geotechnical and environmental consultants

ground&water

Phase II Site Investigation Report

Site: 220 Elgar Road South, Reading, RG2 0BW

On behalf of Abri

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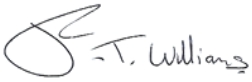
v.1.0		
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EXECUTIVE SUMMARY	
PROPOSED DEVELOPMENT	At the time of reporting, October 2026, the proposed development was understood to comprise the demolition of existing single storey building and erection of three storey building containing 16 dwellings together with associated soft landscaping, car parking, indoor cycle spaces and refuse.
GEOLOGY AND HYDROGEOLOGY	The British Geological Survey Solid and Drift Geology Map for the Reading area (Reading Sheet No. 268) revealed that the site was underlain by Worked Ground associated with the former brick and tile works extending to the west over bedrock deposits of the Lambeth Group over Seaford and Newhaven Chalk Formation. Superficial Alluvium was recorded in close proximity to the east and may be encountered on-site. The DEFRA online maps indicated that the site was located on Secondary A Aquifer associated with the bedrock Lambeth Group, underlain by a Principal Aquifer associated with the chalk. If Alluvium is encountered on-site these are classified as a Secondary A Aquifer. From analysis of hydrogeological and topographical maps the groundwater table was anticipated to be encountered at a moderate depth within the Lambeth Group and at depth within the Chalk. Perched water was also likely to be found within the Made Ground, especially after periods of intense or prolonged rainfall. It was considered that the groundwater was flowing westwards, towards the River Kennet and in alignment with local topography. The nearest surface water feature was recorded to be the River Kennet located ~100m north-west and 120m west. A drain connecting to the River Kennet was identified ~180m south. The site was not located within a Source Protection Zone.
VOLUME CHANGE POTENTIAL	Medium volume change potential should be adopted in design.
FOUNDATION DESIGN	The recommended minimum foundation depths are approximately 2.3m at BH1 and 3.0m at BH203, subject to extending at least 300mm below the proven root penetration depth. Calculated allowable bearing capacities range from approximately 76.6 to 133.75 kN/m², with predicted settlements of 2.8-9.3mm.
SUB-SURFACE CONCRETE	DS-1, AC-1 can be adopted for all soils.
CONTAMINATION	Based on the results of the intrusive works, chemical analyses and risk assessments undertaken, the following has been identified that requires further action: • From a human health perspective, PAHs were encountered widespread across the site and localised arsenic and lead. • From a plants perspective localised zinc and copper have been found at an unacceptable concentrations within the soils across the site. • Asbestos fibres have been identified in three locations within the soil and as ACMs sitewide post-demolition. • Vinyl Chloride, PCE and TCE in the groundwater.

	An Asbestos Management Strategy should be put in place so that any potentially asbestos containing materials are identified and removed from site in a suitable manner to prevent cross-contamination.
REMEDIATION	<u>Soils, ground-gas and vapours</u> At this stage, due to the contamination identified across the site, it is recommended that a clean capping system is implemented for all soft landscaped areas. The engineered capping system that is recommended within all soft landscaped areas is as follows: Based on the available information within this report it was proposed that the following remedial methodology should be undertaken within **all soft landscaping areas**: • Reduce dig of 450mm; • Placement of 150mm anti-dig layer, overlaid by a geotextile marker membrane; • Placement of 300mm clean capping of soil; • Validation of the clean capping system by a suitably trained Ground and Water Limited engineer. At this stage the vapour risk within the groundwater is at a level that needs requires protection for the end users. Therefore, it is recommended to install CS2 protection measures for ground-gases but with an upgraded membrane to protect against vapours. Full details for the remedial measures can be found in Section 8. <u>Groundwater</u> The Vinyl Chloride is elevated above Drinking Water Standards within BH1 on the third visit and BH202 on all three visits (both north-west). The Tetrachloroethene (PCE) and Trichloroethene (TCE) combined were above the Drinking Water Standards in BH1 on visit 1,2,3,5, BH2 all visits, BH201 visit 4,5 and BH202 visit 4,5. The highest concentrations were in BH2 (closest to the landfill in south-west). BH203 screened in the Lambeth Group and Chalk did not encounter any VOCs/SVOCs above the limit of detection of the laboratory. This shows clear degradation of the PCE and TCE (found in south-west) to the Vinyl Chloride (found in north-west) which suggests the migration of the VOCs is from the landfill to the south travelling north/westwards. The results have shown the VOCs are travelling within the Lambeth Group (Secondary A Aquifer) as well as the Chalk (Principal Aquifer). Reinforced deep strip foundations (anticipated to between 2.30 – 3.00m bgl) is the method of foundation construction to be used at the site which will terminate within the Lambeth Group. They will remain above the underlying Chalk Principal Aquifer. Given the heterogeneous nature of the Lambeth Group, foundations may locally be constructed within cohesive or granular strata. The foundations are therefore not considered to represent a direct pathway into the Principal Aquifer. Nevertheless, excavation and subsequent backfilling of foundation trenches and associated below ground infrastructure could locally modify groundwater flow

	through the Lambeth Group, particularly where excavations cross relatively low-permeability cohesive horizons. To minimise the potential for preferential contaminant migration, foundation and service excavations should be designed and constructed to avoid unnecessary penetration of cohesive Lambeth strata and to prevent the creation of continuous permeable backfilled pathways across contrasting geological horizons. Where appropriate, low-permeability plugs or equivalent measures should be incorporated into service/foundation trenches in accordance with the geotechnical and structural design. Groundwater encountered during construction should be managed in accordance with a site-specific groundwater management procedure. Unnecessary dewatering should be avoided, and any groundwater encountered within VOC-impacted areas should be appropriately characterised and managed prior to discharge or disposal. Prolonged pumping of contaminated groundwater should not be undertaken without an appropriate assessment and regulatory controls. Groundwater monitoring should be undertaken before and, where appropriate, during and following construction to provide evidence that the works have not resulted in significant changes in groundwater levels or contaminant concentrations. Trigger criteria and contingency measures should be established for unexpected groundwater conditions, significant dewatering or changes in VOC concentrations. These measures are intended to minimise modification of existing groundwater pathways within the Lambeth Group and do not rely on the foundations providing containment of the existing VOC plume. **For full details of next steps please see Section 8.2.**

1. INTRODUCTION

1.1. General

Ground and Water Limited were instructed by Abri on the 24th March 2025 to conduct a Phase II Site Investigation on the site at 220 Elgar Road South, Reading, RG2 0BW. The scope of the investigation was detailed within the fee proposal QU-1424, dated the 6th March 2025.

Ground and Water Limited were instructed by Abri on the 8th July 2026 to conduct additional Site Investigation on the site at 220 Elgar Road South, Reading, RG2 0BW. The scope of the investigation was detailed within the fee proposal QU-2657, dated the 26th June 2026.

1.2. Aims of the Investigation

The aim of this report was to supply the client and their designers with information regarding the ground conditions underlying the site to assist them in preparing an appropriate scheme for development.

The investigation was to be undertaken to provide parameters for the design of foundations by means of in-situ and laboratory geotechnical testing undertaken on soil samples recovered from trial holes.

A contamination assessment was to be undertaken following chemical laboratory testing on soil samples recovered from the site to enable recommendations for the safe redevelopment of the site and the protection of site workers, end-users and the public from any potential contamination identified. The assessment comprises a Tier 2 Generic Quantitative Risk Assessment, under Land Contamination Risk Management (LCRM).

This Site Investigation Report must be read in conjunction with the following reports:

- Soil Environment Services Ltd Desk Study Report referenced SES/MH/ER/1#1, December 2020; and
- Hydrock now Stantec Phase 2 Ground Investigation Report referenced 29680-HYD-XX-XX-RP-GE-1001, February 2025.

The techniques adopted for the investigation were chosen considering the requirements of the client, anticipated ground conditions, and bearing in mind the nature of the site, limitations to site access and other logistical limitations.

1.3. Conditions and Limitations

This report has been prepared based on the terms, conditions and limitations outlined within Appendix A.

Reference has been made to a historical site investigation by another company. Ground and Water Limited cannot be held liable for any shortcomings.

This report supersedes the Site Investigation Report ref: GWPR6540/SIR/July 2025 V1.3 and GWPR6817/SIR/April 2026 and includes additions based on EA comments and includes revision to foundation solution.

1.4. Technical Glossary

Generic technical terms and their description can be viewed within the glossary provided within Appendix B.

2. SITE SETTING

2.1. Site Location

The site comprised a ~0.14ha rectangular-shaped plot of land, orientated in a north to south direction, along the western side of Elgar Road South. The site was located in south Reading, central Berkshire.

