil and weathered rock profiles by differential heaving due to freezing and thawing). On slopes the combination of these processes with gravitational stress results in accelerated mass movement of the weathered material by gelifluction, thaw slumping and frost creep... Soil creep, hill wash, and other mass movement processes are still active in the movement of surface materials.

Three types of Head have been recognised in the district (of Exeter): blanket head and regolith, older head, and valley head.

Blanket head and regolith

Mostly less than 2m thick...composed partly of in-situ weathering products of the parent rock (regolith), and partly of material that has been subject to mass-movement processes (including solifluction). It is not possible to determine to what extent, if at all, regolith material has been transported by solifluction or other mass-movement processes, and the term blanket head and regolith is used for this material. The deposit is so widespread that it has been omitted from the map for clarity.

Older Head

The outcrop of the Aylesbeare Mudstone (for example) is locally mantled by a thin layer of gravelly clay or clayey gravel containing rounded quartzite pebbles and cobbles derived from the Budleigh Salterton Pebble Beds.

Valley Head

Valley Head consists of locally derived rock debris and may comprise every variation between sand and silty clay, and clayey and silty sand with a variable pebble (gravel to cobble) content. The valley head occupies valley sides and bottoms, and probably formed by a combination of solifluction, soil creep and slopewash; the latter two process continue at the present time.

River Terrace Deposits

River terrace deposits are developed in the valleys of rivers. These represent deposits laid down on the former flood plains of rivers. The River Exe, for example, Eighth Terrace is 60m above the floodplain, whilst the first Terrace is 0.5m to 1.0m above the flood plain.

Buried Channel Deposits

Durrance (1969) recognised two phases of buried channel formation at the mouth of the River Exe, which were related to low sea levels, either within Devensian glacial period, or possibly within Wolstonian and Devensian glacial periods. The older channels were cut in rock to depths in excess of 52m below OD and filled with gravel. The younger (?Late Devensian) set of channels was excavated partly in this gravel, and partly in bedrock to depths of 30m below OD. Both sets of channels contain buried terraces.

Marine Deposits

Many estuaries in south-west England were drowned by the rise in sea level (the Flandrian Transgression) which followed melting of the Devensian ice sheets. This can result in reclaimed Marine deposits, saltmarsh deposits and intertidal mud flats.

Common strength and consistency descriptors:

Field consistency of clays may be estimated on the usual basis:

Term used for description	Consistency description
Very soft	Finger easily pushed in up to 25mm. Exudes between fingers.
Soft	Finger pushed in up to 10mm. Moulds by light finger pressure.
Firm	Thumb makes impression easily. Cannot be moulded by fingers, rolls in the hand to a 3mm thick thread without breaking.
Stiff	Can be indented slightly by the thumb. Crumbles in rolling a 3mm thick thread, but can then be remoulded into a lump.
Very stiff	Can be indented by thumb nail. Cannot be moulded but crumbles under pressure.
Hard	Can be scratched by thumb nail.

Term Hard clay is for transported materials which are of similar strength to rock.

Undrained shear strength measurement may be applied if hand vane or triaxial results are available, however the consistency and undrained shear strength may not be consistent and as such the latter may be omitted from the field record and the matter discussed within the report.

Term based on measurement	Undrained shear strength
Extremely low	<10
Very low	10-20
Low	20-40
Medium	40-75
High	75-150
Very high	150-300
Extremely high	300-600

The use of empirical relationships between standard penetration tests 'N' values and strength of fine soils may also be useful but should not be used to provide strength descriptors on field records.

The relative density of sand and gravels only may be determined by the standard penetration test. The numerical values on the log should be uncorrected.

Term	SPT N-value
Very loose	0-4
Loose	4-10
Medium dense	10-30
Dense	30-50
Very dense	>50

Discontinuities should be described in accordance with BS EN ISO 14688-1:2002 and BS EN ISO 14689-1 2003.

BS8004 (1986) Foundations provides the following useful comparison between consistency and undrained shear strength. This method is no longer used within BS5930.

Table 6 — Undrained (immediate) shear strength of cohesive soils

Consistency			Undrained (immediate) shear strength	
In accordance with BS 5930	Widely used	Field indications		
			kN/m ²	kgf/cm ² tonf/ft ²
Very stiff	Very stiff or hard	Brittle or very tough	Greater than 150	Greater than 1.5
Stiff	Stiff	Cannot be moulded in the fingers	100 to 150	1.0 to 1.5
	Firm to stiff		75 to 100	0.75 to 1.0
Firm	Firm	Can be moulded in the fingers by strong pressure	50 to 75	0.5 to 0.75
	Soft to firm		40 to 50	0.4 to 0.5
Soft	Soft	Easily moulded in the fingers	20 to 40	0.2 to 0.4
Very soft	Very soft	Exudes between the fingers when squeezed in the fist	Less than 20	Less than 0.2

2.2.2.3.3.4 Settlement. For cohesive soils it is always The nature of settlement in cohesive soils is

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Appendix C – Trial Pit Logs



Trial Pit Log

TrialPit No
TP02
Sheet 1 of 1

Project Name: Land off Trowbridge Road
Project No. GCE01390
Co-ords: 383707.94 - 160048.23
Level: 38.76
Date: 16/06/2025

Location: Bradford on Avon, Wiltshire
Dimensions (m): 3.00
Scale: 1:20

Client: Waddeton Park Ltd
Depth: 2.15
Logged SK

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	JG		0.15	38.61		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.	
				0.40	38.36		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets.	
	0.60	JP		0.75	38.01		Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
	0.90 0.90 0.95	JP HSV HSV	HSV=138kPa HSV=138kPa	1.05	37.71		Stiff, light brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.20	JP					Light greyish brown, clayey/silty, sandy, GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	
	1.80 1.80 1.90	JP PP PP	PP=175 PP=225	1.70	37.06		Stiff, light greyish brown occasionally orangish brown and light brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	2
	2.10	JP		2.05 2.15	36.71 36.61		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles. End of Pit at 2.15m	3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.15m due to hard strata at base. Large scale infiltration test undertaken in pit. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.75m.





Trial Pit Log

Trial Pit No
TP03
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383613.14 - 159916.80
Level: 39.10

Date
16/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 2.40

Depth
2.15

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.15	38.95		Grass over dark brown slightly sandy slightly gravelly silty clay, with numerous rootlets and occasional roots.	
							Stiff, brown, slightly sandy, very gravelly, silty CLAY, with occasional rootlets and roots.	
	0.70	JG		0.50	38.60		Brown and light grey, clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
	0.90	JP		0.80	38.30		Stiff, light brown and light greyish brown, slightly sandy, very gravelly, silty CLAY, locally gravel. Gravel is fine to coarse subangular fossiliferous limestone.	1
	1.30	JP		1.50	37.60		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	1.70	JP		1.90	37.20		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.	2
	2.00	JP		2.15	36.95		End of Pit at 2.15m	

Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.15m due to hard strata at base.
Large scale infiltration test undertaken in pit. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.8m.





Trial Pit Log

Trial Pit No
TP03B
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383605.46 - 159908.61
Level: 39.10

Date
16/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 1.60

Depth
1.15

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.15	38.95		Grass over dark brown slightly sandy slightly gravelly silty clay, with numerous rootlets and occasional roots.	
				0.35	38.75		Stiff, brown, slightly sandy, very gravelly, silty CLAY, with occasional rootlets and roots.	
				0.70	38.40		Brown and light grey, clayey/silty, slightly sandy GRAVEL, with a low cobble content. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
				0.85	38.25		Stiff, light brown and light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to coarse subangular fossiliferous limestone.	
							Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium occasionally coarse subangular fossiliferous limestone.	1
				1.15	37.95		End of Pit at 1.15m	2
								3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.15m due to shallow infiltration testing. Large scale infiltration test undertaken in pit. Pit backfilled with arisings upon completion.

Stability: Slight overbreak



				Trial Pit Log			TrialPit No TP04 Sheet 1 of 1		
Project Name: Land off Trowbridge Road				Project No. GCE01390		Co-ords: 383515.09 - 159801.06 Level: 39.40		Date 16/06/2025	
Location: Bradford on Avon, Wiltshire						Dimensions (m): 2.80 		Scale 1:20	
Client: Waddeton Park Ltd						Depth 2.15		Logged SK	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.10	JG	PP=175	0.20	39.20		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets and roots.		
				0.45	38.94		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets and roots.		
	0.70	JP					Light brown, clayey/silty, sandy, GRAVEL. Gravel is fine to coarse subangular fossiliferous limestone.		
	1.00	JP		1.05	38.34		Stiff, light brown occasionally light grey and orangish brown, sandy, slightly gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.		
	1.15	PP		1.25	38.15		Light brown, clayey/silty, sandy, GRAVEL. Gravel is fine to coarse subangular fossiliferous limestone.		
	1.20	JP					Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.		
	1.70	JP		1.80	37.60		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.		
	1.90	JP		2.00	37.40				
	2.10	JP		2.15	37.24		End of Pit at 2.15m		
Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.15m due to hard strata at base. Large scale infiltration test undertaken in pit. Pit backfilled with arisings upon completion.									
Stability: Slight overbreak throughout.									





Trial Pit Log

Trial Pit No
TP04B
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383518.40 - 159804.84
Level: 39.41

Date
16/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 1.60

Depth
1.00

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20	39.21		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets and roots.	
				0.35	39.06		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets and roots.	
				0.70	38.71		Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL, with a low cobble content. Gravel is fine to coarse, gravel and cobbles are subangular fossiliferous limestone.	
				1.00	38.41		Stiff, light brown occasionally orangish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
							End of Pit at 1.00m	1
								2
								3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.0m due to shallow infiltration testing. Large scale infiltration test undertaken in pit. Pit backfilled with arisings upon completion.

Stability: Slight overbreak





Trial Pit Log

TrialPit No
TP05
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383652.06 - 159978.28
Level: 38.89

Date
16/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 2.40

Depth
2.00

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.15	38.74		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets and occasional roots.	
				0.35	38.54		Stiff, brown, slightly sandy, slightly gravelly, silty CLAY, with occasional rootlets and roots.	
	0.50	JP					Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
	0.70 0.75 0.80 0.80	PP PP JG JP	PP=150 PP=125	0.65	38.24		Stiff, light greyish brown occasionally orangish brown and light brown, slightly sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
				0.95	37.94		Light greyish brown, clayey/silty, slightly sandy GRAVEL, locally gravelly silty clay. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.30	JP						
	1.80	JP						
	1.95	JP		1.90	36.99		Medium strong, light greyish brown, LIMESTONE.	
				2.00	36.89		Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles. End of Pit at 2.00m	2
								3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.0m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.65m.





Trial Pit Log

Trial Pit No
TP06
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383554.69 - 159851.64
Level: 39.17

Date
16/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 2.20

Depth
2.15

Scale
1:20

Logged
SK

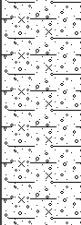
Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.15	39.02		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets and occasional roots.	
	0.40	JG		0.45	38.72		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets and roots. Gravel is fine to medium subangular limestone.	
	0.70	B					Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone. Occasional rootlets.	
	0.90	JP		0.85	38.32		Stiff, light brown occasionally orangish brown and light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.30	JP		1.10	38.07		Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	
	1.80	JP		1.70	37.47		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	2.00	JP		1.90	37.27		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.	2
				2.15	37.02		End of Pit at 2.15m	3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.15m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.85m.



				Trial Pit Log			TrialPit No TP07 Sheet 1 of 1			
Project Name: Land off Trowbridge Road				Project No. GCE01390		Co-ords: 383414.22 - 159783.13 Level: 40.38		Date 16/06/2025		
Location: Bradford on Avon, Wiltshire						Dimensions (m): 2.40 Depth 1.70		Scale 1:20 Logged SK		
Client: Waddeton Park Ltd										
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
	0.20	JG		0.25	40.13	     	Grass over dark brown slightly sandy slightly gravelly silty clay, with numerous rootlets.		1	
			0.40	39.98	Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone. Occasional rootlets.					
	0.60	JP	HSV=118kPa	0.80	39.58		Stiff, light brown and light greyish brown occasionally orangish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.			
	0.60	HSV								
	0.90	JP					Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to coarse subangular fossiliferous limestone.			
	1.10	B								
	1.20	JP								
	1.50	JP	PP=100 PP=100	1.45	38.93		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.			2
	1.50	PP		1.60	38.78		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.			
	1.55	PP		1.70	38.68		End of Pit at 1.70m			
	1.65	JP								
Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.70m due to hard strata at base. Pit backfilled with arisings upon completion.										
Stability: Slight overbreak to 0.4m.										



				Trial Pit Log			TrialPit No TP08 Sheet 1 of 1		
Project Name: Land off Trowbridge Road				Project No. GCE01390		Co-ords: 383401.47 - 159932.13 Level: 42.98		Date 16/06/2025	
Location: Bradford on Avon, Wiltshire						Dimensions (m): 2.10 0.65		Scale 1:20	
Client: Waddeton Park Ltd						Depth 2.20		Logged SK	
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
				0.25	42.73		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.		
	0.50	JG						Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets. Gravel is fine to coarse subangular limestone.	
	0.80	JP		0.70	42.28		Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.		
	1.30	JP		1.20	41.78		Stiff, light brown and light greyish brown occasionally orangish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.		
	1.30 1.40	PP PP	PP=140 PP=150						
	1.60	JP		1.50	41.48		Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium occasionally coarse subangular fossiliferous limestone.		
	2.00	JP		1.95	41.03		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.		
	2.00 2.05	PP PP	PP=125 PP=100	2.10	40.88		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.		
				2.20	40.78		Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles. End of Pit at 2.20m		
	1								
	2								
	3								
4									
Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.20m due to hard strata at base. Pit backfilled with arisings upon completion.									
Stability: Slight overbreak 0.7-1.2m.									





Trial Pit Log

TrialPit No
TP09
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383545.98 - 159972.88
Level: 40.09

Date
19/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 1.90

Depth
2.00

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.25	39.84		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.	
				0.45	39.64		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets.	
	0.60	JP					Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone. Relic horizontal structure.	
	0.95	PP	PP=210	0.90	39.19		Stiff, light brown and light greyish brown occasionally orangish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.00	PP	PP=125					
	1.05	PP	PP=150	1.10	38.99		Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	
	1.30	JP					Stiff, light greyish brown occasionally light grey, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	1.70	JP		1.60	38.49		Stiff, light greyish brown occasionally light grey, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	1.70	PP	PP=175					
	1.75	PP	PP=150					
	1.80	PP	PP=110					
	1.85	PP	PP=110	1.95	38.14		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.	2
	2.00	JP		2.00	38.09		End of Pit at 2.00m	

Remarks: No groundwater encountered during excavation. Trial pit terminated at 2.00m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.9m.





Trial Pit Log

Trial Pit No
TP10
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383486.14 - 160010.68
Level: 41.77

Date
19/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 2.20
Depth 1.45

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10	41.67		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.
				0.30	41.47		Brown, clayey/silty, sandy GRAVEL, with occasional rootlets. Gravel is fine to medium subangular limestone.
	0.40	JP	PP=225 PP=225	0.55	41.22		Stiff, light brown and light greyish brown occasionally orangish brown, slightly sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.
	0.40	PP					
	0.50	PP					
	0.70	JP		0.80	40.97		Light greyish brown, slightly clayey/silty, slightly sandy GRAVEL, with a low cobble content. Gravel is fine to coarse, gravel and cobbles are subangular fossiliferous limestone.
	0.90	JP		1.10	40.67		Stiff, light greyish brown occasionally light grey, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.
	1.20	PP	PP=110	1.40	40.37		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles. End of Pit at 1.45m
	1.25	PP	PP=125	1.45	40.32		
	1.30	JP					
	1.30	PP	PP=165				

Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.45m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Stable.





Trial Pit Log

Trial Pit No
TP11
Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383471.19 - 159896.16
Level: 40.60

Date
19/06/2025

Location: Bradford on Avon, Wiltshire

Dimensions (m): 2.20

Depth
1.80

0.65

Scale
1:20

Logged
SK

Client: Waddeton Park Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10			0.10	40.50		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.	
	0.30			0.30	40.30		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets.	
	0.60	JP					Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
	0.75	JP		0.70	39.90		Stiff, light brown and light greyish brown occasionally orangish brown, sandy, slightly gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone. Numerous coarse sand sized fossil fragments.	
	0.80	PP	PP=225					
	0.85	PP	PP=225					
	0.90	JP		0.95	39.65		Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.30	JP						
	1.60	JP		1.55	39.05		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	1.60	PP	PP=100					
	1.65	PP	PP=175					
	1.80	JP		1.75	38.85		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.	2
				1.80	38.80		End of Pit at 1.80m	

Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.80m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Slight overbreak 0.7m.



				Trial Pit Log			TrialPit No TP12 Sheet 1 of 1		
Project Name: Land off Trowbridge Road				Project No. GCE01390		Co-ords: 383406.64 - 159856.49 Level: 41.26		Date 19/06/2025	
Location: Bradford on Avon, Wiltshire						Dimensions (m): 2.10 0.65		Scale 1:20	
Client: Waddeton Park Ltd						Depth 1.90		Logged SK	

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10	41.16		Grass over brown slightly sandy slightly gravelly silty clay, with numerous rootlets.	
				0.25	41.01		Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets.	
	0.50	JP					Brown and light grey, slightly clayey/silty, slightly sandy, GRAVEL & COBBLES. Gravel is fine to coarse, gravel and cobbles are subangular limestone.	
	0.85	HSV	HSV=118kPa	0.65	40.61		Stiff, light brown and light greyish brown occasionally orangish brown, sandy, slightly gravelly locally gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone. Numerous coarse sand sized fossil fragments.	
	0.90	JP						
	0.90	HSV	HSV=120kPa	1.00	40.26		Light greyish brown, clayey/silty, sandy GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	1
	1.20	JP						
	1.50	JP						
	1.55			1.55	39.71		Stiff, light greyish brown, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
	1.70	JP						
	1.70	PP	PP=105					
	1.75	PP	PP=105					
	1.85			1.85	39.41			
	1.90	JP		1.90	39.36		Medium strong, light greyish brown, LIMESTONE. Horizontal bed. Hard strata. Recovered as slightly clayey/silty, slightly sandy, gravel & cobbles.	2
							End of Pit at 1.90m	
								3
								4

Remarks: No groundwater encountered during excavation. Trial pit terminated at 1.90m due to hard strata at base. Pit backfilled with arisings upon completion.

Stability: Slight overbreak to 0.65m.