The Easting Northing for the centre of the site was approximately 471502, 172109. A site location plan is given within Figure 1.

2.2. Site Description

At the time of site works first lot of site works, May 2025, the single storey building located in the centre of the site, formerly used as office space for a driving school, was dis-used. The west (rear) of the site was laid to bituminous hardstanding used as a car park and the east (front) was used as soft landscaping. The north of the site was the access road connecting the car park (west) and Elgar Road South (east of site). At the time of the additional site works in 2026, the building had been demolished.

2.3. Proposed Development

At the time of reporting, October 2026, the proposed development was understood to comprise the demolition of existing single storey building (already undertaken) and erection of three storey building containing 16 dwellings together with associated soft landscaping, car parking, indoor cycle spaces and refuse.

The proposed development fell within Geotechnical Design Category 2 in accordance with Eurocode 7. The proposed development plan can be seen within Figure 2.

2.4. Geology

The British Geological Survey Solid and Drift Geology Map for the Reading area (Reading Sheet No. 268) revealed that the site was underlain by Worked Ground associated with the former brick and tile works extending to the west over bedrock deposits of the Lambeth Group over Seaford and Newhaven Chalk Formation. Superficial Alluvium was recorded in close proximity to the east and may be encountered on-site.

A BGS borehole record in similar geology ~210m north-east of the site (ref.: SU77SW910) noted interbedded red, brown and grey mottled silty sandy clays and light green clayey sands representing the Lambeth Group to a depth of 16.15m bgl overlying chalk with flints to the base of the borehole at 16.64m bgl. Groundwater seepages were noted at 9.6, 11.8, 16.15m bgl.

2.5. Hydrogeology and Hydrology

The DEFRA online maps indicated that the site was located on Secondary A Aquifer associated with the bedrock Lambeth Group, underlain by a Principal Aquifer associated with the chalk. If Alluvium is encountered on-site these are classified as a Secondary A Aquifer.

From analysis of hydrogeological and topographical maps the groundwater table was anticipated to be encountered at a moderate depth within the Lambeth Group and at depth within the Chalk. Perched water was also likely to be found within the Made Ground, especially after periods of intense or prolonged rainfall. It was considered that the groundwater was flowing westwards, towards the River Kennet and in alignment with local topography.

The nearest surface water feature was recorded to be the River Kennet located ~100m north-west and 120m west. A drain connecting to the River Kennet was identified ~180m south.

The site was not located within a Source Protection Zone and there are no active licensed groundwater abstractions within 1000m of the site.

Shallow groundwater is likely to be present within the Alluvium deposits, as well as variable groundwater strikes with the Lambeth Group due to lateral and vertical heterogenous lithologies (sand channels). A nearby borehole (SU77SW910) recorded water seepages at 9.63m, 11.88m and 13.89m within the Lambeth Group. The chalk is a significant aquifer in Reading with high permeabilities and ability to store and transmit large volumes of groundwater, as well as being able to support large abstractions, so a regional water table is also expected within the chalk. Nearby boreholes (SU77SW910 drilled to 16.61m bgl and SU77SW26 drilled to 45.72m bgl) either did not record groundwater depths or did not reach groundwater.

Recharge to the Alluvium deposits would be expected to take place locally with recharge to the chalk taking place on outcrops to the west of the River Kennet from site.

Some recharge to the Chalk would be expected to occur locally via the superficial deposits and Lambeth Group. Which can in turn create a pathway for potential contamination to leach into the chalk aquifer below.

Examination of the Environment Agency records showed that the site fell within a Flood Zone 1 (an area with a low probability of fluvial or coastal flooding). The site was not protected by flood defences or benefiting from flood storage.

2.6. Radon

A review of the freely available UK Health Security Agency radon database, UK Radon, indicated that the site was located within a 1km grid square, where the maximum radon potential of 1 – 3% was recorded for above ground structures. Basic radon protection measures are required in areas where more than 3% of houses are at or above the Action Level.

The site was in an area where a risk assessment was not required.

2.7. Internet Search (Site Setting)

2.7.1. Available Unexploded Ordnance (UXO) Map Review

A review of the data available on www.zeticauxo.com/ revealed the site was located within a low-risk area associated with unexploded ordnance (UXO), as indicated by having <15 bombs dropped per 1000 acres.

2.7.2. Historical Landfill Tool Review

A review of the data available on www.groundsure.io/ revealed that an area of Historical Landfilling was located adjacent to the south-west of the site. The landfill was recorded as Waterloo Meadows but no further details were given.

2.8. Summary of Previous Desk Study

2.8.1. Sources

On-site sources

- Site formed part of Waterloo Brick Works with associated kilns (1879 – c.1932) **– metals and PAHs,**
- Brick works replaced by research laboratory building (1958 – 1993) – **metals, asbestos, PAHs, TPHs**,
- Infilled land mapped, likely relating to the former brick works – **ground-gases**.

Off-site sources

- Kilns and brick works (1879-c.1932) extending north, east and south from site **– metals and PAHs (covered under on site sources in CSM),**
- Works/Industrial estate (1931-current) 123m west - **metals, PAHs, TPHs**,
- Engineering works (1932-c.1978) 63m east - **metals, PAHs, TPHs, VOCs/SVOCs,**
- Landfill (inert and industrial) adjacent to south-west - **ground-gases, leachates: metals, PAHs, TPHs, VOCs/SVOCs**. PFAS could be a source of contamination from the landfill, however, given the location of the landfill it is considered more likely that any contamination will have migrated towards the River Kennet or into the underlying aquifers. Given PFAS has limited volatility and high water solubility it is unlikely to pose a risk through the vapour pathway. Therefore, it is not considered any further investigation is required with respect of PFAS.

2.8.2. Pathways

Human Health:

- Direct ingestion of soil and soil derived dust;
- Dermal contact of soil and soil derived dust;
- Inhalation of dust (indoors and outdoors) with elevated concentration of determinands;
- Direct ingestion of groundwater;
- Inhalation of volatile vapour (indoors and outdoors);
- Inhalation of ground gases.; and
- Explosion.

The pathway for human health "soil and dust attached to homegrown vegetables/fruit" has been removed due to the proposed development falling under the "residential without homegrown produce" category.

Flora and Fauna

- Direct uptake of groundwater; and
- Direct uptake of contaminants in the soil.

Building Materials and Services

- Direct contact;
- Explosion.

Controlled Waters

- Vertical and lateral migration in permeable strata horizons;
- Via anthropogenic pathways (infilled ground and service runs);
- Surface water Runoff.

2.8.3. Receptors

Based on the proposed development, the potential receptors are presented below and comprise:

Human Health

- End users of the site (Residents/Future site visitors);
- Construction workers during redevelopment;
- Site operatives during maintenance works; and
- Neighbours and members of the public.

Flora and Fauna

- Vegetation within soft landscaped areas;
- Ecological Receptor (Waterloo Meadows adj. south-west).

Building Materials and Services

- Buildings;
- Buried concrete;
- Confined spaces; and
- Underground services (Water Pipes).

Controlled Waters

- Secondary A Aquifer (Lambeth Group)
- Principal Aquifer (Chalk); and
- River Kennet (From ~100m north-west).

2.9. Summary of Previous Phase 2 Report

2.9.1. Site Works

The fieldwork took place between 12th – 13th December 2024 and comprised the drilling of 6No. Windowless Sampler Boreholes (WS01 – WS05 and WS05A) to a depth of 1.20 – 6.45m bgl. 3No. Hand Excavated Trial Pits (FP01 – FP03) to 1.00 – 1.25m bgl. 3No. Internal Lightweight Windowless Sampler Boreholes (LW01 – LW03) to 2.50 – 3.00m bgl.

WS01, WS04 and WS05 were installed to a depth of 1.50 – 2.00m bgl. The installation details can be viewed within the table below.

Combined Ground-gas and Groundwater Monitoring Well Construction					
Trial Hole	Depth of Installation (m bgl)	Thickness of slotted piping with gravel filter pack (m)	Depth of plain piping with bentonite seal (m bgl)	Response Zone (m bgl)	Piping internal diameter (mm)
WS01	1.50	1.00	0.50	0.50 – 1.50	50
WS04	3.00	2.00	1.00	1.00 – 3.00	50
WS05	2.00	1.00	1.00	1.00 – 2.00	50

2.9.2. Ground Conditions

- Surface Cover (Concrete / bituminous bound hardstanding / pea shingle) – between GL and 0.6m bgl.
- Topsoil – between GL and 0.3m below ground level (bgl), comprising grass over dark brown silty sand with frequent root hairs and occasional brick and flint gravels;
- Made Ground – between 0.08m and 2.10m bgl, comprising brown sandy gravelly clay or clayey gravelly sand with abundant gravels of brick, flint, clinker and rare chalk, slag, ash, rope, glass and mortar; over

- Alluvium Deposits – between 1.8m and 2.6m bgl, comprising either very loose greenish grey silty organic sand or soft dark grey speckled back sandy organic silt with occasional flint gravels; over
- Upnor Formation (Lambeth Group) – between 0.7m and >5.45m bgl (base of stratum not proven), comprising firm grey or grey, mottled orange/orange brown sandy silty clay or medium dense blue grey/greenish brown grey clayey or silty sand; over
- Seaford and Newhaven Chalk Formation – between 5.0m and >6.45m bgl (base of stratum not proven), comprising of structureless Grade Dm (matrix-supported) and Grade Dc (clast supported);
- Organic odour recorded within the Made Ground of WS03 between 1.40 – 1.80m bgl;
- Very dark black and notable organic odour recorded within the Made Ground of WS05 between 1.60 – 2.10m bgl.

2.9.3. Groundwater

Groundwater was encountered during drilling at depths predominantly within the Lambeth Group between 2.5m and 3.2m bgl within the external window sample boreholes, these initial strikes were noted to rise after 20 minutes by between 0.2m and 0.6m. Groundwater during the monitoring visits undertaken between 13th January 2025 and 3rd February 2025 recorded groundwater at 0.91 – 1.59m bgl.

2.9.4. Chemical Laboratory Testing

A selection of samples were sent for chemical analysis to a UKAS and MCERTS accredited laboratory.

Determinand Suite	Made Ground	Topsoil	Lambeth Group
Metals, cyanide pH, asbestos, phenols and PAHs	10	1	2
TPHs by GC-MS and GC-FID	4	1	2
Speciated TPHs by GC-MS and GC-FID	6	-	-
VOCs by GC-MS	3	-	-
SVOCs by GC-MS	3	-	-
Coal Tar test suites (speciated PAH by GC-FID, speciated phenols and speciated creosols)	1	-	-

2.9.5. Contamination Risk Assessment

Based on the proposed development, the results of the chemical laboratory testing were compared to the Generic Assessment Criteria (GAC) for a 'Residential without homegrown produce' land-use scenario, as this was considered the most appropriate land-use scenario. There was widespread PAH exceedances in WS01, WS03, WS05 and LWS02 and localised exceedances of Lead, Arsenic and Trichloromethane in WS05. Aniline, Dimethyl phthalate, 4-Chlorophenyl phenyl ether and Anthraquinone were above the laboratory limit of detection but there was no assessment criteria for

the determinands in WS03/0.8, WS05/1.2 and LWS02/0.7m bgl. Asbestos was also identified in WS05/0.30 as chrysotile loose fibres 0.001% and LWS02/0.20-0.70 as chrysotile loose fibrous debris 0.015%. For plants with respect of phytotoxicity WS05/0.1 and FP01/0.3m bgl were elevated for Copper and Zinc.

2.9.5.1. Water Pipes

The site is brownfield and organic contamination (PAH, VOC, SVOC and petroleum hydrocarbons) has been identified in exceedance of the threshold values and a varying depths within the Made Ground from 0.3m to 1.2m bgl, which are depths where typical pipework may be placed and at this stage barrier pipe are recommended. If Made Ground is to be removed from site, barrier pipe may not be required.

2.9.6. Geotechnical Laboratory Testing

A selection of geotechnical samples were sent to a UKAS accredited laboratory.

Determinand Suite	Made Ground	Alluvium	Lambeth Group
Natural moisture content	-	2	4
Atterberg limits	-	-	4
Particle size distribution (sieve/sedimentation)	-	-	3
Sulphate and aggressive chemical environment classification for buried concrete classification (full BRE SD1 suite)	3	1	1
Organic Matter	-	2	-

2.9.6.1. Concrete Design

Design Sulphate Class - DS-1 and ACEC Class AC-1 for Made Ground, Alluvial deposits and Lambeth Group. Equivalent to Design Chemical Class DC-1 for a 50-year design life.

2.9.7. Ground-gas Monitoring

Ground-gas monitoring was undertaken on four visits between 13th January – 3rd February 2025. The results revealed a maximum carbon dioxide concentrations of 2.1%v/v. Methane and flow rates were not recorded above the monitors limit of detection.

2.9.8. Waste

The Environment Agency's Hazardous Waste Technical Guidance (WM3) document outlines the methodology for classifying wastes. Once classified the waste can be removed to the appropriately licensed facilities, with some waste requiring pre-treatments prior to disposal.

Following the investigation, the samples were submitted to the analytical laboratory to undergo a suite of testing for contamination testing, as discussed in the previous sections. Sampling depths were chosen to reflect the receptor of concern, human health, and typically comprised a surface or near surface sample and periodically to 1.00m bgl.

Based on a risk phase analysis of the chemical laboratory test results, in accordance with EC Hazardous Waste Directive and undertaken by Ground and Water Limited, all soil samples encountered were NON-HAZARDOUS with the exceptions of WS05/0.30 for levels of zinc and TPHs and FP01/GL-0.10m bgl for levels of zinc.

Some of the bituminous hardstanding was also screened and confirmed that coal tars were not present.

2.10. Preliminary Risk Assessment

The tabulated Conceptual Site Model developed as part of the Soil Environment Services Ltd Desk Study Report referenced SES/MH/ER/1#1, December 2020 is outlined overleaf and adapted in accordance with Ground and Water's risk categorisation. For ease of reference and understanding, the risks have been classified within this risk assessment against four possible levels / categories, summarised in the table below. Any risk deemed to be negligible within the Preliminary Risk Assessment have been excluded from this report.

Risk Categories used in the Tabulated CSM	
Low Risk	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is not considered to be an unacceptable risk to receptors. However, it is considered that further investigation to confirm this is recommended.
Moderate Risk	Regarding this potential SPR linkage, the site may not be suitable for the proposed end-use in its current condition and there may be an unacceptable risk to receptors. Further investigation is required to confirm this.
High Risk	Regarding this potential SPR linkage, the site is probably or certainly not suitable for proposed end-use and there is likely to be an unacceptable risk to receptors. Contaminants probably or certainly present and urgent action required in the short term.

Tabulated Conceptual Site Model – Pollutant Linkage Summary (On-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Former brick works and kilns: • PAHs, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public	**Moderate**
	• Direct uptake of groundwater • Direct uptake of determinands in the soil	**Flora and Fauna** • Vegetation within soft landscaped areas • Ecological Receptor (Waterloo Meadows adj. south-west)	**Moderate**
	• Anthropogenic (man-made) pathways • Vertical and lateral migration in permeable strata • Surface water runoff	**Controlled Waters** • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); and • River Kennet (From ~100m north-west)	**Low**
Existing building, formerly used as laboratory: • Asbestos, • Metals, • PAHs, and • TPHs.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public	**Moderate**
	• Direct uptake of groundwater • Direct uptake of determinands in the soil	**Flora and Fauna** • Vegetation within soft landscaped areas • Ecological Receptor (Waterloo Meadows adj. south-west)	**Low**
	• Anthropogenic (man-made) pathways • Vertical and lateral migration in permeable strata • Surface water runoff	**Controlled Waters** • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); and • River Kennet (From ~100m north-west)	**Low**

Aggressive ground conditions with Made Ground and natural ground, including groundwater: • Sulphates, • PAH/TPH.	• Direct contact with aggressive ground conditions	**Building Materials and Services** • Buried Concrete • Underground services (water pipes)	**Moderate**
Ground gases generated by infilled land and alluvium (if encountered): • Methane, • Carbon Dioxide, • Hydrogen Sulphide, and • Carbon Monoxide.	• Migration through anthropogenic & natural pathways • Inhalation of Asphyxiating gases • Explosion (methane only)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development (especially in confined spaces) • Site operatives during maintenance works in confined spaces • Neighbours and public	**Moderate**
	• Migration through anthropogenic & natural pathways • Explosion (methane only)	**Building Materials and Services** • Buildings • Confined spaces • Underground services	**Low**