GCE01390/R2



Appendix D – Infiltration Testing Records

Soakaway Test:

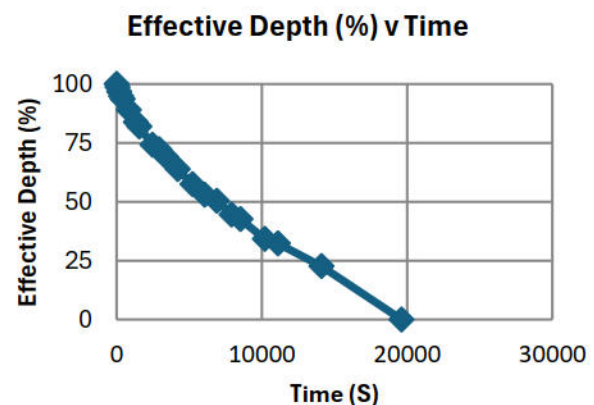
Trial Pit.	TP01
Test No.	1

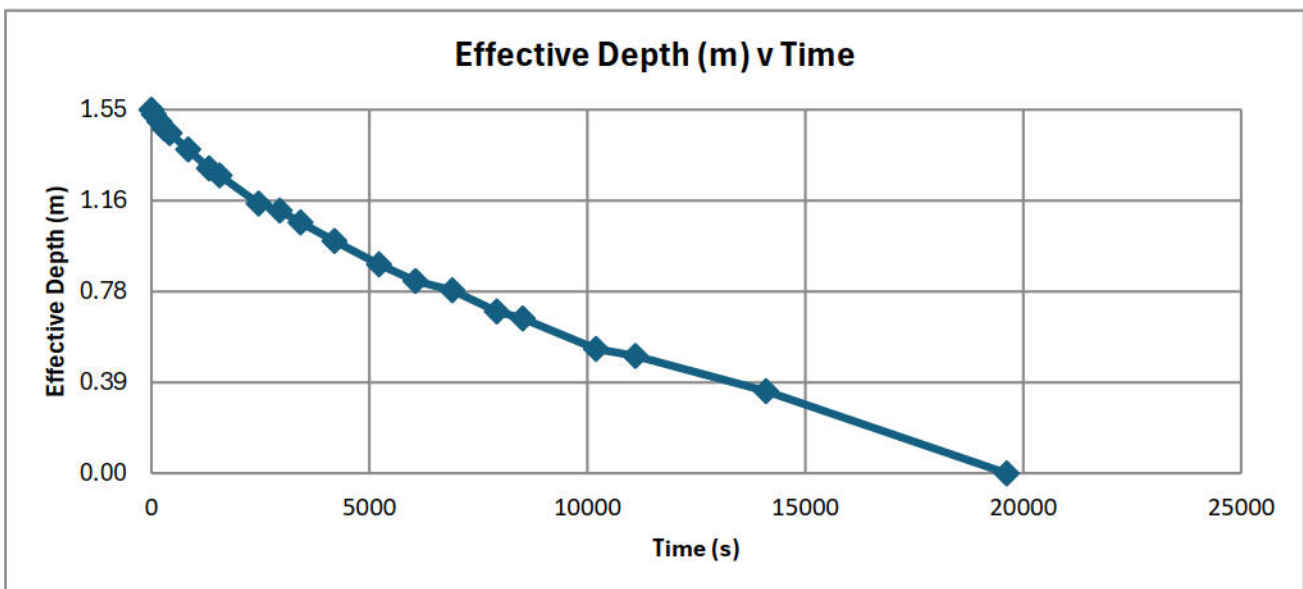
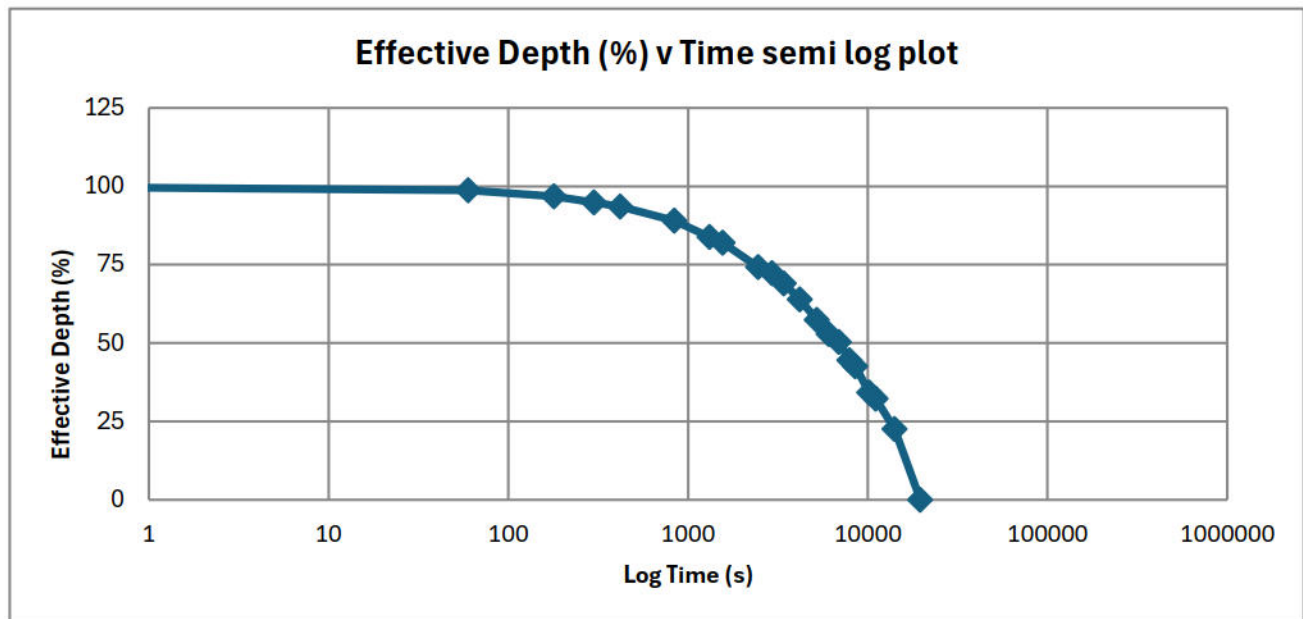
Dimensions:

Length	2.70	m
Width	0.65	m
Depth	2.55	m
Start water depth	1.00	m
Effective Depth	1.55	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
16 June 2025	10:28:00	0	1.00	1.55	100
16 June 2025	10:29:00	60	1.02	1.53	99
16 June 2025	10:31:00	180	1.05	1.50	97
16 June 2025	10:33:00	300	1.08	1.47	95
16 June 2025	10:35:00	420	1.10	1.45	94
16 June 2025	10:42:00	840	1.17	1.38	89
16 June 2025	10:50:00	1320	1.25	1.30	84
16 June 2025	10:54:00	1560	1.28	1.27	82
16 June 2025	11:09:00	2460	1.40	1.15	74
16 June 2025	11:17:00	2940	1.43	1.12	72
16 June 2025	11:25:00	3420	1.48	1.07	69
16 June 2025	11:38:00	4200	1.56	0.99	64
16 June 2025	11:55:00	5220	1.66	0.89	57
16 June 2025	12:09:00	6060	1.73	0.82	53
16 June 2025	12:23:00	6900	1.77	0.78	50
16 June 2025	12:40:00	7920	1.86	0.69	45
16 June 2025	12:50:00	8520	1.89	0.66	43
16 June 2025	13:18:00	10200	2.02	0.53	34
16 June 2025	13:33:00	11100	2.05	0.50	32
16 June 2025	14:23:00	14100	2.20	0.35	23
16 June 2025	15:55:00	19620	2.55	0.00	0
			Dry		

Effective Depth %	Depth (m)	Time (s)
75	1.1625	2350
25	0.3875	13400
	Vp75-25	tp75-25
Sum	1.360125	11050
Base	1.755	m ²
Side long	2.0925	m
Side short	0.50375	m
ap50	6.9475	m ²
Soil Infiltration Rate	1.77E-05	m/s





Soakaway Test:

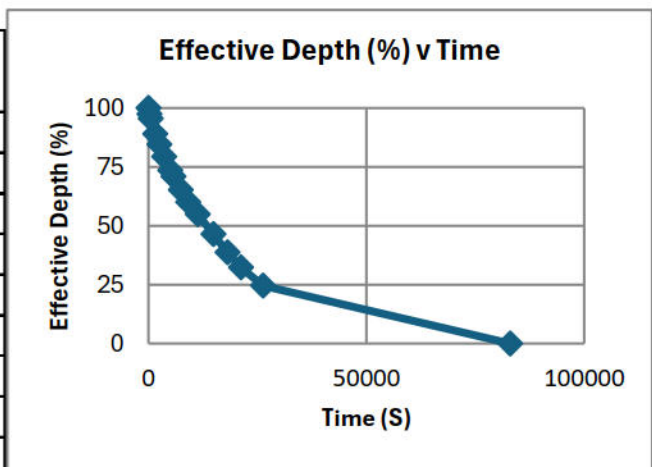
Trial Pit.	TP01
Test No.	2

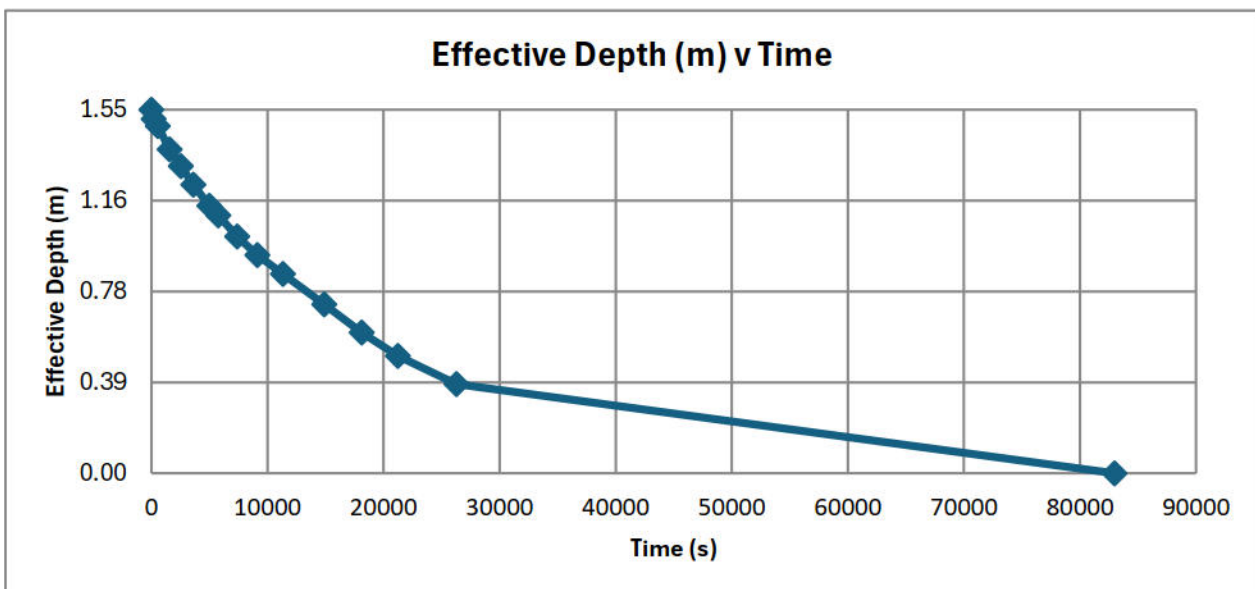
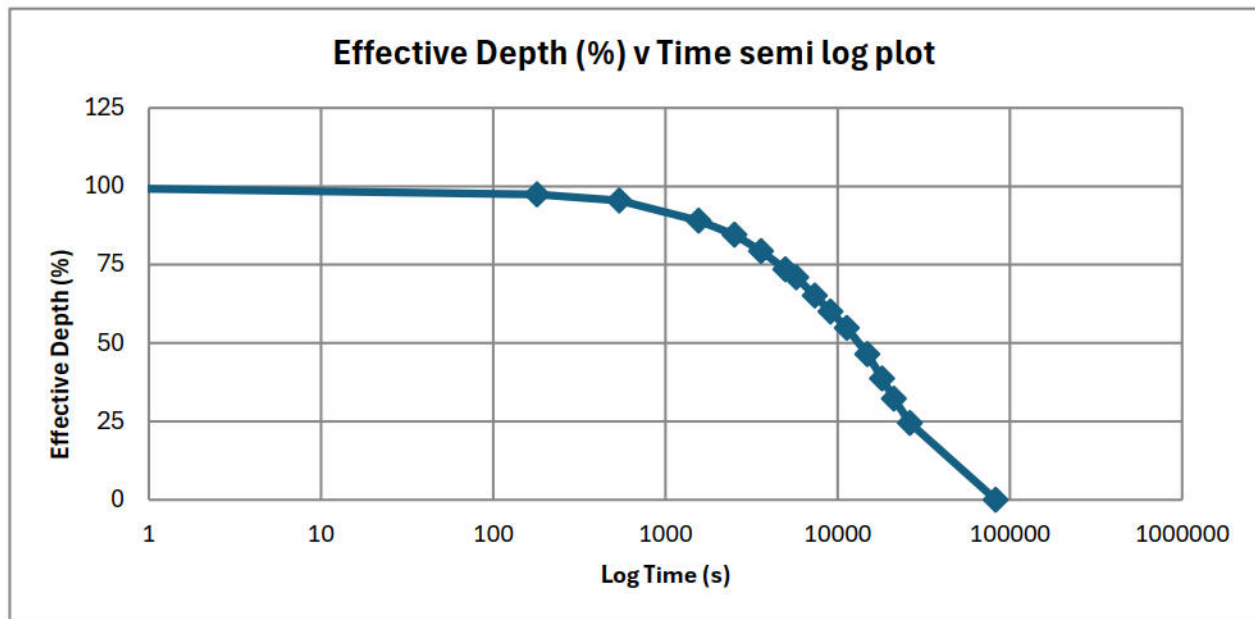
Dimensions:

Length	2.70	m
Width	0.65	m
Depth	2.55	m
Start water depth	1.00	m
Effective Depth	1.55	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
17 June 2025	09:02:00	0	1.00	1.55	100
17 June 2025	09:05:00	180	1.04	1.51	97
17 June 2025	09:11:00	540	1.07	1.48	95
17 June 2025	09:28:00	1560	1.17	1.38	89
17 June 2025	09:44:00	2520	1.24	1.31	85
17 June 2025	10:02:00	3600	1.32	1.23	79
17 June 2025	10:25:00	4980	1.41	1.14	74
17 June 2025	10:38:00	5760	1.45	1.10	71
17 June 2025	11:05:00	7380	1.54	1.01	65
17 June 2025	11:34:00	9120	1.62	0.93	60
17 June 2025	12:11:00	11340	1.70	0.85	55
17 June 2025	13:10:00	14880	1.83	0.72	46
17 June 2025	14:04:00	18120	1.95	0.60	39
17 June 2025	14:56:00	21240	2.05	0.50	32
17 June 2025	16:20:00	26280	2.17	0.38	25
18 June 2025	08:05:00	82980	2.55	0.00	0
			Dry		

Effective Depth %	Depth (m)	Time (s)
75	1.1625	4600
25	0.3875	26280
	Vp75-25	tp75-25
Sum	1.360125	21680
Base	1.755	m2
Side long	2.0925	m
Side short	0.50375	m
ap50	6.9475	m2
Soil Infiltration Rate	9.03E-06	m/s





Soakaway Test:

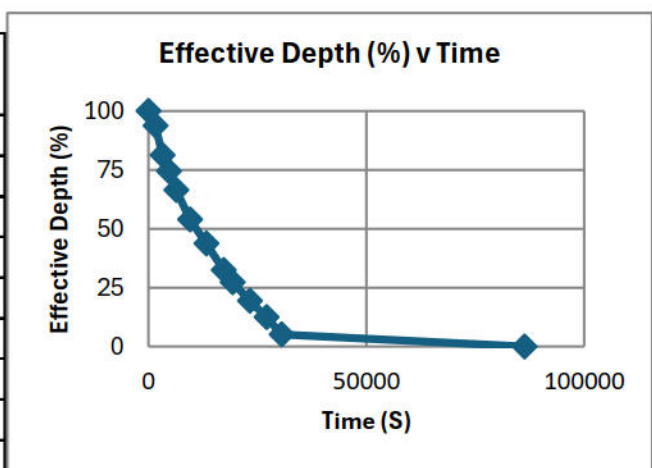
Trial Pit.	TP01
Test No.	3

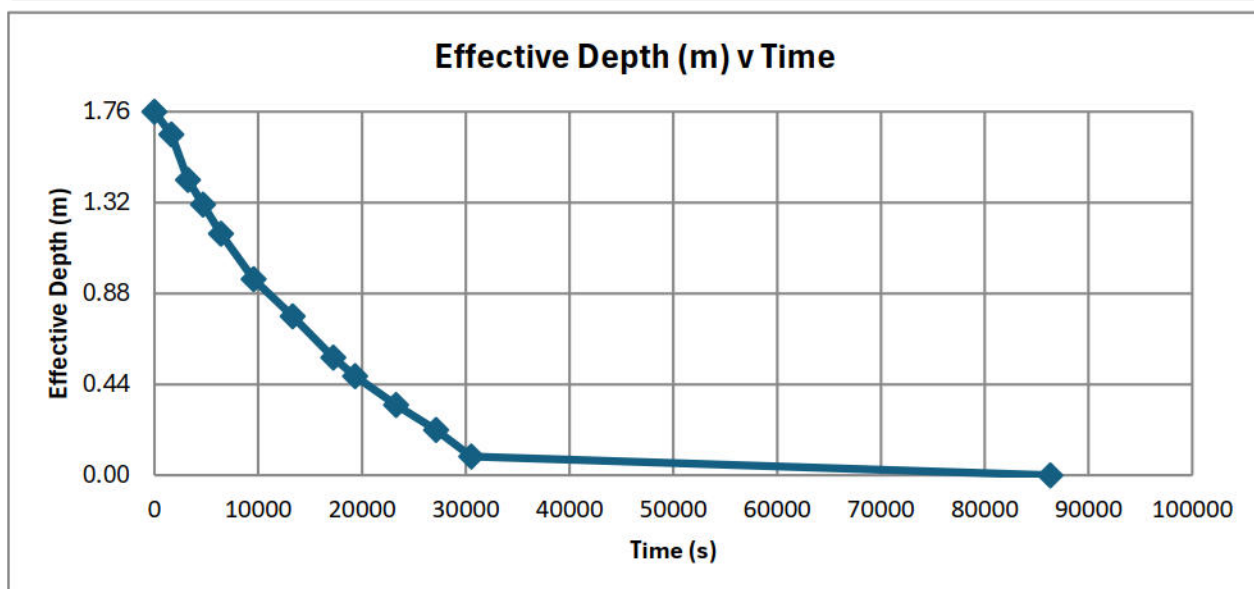
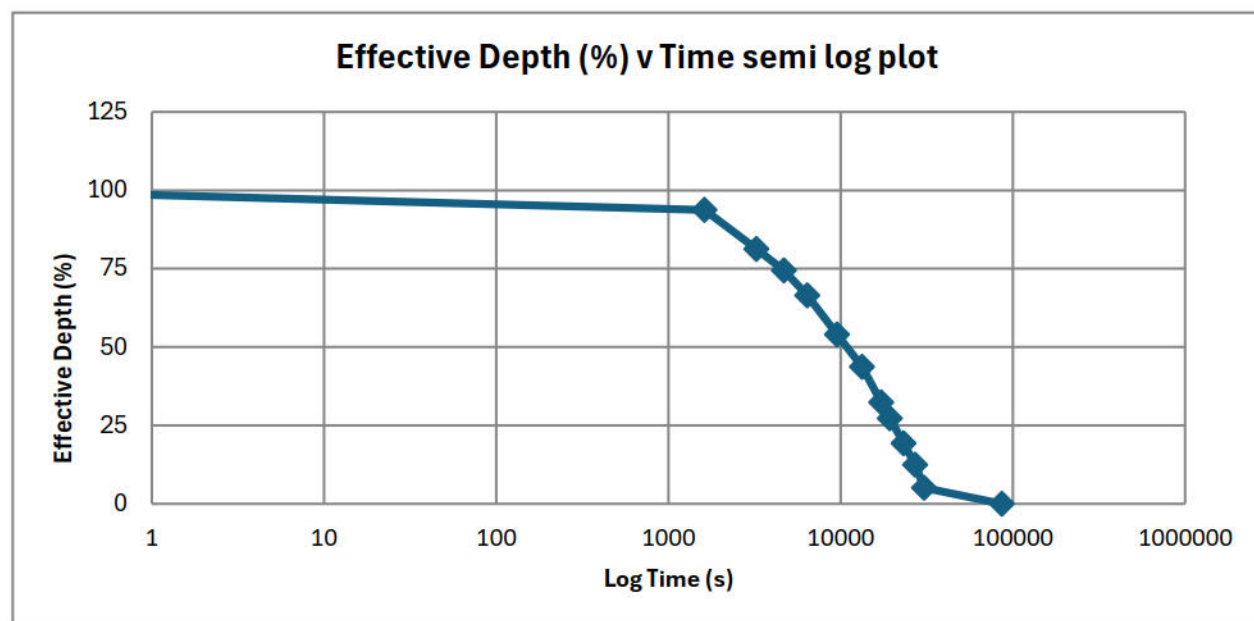
Dimensions:

Length	2.70	m
Width	0.65	m
Depth	2.55	m
Start water depth	0.79	m
Effective Depth	1.76	m

[illegible]

	Depth (m)	Time (s)
Effective Depth %		
75	1.32	4500
25	0.44	20500
	Vp75-25	tp75-25
Sum	1.5444	16000
Base	1.755	m2
Side long	2.376	m
Side short	0.572	m
ap50	7.651	m2
Soil Infiltration Rate	1.26E-05	m/s





Soakaway Test:

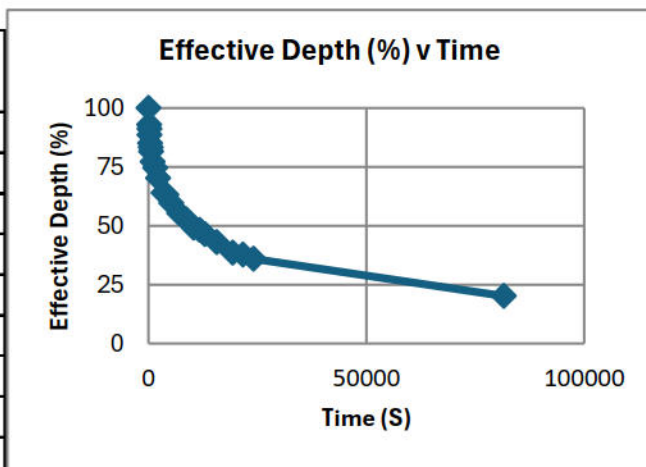
Trial Pit.	TP02
Test No.	1

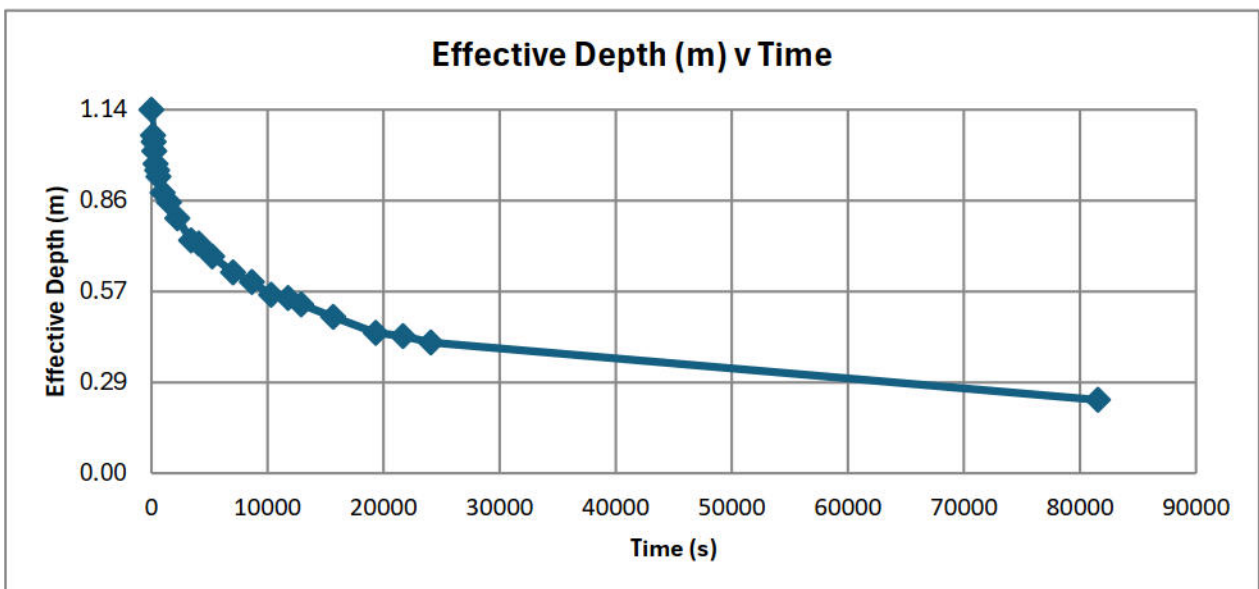
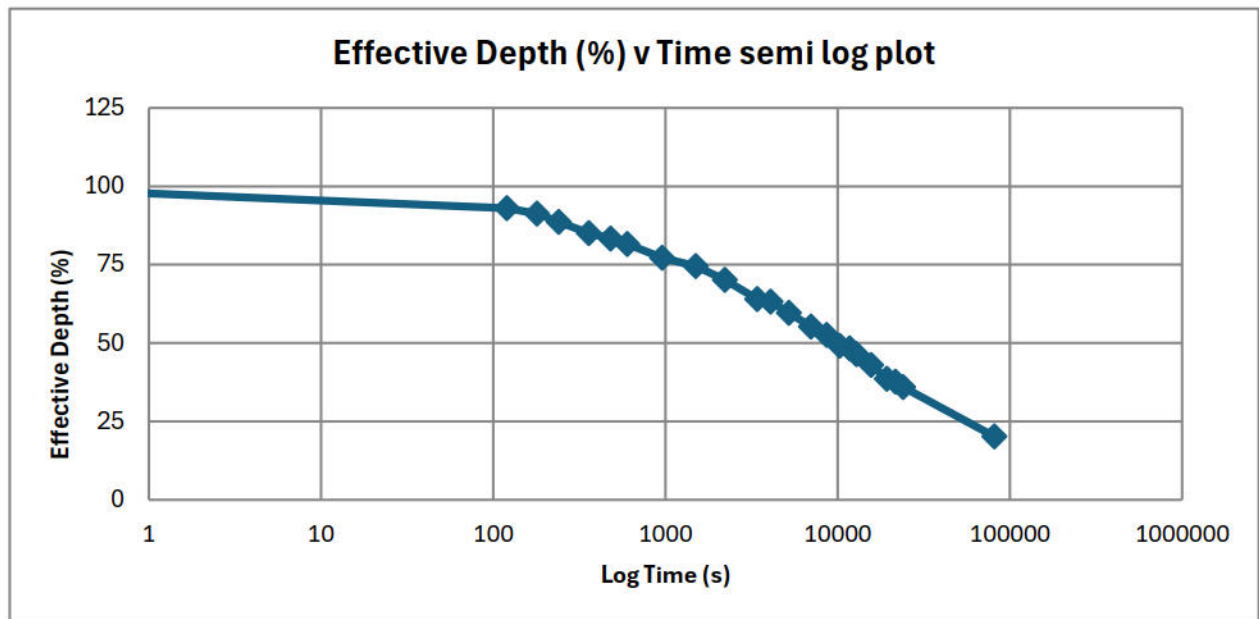
Dimensions:

Length	3.00	m
Width	0.65	m
Depth	2.15	m
Start water depth	1.01	m
Effective Depth	1.14	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
16 June 2025	10:00:00	0	1.01	1.14	100
16 June 2025	10:02:00	120	1.09	1.06	93
16 June 2025	10:03:00	180	1.11	1.04	91
16 June 2025	10:04:00	240	1.14	1.01	89
16 June 2025	10:06:00	360	1.18	0.97	85
16 June 2025	10:08:00	480	1.20	0.95	83
16 June 2025	10:10:00	600	1.22	0.93	82
16 June 2025	10:16:00	960	1.27	0.88	77
16 June 2025	10:25:00	1500	1.30	0.85	75
16 June 2025	10:37:00	2220	1.35	0.80	70
16 June 2025	10:57:00	3420	1.42	0.73	64
16 June 2025	11:08:00	4080	1.43	0.72	63
16 June 2025	11:27:00	5220	1.47	0.68	60
16 June 2025	11:57:00	7020	1.52	0.63	55
16 June 2025	12:24:00	8640	1.55	0.60	53
16 June 2025	12:52:00	10320	1.59	0.56	49
16 June 2025	13:16:00	11760	1.60	0.55	48
16 June 2025	13:35:00	12900	1.62	0.53	46
16 June 2025	14:21:00	15660	1.66	0.49	43
16 June 2025	15:22:00	19320	1.71	0.44	39
16 June 2025	16:01:00	21660	1.72	0.43	38
16 June 2025	16:41:00	24060	1.74	0.41	36
17 June 2025	08:39:00	81540	1.92	0.23	20

Effective Depth %	Depth (m)	Time (s)
75	0.855	1500
25	0.285	64000
	Vp75-25	tp75-25
Sum	1.1115	62500
Base	1.95	m ²
Side long	1.71	m
Side short	0.3705	m
ap50	6.111	m ²
Soil Infiltration Rate	2.91E-06	m/s





Soakaway Test:

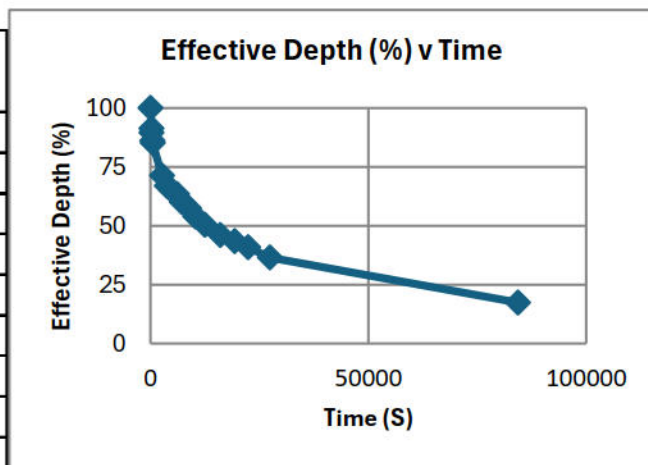
Trial Pit.	TP02
Test No.	2

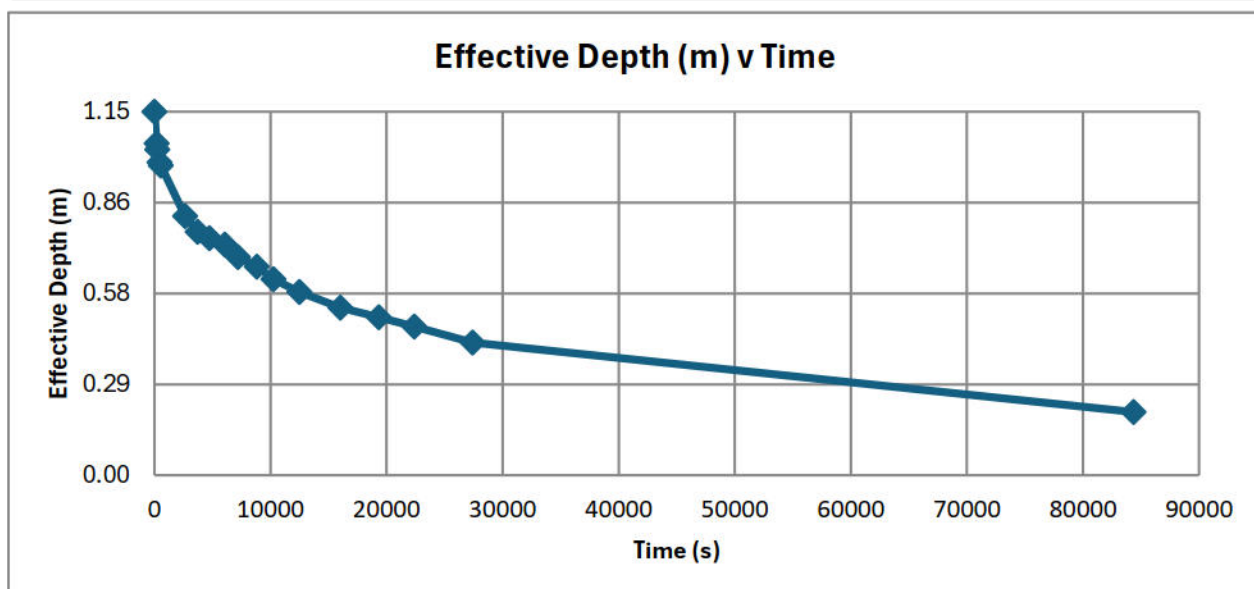
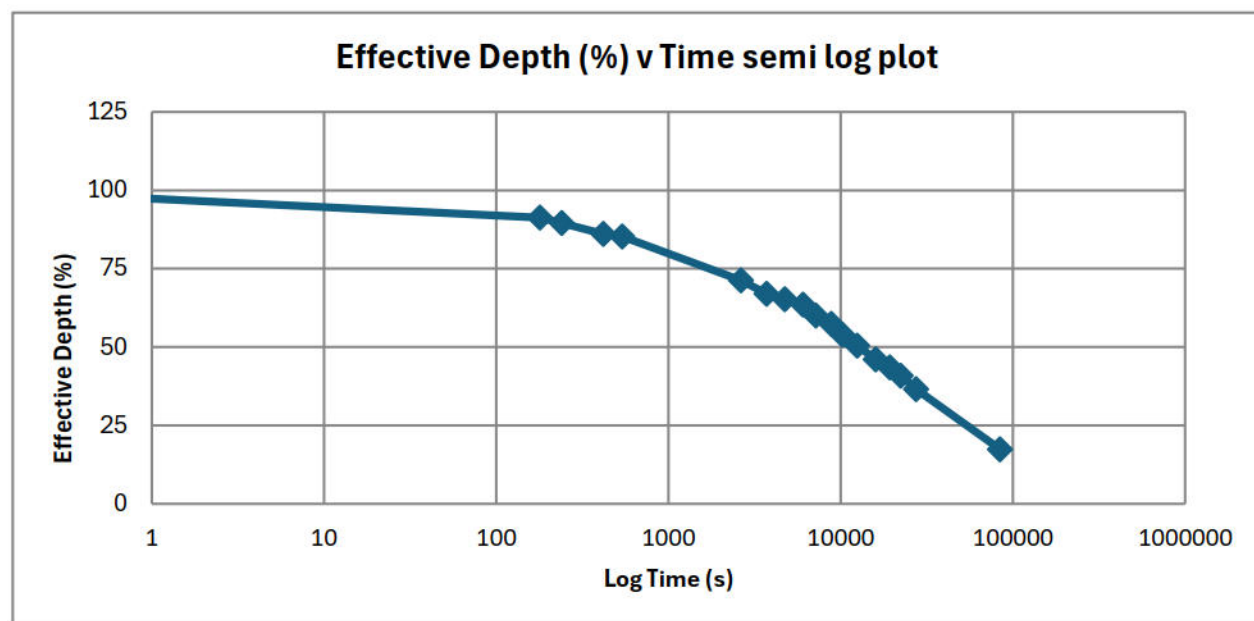
Dimensions:

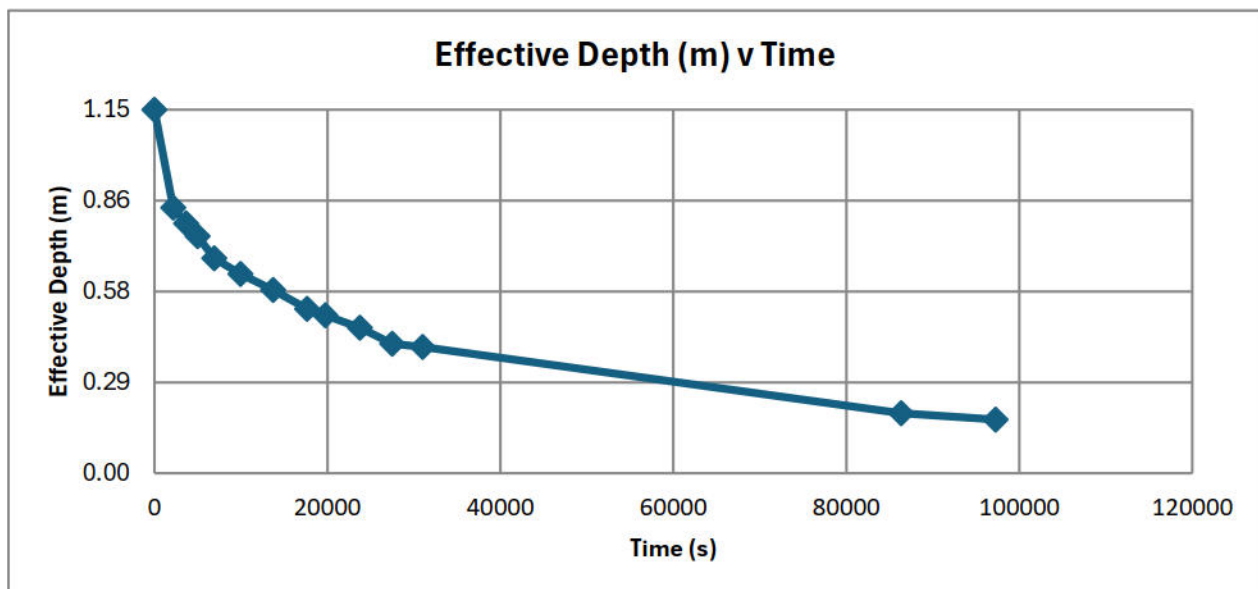
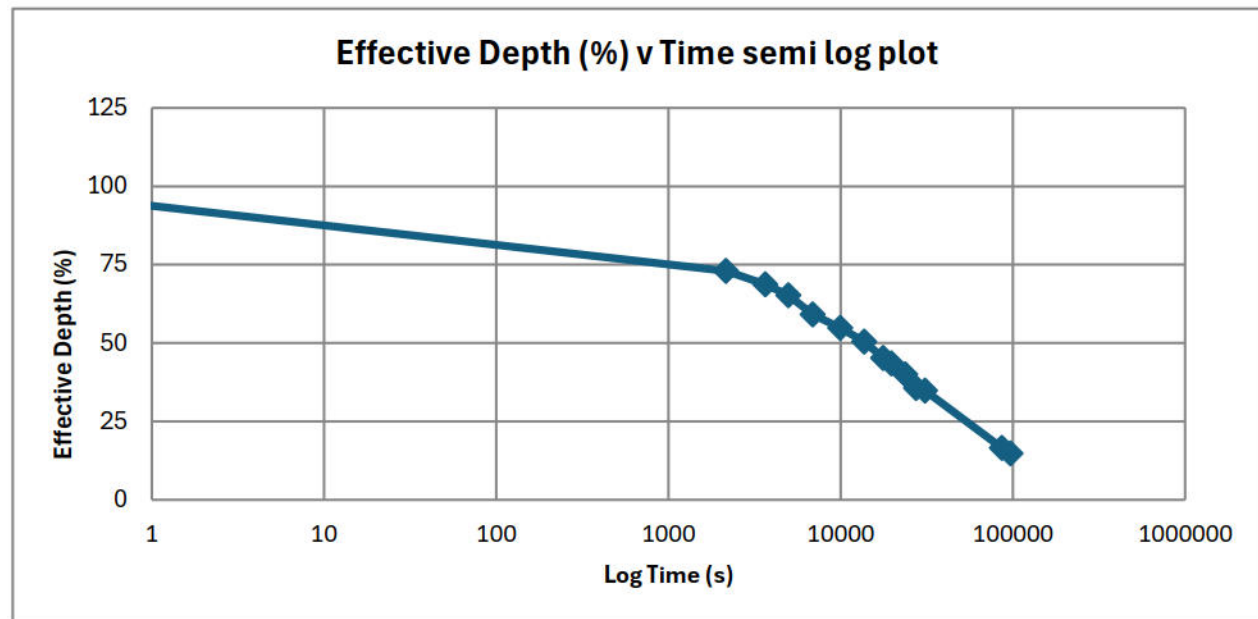
Length	3.00	m
Width	0.65	m
Depth	2.15	m
Start water depth	1.00	m
Effective Depth	1.15	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
17 June 2025	08:41:00	0	1.00	1.15	100
17 June 2025	08:44:00	180	1.10	1.05	91
17 June 2025	08:45:00	240	1.12	1.03	90
17 June 2025	08:48:00	420	1.16	0.99	86
17 June 2025	08:50:00	540	1.17	0.98	85
17 June 2025	09:25:00	2640	1.33	0.82	71
17 June 2025	09:43:00	3720	1.38	0.77	67
17 June 2025	10:00:00	4740	1.40	0.75	65
17 June 2025	10:22:00	6060	1.42	0.73	63
17 June 2025	10:41:00	7200	1.46	0.69	60
17 June 2025	11:08:00	8820	1.49	0.66	57
17 June 2025	11:32:00	10260	1.53	0.62	54
17 June 2025	12:09:00	12480	1.57	0.58	50
17 June 2025	13:08:00	16020	1.62	0.53	46
17 June 2025	14:03:00	19320	1.65	0.50	43
17 June 2025	14:54:00	22380	1.68	0.47	41
17 June 2025	16:18:00	27420	1.73	0.42	37
18 June 2025	08:07:00	84360	1.95	0.20	17

Effective Depth %	Depth (m)	Time (s)
75	0.8625	2050
25	0.2875	62000
	Vp75-25	tp75-25
Sum	1.12125	59950
Base	1.95	m2
Side long	1.725	m
Side short	0.37375	m
ap50	6.1475	m2
Soil Infiltration Rate	3.04E-06	m/s







Soakaway Test:

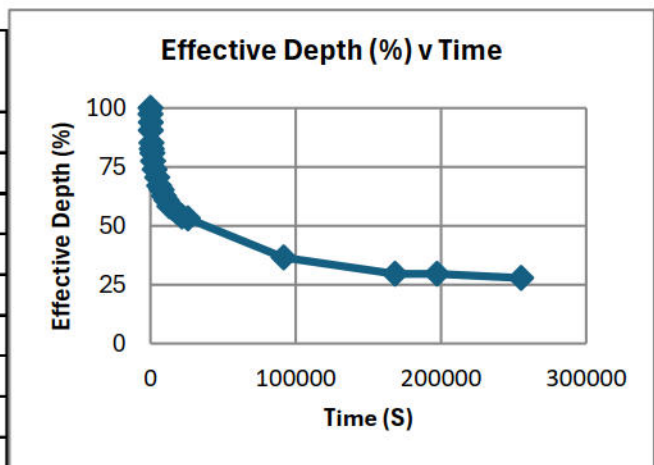
Trial Pit.	TP03
Test No.	1

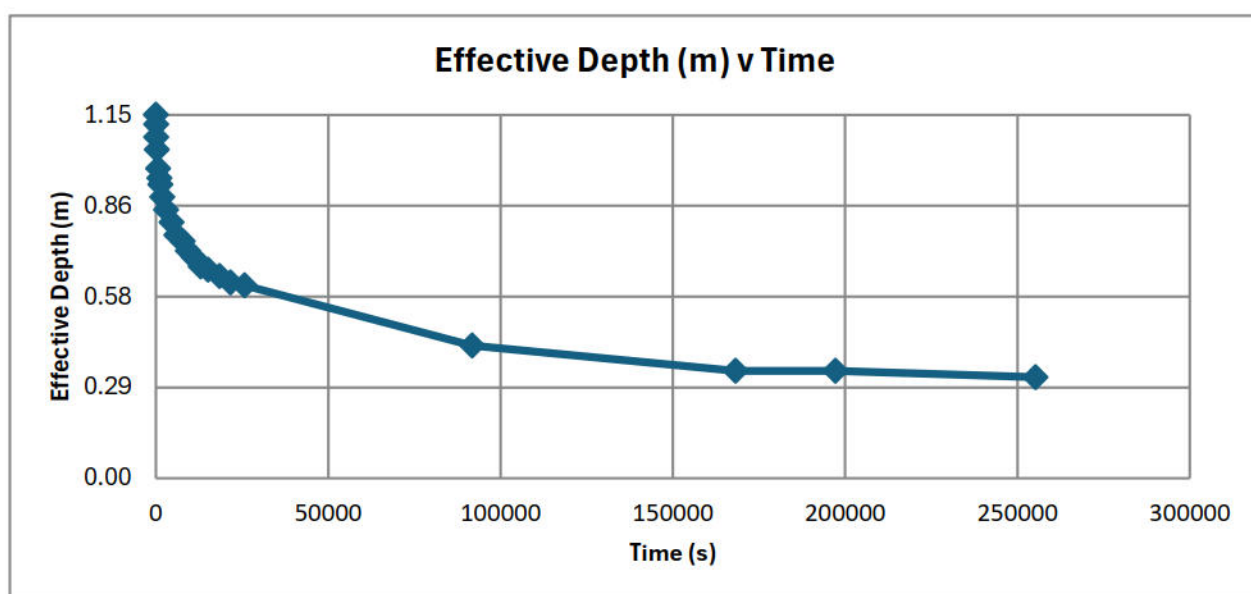
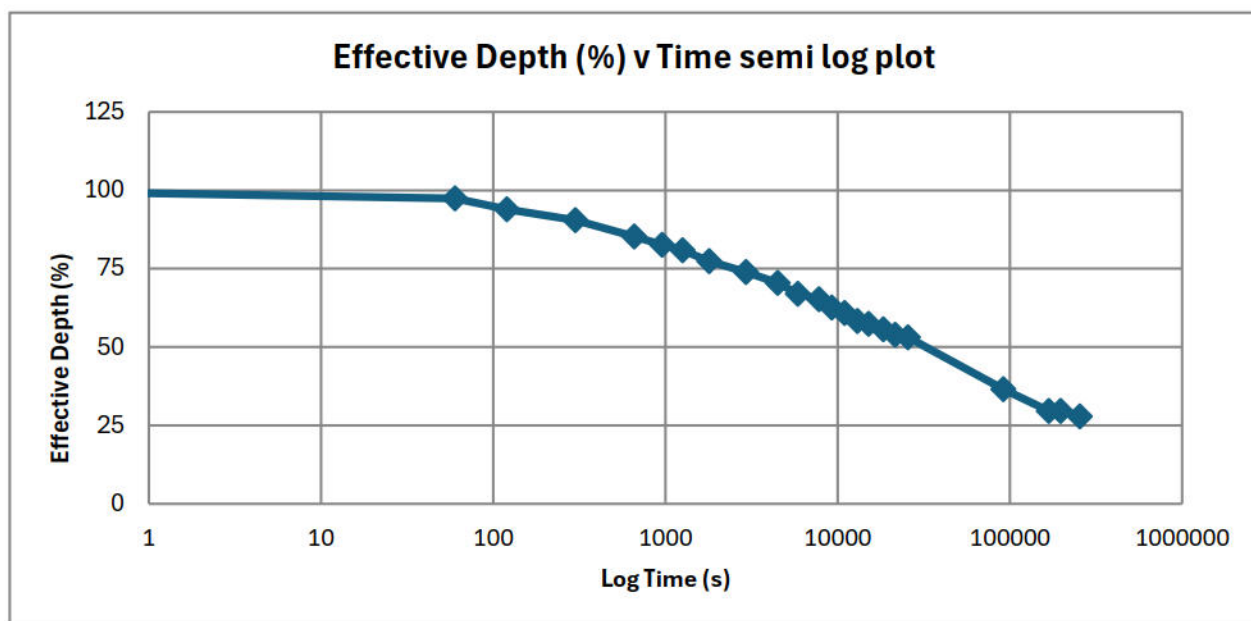
Dimensions:

Length	2.60	m
Width	0.65	m
Depth	2.15	m
Start water depth	1.00	m
Effective Depth	1.15	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
16 June 2025	09:25:00	0	1.00	1.15	100
16 June 2025	09:26:00	60	1.03	1.12	97
16 June 2025	09:27:00	120	1.07	1.08	94
16 June 2025	09:30:00	300	1.11	1.04	90
16 June 2025	09:36:00	660	1.17	0.98	85
16 June 2025	09:41:00	960	1.20	0.95	83
16 June 2025	09:46:00	1260	1.22	0.93	81
16 June 2025	09:55:00	1800	1.26	0.89	77
16 June 2025	10:14:00	2940	1.30	0.85	74
16 June 2025	10:40:00	4500	1.34	0.81	70
16 June 2025	11:03:00	5880	1.38	0.77	67
16 June 2025	11:35:00	7800	1.40	0.75	65
16 June 2025	11:59:00	9240	1.43	0.72	63
16 June 2025	12:28:00	10980	1.45	0.70	61
16 June 2025	13:02:00	13020	1.48	0.67	58
16 June 2025	13:37:00	15120	1.49	0.66	57
16 June 2025	14:33:00	18480	1.51	0.64	56
16 June 2025	15:25:00	21600	1.53	0.62	54
16 June 2025	16:33:00	25680	1.54	0.61	53
17 June 2025	10:54:00	91740	1.73	0.42	37
18 June 2025	08:09:00	168240	1.81	0.34	30
18 June 2025	16:11:00	197160	1.81	0.34	30
19 June 2025	08:19:00	255240	1.83	0.32	28

Effective Depth %	Depth (m)	Time (s)
75	0.8625	2550
25	0.2875	-
	Vp75-25	tp75-25
Sum	0.97175	-
Base	1.69	m ²
Side long	1.495	m
Side short	0.37375	m
ap50	5.4275	m ²
Soil Infiltration Rate	-	m/s





Soakaway Test:

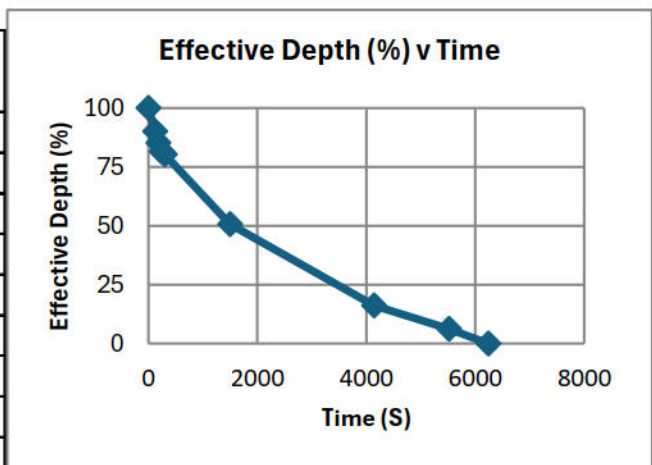
Trial Pit.	TP03B
Test No.	1

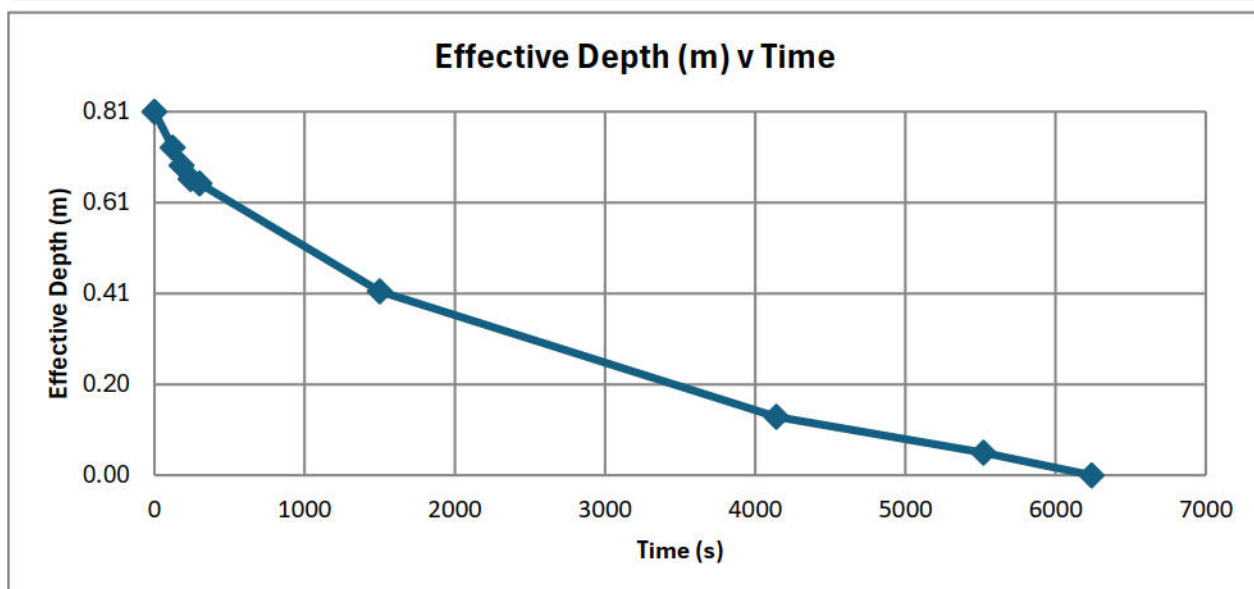
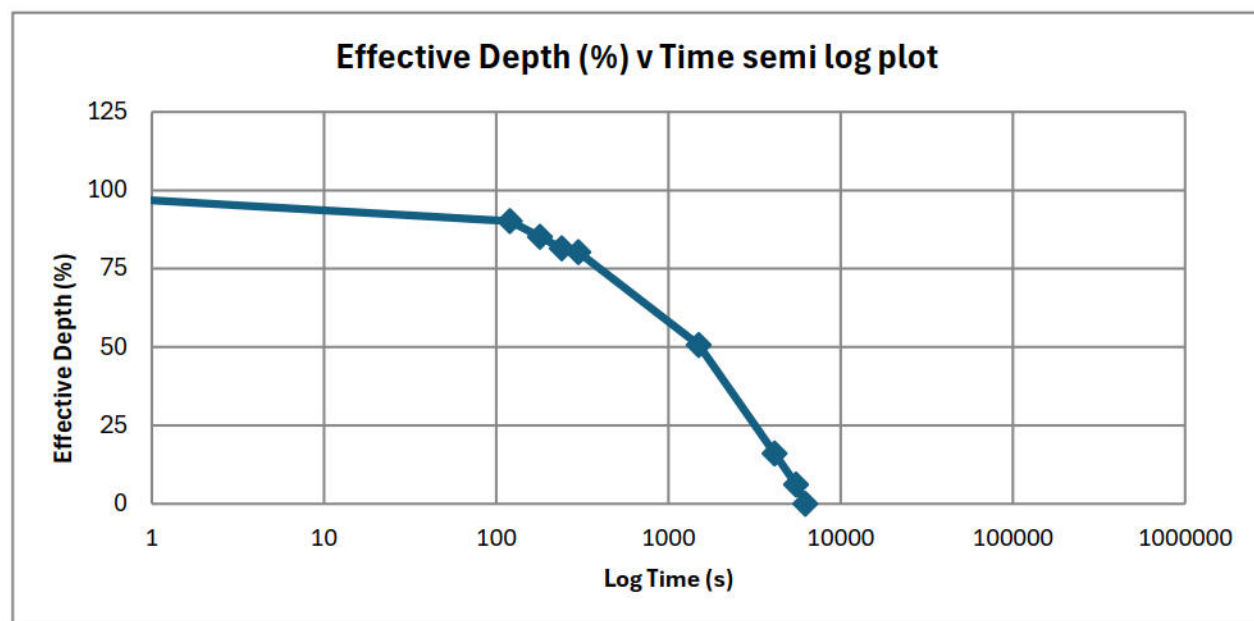
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.15	m
Start water depth	0.34	m
Effective Depth	0.81	m

[illegible]

	Depth (m)	Time (s)
Effective Depth %		
75	0.6075	530
25	0.2025	3480
	Vp75-25	tp75-25
Sum	0.4212	2950
Base	1.04	m2
Side long	0.648	m
Side short	0.26325	m
ap50	2.8625	m2
Soil Infiltration Rate	4.99E-05	m/s





Soakaway Test:

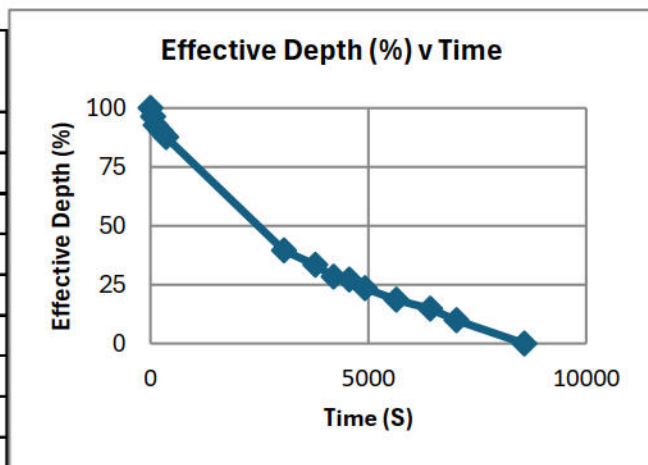
Trial Pit.	TP03B
Test No.	2

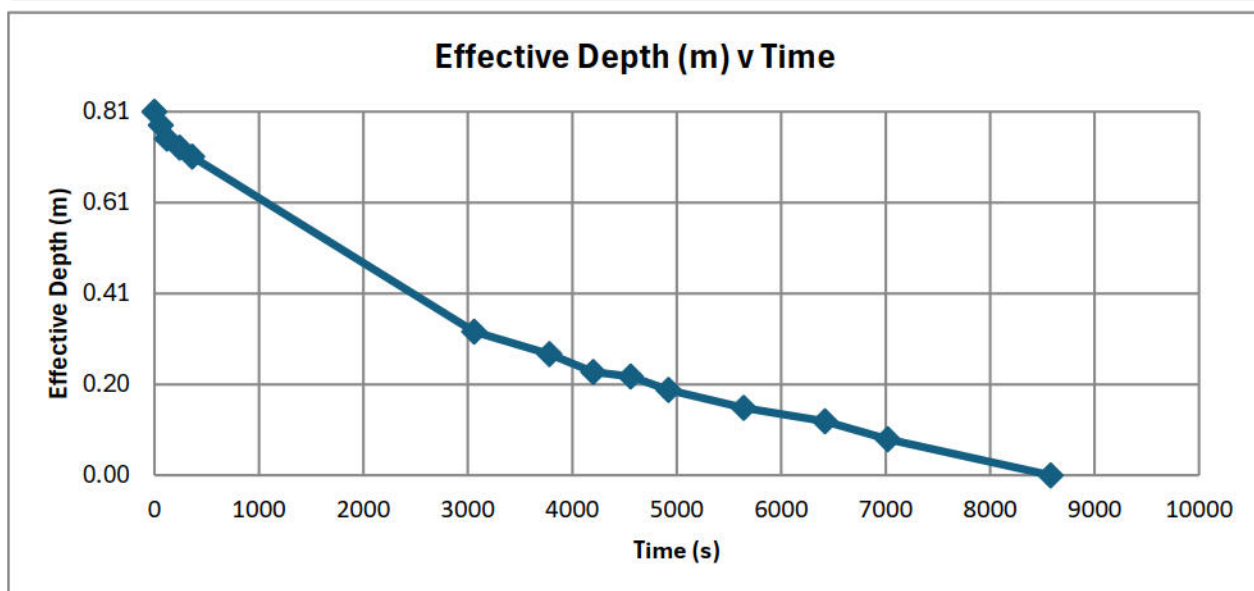
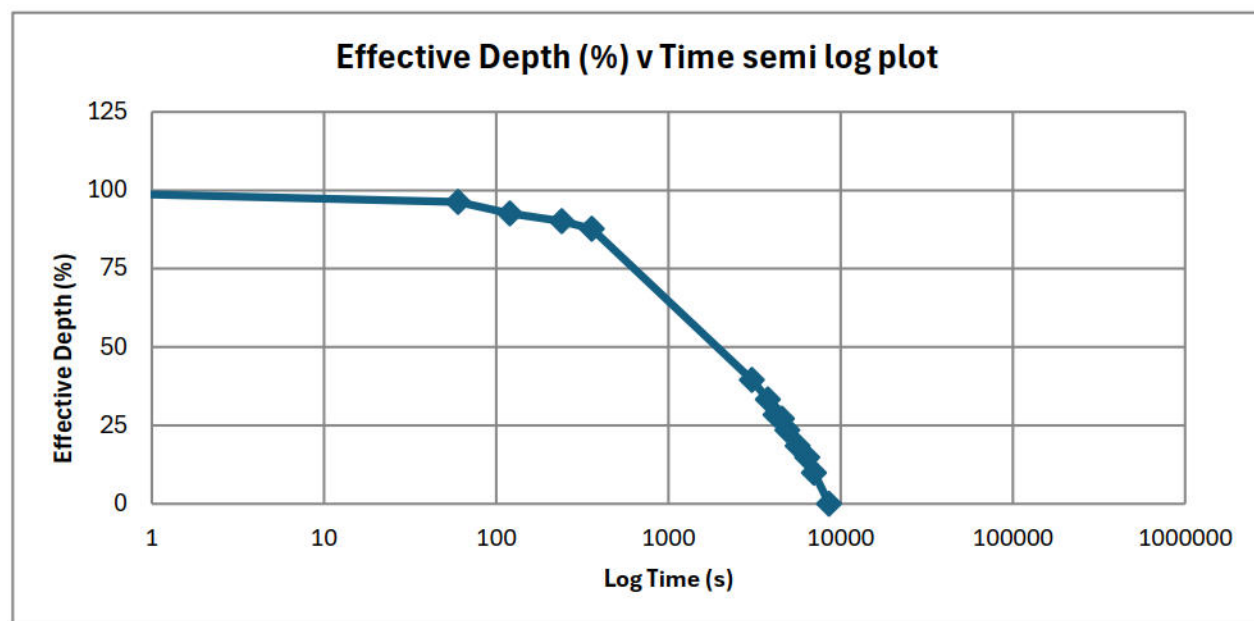
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.15	m
Start water depth	0.34	m
Effective Depth	0.81	m

[illegible]

	Depth (m)	Time (s)
Effective Depth %		
75	0.6075	1070
25	0.2025	4740
	Vp75-25	tp75-25
Sum	0.4212	3670
Base	1.04	m2
Side long	0.648	m
Side short	0.26325	m
ap50	2.8625	m2
Soil Infiltration Rate	4.01E-05	m/s





Soakaway Test:

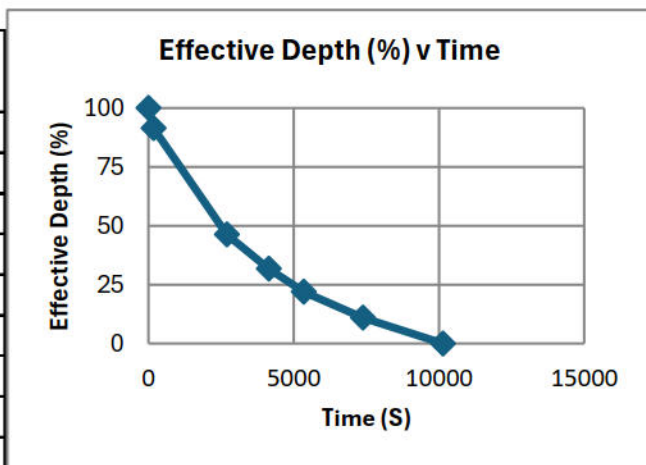
Trial Pit.	TP03B
Test No.	3

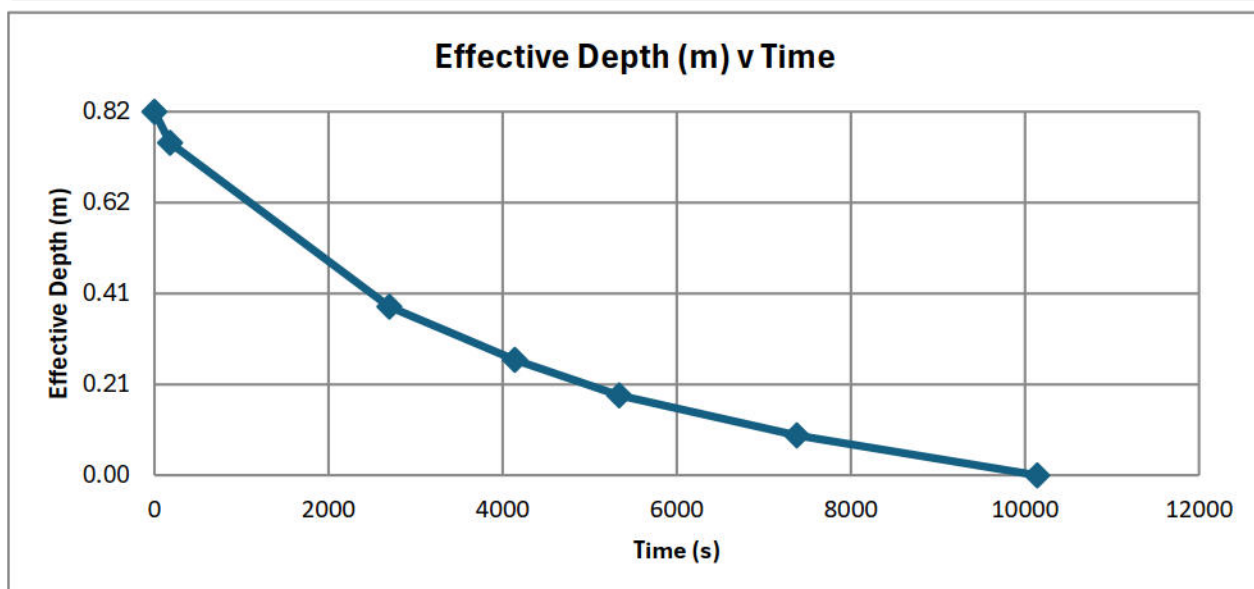
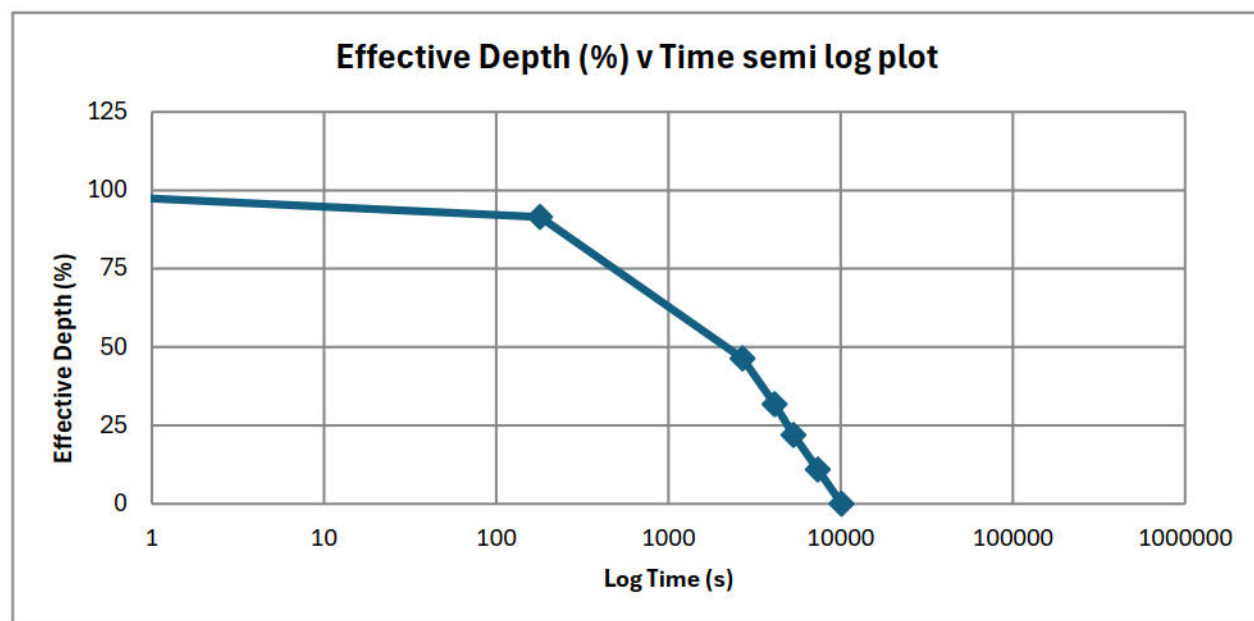
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.15	m
Start water depth	0.33	m
Effective Depth	0.82	m

[illegible]

	Depth	Time
Effective Depth %	(m)	(s)
75	0.615	1100
25	0.205	4950
	Vp75-25	tp75-25
Sum	0.4264	3850
Base	1.04	m2
Side long	0.656	m
Side short	0.2665	m
ap50	2.885	m2
Soil Infiltration Rate	3.84E-05	m/s





Soakaway Test:

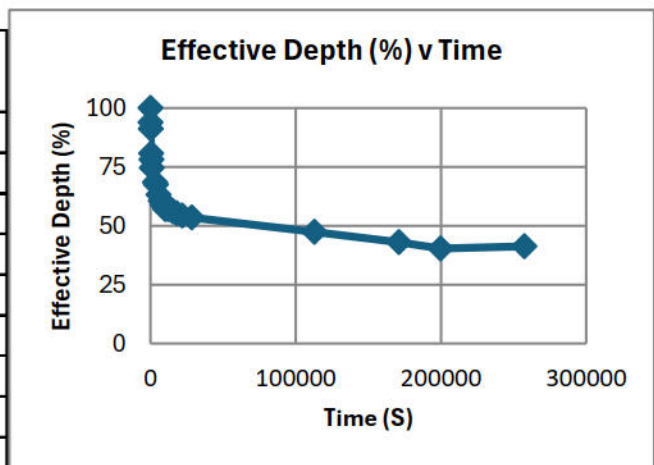
Trial Pit.	TP04
Test No.	1

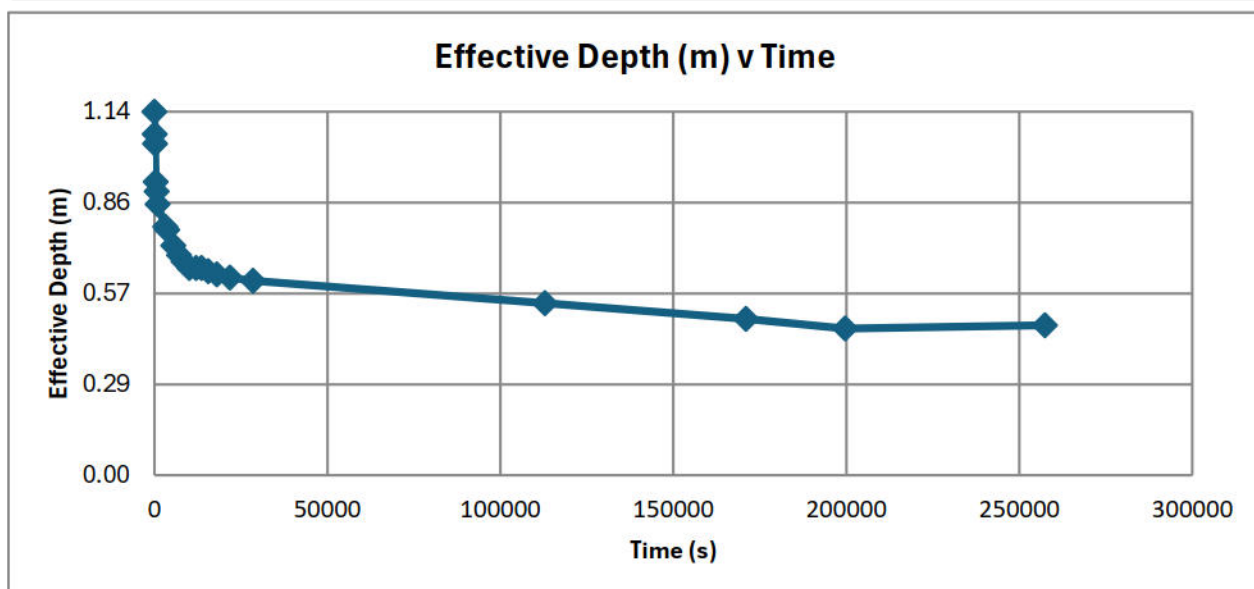
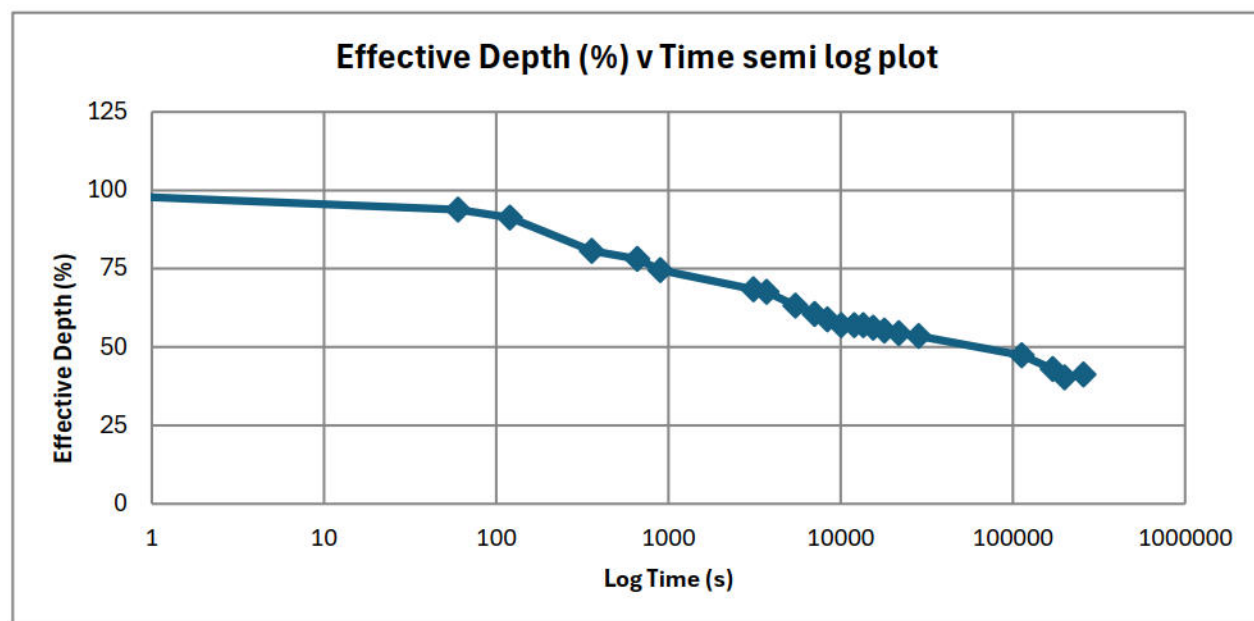
Dimensions:

Length	2.80	m
Width	0.65	m
Depth	2.15	m
Start water depth	1.01	m
Effective Depth	1.14	m

Date	Time		Depth (mBGL)	Head/ Effective Depth (m)	Effective Depth (%)
	Hour	Seconds			
16 June 2025	08:41:00	0	1.01	1.14	100
16 June 2025	08:42:00	60	1.08	1.07	94
16 June 2025	08:43:00	120	1.11	1.04	91
16 June 2025	08:47:00	360	1.23	0.92	81
16 June 2025	08:52:00	660	1.26	0.89	78
16 June 2025	08:56:00	900	1.30	0.85	75
16 June 2025	09:33:00	3120	1.37	0.78	68
16 June 2025	09:43:00	3720	1.38	0.77	68
16 June 2025	10:12:00	5460	1.43	0.72	63
16 June 2025	10:39:00	7080	1.46	0.69	61
16 June 2025	11:01:00	8400	1.48	0.67	59
16 June 2025	11:29:00	10080	1.50	0.65	57
16 June 2025	12:01:00	12000	1.50	0.65	57
16 June 2025	12:27:00	13560	1.50	0.65	57
16 June 2025	12:59:00	15480	1.51	0.64	56
16 June 2025	13:41:00	18000	1.52	0.63	55
16 June 2025	14:44:00	21780	1.53	0.62	54
16 June 2025	16:35:00	28440	1.54	0.61	54
17 June 2025	16:02:00	112860	1.61	0.54	47
18 June 2025	08:11:00	171000	1.66	0.49	43
18 June 2025	16:09:00	199680	1.69	0.46	40
19 June 2025	08:11:00	257400	1.68	0.47	41

Effective Depth %	Depth (m)	Time (s)
75	0.855	900
25	0.285	-
	Vp75-25	tp75-25
Sum	1.0374	-
Base	1.82	m ²
Side long	1.596	m
Side short	0.3705	m
ap50	5.753	m ²
Soil Infiltration Rate	-	m/s





Soakaway Test:

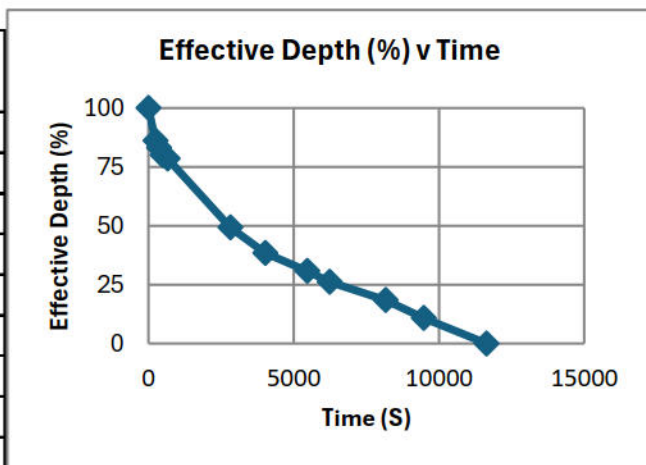
Trial Pit.	TP04B
Test No.	1

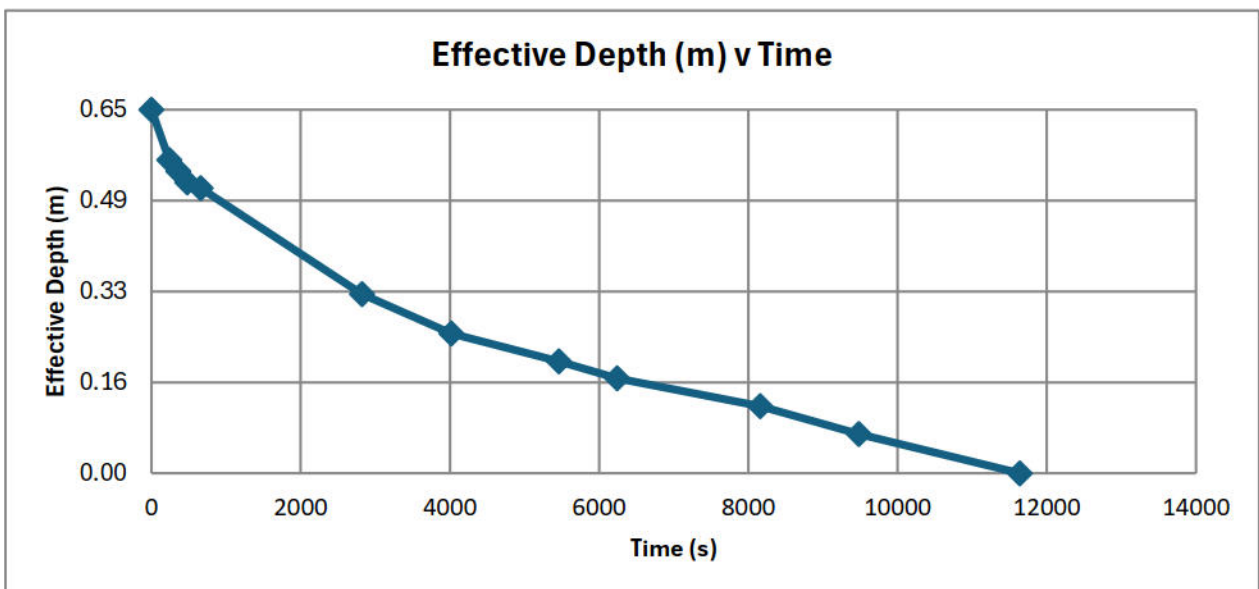
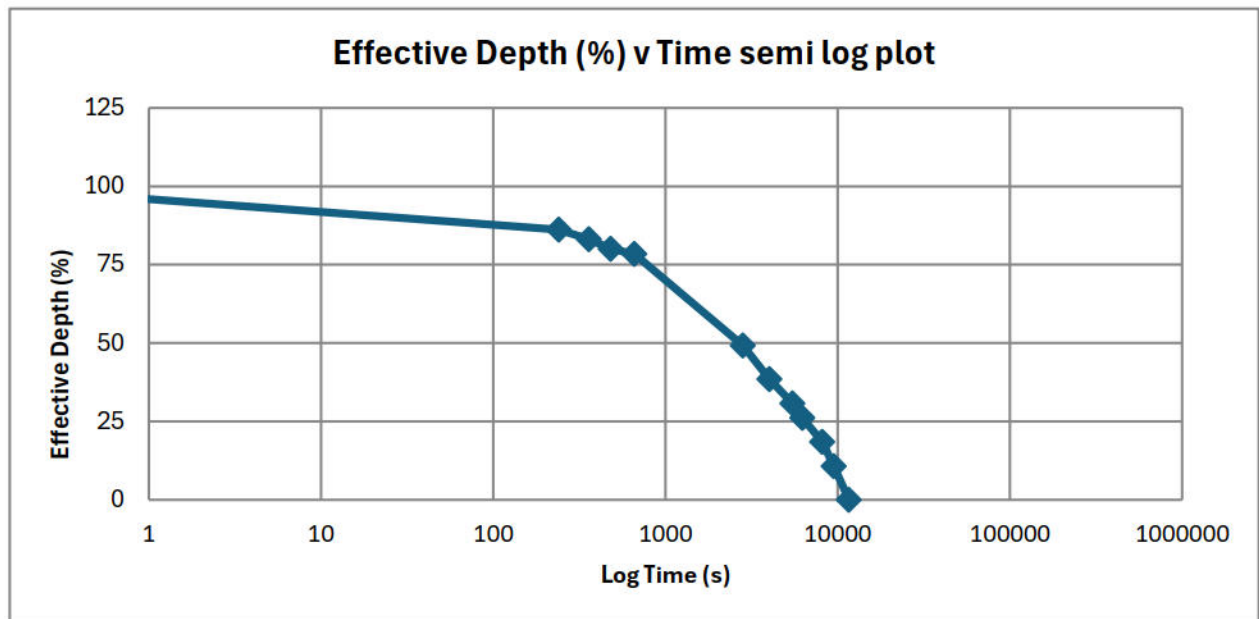
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.00	m
Start water depth	0.35	m
Effective Depth	0.65	m

[illegible]

	Depth (m)	Time (s)
Effective Depth %		
75	0.4875	900
25	0.1625	6500
	Vp75-25	tp75-25
Sum	0.338	5600
Base	1.04	m2
Side long	0.52	m
Side short	0.21125	m
ap50	2.5025	m2
Soil Infiltration Rate	2.41E-05	m/s





Soakaway Test:

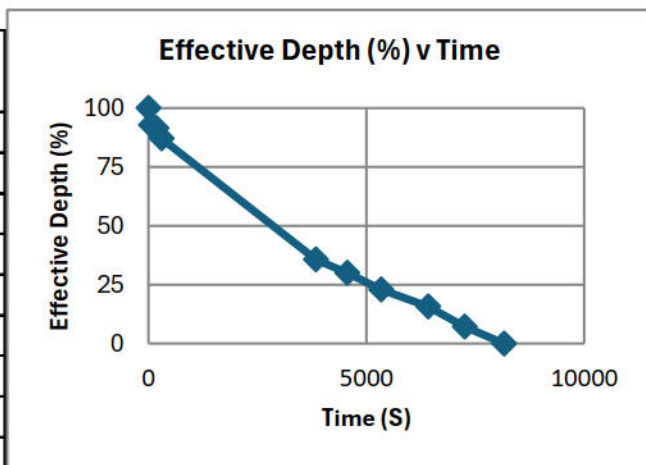
Trial Pit.	TP04B
Test No.	2

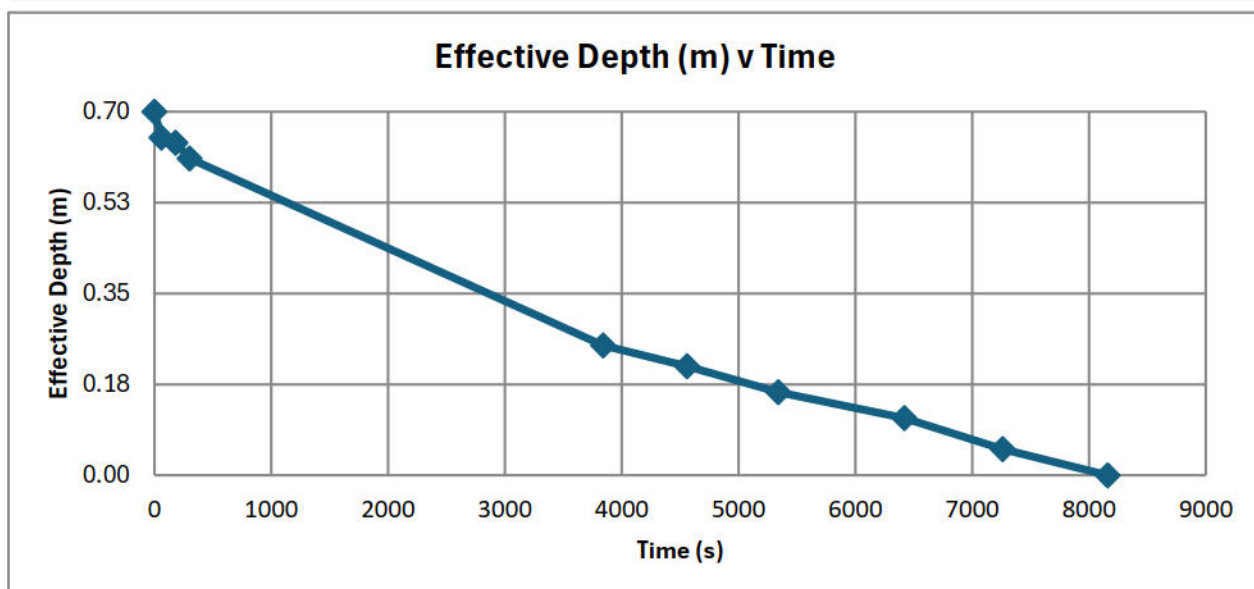
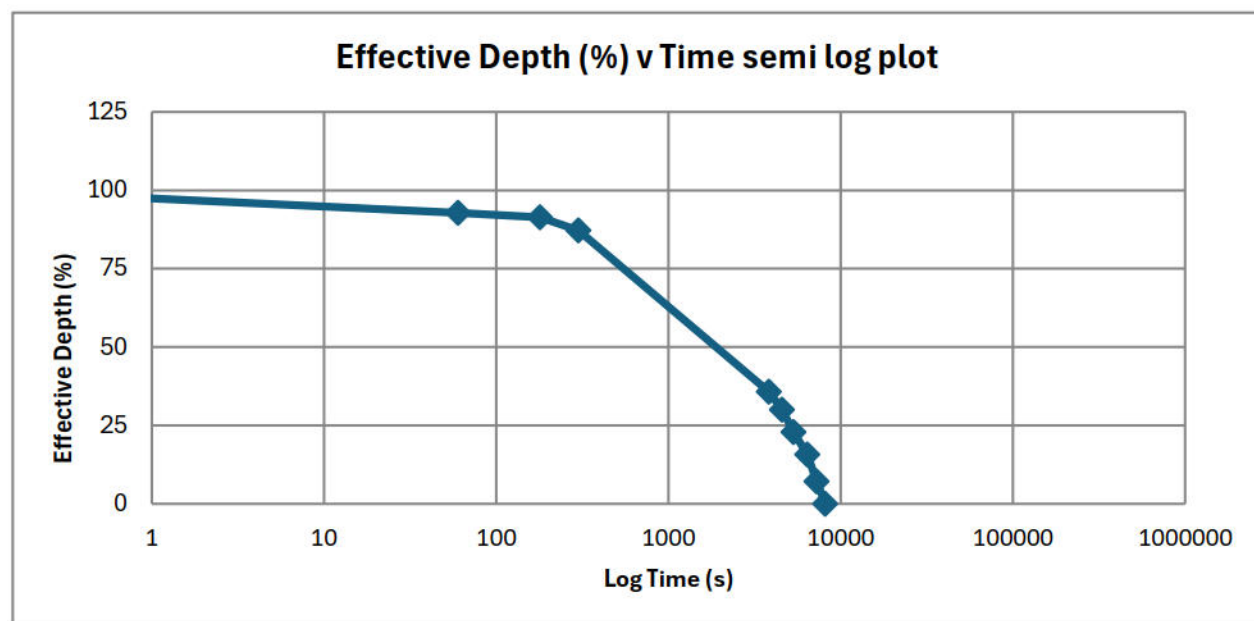
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.00	m
Start water depth	0.30	m
Effective Depth	0.70	m

[illegible]

	Depth	Time
Effective Depth %	(m)	(s)
75	0.525	1150
25	0.175	5100
	Vp75-25	tp75-25
Sum	0.364	3950
Base	1.04	m2
Side long	0.56	m
Side short	0.2275	m
ap50	2.615	m2
Soil Infiltration Rate	3.52E-05	m/s





Soakaway Test:

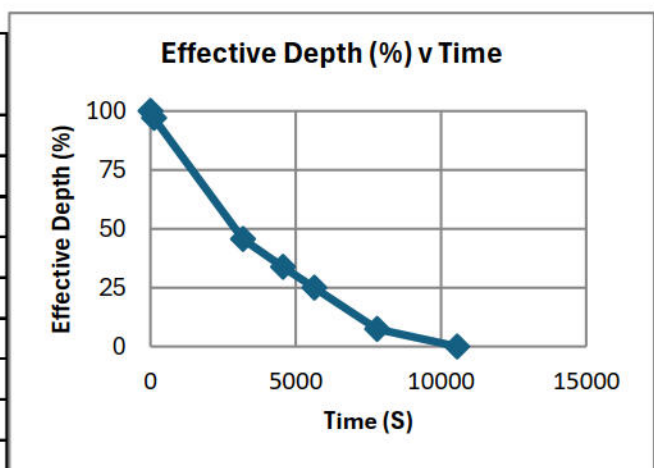
Trial Pit.	TP04B
Test No.	3

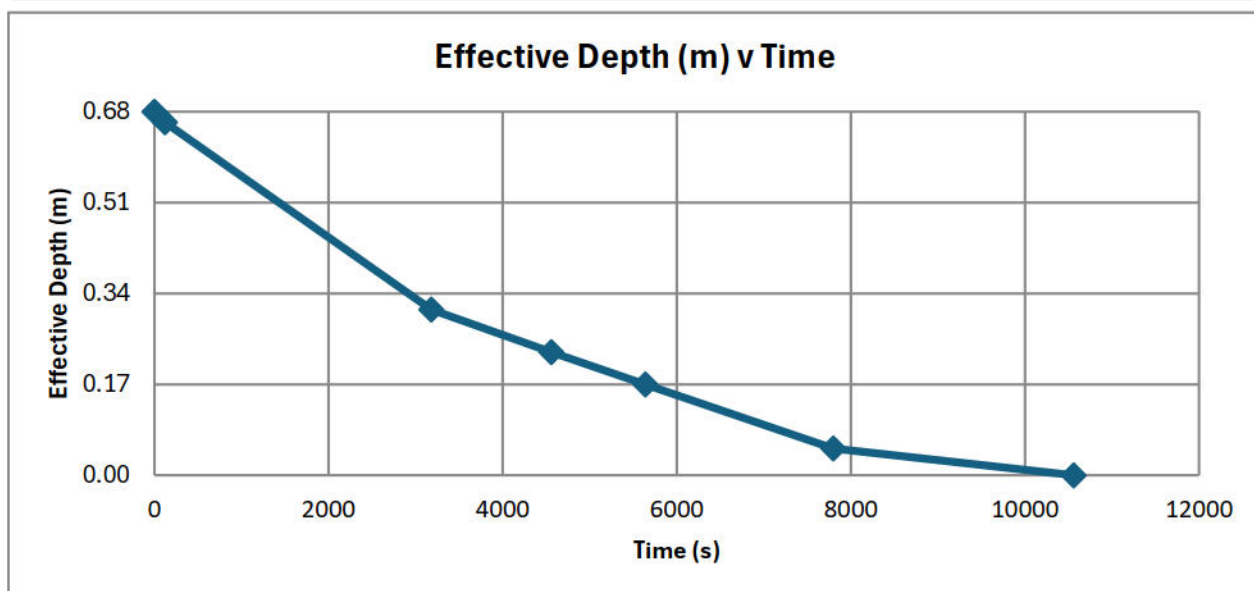
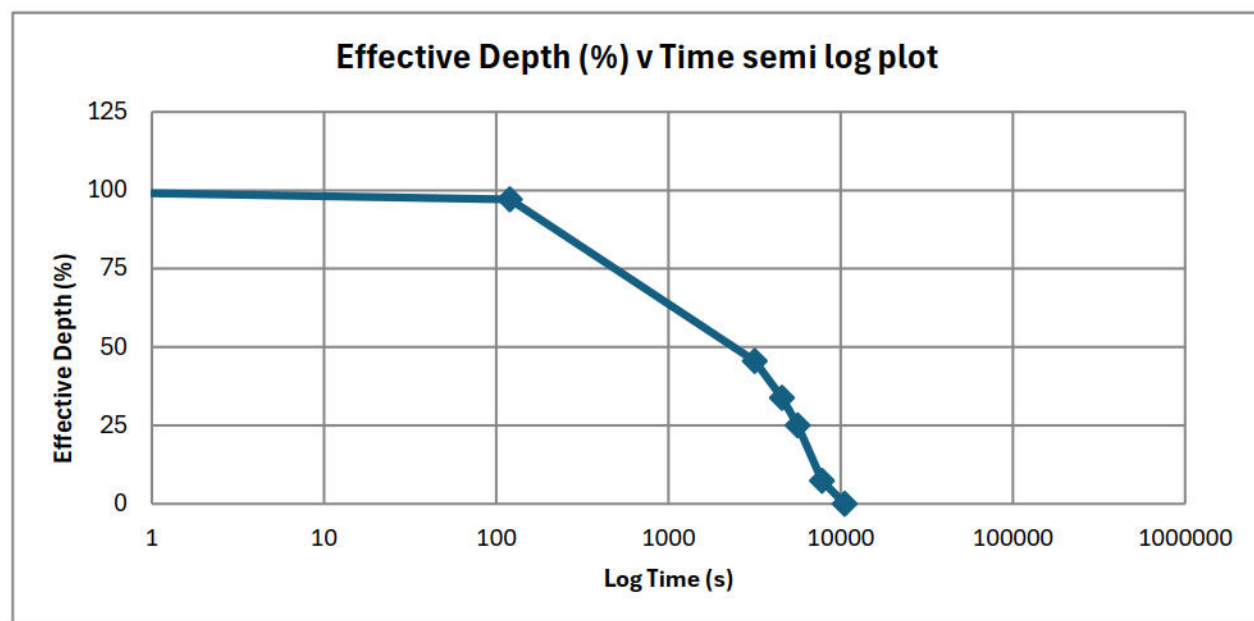
Dimensions:

Length	1.60	m
Width	0.65	m
Depth	1.00	m
Start water depth	0.32	m
Effective Depth	0.68	m

[illegible]

	Depth (m)	Time (s)
Effective Depth %		
75	0.51	1450
25	0.17	5640
	Vp75-25	tp75-25
Sum	0.3536	4190
Base	1.04	m2
Side long	0.544	m
Side short	0.221	m
ap50	2.57	m2
Soil Infiltration Rate	3.28E-05	m/s





GCE01390/R2



Appendix E – Rotary Borehole Logs



Borehole Log

Borehole No.

BH01

Sheet 1 of 2

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383637E - 160281N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 42.27 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 13/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10	42.27 42.17		Rough grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	1
		0.20	JG		0.40	41.87			
		0.50	JG				Stiff, light brown, slightly sandy, very silty CLAY.		
		0.60	JP						
		0.70	PP	225.00					
		1.00	JP						
		1.00	PP	200.00					
		1.20	PP	190.00					
		1.40	PP	80.00	1.40	40.87			
		1.45	JP						
		1.50 - 1.95	JP						
		1.50	SPT	N=11 (1,2/3,2,3,3)				Soft and firm, light brown, sandy, silty CLAY.	3
		2.00	PP	65.00					
		2.20	JP						
		2.20	PP	45.00					
		2.60	PP	20.00	2.55	39.72			
		2.80	JP						
		2.80	PP	30.00				Soft and firm, light brown mottled light grey, sandy, silty CLAY.	4
		3.00 - 3.45	JP						
		3.00	SPT	N=11 (2,1/2,3,4,2)					
		3.60	PP	50.00	3.55	38.72			
		3.70	JP						
		3.70	PP	55.00				Stiff, greenish grey occasionally orangish brown, slightly gravelly, silty CLAY. Gravel is fine to medium subangular siltstone.	5
		3.80	PP	45.00					
		3.90	PP	125.00					
		4.00	PP	50.00					
		4.10	PP	100.00					
		4.30	PP	30.00					
		4.40	JP						
		4.50	SPT	N=25 (1,5/5,8,5,7)				Stiff, greenish grey occasionally orangish brown, slightly gravelly, silty CLAY. Gravel is fine to medium subangular siltstone.	
		4.80	PP	200.00	4.75	37.52			
		4.90	JP						
		5.00	PP	190.00					
Continued on Next Sheet									

Remarks

No groundwater encountered during drilling. Borehole drilled using dynamic sampling to base of borehole. SPT undertaken at 1.5m increments. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 5.23m to 1.23m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH01

Sheet 2 of 2

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383637E - 160281N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 42.27 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 13/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.20	PP	190.00	5.70			Stiff, greenish grey occasionally orangish brown, slightly gravelly, silty CLAY. Gravel is fine to medium subangular siltstone.	
		5.50	PP	100.00					
		5.60	JP						
		5.60	PP	200.00					
		End of Borehole at 5.70m							

Remarks

No groundwater encountered during drilling. Borehole drilled using dynamic sampling to base of borehole. SPT undertaken at 1.5m increments. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 5.23m to 1.23m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH02

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383718E - 160249N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 40.08 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 13/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
						40.08		Open-hole drilled, arisings of; Rough grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	
					0.40	39.68		Open-hole drilled, arisings of; Light brown, slightly sandy, silty CLAY.	
									1
									2
									3
									4
					4.60	35.48		Open-hole drilled, arisings of; Greensih grey, slightly gravelly, silty CLAY. Gravel recovered as fine angular siltstone.	
					5.00				5
								End of Borehole at 5.00m	

Remarks

No groundwater encountered during drilling. Borehole drilled using rotary open-hole methods. Strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 4.94m to 0.94m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH03

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383801E - 160188N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 38.97 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 12/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
						38.97		Open-hole drilled, arisings of; Grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	1
					0.60	38.37		Open-hole drilled, arisings of; Light grey, slightly clayey/silty, slightly sandy GRAVEL & COBBLES. Gravel recovered as fine, gravel and cobbles recovered as angular limestone.	
					0.90	38.07		Open-hole drilled, arisings of; Light brownish grey, clayey/silty, sandy GRAVEL. Gravel recovered as fine angular limestone.	
									2
					3.00	35.97		Open-hole drilled, arisings of; Light brownish grey, sandy Limestone.	3
					4.10	34.87		Open-hole drilled, arisings of; Dark grey, silty CLAY.	4
					4.50	34.47		Open-hole drilled, arisings of; Light brownish grey, sandy Limestone.	5
					5.00			End of Borehole at 5.00m	

Remarks

No groundwater encountered during drilling. Borehole drilled using rotary open-hole methods. Strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 4.88m to 0.88m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH04

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383708E - 160054N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 38.72 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 12/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
						38.72		Open-hole drilled, arisings of; Grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	
					0.40	38.32		Open-hole drilled, arisings of; Light grey, slightly clayey/silty, slightly sandy GRAVEL & COBBLES. Gravel recovered as fine, gravel and cobbles recovered as angular limestone.	
					1.00	37.72		Open-hole drilled, arisings of; Light brownish grey, clayey/silty, sandy GRAVEL. Gravel recovered as fine angular limestone.	1
					2.00	36.72		Open-hole drilled, arisings of; Light brownish grey, sandy LIMESTONE.	2
					3.40	35.32		Open-hole drilled, arisings of; Dark grey, silty CLAY.	4
					5.00			End of Borehole at 5.00m	5

Remarks

No groundwater encountered during drilling. Borehole drilled using rotary open-hole methods. Strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 5.00m to 1.00m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH05

Sheet 1 of 2

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383610E - 159911N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

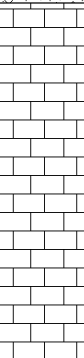
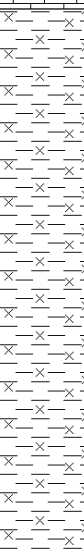
Level: 39.03 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 12/06/2025

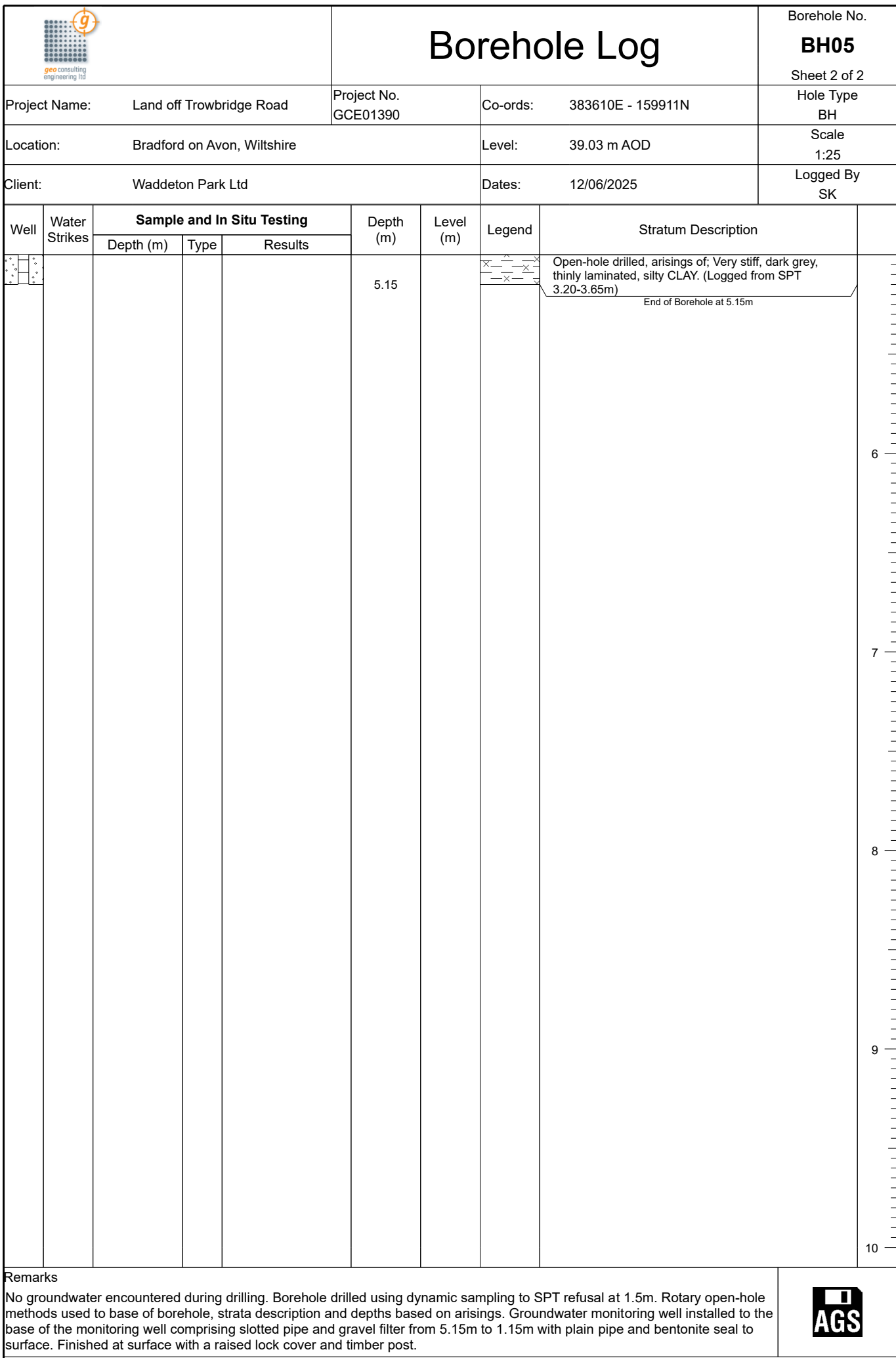
Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.60	JP	50 (5,8/50 for 90mm)	0.30	39.03		Grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	1	
						38.73		Light brown and light grey, very clayey/silty, sandy GRAVEL, locally gravelly silty clay. Gravel is fine to medium subangular fossiliferous limestone.		
		1.30	JP	50 (5,8/50 for 90mm)	1.20	37.83		Very stiff, light brown and brownish grey, slightly sandy, gravelly, very silty CLAY. Gravel is fine to medium subangular fossiliferous limestone. (Logged from SPT 1.50-1.75m, logged from open hole arisings 1.75-2.00m)	2	
		1.50 - 1.75	JP SPT							
		1.50								
3.20 - 3.65	JP SPT	N=42 (6,7/11,9,10,12)	3.20	3.20	37.03		Open-hole drilled, arisings of; Light brownish grey, sandy LIMESTONE.	3		
3.20					35.83		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. (Logged from SPT 3.20-3.65m)	4		
Continued on Next Sheet									5	

Remarks

No groundwater encountered during drilling. Borehole drilled using dynamic sampling to SPT refusal at 1.5m. Rotary open-hole methods used to base of borehole, strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 5.15m to 1.15m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.