Tabulated Conceptual Site Model – Pollutant Linkage Summary (Off-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Landfill leachate: • PAHs, • TPHs, • SVOCs/VOCs, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works	**Moderate**
	• Direct uptake of groundwater	**Flora and Fauna** • Vegetation within soft landscaped areas	**Low**
Made Ground from nearby works incl. engineering works: • PAHs, • TPHs, • SVOCs/VOCs, • Sulphates, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works	**Low**
	• Direct uptake of groundwater	**Flora and Fauna** Vegetation within soft landscaped areas	**Low**
Aggressive ground conditions associated with impacted groundwater; • Sulphates, • PAH/TPH.	• Direct contact with aggressive ground conditions	**Building Materials and Services** • Buried Concrete • Underground services (water pipes)	**Moderate**
Ground gases generated by landfill adj. to south-west: • Methane, • Carbon Dioxide, • Hydrogen Sulphide, and • Carbon Monoxide.	• Migration through anthropogenic & natural pathways • Inhalation of Asphyxiating gases • Explosion (methane only)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development (especially in confined spaces) • Site operatives during maintenance works in confined spaces	**Moderate**
	• Migration through anthropogenic & natural pathways • Explosion (methane only)	**Building Materials and Services** • Buildings • Confined spaces	**Low**

Tabulated Conceptual Site Model – Pollutant Linkage Summary (Off-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
		• Underground services	

3. SITE WORKS

3.1. Scope of Works

Site works were undertaken on 2nd – 5th April 2025 and comprised the drilling of 2No. Cable Percussion Boreholes (BH1 – BH2) to a depth of 20.45m bgl. Standard Penetration Tests were carried out at 1.00m intervals to 5.00m bgl and every 1.50m thereafter. 5No. Windowless Sampler Borehole (WS1 – WS4 and WS4A) to a depth of 1.40 – 3.00m bgl. A combined ground-gas/groundwater monitoring standpipe, with an internal diameter of 50mm, was installed to 4.20 – 5.20m bgl within BH1 and BH2. The installation details can be viewed within the table below.

Combined Ground-gas and Groundwater Monitoring Well Construction					
Trial Hole	Depth of Installation (m bgl)	Thickness of slotted piping with gravel filter pack (m)	Depth of plain piping with bentonite seal (m bgl)	Response Zone (m bgl)	Piping internal diameter (mm)
BH1	5.20	3.00	2.20	2.20 – 5.20	50
BH2	4.20	2.00	2.20	2.20 – 4.20	50

As outlined in the Site Investigation Scheme, site works were undertaken between the 8 - 19th January 2026 and comprised the drilling of 3No. Cable Percussion Boreholes (BH201 – BH203) to 15.00m bgl. Groundwater monitoring standpipes were installed as summarised in the following table.

Summary of Installations						
Trial Hole	**Type of Installation**	**Depth of Installation (m bgl)**	**Thickness of slotted piping with gravel filter pack (m)**	**Depth of plain piping with bentonite seal (m bgl)**	**Response Zone (m bgl)**	**Pipe internal diameter (mm)**
BH201	Standpipe	15.00	11.00	4.00	4.00 – 15.00	50
BH202	Standpipe	15.00	10.00	5.00	5.00 – 15.00	50
BH203 (s)	Standpipe	4.00	3.00	1.00	1.00 – 4.00	50
BH203 (d)	Standpipe	15.00	10.00	5.00	5.00 – 15.00	50

5No. Hand Excavated trial pits (TP201 – TP205) to a depth of 1.00m bgl and 8No. Machine Excavated trial pits (TP206 - TP213) to a depth of 2.00m bgl.

As part of the Site Investigation Scheme it was intended for BH1 and BH2 from the previous investigation to be utilised for groundwater sampling. Unfortunately, BH2 was found damaged and BH1 could not be located. Therefore, these wells needed to be reinstalled.

Site works were undertaken on the 30th January 2026 and comprised the drilling of 2No. Windowless Sampler Boreholes (BH1A and BH2A – on the groundwater sample results these are called BH1 and BH2) to 5.00m bgl. Groundwater monitoring standpipes were installed to 4.80m bgl as summarised in the following table.

Summary of Installations						
Trial Hole	Type of Installation	Depth of Installation (m bgl)	Thickness of slotted piping with gravel filter pack (m)	Depth of plain piping with bentonite seal (m bgl)	Response Zone (m bgl)	Piping internal diameter (mm)
BH1A	Standpipe	4.80	3.50	1.30	1.30 – 4.80	50
BH2A	Standpipe	4.80	3.60	1.20	1.20 – 4.80	50

Additional site works were undertaken to better understand the VOC/SVOCs within the natural soils. These site works were attempted on 13th and 29th July 2026 but were postponed due to ACM risk. The site works were then undertaken on 17th – 18th July 2026 following removal of the ACMs in our locations and comprising the drilling of 6No. windowless samples (WS301 – WS306) to a depth of 6.00m bgl.

The location of the trial hole locations can be seen within Figure 3.

Prior to commencing the ground investigation, a walkover survey was carried out to identify the presence of underground services and drainage. Where underground services/drainage were suspected and/or positively identified, the exploratory position was relocated away from these areas.

As a further precautionary measure, the borehole was hand excavated to 1.20m below the local ground level (bgl) and scanned with a Cable Avoidance Tool (CAT scanner) to minimise the risk to services.

Upon completion of the drilling works, the trial holes were backfilled and made good, in relation to the surrounding area.

3.2. Sampling Procedures

Small disturbed samples and environmental samples were recovered from the trial holes at the depths shown on the trial hole records. Soil samples were generally retrieved from each change of strata and/or at specific areas of concern. Samples were also taken at approximately 0.5m intervals during broad homogenous soil horizons.

A selection of samples was despatched to a laboratory for both geotechnical and chemical testing purposes.

4. ENCOUNTERED GROUND CONDITIONS

4.1. Soil Conditions

The trial holes were logged by a Ground and Water Limited representative, generally in accordance with BS EN 14688 'Geotechnical Investigation and Testing – Identification and Classification of Soil'. The chalk samples were logged in accordance with CIRIA 574.

The ground conditions encountered within the trial holes constructed on the site did generally conform to that anticipated from examination of the geology map. A capping of Made Ground was noted to overlie the bedrock Lambeth Group over Seaford and Newhaven Chalk Formation.

The succession of conditions and description of soils encountered in the trial holes in descending order is tabulated below.

Summary of Strata Encountered (Boreholes)			
Strata	**Top Depth (m bgl)**	**Base Depth (m bgl)**	**Thickness (m)**
BITUMINOUS HARDSTANDING (BH1, BH2, WS4 and WS4A).	GL	0.10 - 0.20	0.10 - 0.20
MADE GROUND (granular) (BH1, BH2, WS4A): Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash, chalk and concrete.	0.10 - 0.20	2.00 – 2.50	1.90 – 2.30
MADE GROUND (cohesive) (WS1 – WS4, BH201 - BH203): Dark brown sandy slightly gravelly CLAY. Gravel is sub-angular to subrounded, fine, brick, concrete, ash and flint.	GL	0.30 – 3.00	0.30 – 3.00
LAMBETH GROUP (granular) (BH1, BH2, WS1 – WS2, WS4A): Brown and grey clayey medium SAND.	0.30 – 2.50	2.50 - 3.60	>0.50 – 2.30
LAMBETH GROUP (cohesive) (BH1, BH2, WS1 – WS3, WS4A, BH201 - BH203): Orangish brown silty sandy CLAY with pockets of medium sand.	1.90 - 3.60	2.50 - 5.30	>0.30 – 2.50
SEAFORD AND NEWHAVEN CHALK FORMATION (BH1, BH2 and BH201 - BH203): Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (Dm Chalk).	3.20 - 5.30	>15.45 - >20.45	>10.25 - >16.45

Summary of Strata Encountered (Trial Pits)			
Strata	**Top Depth (m bgl)**	**Base Depth (m bgl)**	**Thickness (m)**
MADE GROUND (TP201 – TP205): Dark brown and black clayey gravelly fine SAND. Gravel is sub-rounded to angular, fine to coarse, tile, flint and brick.	GL – 0.40	0.40 - >1.00	>0.60 - >1.00
MADE GROUND (TP206 – TP207, TP209): Dark brown very sandy gravelly CLAY. Gravel is sub-angular, fine to coarse, brick, concrete and other crushed building material.	GL	1.40 – 1.45	1.40 – 1.45
TOPSOIL (TP204, TP208, TP210 - TP213): Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular to angular, fine to coarse, flint.	GL	0.20 - 0.40	0.20 - 0.40
Brick cobble (TP201).	0.95	>1.00	>0.05
LAMBETH GROUP (granular) (TP203, TP208, TP210 - TP213): Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to angular, fine to coarse, flint.	0.20 - 0.40	>1.00 - >2.00	>1.00 - >1.80

LAMBETH GROUP (cohesive) (TP206 – TP20, TP2097): Yellowish brown very sandy CLAY.	1.40 – 1.45	>2.00	>0.55 - >0.60

Summary of Strata Encountered (Additional WLS boreholes)			
Strata	**Top Depth (m bgl)**	**Base Depth (m bgl)**	**Thickness (m)**
MADE GROUND (WS301 – WS303): Black gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse, chalk, brick, flint and metal fragments.	GL	0.90 – 3.10	0.90 – 3.10
LAMBETH GROUP (granular) (WS303 - WS306): Brown silty SAND. Sand is fine to coarse.	1.90 – 4.00	3.50 – 5.50	1.50 – 2.90
LAMBETH GROUP (cohesive) (WS301 – WS305): Firm grey slightly gravelly sandy silty CLAY to sandy SILT. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of chalk and flint.	0.90 – 3.50	1.90 – 4.70	0.40 - 2.80
SEAFORD AND NEWHAVEN CHALK FORMATION (WS101 – WS106): Off-white gravelly SILT. Gravel is subangular, fine to medium, extremely weak, low density CHALK with fossilised wood. (likely Dm Chalk)	4.45 – 5.50	>6.00	>0.50 - >1.55

For details of the composition of the soils encountered at particular points, reference must be made to the individual trial hole logs within Appendix C of this report. A trial hole location plan can also be viewed within Figure 3.

4.2. Roots Encountered

No roots were noted during the intrusive investigation.

It must be noted that the chance of determining actual depth of root penetration through a narrow diameter borehole is low. Roots may be found to greater depths at other locations on the site, particularly close to trees and/or trees that have been removed both within the site and its close environs.

4.3. Groundwater Conditions

Groundwater strikes were noted between 1.70 – 4.45m bgl within the boreholes. WS301, WS302 and WS305 did not encounter any groundwater strikes. It should be noted that groundwater strikes may be obscured by the drilling/excavation process. A summary of the groundwater observations during site works has been provided below.

A summary of the groundwater observations during site works has been provided below.

Groundwater Strikes during Drilling				
Trial Hole	**Groundwater reading (m bgl)**		**Depth after 20 minutes (m bgl)**	
	m bgl	**m AOD**	**m bgl**	**m AOD**
BH1	3.00	-*	2.76	-*
BH2	2.80	-*	2.77	-*
	4.45	-*	4.42	-*
WS1	2.00	-*	-	
WS2	2.30	-*	-	

WS3	2.00	-*	-	
WS4	None		-	
WS4A	2.00	-*	-	
BH1A	1.40	41.47	-	
BH2A	1.40	41.39	-	
BH201	6.10	36.43	5.80	36.73
BH202	5.80	37.18	5.40	37.58
BH203	3.10	40.43	1.90	41.63
	5.90	37.63	5.10	38.43
WS301	None		-	
WS302	None		-	
WS303	3.00		-	
WS304	3.00		-	
WS305	None		-	
WS306	1.70		-	
***levels unknown prior to demolition.**				

Following the site investigation, 6No. return groundwater monitoring visits were undertaken. The groundwater levels can be seen can be seen below.

Depth of Groundwater within Trial Holes					
Trial Hole	**Date**	**Depth of Groundwater**		**Depth of Standpipe**	
		m bgl	**m AOD**	**m bgl**	**m AOD**
BH1 (Lambeth Group)	09/04/2025	3.49	-*	-	
BH2 (Lambeth Group)		1.74	-*	-	
BH1 (Lambeth Group)	16/05/2025	3.50	-*	9.10	-*
BH2 (Lambeth Group)		3.20	-*	9.40	-*
BH1 (Lambeth Group)	22/05/2025	3.20	-*	9.10	-*
BH2 (Lambeth Group)		3.10	-*	9.40	-*
BH1A (Lambeth Group)	05/02/2026	1.41	41.46	4.47	36.99
BH2A (Lambeth Group)		1.59	41.20	4.69	36.51
BH203 (s) (Lambeth Group)		1.68	41.85	3.18	40.35
BH201 (Chalk)		2.76	39.77	12.65	29.88
BH202 (Chalk)		2.88	40.10	12.29	30.69
BH203 (d) (Chalk)		3.11	40.42	13.44	30.09
BH1A (Lambeth Group)	23/02/2026	1.41	41.46	4.47	38.40
BH2A (Lambeth Group)		1.59	41.20	4.69	38.10
BH203 (s) (Lambeth Group)		1.87	41.66	3.18	40.35
BH201 (Chalk)		2.76	39.77	12.65	29.88
BH202 (Chalk)		2.88	40.10	12.29	30.69
BH203 (d) (Chalk)		4.83	38.70	13.12	30.41
BH1A (Lambeth Group)	25/03/2026	2.24	40.63	4.50	38.37
BH2A (Lambeth Group)		1.64	41.15	4.63	38.16
BH203 (s) (Lambeth Group)		2.13	41.40	3.25	40.28
BH201 (Chalk)		3.08	39.45	12.74	29.79
BH202 (Chalk)		2.94	40.04	13.40	29.58
BH203 (d) (Chalk)		6.30	37.23	11.80	31.73

Changes in groundwater level occur for a number of reasons including seasonal effects and variations in drainage. The investigation was undertaken in April – May 2025 and July 2026 when groundwater levels are likely to be falling from their annual maximum (highest elevation) or at their annual minimum (lowest elevation). Exact groundwater levels may only be determined through long term measurements from monitoring wells installed on-site.

4.4. Obstructions

WS4 was terminated at 1.40m bgl due to possible concrete obstruction.

No other artificial or natural sub-surface obstructions were noted during construction of the trial holes.

5. IN-SITU AND LABORATORY TESTING

5.1. In-situ Strength Testing

Standard Penetration Tests (SPTs) were undertaken as part of the site investigation. The results of the SPT's have not been amended to consider hammer efficiency, rod lengths and overburden pressure in accordance with Eurocode 7. The test results are presented on the borehole logs within Appendix C. An interpretation of the in-situ geotechnical testing results is given in the table below.

Interpretation of In-situ Geotechnical Testing Results					
Strata	**SPT "N" Blow Counts**	**Equivalent Undrained Shear Strength (Cu) (kPa) (Stroud (1974))**	**Soil Type**		**Trial Hole/s (m bgl)**
			Granular (Density)	**Cohesive (Cu)**	
Made Ground	2 – 42	-	-	-	BH1/1.20 – 2.20 BH2/1.20 – 2.50
Loose Lambeth Group (Granular)	6 - 8	-	Loose	-	BH1/2.20 – 3.60 BH2/2.50 – 3.60
Soft Lambeth Group (Cohesive)	4 – 8	20 – 40	-	Low	BH1/3.60 – 5.30 BH2/3.60 – 4.30
Chalk	8 – 50	-	-	-	BH1/5.30 – 20.45 BH2/4.30 – 20.45

It must be noted that field measurements of undrained shear strength (Cu) are dependent on a number of variables including disturbance of sample, method of investigation and also the size of specimen or test zone.

5.2. Geotechnical Laboratory Testing

A programme of geotechnical laboratory testing, scheduled by Ground and Water Limited and carried out by an accredited geotechnical testing laboratory was undertaken on samples recovered. Details of the specific tests used in each case are given below.

Standard Methodology for Laboratory Geotechnical Testing		
Test	**Standard**	**Number of Tests**
Atterberg Limit Tests	BS1377:2016:Part 2:Clauses 3.2, 4.3 & 5	2
Particle Size Distribution Tests	BS1377:2016:Part 2:Clause 9	1
Determination of Saturation Moisture Content of Chalk	BS1377:2016:Part 2:Clause 3.3	2
Water Soluble Sulphate and pH Test	BS1377:2018:Part 3:Clause 5	1
BRE Special Digest 1 Tests	BRE Special Digest 1 "Concrete in Aggressive Ground (BRE, 2005).	2

5.2.1. Atterberg Limit Testing

A précis of Atterberg limit testing undertaken can be seen tabulated below. The test results are presented within Appendix D.

Atterberg Limit Tests Results Summary							
Stratum	Moisture Content (%)	Passing 425 µm sieve (%)	Modified PI (%)	Soil Class	Consistency Index (Ic)	Volume Change Potential	
						BRE	NHBC
Lambeth Group	17 – 33.3	100	25.00 – 33.00	Cl – CH	Stiff	Medium	Medium
• NP – Non-plastic • BRE Volume Change Potential refers to BRE Digest 240 (based on Atterberg results) • Soil Classification based on British Soil Classification System. • Consistency Index (Ic) based on BS EN IS0 14688-2:2018.							

5.2.2. Moisture Deficit Assessment

The results of the Atterberg Limit tests were analysed to determine the Liquidity Index of the samples, to give an indication as to whether the samples recovered showed a moisture deficit as well assessing their degree of consolidation. Liquid Limit analyses were undertaken to assess whether there were any potentially significant moisture deficits within the samples tested.