Borehole Log

Borehole No.

BH06

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383512E - 159795N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 39.42 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 12/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.60	JP	N=29 (6,7/5,4,5,15)	0.07	39.42 39.35		Grass over brown slightly sandy slightly gravelly clay, with numerous rootlets. Stiff, brown, slightly sandy, gravelly, silty CLAY, with occasional rootlets.	1
					0.35	39.08		Light brownish grey, clayey/silty, sandy GRAVEL. Gravel is fine to medium subangular fossiliferous limestone.	
					0.85	38.58		Stiff, light brown and light brownish grey, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
					1.15	38.28		Light brownish grey, clayey/silty, sandy, GRAVEL. Gravel is fine to medium subangular fossiliferous limestone. (Logged from SPT 1.50-1.95m, logged from open hole arisings 1.95-2.00m)	
					2.00	37.42		Open-hole drilled, arisings of; Light brownish grey, sandy LIMESTONE.	
		3.50 - 3.93 3.50	JP SPT	N=50 (5,7/50 for 275mm)	3.50	35.92		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. (Logged from SPT 3.50-3.93m)	4
					5.00			End of Borehole at 5.00m	5

Remarks

No groundwater encountered during drilling. Borehole drilled using dynamic sampling to 1.5m, last SPT increment was bouncing so dynamic sampling not recommenced. Rotary open-hole methods used to base of borehole, strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 4.86m to 0.86m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH07

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383326E - 159866N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 42.92 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 12/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10	42.92 42.82		Grass over brown slightly sandy slightly gravelly clay, with numerous rootlets.	1
					0.40	42.52		Brown and light grey, slightly clayey/silty, slightly sandy GRAVEL. Gravel is fine to coarse subangular fossiliferous limestone. Occasional rootlets.	
		0.60	JP					Stiff, light brown and light brownish grey, slightly sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
		0.80	PP	150.00					
		1.00	JP						
		1.00	PP	225.00					
		1.20	PP	225.00					
		1.45	JP		1.40	41.52		Stiff, light brown and light brownish grey, sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	
		1.50 - 1.95	JP						
		1.50	SPT	N=43 (3,5/7,9,15,12)					
					2.05	40.87		Open-hole drilled, arisings of; Light brownish grey, sandy LIMESTONE.	2
		3.20 - 3.62	JP		3.20	39.72		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. Occasional coarse sand sized fossil fragments. (Logged from SPT 3.20-3.62m)	3
		3.20	SPT	N=50 (13,11/50 for 265mm)					
					5.00			End of Borehole at 5.00m	5

Remarks

No groundwater encountered during drilling. Borehole drilled using dynamic sampling to DS refusal at 2.05m. Rotary open-hole methods used to base of borehole, strata description and depths based on arisings. Groundwater monitoring well installed to the base of the monitoring well comprising slotted pipe and gravel filter from 4.70m to 0.70m with plain pipe and bentonite seal to surface. Finished at surface with a raised lock cover and timber post.





Borehole Log

Borehole No.

BH08

Sheet 1 of 1

Project Name: Land off Trowbridge Road

Project No.
GCE01390

Co-ords: 383483E - 160045N

Hole Type
BH

Location: Bradford on Avon, Wiltshire

Level: 43.18 m AOD

Scale
1:25

Client: Waddeton Park Ltd

Dates: 13/06/2025

Logged By
SK

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description																						
		Depth (m)	Type	Results																										
		0.20	JG	N=50 (12,13/50 for 265mm)	0.10	43.18		Rough grass over brown slightly sandy slightly gravelly clay, with numerous rootlets. Brown and light grey, clayey/silty, slightly sandy GRAVEL. Gravel is fine to coarse subangular fossiliferous limestone. Occasional rootlets. Stiff, brown, slightly sandy, gravelly, silty CLAY. Gravel is fine to medium subangular fossiliferous limestone.	1																					
					0.25	42.93																								
					0.60	JP																								
										0.90	JP																			
										1.00 - 1.42	JP																			
		1.00	SPT	N=50 (11,13/50 for 275mm)	1.00	42.18		Open-hole drilled, arisings of; Light brownish grey, sandy LIMESTONE.	2																					
		3.80 - 4.23	JP			SPT				3.80	39.38		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. Occasional coarse sand sized fossil fragments. (Logged from SPT 3.80-4.23m)	3																
															3.80	JP	SPT	3.80	39.38		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. Occasional coarse sand sized fossil fragments. (Logged from SPT 3.80-4.23m)	4								
																							3.80	JP	SPT	3.80	39.38		Open-hole drilled, arisings of; Very stiff, dark grey, thinly laminated, silty CLAY. Occasional coarse sand sized fossil fragments. (Logged from SPT 3.80-4.23m)	5

GCE01390/R2



Appendix F – DCP Probe Test Results

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

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TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

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[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

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TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

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TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

[illegible]

TRRL, Road Transport Note 8.

$$\text{Log CBR} = -1.057 \log (\text{mm/blow}) + 2.48$$

GCE01390/R2



Appendix G – Ground Gas Monitoring Results

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.7	0.0	0	0

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	18/06/2025	1018	10:05:00	0.0	-	30	0.0	1.0	19.8	0.0	0	0	Dry (>5.23)
						60	0.0	1.0	19.8	0.0	0	0	
						90	0.0	1.0	19.7	0.0	0	0	
BH01	18/06/2025	1018	10:05:00	0.0	-	90	0.0	1.0	19.7	0.0	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.7	0.0	0	0

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	18/06/2025	1019	09:58:00	0.0	-	30	0.0	1.2	20.2	0.0	0	0	Dry (>4.94)
						60	0.0	1.2	20.2	0.0	0	0	
						90	0.0	1.3	20.1	0.0	0	0	
						120	0.0	1.3	20.1	0.0	0	0	
BH02	18/06/2025	1019	09:58:00	0.0	-	120	0.0	1.3	20.1	0.0	0	0	Dry (>4.94)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.7	0.0	0	0

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	18/06/2025	1018	09:17:00	0.0	-	30	0.0	1.4	19.8	0.0	0	0	Dry (>4.88)
						60	0.0	1.5	19.7	0.0	0	0	
						90	0.0	1.5	19.7	0.0	0	0	
						120	0.0	1.6	19.6	0.0	0	0	
BH03	18/06/2025	1018	09:17:00	0.0	-	120	0.0	1.6	19.6	0.0	0	0	Dry (>4.88)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.7	0.0	0	0

Page 4

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
Off-Site BH	18/06/2025	1019	10:10:00	0.0	-	30	0.0	2.7	18.2	0.0	0	0	Dry (>2.19)
						60	0.0	2.8	18.1	0.0	0	0	
						90	0.0	2.8	18.1	0.0	0	0	
						120	0.0	2.8	18.1	0.0	0	0	
Off-Site BH	18/06/2025	1019	10:10:00	0.0	-	120	0.0	2.8	18.1	0.0	0	0	Dry (>2.19)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	26/07/2025	1004	-	0.0	-	30	0.0	2.7	18.4	-	0	0	Dry (>5.23)
						60	0.0	2.7	18.4		0	0	
						90	0.0	2.7	18.4		0	0	
BH01	26/07/2025	1004	-	0.0	-	90	0.0	2.7	18.4	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	26/07/2025	1004	-	0.0	-	30	0.0	1.2	19.8	-	0	0	Dry (>4.94)
						60	0.0	1.2	19.8		0	0	
						90	0.0	1.2	19.8		0	0	
BH02	26/07/2025	1004	-	0.0	-	90	0	1.2	19.8	-	0	0	Dry (>4.94)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	26/07/2025	1004	-	0.0	-	30	0.0	1.1	20.4	-	0	0	4.53
						60	0.0	1.2	20.3		0	0	
						90	0.0	1.5	20.1		0	0	
						120	0.0	1.8	19.9		0	0	
						150	0.0	2	19.8		0	0	
						180	0.0	2.1	19.7		0	0	
						210	0.0	2.2	19.7		0	0	
						240	0.0	2.3	19.6		0	0	
						270	0.0	2.4	19.5		0	0	
						300	0.0	2.4	19.5		0	0	
BH03	26/07/2025	1004	-	0.0	-	300	0	2.4	19.5	-	0	0	4.53

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 4

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
Off-Site BH	26/07/2025	1004	-	0.0	-	30	0.0	3.3	17.9	-	0	0	Dry (>2.19)
						60	0.0	3.3	17.9		0	0	
						90	0.0	3.3	17.9		0	0	
Off-Site BH	26/07/2025	1004	-	0.0	-	90	0	3.3	17.9	-	0	0	Dry (>2.19)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	03/09/2025	986	-	0.0	-	30	0.0	1.7	19.8	-	0	0	Dry (>5.23)
						60	0.0	1.8	19.7		0	0	
						90	0.0	1.8	19.7		0	0	
BH01	03/09/2025	986	-	0.0	-	90	0.0	1.8	19.7	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	03/09/2025	986	-	0.0	-	30	0.0	0.6	20.4	-	0	0	4.20
						60	0.0	0.7	20.4		0	0	
						90	0.0	0.7	20.3		0	0	
						120	0.0	0.7	20.3		0	0	
BH02	03/09/2025	986	-	0.0	-	120	0.0	0.7	20.3	-	0	0	4.20

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	03/09/2025	986	-	0.0	-	30	0.0	1.0	19.9	-	0	0	3.77
						60	0.0	1.1	19.8		0	0	
						90	0.0	1.1	19.8		0	0	
BH03	03/09/2025	986	-	0.0	-	90	0.0	1.1	19.8	-	-	0	3.77

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.8	-	0	0

Page 4

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
Off-Site BH	Damaged												
Off-Site BH													Damaged

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.6	-	0	0

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	25/09/2025	1018	11:15:00	0.0	-	30	0.0	1.1	19.7	-	0	0	Dry (>5.23)
						60	0.0	1.1	19.6		0	0	
						90	0.0	1.1	19.6		0	0	
BH01	25/09/2025	1018	11:15:00	0.0	-	90	0	1.1	19.6	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.6	-	0	0

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	25/09/2025	1018	11:25:00	0.0	-	30	0.0	2.1	19.0	-	0	0	Dry (>4.94)
						60	0.0	2.2	19.0		0	0	
						90	0.0	2.2	19.0		0	0	
BH02	25/09/2025	1018	11:25:00	0.0	-	90	0.0	2.2	19.0	-	0	0	Dry (>4.94)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.6	-	0	0

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	25/09/2025	1018	11:35:00	0.0	-	30	0.0	0.9	20.1	-	0	0	3.75
						60	0.0	1.0	20.0		0	0	
						90	0.0	1.1	20.0		0	0	
						120	0.0	1.2	19.9		0	0	
						150	0.0	1.2	19.9		0	0	
BH03	25/09/2025	1018	11:35:00	0.0	-	150	0	1.2	19.9	-	0	0	3.75

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	30/10/2025	998	-	0.0	-	30	0.0	0.9	19.8	-	0	0	Dry(>5.23)
						60	0.0	0.9	19.8		0	0	
						90	0.0	0.9	19.8		0	0	
BH01	30/10/2025	998	-	0.0	-	90	0	0.9	19.8	-	0	0	Dry(>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1: 07/11/2024

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	30/10/2026	999	-	0.0	-	30	0.0	1.2	19.4	-	0	0	Dry (>4.94)
						60	0.0	1.3	19.3		0	0	
						90	0.0	1.3	19.3		0	0	
BH02	30/10/2026	999	-	0.0	-	90	0.0	1.3	19.3	-	0	0	Dry (>4.94)

Calibration 1: 07/11/2024

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	30/10/2025	998	-	0.0	-	30	0.0	1.5	19.5	-	0	0	3.75
						60	0.0	1.6	19.5		0	0	
						90	0.0	1.6	19.5		0	0	
BH03	30/10/2025	998	-	0.0	-	90	0.0	1.6	19.5	-	0	0	3.75

Calibration 1:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	04/11/2025	998	-	0.0	-	30	0.0	1.5	19.6	-	0	0	Dry (>5.23)
						60	0.0	1.5	19.6		0	0	
						90	0.0	1.5	19.6		0	0	
BH01	04/11/2025	998	-	0.0	-	90	0.0	1.5	19.6	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1:

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	04/11/2025	997	-	0.0	-	30	0.0	0.1	20.8	-	0	0	Dry (>4.94)
						60	0.0	0.1	20.8		0	0	
						90	0.0	0.1	20.8		0	0	
BH02	04/11/2025	997	-	0.0	-	90	0.0	0.1	20.8	-	0	0	Dry (>4.94)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1:

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	04/11/2025	997	-	0.0	-	30	0.0	1.9	18.8	-	0	0	3.70
						60	0.0	1.9	18.8		0	0	
						90	0.0	1.9	18.8		0	0	
BH03	04/11/2025	997	-	0.0	-	90	0.0	1.9	18.8	-	0	0	3.70

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1:

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	24/11/2025	991	14:50:00	2.4	-	30	0.0	1.8	18.2	-	0	0	Dry (>5.23)
						60	0.0	2.0	18.3		0	0	
						90	0.0	2.0	17.8		0	0	
						120	0.0	2.0	17.7		0	0	
						150	0.0	2.0	17.7		0	0	
BH01	24/11/2025	991	14:50:00	2.4	-	150	0.0	2.0	17.7	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1:

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	24/11/2025	991	15:00:00	0.0	-	30	0.0	2.1	17.4	-	0	0	4.17
						60	0.0	2.1	17.3		0	0	
						90	0.0	2.2	17.3		0	0	
						120	0.0	2.1	17.3		0	0	
						150	0.0	2.1	17.3		0	0	
BH02	24/11/2025	991	15:00:00	0.0	-	150	0.0	2.2	17.3	-	0	0	4.17

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: Gas Data GFM436

Calibration 1:

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	24/11/2025	992	15:09:00	0.0	-	30	0.0	2.1	18.8	-	0	0	3.65
						60	0.0	2.3	18.7		0	0	
						90	0.0	2.4	18.6		0	0	
						120	0.0	2.4	18.6		0	0	
BH03	24/11/2025	992	15:09:00	0.0	-	120	0.0	2.4	18.6	-	0	0	3.65

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	11/12/2025	1009	12:05:00	0.0	-	30	0.0	2.2	18.2		0	0	Dry (>5.23)
						60	0.0	2.2	18.2		0	0	
						90	0.0	2.2	18.2		0	0	
BH01	11/12/2025	1009	12:05:00	0.0	-	90	0.0	2.2	18.2	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	11/12/2025	1009	12:10:00	0.0	-	30	0.1	2.1	19.0	-	0	0	3.88
						60	0.1	2.1	18.8		0	0	
						90	0.1	2.2	18.8		0	0	
						120	0.1	2.2	18.8		0	0	
BH02	11/12/2025	1009	12:10:00	0.0	-	120	0.1	2.2	18.8	-	0	0	3.88

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	11/12/2025	1008	12:20:00	0.0	-	30	0.0	2.3	18.3	-	0	0	3.28
						60	0.0	2.4	18.3		0	0	
						90	0.0	2.5	18.3		0	0	
						120	0.0	2.5	18.3		0	0	
BH03	11/12/2025	1008	12:20:00	0.0	-	120	0.0	2.5	18.3	-	0	0	3.28

Project: Trowbridge Road, Bradford On Avon
Project No. GCE01390
Instrument 1: GFM 436 S/N: 14216
Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	30/12/2025	1026	11:00:00	0.0	-	30	0.0	1.8	18.2	-	0	0	Dry (>5.23)
						60	0.0	1.8	18.1		0	0	
						90	0.0	1.8	18.1		0	0	
BH01	30/12/2025	1026	11:00:00	0.0	-	90	0.0	1.8	18.1	-	0	0	Dry (>5.23)

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	30/12/2025	1027	11:12:00	0.0	-	30	0.0	1.3	18.4	-	0	0	4.21
						60	0.0	1.3	18.3		0	0	
						90	0.0	1.3	18.3		0	0	
BH02	30/12/2025	1027	11:12:00	0.0	-	90	0.0	1.3	18.3	-	0	0	4.21

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	30/12/2025	1027	11:22:00	0.0	-	30	0.0	0.6	19.8	-	0	0	3.64
						60	0.0	0.6	19.9		0	0	
						90	0.0	0.6	19.8		0	0	
						120	0.0	0.6	19.9		0	0	
BH03	30/12/2025	1027	11:22:00	0.0	-	120	0.0	0.6	19.8	-	0	0	3.64

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	08/01/2026	989	-	0.0	-	30	0.0	0.8	19.7	-	0	0	Dry (>5.23)
						60	0.0	0.9	19.7		0	0	
						90	0.0	0.9	19.7		0	0	
BH01	08/01/2026	989	-	0.0	-	90	0.0	0.9	19.7	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	08/01/2026	990	-	0.0	-	30	0.0	0.1	20.1	-	0	0	4.66
						60	0.0	0.1	20.1		0	0	
						90	0.0	0.1	20.1		0	0	
BH02	08/01/2026	990	-	0.0	-	90	0.0	0.1	20.1	-	0	0	4.66

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	08/01/2026	990	-	0.0	-	30	0.0	1.7	18.2	-	0	0	4.47
						60	0.0	1.5	18.1		0	0	
						90	0.0	1.4	18.1		0	0	
						120	0.0	1.4	18.1		0	0	
BH03	08/01/2026	990	-	0.0	-	120	0.0	1.7	18.1	-	0	0	4.47

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	30/01/2026	976	-	0.0	-	30	0.0	1.8	17.6	-	0	0	Dry (>5.23
						60	0.0	1.9	17.4		0	0	
						90	0.0	1.9	17.3		0	0	
						120	0.0	1.9	17.3		0	0	
BH01	30/01/2026	976	-	0.0	-	120	0.0	1.9	17.3	-	0	0	Dry (>5.23

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	30/01/2026	972	-	0.0	-	30	0.0	1.3	17.7	-	0	0	3.76
						60	0.0	1.3	17.7		0	0	
						90	0.0	1.3	17.7		0	0	
BH02	30/01/2026	972	-	0.0	-	90	0.0	1.3	17.7	-	0	0	3.76

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	30/01/2026	972	-	0.0	-	30	0.0	0.8	19.4	-	0	0	3.63
						60	0.0	0.8	19.3		0	0	
						90	0.0	0.8	19.3		0	0	
BH03	30/01/2026	972	-	0.0	-	90	0.0	0.8	19.3	-	0	0	3.63