No potential moisture deficits were recorded.

5.2.3. Particle Size Distribution Testing

The results of particle size distribution (PSD) testing undertaken show that the Lambeth Group have volume change potential in accordance with BRE240 and not with NHBC Standards Chapter 4.2. The results of the PSD testing can be viewed within Appendix D and summarised below.

Particle Size Distribution Results Summary			
Stratum	Range Passing 63µm Sieve (%)	Volume Change Potential	
		BRE	NHBC
Lambeth Group	22	Yes	No
• Volume Change Potential refers to BRE Digest 240 (based on Grading test results). • Shrinkability refers to NHBC Standards Chapter 4.2 (based on Grading test results). • BRE 240 states that a soil has a volume change potential when the clay fraction exceeds 15%. Only the silt and clay combined fraction are determined by sieving therefore the volume change potential is estimated from the percentage passing the 63µm sieve. • NHBC Standards Chapter 4.2 states that a soil is shrinkable if the percentage of silt and clay passing the 63µm sieve is greater than 35% and the Plasticity Index is greater than 10%.			

5.2.4. Saturation Moisture Content of Chalk

The results of the saturation moisture content testing undertaken can be seen in the following table. The test results are presented within Appendix D.

Summary of Saturation Moisture Content Test Results					
Stratum	Moisture Content (%)	Saturation Moisture Content (%)	Bulk Density (Mg/m^3)	Dry Density (Mg/m^3)	CIRIA Dry Density Classification
Chalk – BH2/10.00m bgl	28	28	1.97	1.54	Low density
Chalk - BH1/14.00m bgl	23	23	2.04	1.65	Medium density
Density in accordance with CIRIA 574 Chapter 3.0, Table 3.7					

6. ENGINEERING CONSIDERATIONS

6.1. Chalk Dissolution & Mining Risk Assessment

The presence of dissolution features on-site can prove problematic, as they often provide inconsistency within the underlying geology. Often formed during glacial and periglacial conditions, the depth and width of these features can vary substantially, often providing inconsistency in geological strength data.

If a dissolution feature is suspected, a geotechnical engineer and structural engineer should be contacted for suitable engineering designs, based on further works identifying and classifying the area the feature occupies.

Groundsure datasheets and historical mapping have been reviewed and can be viewed in Appendix E.

The Groundsure Geoinsight datasheets revealed the following information which may be pertinent to this risk assessment.

- Ground Dissolution of Soluble Rocks – The site was classified as a Low risk of ground dissolution of soluble rocks.
- Low Risk was described as “Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not to be considered except in exceptional circumstances”.
- An on-site Class C Historical Mining area was identified. A Class C area was described as “Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.”. However, these classifications are generally a precautionary statement attributed to all areas associated with chalk within the ground profile. Therefore, this does not identify any underground chalk features at the site location.
- 7No. Britpits records were noted within 250m radius of the site, 5No relate to Waterloo Kilns (which included this site boundary) 25m – 201m east/south-east and 2No. relate to Katesgrove Kilns 124 – 209m north, both for clay and shale surface workings.
- 30No. records of surface ground workings were noted, the closest was recorded 19m north-east of the site, and all were related to brick and tile works and associated pit/ground workings and heaps. 1No. did relate to the canal 94m north.
- The eastern portion of the site is mapped as Worked Ground, likely relating to the former Waterloo Kiln brick works.

- 10No. records were available for researched mining areas including on-site for stone.
- 1No. mining cavity was recorded within a 250m radius which related to Waterloo Kiln/Clackmans Field for chalk.
- No records of natural cavities or underground workings, were noted within a 250m radius. Some records however were noted further to the north-west.
- A review of the historical mapping shows the kilns in the south-west and east of the site associated with the Waterloo Kilns (brick, tile and drain pipe) which extends south and east. These were replaced by 1932 and the current existing building constructed by 1957. The workings relating to the Waterloo Kilns extended east and south-east, the buildings themselves were replaced by and engineering works in 1957 and eventually became part of an industrial estate.
- From a review of the data available on www.lidarfinder.com there was no evidence of potential depressions on site.
- The Edmonds Procedure (Edmonds, C.N., 2001. Predicting natural cavities in chalk. Geological Society, London, Engineering Geology Special Publications, 18(1), pp.29-38.); highlighted a moderate subsidence hazard classification.

The site investigation encountered a Made Ground overlying interbedded cohesive and granular soils of the Lambeth Group for the remaining depth of the windowless sample boreholes (maximum depth of 3.00m bgl) and to 4.3 – 5.30m bgl in the deeper boreholes where the chalk was noted for the remainder of the boreholes to 20.45m bgl. In-situ testing classified the Lambeth Group as having low undrained shear strength loose for the granular horizons.

The chalk appeared to be competent in general, however NSPTS of 8 were recorded within the chalk in BH1, from the interface down to a depth of ~8.00m bgl.

This risk assessment indicates that there is a risk from the dissolution of soluble rocks, based on the geology the site is at. It is considered therefore that the presence of natural cavities in this area should not be discounted.

In addition, the site was noted to be in a mining area, where parts of the site were potentially excavated and infilled. Made Ground of ~2.00 – 2.50m in thickness was recorded within a number of boreholes, which indicates some deep Made Ground is present on site and it does not appear to be in

a specific pattern.

3No. cable percussion boreholes were undertaken to 15.45m bgl and 13No. trial pits post-demolition which conformed with the original findings. Consideration could be given for further examination with some additional probes in the proposed locations of piles to a target minimum depth of 15m bgl, to ensure that in those exact locations, ground is properly assessed and designed in accordance with. Particularly for proving depth of competent chalk, however, it is not considered this is fundamental to the design.

6.2. Soil Characteristics and Foundation Considerations

A summary of the soil characteristics following the intrusive site investigation and laboratory testing and the relevant foundation considerations has been provided below. The following information from the ground investigation was considered pertinent to the design of foundations.

- Foundations should be taken through any Made Ground/Topsoil and either into, or onto a suitable underlying natural stratum of adequate bearing characteristics.
- Foundations should be designed in accordance with soils of medium volume change potential.
- Given the presence of cohesive soils at shallow depth, special foundation precautions may be required to prevent possible future shrinkage/swelling of the soils affecting the integrity of the faces of foundations (underfloor void diameter/compressible material/void formers etc.).
- In case of piling, the design of each structural element (slab/piles/beams) should be designed in accordance with the appropriate volume change potential of the respective bearing stratum. Special foundation precautions may be required to prevent possible future shrinkage/swelling of the soils affecting the integrity of the faces of foundations and/or structural element (underfloor void diameter/compressible material/void formers etc.).
- The loads of proposed foundations should not exceed the allowable bearing capacity of the soils they are founding upon.
- Foundations must not be placed within fresh root penetrated and/or desiccated soils with volume change potential. It is recommended that foundations are taken at least 300mm into non-fresh root penetrated strata if the soils have volume change potential, or into soils of no volume change potential.
- The influence of trees on or surrounding the site will need to be taken into account in final design (NHBC Standards Chapter 4.2) (tree rings).
- Any water ingress must be prevented from entering foundation trenches and excavations must be kept dry and either concreted or blinded as soon after excavation as possible. If water were allowed to accumulate within the excavation for even a short period of time, an increase in heave occur. The shear strength will also be reduced, resulting in lower bearing capacities, resulting in increased settlements. Instability issues may arise within the foundation trenches, in case of perched water being present.

6.3. Shallow Foundations

Based on the structural engineers' requests, these are the depths which have been recommended for shallow foundations with associated bearing capacity and settlement based on modelling using GEO5 software.

Allowable Bearing Capacities Calculated			
Foundation Depths (m bgl)	**Dimensions (mm)**	**Allowable Bearing Capacity (kN/m²)**	**Settlement (mm)**
3.0 (BH203)	0.75 x 0.75	112.4	9.3
3.0 (BH203)	1.4 x 1.4	129.77	8.7
3.0 (BH203)	1.6 x 1.6	133.75	8.4
2.3 (BH1)	0.75 x 0.75	77.5	4.2
2.3 (BH1)	1.4 x 1.4	76.58	3
2.3 (BH1)	1.6 x 1.6	76.6	2.8

Based on the above, foundations should bypass any Made Ground/Topsoil and soft spots/loose granular soils, before extending 300mm below the proved depth of root penetration. Foundations would therefore be constructed on competent, moisture stable soils of the Lambeth Group. A tabulated summary showing the minimum foundation depth based on each trial hole used can be viewed above in the following table.

Summary of Minimum Foundation Depths			
Trial Hole	**Minimum Foundation Depth (m bgl)**	**Founding Geological Formation**	**Reason**
BH1	2.3	Lambeth Group (Granular)	Foundations should bypass Made Ground (2.2m) before founding on competent soils at a moisture stable depth.
BH203	3.0	Lambeth Group (Cohesive)	Foundations should bypass Made Ground found at (2.7m) before founding on competent soils at a moisture stable depth.

The proposed foundation plan can be viewed in Figure 4.

6.4. Piled Foundation

It is understood the client does not want to proceed with piled foundations. Should this be changed then a Piling Risk Assessment will be required.

The construction of a piled foundation is a specialist job, and the advice of a reputable contractor, familiar with the type of ground and groundwater conditions encountered on this site, should be sought prior to finalising the foundation design. The actual pile working load will depend on the particular type of pile and method of installation adopted.

The foundation would comprise a piled foundation with reinforced ground beams or a piled slab. In general, for the cumulative pile capacity calculations, shaft friction over desiccated levels should be

ignored and piles should not be terminated within desiccated soils where moisture recovery following tree removal could occur.

The piles will need to be designed in accordance with the volume change potential of the soils encountered, depth of desiccation and root penetration. Temporary casing may be required where the upper portion of the pile passes through the Made Ground, particularly where perched water is encountered, to prevent necking of the concrete.

6.5. Excavations and Stability

Shallow excavations in the Made Ground and Lambeth Group are likely to be marginally stable at best. Long, deep excavations, through these strata and into the underlying Chalk are likely to become unstable.

Unsupported earth faces formed during excavation may be liable to collapse without warning and suitable safety precautions should therefore be taken to ensure that such earth faces are adequately supported before excavations are entered by personnel.

6.6. Sub-Surface Concrete Design

Concrete to be placed in contact with soil or groundwater must be designed in accordance with the recommendations of Building Research Establishment Special Digest 1, 2005, *'Concrete in Aggressive Ground'* considering the pH of the soils. For the classification given below, the "mobile" and "brownfield" case was adopted given the geology encountered and the residential use of the site.

Made Ground

The water-soluble sulphates in the Made Ground was noted to be 6.58 - 141mg/l, with a pH of 8.4 – 10.1, from chemical and geotechnical laboratory testing.

According to BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground' a Sulphate Design Class of DS-1 should be used for sub-surface concrete in contact with the Made Ground. Table C1 of the Digest indicated an ACEC (Aggressive Chemical Environment for Concrete) classification of AC-1.

Lambeth Group

The water-soluble sulphates in the Lambeth Group was noted to be 1.86 – 13.7mg/l, with a pH of 8.2 – 8.7, from chemical laboratory testing. The total potential sulphate (3x total sulphur) was <0.015%, from chemical laboratory testing.

According to BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground' a Sulphate Design Class of DS-1 should be used for sub-surface concrete in contact with the Lambeth Group. Table C1 of the Digest indicated an ACEC (Aggressive Chemical Environment for Concrete) classification of AC-1.

Chalk

The water-soluble sulphates in the Chalk was noted to be 47.7mg/l, with a pH of 7.5, from chemical laboratory testing. The total potential sulphate (3x total sulphur) was 0.078%, from chemical laboratory testing.

According to BRE Special Digest 1, 2005, 'Concrete in Aggressive Ground' a Sulphate Design Class of DS-1 should be used for sub-surface concrete in contact with the Chalk. Table C1 of the Digest indicated an ACEC (Aggressive Chemical Environment for Concrete) classification of AC-1.

6.7. Roads and Hardstanding Design

This section provides information relating to the construction of roads and hardstanding, for each strata encountered.

6.7.1. Anticipated CBR Values and Frost Susceptibility

Made Ground

Where roads and hardstanding are to be founded on Made Ground, a CBR value of 1% should be adopted, as a result of the variable nature of Made Ground in terms of consistency, strength and compressibility.

Lambeth Group (cohesive)

Roads and hardstanding constructed on the cohesive Lambeth Group should be designed based on a CBR value of 4.0%. This is based on reference to Table C1 of TRL1132 and average construction conditions. Based on wet conditions a CBR of 2.5% should be adopted, with dry conditions a CBR of 4.5% being applicable.

These clay-based soils (poorly drained) with plasticity indexes generally less than 20% are likely to be frost susceptible, due to their granular content.

Lambeth Group (granular)

Roads and hardstanding constructed on the granular Lambeth Group should be designed based on a CBR value of 15.0%. This is based on reference to Table C1 of TRL1132 and average construction conditions. Based on wet conditions a CBR of 10.0% should be adopted, with dry conditions a CBR of 20.0% being applicable.

These granular-based soils (poorly drained) with greater 10% of their content passing the 150µm sieve are likely to be non-frost susceptible.

All formation levels for roads and hardstanding should be proof rolled to highlight any soft areas which should then be dug out and replaced with selected granular material compacted in thin layers to a suitable specification.

6.8. Surface Water Disposal

Soakaway testing in accordance with BRE365 was beyond the scope of this investigation.

Any soakaways should be located sufficiently away from buildings and infrastructure, in order to prevent undermining foundations.

The submission of a Sustainable Urban Drainage Scheme (SUDS) is likely to be required for this site due to the proposed development decreasing the amounts of hardstanding.

Consultation with the Environment Agency must be sought regarding any use that may have an impact on groundwater resources, abstractions and surface water features/watercourses.

It should be noted that water discharge into the chalk may worsen / create dissolution features. Therefore, soakaways should be remote from structures and undertaken in accordance with available guidance.

A number of published information sources make reference to an appropriate distance at which a soakaway should be sited in relation to any building foundations in the vicinity:

- The British Standard BS8301 :1985 "Code of practice for building drainage" (1985), suggests that: "A soakaway is not desirable nearer to a building than about 5 metres nor in such a position that the ground below foundations is likely to be adversely affected."
- The Building Research Establishment Digest 365 "Soakaway design" (1991), suggests that "Soakaways should not normally be constructed closer than 5m to building foundations. In chalk or other soil and fill material subject to modification or instability, the advice of a specialist geotechnologist should be sought as to the advisability and siting of a soakaway".

In addition, the distance a soakaway is located from any foundations can be informed by both the soakaway type and chalk density present at the site.

- The Kent County Council Soakaway Design Guide (July 2000) states that "Highway soakaways shall be situated the following minimum distances from dwellings (measured from the outside edge of the soakaway): (1) 5 metres for conventional perforated soakaway; (2) 10 metres for deep bored soakaway. In addition, adjacent soakaways of a similar type shall also be spaced a minimum of 10 metres apart.
- CIRIA 574 states that soakaways should be sited at least 5-10m away from any structure, depending on the chalk density. Where the chalk present is of low or unknown density, soakaways should be sited at least 10m from any foundations, and where the chalk is of medium density or higher, any foundations should be sited at least 5m from any foundations.

7. CONTAMINATION RISK ASSESSMENT

7.1. Results of the Preliminary Risk Assessment

The tabulated Conceptual Site Model (CSM) developed by the Soil Environment Services Ltd Desk Study Report referenced SES/MH/ER/1#1, December 2020 is reproduced in section 2.8. For the complete information please see the Desk Study report.

No additional source of contamination, pathway or receptor was identified between the desk study and the ground investigation and as such, it was not necessary to modify the CSM.

In the UK, the assessment of risk from contamination follows the source-pathway-receptor (SPR) approach. For a risk to be present there must be a source of contamination, a receptor or receptors, and a pathway for contaminants to migrate or be absorbed. If there is a linkage between any given source and receptor, then a quantitative risk assessment is used to assess the significance or impact of the pollutant linkage.

7.2. Sampling Locations

The synopsis for the trial hole locations and their final depth can be seen tabulated below. A trial hole location plan is provided within Figure 3. The table also indicates whether any locations targeted a source of contamination as well as the proposed end-use. The proposed development can be seen in Figure 2.