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	12/02/2026	978	-	0.0	-	30	0.0	1.6	17.5	-	0	0	Dry (>5.23)
						60	0.0	1.6	17.4		0	0	
						90	0.0	1.6	17.3		0	0	
						120	0.0	1.6	17.3		0	0	
BH01	12/02/2026	978	-	0.0	-	120	0.0	1.6	17.3	-	0	0	Dry (>5.23)

Calibration 1: 08/12/2025

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	12/02/2026	978	-	1.8	-	30	0.0	1.3	18.0	-	0	0	3.58
				Steady - 0		60	0.0	1.3	18.0		0	0	
						90	0.0	1.3	18.0		0	0	
BH02	12/02/2026	978	-	1.8	-	90	0.0	1.3	18.0	-	0	0	3.58

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-							

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	12/02/2026	978	-	0.0	-	30	0.0	2.2	17.0	-	0	0	3.62
						60	0.0	2.2	16.9		0	0	
						90	0.0	2.2	16.9		0	0	
BH03	12/02/2026	978	-	0.0	-	90	0.0	2.2	16.9	-	0	0	3.62

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.5	-	0	0

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	24/02/2026	1007	-	0.0	-	30	0.0	1.8	17.1	-	0	0	Dry (>5.23)
						60	0.0	1.8	17.0		0	0	
						90	0.0	1.8	17.0		0	0	
BH01	24/02/2026	1007	-	0.0	-	90	0.0	1.8	17	-	0	0	Dry (>5.23)

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.5	-	0	0

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	24/02/2026	1006	-	0.0	-	30	0.0	0.2	20.3	-	0	0	3.90
						60	0.0	0.4	20.0		0	0	
						90	0.0	0.5	19.8		0	0	
						120	0.0	0.5	19.8		0	0	
BH02	24/02/2026	1006	-	0.0	-	120	0.0	0.5	19.8	-	0	0	3.90

Project: Trowbridge Road, Bradford On Avon

Project No. GCE01390

Instrument 1: GFM 436 S/N: 14216

Calibration 1: 08/12/2025

Background readings:

PID		CH4	CO2	O2	LEL	CO	H2S
ppm		%	%	%	%	ppm	ppm
-		0.0	0.0	20.5	-	0	0

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	24/02/2026	1006	-	0.0	-	30	0.0	1.6	17.5	-	0	0	3.63
						60	0.0	1.5	17.7		0	0	
						90	0.0	1.4	17.8		0	0	
						120	0.0	1.5	17.7		0	0	
						150	0.0	1.5	17.7		0	0	
BH03	24/02/2026	1006	-	0.0	-	150	0.0	1.6	17.5	-	0	0	3.63

Summary Ground Gas Monitoring: Trowbridge Road, Bradford On Avon

Page 1

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH01	18/06/2025	1018	10:05:00	0.0	-	90	0.0	1.0	19.7	0.0	0	0	Dry (>5.23)
BH01	26/07/2025	1004	-	0.0	-	90	0.0	2.7	18.4	-	0	0	Dry (>5.23)
BH01	03/09/2025	986	-	0.0	-	90	0.0	1.8	19.7	-	0	0	Dry (>5.23)
BH01	25/09/2025	1018	11:15:00	0.0	-	90	0.0	1.1	19.6	-	0	0	Dry (>5.23)
BH01	30/10/2025	998	-	0.0	-	90	0.0	0.9	19.8	-	0	0	Dry(>5.23)
BH01	04/11/2025	998	-	0.0	-	90	0.0	1.5	19.6	-	0	0	Dry (>5.23)
BH01	24/11/2025	991	14:50:00	2.4	-	150	0.0	2.0	17.7	-	0	0	Dry (>5.23)
BH01	11/12/2025	1009	12:05:00	0.0	-	90	0.0	2.2	18.2	-	0	0	Dry (>5.23)
BH01	30/12/2025	1026	11:00:00	0.0	-	90	0.0	1.8	18.1	-	0	0	Dry (>5.23)
BH01	08/01/2026	989	-	0.0	-	90	0.0	0.9	19.7	-	0	0	Dry (>5.23)
BH01	30/01/2026	976	-	0.0	-	120	0.0	1.9	17.3	-	0	0	Dry (>5.23)
BH01	12/02/2026	978	-	0.0	-	120	0.0	1.6	17.3	-	0	0	Dry (>5.23)
BH01	24/02/2026	1007	-	0.0	-	90	0.0	1.8	17.0	-	0	0	Dry (>5.23)

Page 2

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH02	18/06/2025	1019	09:58:00	0.0	-	120	0.0	1.3	20.1	0.0	0	0	Dry (>4.94)
BH02	26/07/2025	1004	-	0.0	-	90	0.0	1.2	19.8	-	0	0	Dry (>4.94)
BH02	03/09/2025	986	-	0.0	-	120	0.0	0.7	20.3	-	0	0	4.20
BH02	25/09/2025	1018	11:25:00	0.0	-	90	0.0	2.2	19.0	-	0	0	Dry (>4.94)
BH02	30/10/2026	999	-	0.0	-	90	0.0	1.3	19.3	-	0	0	Dry (>4.94)
BH02	04/11/2025	997	-	0.0	-	90	0.0	0.1	20.8	-	0	0	Dry (>4.94)
BH02	24/11/2025	991	15:00:00	0.0	-	150	0.0	2.2	17.3	-	0	0	4.17
BH02	11/12/2025	1009	12:10:00	0.0	-	120	0.1	2.2	18.8	-	0	0	3.88
BH02	30/12/2025	1027	11:12:00	0.0	-	90	0.0	1.3	18.3	-	0	0	4.21
BH02	08/01/2026	990	-	0.0	-	90	0.0	0.1	20.1	-	0	0	4.66
BH02	30/01/2026	972	-	0.0	-	90	0.0	1.3	17.7	-	0	0	3.76
BH02	12/02/2026	978	-	1.8	-	90	0.0	1.3	18.0	-	0	0	3.58
BH02	24/02/2026	1006	-	0.0	-	120	0.0	0.5	19.8	-	0	0	3.90

Summary Ground Gas Monitoring: Trowbridge Road, Bradford On Avon

Page 3

Location	Date	Atmos.	Time	Flow	PID	Time	CH4	CO2	O2	LEL	CO	H2S	Water depth
	dd/mm/yr	mb	hr:min	l/hr	ppm	seconds	%	%	%	%	ppm	ppm	mbgl
BH03	18/06/2025	1018	09:17:00	0.0	-	120	0.0	1.6	19.6	0.0	0	0	Dry (>4.88)
BH03	26/07/2025	1004	-	0.0	-	300	0.0	2.4	19.5	-	0	0	4.53
BH03	03/09/2025	986	-	0.0	-	90	0.0	1.1	19.8	-	-	0	3.77
BH03	25/09/2025	1018	11:35:00	0.0	-	150	0.0	1.2	19.9	-	0	0	3.75
BH03	30/10/2025	998	-	0.0	-	90	0.0	1.6	19.5	-	0	0	3.75
BH03	04/11/2025	997	-	0.0	-	90	0.0	1.9	18.8	-	0	0	3.70
BH03	24/11/2025	992	15:09:00	0.0	-	120	0.0	2.4	18.6	-	0	0	3.65
BH03	11/12/2025	1008	12:20:00	0.0	-	120	0.0	2.5	18.3	-	0	0	3.28
BH03	30/12/2025	1027	11:22:00	0.0	-	120	0.0	0.6	19.8	-	0	0	3.64
BH03	08/01/2026	990	-	0.0	-	120	0.0	1.7	18.1	-	0	0	4.47
BH03	30/01/2026	972	-	0.0	-	90	0.0	0.8	19.3	-	0	0	3.63
BH03	12/02/2026	978	-	0.0	-	90	0.0	2.2	16.9	-	0	0	3.62
BH03	24/02/2026	1006	-	0.0	-	150	0.0	1.6	17.5	-	0	0	3.63

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GCE01390/R2



Appendix H – Chemical Laboratory Test Results (soils)

Geo Consulting Engineering Ltd
The Studio
Woodmanton Barns
Woodbury
Exeter
Devon
EX5 1HQ

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

e: skelly@geoconsultingeng.co.uk

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 25-032040

Project / Site name:	Trowbridge Road, Bradford On Avon	Samples received on:	18/06/2025
Your job number:	GCE01390	Samples instructed on/ Analysis started on:	18/06/2025
Your order number:	GCE01390	Analysis completed by:	27/06/2025
Report Issue Number:	1	Report issued on:	28/06/2025
Samples Analysed:	6 soil samples		



Signed:

Rachel Chappell
Key Account Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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

Analytical Report Number: 25-032040
 Project / Site name: Trowbridge Road, Bradford On Avon
 Your Order No: GCE01390

Lab Sample Number	586045	586046	586047	586048	586049
Sample Reference	BH01	BH08	TP01	TP03	TP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.5	0.2	0.1	0.7	0.1
Date Sampled	13/06/2025	13/06/2025	16/06/2025	16/06/2025	16/06/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	69.2	< 0.1
Moisture Content	%	0.01	NONE	12	7.7	13	5.8	12
Total mass of sample received	kg	0.1	NONE	0.6	0.6	0.5	0.5	0.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DKI	DKI	DKI	DKI	DKI
Analysis completed	N/A	N/A	N/A	26/06/2025	26/06/2025	26/06/2025	26/06/2025	26/06/2025

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8	8.1	7.2	8.2	7.4
Total Sulphate as SO ₄	mg/kg	50	MCERTS	400	1100	1300	1100	1800
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	27	24	34	50	32
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	13.3	12	16.8	24.9	15.9
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	1.1	3.3	0.7	4.4

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	1	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.15	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.1	3.2	< 0.05	< 0.05	0.11
Pyrene	mg/kg	0.05	MCERTS	0.07	2.6	< 0.05	< 0.05	0.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.4	< 0.05	< 0.05	0.06
Chrysene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	< 0.05	0.07
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	2	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	1	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.7	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1	< 0.05	< 0.05	0.06
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.15	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.1	< 0.05	< 0.05	0.07

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	17	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.3	19	28	16	25
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.4	< 0.2	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	23	32	16	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	18	22	11	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	38	48	14	47
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	20	27	12	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.4	1.6	1.7	< 1.0	1.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	54	110	96	37	94

Analytical Report Number: 25-032040
 Project / Site name: Trowbridge Road, Bradford On Avon
 Your Order No: GCE01390

Lab Sample Number	586045	586046	586047	586048	586049
Sample Reference	BH01	BH08	TP01	TP03	TP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.5	0.2	0.1	0.7	0.1
Date Sampled	13/06/2025	13/06/2025	16/06/2025	16/06/2025	16/06/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	2.2
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	13
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	16

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH Total >EC5 - EC40 _{EH_CU+HS_ID_TOTAL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	16
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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

Analytical Report Number: 25-032040

Project / Site name: Trowbridge Road, Bradford On Avon

Your Order No: GCE01390

Lab Sample Number				586050
Sample Reference				TP08
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.5
Date Sampled				16/06/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	75.4
Moisture Content	%	0.01	NONE	6.5
Total mass of sample received	kg	0.1	NONE	0.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DKI
Analysis completed	N/A	N/A	N/A	26/06/2025

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1300
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	44
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	21.8
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1

Speciated PAHs

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

Total PAH

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

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46

Analytical Report Number: 25-032040
 Project / Site name: Trowbridge Road, Bradford On Avon
 Your Order No: GCE01390

Lab Sample Number				586050
Sample Reference				TP08
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.5
Date Sampled				16/06/2025
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)		Units	Test Limit of detection	Test Accreditation Status

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

TPH Total >EC5 - EC40 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	NONE	< 10
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

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

Analytical Report Number : 25-032040

Project / Site name: Trowbridge Road, Bradford On Avon

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
586045	BH01	None Supplied	0.5	Brown clay and sand with gravel
586046	BH08	None Supplied	0.2	Brown clay and sand with gravel
586047	TP01	None Supplied	0.1	Brown loam and clay with gravel
586048	TP03	None Supplied	0.7	Brown loam and clay with gravel and stones
586049	TP04	None Supplied	0.1	Brown loam and clay with gravel
586050	TP08	None Supplied	0.5	Brown loam and clay with gravel and stones

Analytical Report Number : 25-032040

Project / Site name: Trowbridge Road, Bradford On Avon

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

Analytical Report Number : 25-032040

Project / Site name: Trowbridge Road, Bradford On Avon

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

GCE01390/R2



Appendix I – Chemical Laboratory Test Results (water)



4041



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Analytical Report Number : 25-038705

Project / Site name:	Trowbridge Road, Bradford on Avon	Samples received on:	22/07/2025
Your job number:	GCE01390	Samples instructed on/ Analysis started on:	22/07/2025
Your order number:	GCE01390	Analysis completed by:	28/07/2025
Report Issue Number:	1	Report issued on:	28/07/2025
Samples Analysed:	4 water samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting
	air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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

Analytical Report Number: 25-038705
Project / Site name: Trowbridge Road, Bradford on Avon

Your Order No: GCE01390

Lab Sample Number				621800	621801	621802	621803
Sample Reference				BH03	BH04	BH06	BH07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				Ground water	Ground water	Ground water	Ground water
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/07/2025	21/07/2025	21/07/2025	21/07/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status				

General Inorganics

pH (L099)	pH Units	N/A	ISO 17025	7.2	7.5	7.5	7.4
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	860	760	800	710
Sulphate as SO ₄	mg/l	0.045	ISO 17025	73.3	122	121	50.2
Chloride	mg/l	0.15	ISO 17025	24	20	21	43
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	99	74	240	100
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	40	37	200	84
Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	438	284	211	287
Dissolved Oxygen	mg/l	1	NONE	3.2	2.4	1.5	2.5

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.67	0.37	0.84	0.41
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.8	0.7	1.8	0.9
Copper (dissolved)	µg/l	0.5	ISO 17025	4.7	4.3	1.4	1
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4	< 0.2	0.4	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.3	5.3	7.3	4.9
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.1	1.7	1.2	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	16	3.4	1.9	4.4

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Total TPH Aliphatic >EC10 - EC35 _{EH_2D_AL_#1_#2}	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Total TPH Aromatic >EC10 - EC35 _{EH_2D_AR_#1_#2}	µg/l	10	NONE	< 10	< 10	< 10	< 10

Analytical Report Number: 25-038705
Project / Site name: Trowbridge Road, Bradford on Avon

Your Order No: GCE01390

Lab Sample Number				621800	621801	621802	621803
Sample Reference				BH03	BH04	BH06	BH07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				Ground water	Ground water	Ground water	Ground water
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				21/07/2025	21/07/2025	21/07/2025	21/07/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status				

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

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



4041

**Analytical Report Number : 25-038705****Project / Site name: Trowbridge Road, Bradford on Avon****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW, GW, Hg - SW, PW, Al - SW, PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Total Hardness of water	Determination of total hardness of water by calculation from calcium and magnesium. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
BTEX and/or Volatile Organic Compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen in water	In-house method	L086B	W	NONE
Total Petroleum Hydrocarbons in water by HS-GC/MS	Determination of total petroleum hydrocarbons in water by headspace HS-GC/MS. Accredited matrices: SW, PW, GW	In-house method	L088-PL	W	ISO 17025
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GCxGC-FID/GC-MS HS	Determination of total petroleum hydrocarbons in water by GCxGC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands). Accredited matrices: SW, PW, GW	Calculation	L101B/L088-PL	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GCxGC-FID	Determination of total petroleum hydrocarbons in water by GCxGC FID with carbon banding aliphatic and aromatic C10-C35. Accredited matrices: SW, PW, GW	In-house method	L101B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025

Analytical Report Number : 25-038705
Project / Site name: Trowbridge Road, Bradford on Avon

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L0398	W	ISO 17025

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Analytical Report Number : 25-038705

Project / Site name: Trowbridge Road, Bradford on Avon

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH03	N/A	W	621800	c	Dissolved Oxygen in water	L086B	c
BH04	N/A	W	621801	c	Dissolved Oxygen in water	L086B	c
BH06	N/A	W	621802	c	Dissolved Oxygen in water	L086B	c
BH07	N/A	W	621803	c	Dissolved Oxygen in water	L086B	c

GCE01390/R2



Appendix J – Geotechnical Laboratory Test Results



Laboratory Report



Contract Number: 79433

Client Ref: **GCE01390**

Date Received: **23-06-2025**

Client PO: **GCE01390**

Date Completed: **09-07-2025**

Report Date: **09-07-2025**

Client: **GEO Consulting Engineering Limited**

This report has been checked and approved by:

Contract Title: **Trowbridge Road, Bradford on Avon**
For the attention of: **Sam Kelly**

Shaun Jones
Laboratory manager

Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - @ Non Accredited Test	30
4 Point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	3
BRE Reduced Suite includes pH, water & acid soluble sulphate and total sulphur Sub-contracted Test#	3

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:

Brendan Evans (Senior Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)

Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)

Wayne Honey (HR & HSE Manager)

DESCRIPTIONS

Contract Number	79433	
Project Name	Trowbridge Road, Bradford on Avon	
Date Tested	28/06/2025	

[illegible]

Operators

Aaron, H

Determination of Water Content
BS EN ISO 17892-1:2014+A1:2022

Contract Number	79433	
Project Name	Trowbridge Road, Bradford on Avon	
Date Tested	28/06/2025	

[illegible]

*For sample descriptions please see sample descriptions sheet

Operator
Aaron. H



Contract Number	79433	
Project Name	Trowbridge Road, Bradford on Avon	
Date Tested	28/06/2025	
	DESCRIPTIONS	

[illegible]

Operator
Aaron. H



7 - 11 Harding Street
Leicester
LE1 4DH

GSTL
Unit 3-4 Heol Aur
Dafen Ind Estate
Dafen
SA14 8QN

Analytical Test Report: L25/06442/GSL - 25-71235

Your Project Reference: **Trowbridge Road, Bradford On Avon - GCE01390**

Your Order Number: 79433 Samples Received / Instructed: 26/06/2025 / 26/06/2025

Report Issue Number: 1 Sample Tested: 26/06 to 08/07/2025

Samples Analysed: 3 sample(s) Report issued: 08/07/2025

Signed

James Gane
Analytical Services Manager
CTS

Notes:

General

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

This report shall not be reproduce except in full

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

UKAS accreditation on waters only covers the Ground water and Surface water matrices

Date of Issue: 21.05.25

Issued by: J. Gane

Issue No: 4

Rev No: 27



4161



L25/06442/GSL - 25-71235

Project Reference - Trowbridge Road. Bradford

On Avon - GCE01390

Analytical Test Results - Chemical Analysis

Lab Reference			536060	536061	536062
Client Sample ID			-	-	-
Client Sample Location			TP03	TP09	BH01
Client Sample Type			D	D	D
Client Sample Number			-	-	-
Depth - Top (m)			1.30	0.60	1.45
Depth - Bottom (m)			1.30	0.60	1.45
Date of Sampling			-	-	-
Time of Sampling			-	-	-
Sample Matrix			Sand	Other	Clay
Determinant	Units	Accreditation			
Water soluble sulphate (as SO ₄)	(mg/l)	u	17	55	59
Acid Soluble Sulphate	(%)	u	0.11	0.12	0.02
Total Sulphur	(%)	UKAS	0.05	0.05	0.01
pH Value	pH Units	MCERTS	8.6	8.5	8.5



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Leicester
LE1 4DH

L25/06442/GSL - 25-71235

Project Reference - Trowbridge Road. Bradford On Avon - GCE01390

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
536060	-	TP03	D	-	Light brown gravelly slightly clayey silty sand	-	-	83
536061	-	TP09	D	-	Light brown crushed rock with rare rootlets	-	-	100
536062	-	BH01	D	-	Brown silty clay	-	-	100



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Leicester
LE1 4DH

L25/06442/GSL - 25-71235

Project Reference - Trowbridge Road. Bradford On Avon - GCE01390

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
536060	-	TP03	D	-	
536061	-	TP09	D	-	
536062	-	BH01	D	-	

L25/06442/GSL - 25-71235

Project Reference - Trowbridge Road. Bradford On Avon - GCE01390

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
ASSO4S	MS - CL - Acid Soluble Sulphate	Oven Dried	Passing 2mm test sieve	Determination of total sulphate in soils by acid extraction followed by ICP analysis
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis
1377TS-ELT	BS1377 Total Sulphur Content by HTC	Oven dried	BS1377 : Part 1 : 2016	Total Sulphur Content testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.10 (using Eltra CS-800 Analyser)



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L25/06442/GSL - 25-71235

Project Reference - Trowbridge Road, Bradford On Avon - GCE01390

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W - No time of sampling provided for water sample

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
536060	-	TP03	D	-		A
536061	-	TP09	D	-		A
536062	-	BH01	D	-		A