Trial Hole Location Synopsis		
Trial Hole/Final Depth	**Sampling Strategy**	**Proposed End-Use**
Pre-demolition		
BH1/20.45m	Close to building (geotechnical purposes)	Car park/hardstanding
BH2/20.45m	Targeted – close to landfill off-site	Soft Landscaping
WS1/3.00m	Targeted – Soft Landscaping	Soft Landscaping
WS2/3.00m	Targeted – Soft Landscaping	Soft Landscaping
WS3/3.00m	Targeted – Soft Landscaping	Soft Landscaping
WS4/1.40m	Targeted – Soft Landscaping	Soft Landscaping
WS4A/3.00m	Targeted – Soft Landscaping	Soft Landscaping
Post-demolition		
TP201/1.00m	Stratified Random	Gravel surfacing
TP202/1.00m	Stratified Random	Soft Landscaping
TP203/1.00m	Stratified Random	Permeable bloc paving
TP204/1.00m	Stratified Random	Permeable bloc paving
TP205/1.00m	Stratified Random	Permeable bloc paving
TP206/2.00m	Stratified Random	Building footprint
TP207/2.00m	Stratified Random	Soft Landscaping
TP208/2.00m	Stratified Random	Building footprint
TP209/2.00m	Stratified Random	Building footprint
TP210/2.00m	Stratified Random	Building footprint
TP211/2.00m	Stratified Random	Soft Landscaping
TP212/2.00m	Stratified Random	Soft Landscaping
TP213/2.00m	Stratified Random	Building footprint
BH201/15.00m	Stratified Random	Soft Landscaping
BH202/15.00m	Stratified Random	Permeable bloc paving
BH203/15.00m	Stratified Random	Soft Landscaping

WS301/6.00m	Western half of site where VOC contamination identified in groundwater	Permeable bloc paving
WS302/6.00m		Permeable bloc paving
WS303/6.00m		Building footprint
WS304/6.00m		Soft Landscaping
WS305/6.00m		Permeable bloc paving
WS306/6.00m		Soft Landscaping

The investigation area totals approximately 1,400m^2 and with twenty-nine sampling locations, given an unknown hotspot shape, the sampling density means that a hotspot with an area of approximately 72.5m^2 and a radius of approximately 4.8m would be encountered (CLR 4).

7.3. Soil Risk Assessment

Sampling depths were chosen to reflect the receptor of concern (e.g. human health, controlled waters and vegetation). Samples where olfactory or visual evidence of contamination was present (BH1/0.20m bgl) underwent targeted scheduling. The remaining samples were scheduled under a random strategy. The receptors relevant to the sampling depths are tabulated below.

Summary of Receptors per Sample Depth	
Depth	**Receptors**
Shallow Samples (< 0.75m bgl)	• End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public • Vegetation within soft landscaped areas (shallow rooted) • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); • Buried Concrete • Receiving landfill
Moderate Samples (0.75 – 1.50m bgl)	• Construction workers during development • Site operatives during maintenance works • Vegetation within soft landscaped areas (deep rooted) • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); • Buried Concrete • Receiving landfill • Underground services (water pipes)
Deep Samples (> 1.50m bgl)	• Buried Concrete • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk).

Chemical laboratory testing, scheduled by Ground and Water Limited, and carried out by I2 Analytical Limited, was undertaken on twelve samples of Made Ground, six samples from the base of the Lambeth Group and six samples from the top of the chalk. The samples were subjected to a combination of analysis that comprised:

- Asbestos screen;
- Semi-metals and heavy metals incl. Arsenic, Cadmium, Chromium (incl. Hexavalent Chromium), Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc;
- Polycyclic Aromatic Hydrocarbons (PAH's) incl. Naphthalene, Acenaphthylene,

Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(ghi)perylene;

- Speciated TPH including full aliphatic/aromatic split;
- BTEX compounds (Benzene, Toluene, Ethylbenzene, Xylene) and MTBE – used as marker compounds for Volatile Organic Compounds (VOCs), and
- Semi- and Volatile Organic Compounds (SVOCs and VOCs).

A breakdown of the number of tests undertaken for each determinand is discussed in further sections. The chemical laboratory results are presented in Appendix F.

7.3.1. Soil Assessment Criteria and Results

At the time of reporting, October 2026, the proposed development was understood to comprise the demolition of existing single storey building and erection of three storey building containing 16 dwellings together with associated soft landscaping, car parking, indoor cycle spaces and refuse. Proposed site plans are provided as Figure 2.

Based on the proposed development, the results of the chemical laboratory testing were compared to the Generic Assessment Criteria (GAC) for a ***'Residential without homegrown produce'*** land-use scenario, as this was considered the most appropriate land-use scenario.

Where a contaminant of concern's GAC varies according to the Soil's Organic Matter (SOM), the SOM recorded for each uncontaminated soil type was used to derive the appropriate GAC for each soil type. A SOM value of 1%, the most conservative value, was utilised.

A summary of the analytical results and the comparison to the determinands adopted screening value are presented in the table below and overleaf.

Soil Contamination Test Results and Screening Values					
Determinand	**Number of Samples**	**Minimum Concentration (mg/kg)**	**Maximum Concentration (mg/kg)**	**Adopted Screening Value (mg/kg)**	**Was the adopted screening value exceeded for relevant land-use scenario?**
INORGANICS					
Asbestos	12	ND	D	ND	Yes - BH1/0.20 Amosite fibres <0.001%
Cyanide (total)	12	< 1	< 1	24	No
Phenols	12	< 1	< 1	750	No
METALS					
Arsenic	12	2.9	19	40	No
Boron	12	0.2	3.2	11,000	No
Cadmium	12	< 0.2	0.4	85	No
Chromium (III)	12	5	36	910	No
Chromium (Hexavalent)	12	< 1.8	< 1.8	6	No
Copper	12	6.5	70	7,100	No
Lead	12	7	82	310	No
Mercury	12	< 0.3	0.7	1.2	No
Nickel	12	6.1	29	180	No
Selenium	12	< 1	1.3	430	No

Vanadium	12	8.7	41	1,200	No
Zinc	12	18	200	40,000	No
TOTAL PETROLEUM HYDROCARBONS (TPHs)					
Aliphatic >C5 - C6	5	< 0.01	< 0.01	42	No
Aliphatic >C6 - C8	5	< 0.01	< 0.01	100	No
Aliphatic >C8 - C10	5	< 0.01	< 0.01	27	No
Aliphatic >C10 - C12	5	< 1	< 1	130	No
Aliphatic >C12 - C16	5	< 2	29	1,100	No
Aliphatic >C16 - C21	5	< 8	51	65,000	No
Aliphatic >C21 - C35	5	< 8	130		
Aliphatic >C35 – C40	5	<10	70	65,000	No
Aromatic >C5 - C7	5	< 0.01	< 0.01	370	No
Aromatic >C7 - C8	5	< 0.01	< 0.01	860	No
Aromatic >C8 - C10	5	< 0.02	< 0.02	47	No
Aromatic >C10 - C12	5	< 1	< 1	250	No
Aromatic >C12 - C16	5	< 2	7.4	1,800	No
Aromatic >C16 - C21	5	< 10	29	1,900	No
Aromatic >C21 - C35	5	<10	290	1,900	No
Aromatic >C35 – C40	5	< 10	230	1,900	No
Benzene	5	< 0.005	< 0.005	0.38	No
Toluene	5	< 0.005	< 0.005	880	No
Ethylbenzene	5	< 0.005	< 0.005	83	No
m,p-Xylene	5	< 0.008	< 0.008	79	No
o-Xylene	5	< 0.005	< 0.005	88	No
POLYCYCLIC-AROMATIC HYDROCARBONS					
Acenapthene	12	< 0.05	0.19	3,000	No
Acenapthylene	12	< 0.05	2.1	2,900	No
Anthracene	12	< 0.05	1.7	31,000	No
Benzo(a)anthracene	12	0.1	9.4	11	No
Benzo(a)pyrene	12	0.11	12	3.2	Yes – BH2/0.50 and TP201/0.20-0.40
Benzo(b)fluoranthene	12	0.13	14	3.9	Yes – BH2/0.50 and TP201/0.20-0.40
Benzo(ghi)perylene	12	0.09	14	360	No
Benzo(k)fluoranthene	12	0.07	6.8	110	No
Chrysene	12	0.12	11	30	No
Dibenzo(a,h)anthracene	12	< 0.05	2.6	0.31	Yes – BH1/0.20, BH2/0.50 and TP201/0.20-0.40
Fluoranthene	12	0.22	16	1,500	No
Fluorene	12	< 0.05	0.31	2,800	No
Indeno(1,2,3-cd)pyrene	12	0.07	11	45	No
Naphthalene	12	< 0.05	0.33	2.6	No
Phenanthrene	12	0.15	4.5	1,300	No
Pyrene	12	0.19	14	3,700	No
VOLATILE ORGANIC COMPOUND					
Methyl tert-butyl ether (MTBE)	5	< 0.005	< 0.005	73	No
Total VOC and SVOCs	13	<0.005	<0.3	Above LOD?	No

The derivation of the Soil Assessment Criteria used within this report can be seen within Appendix G. The soil concentrations were typically compared to the LQM/CIEH Suitable for Use Levels (S4UL) (2014), based upon the assumption of 1% soil organic matter. A screening value for Lead is based on the Category 4 Screening Levels (C4SLs). Where no S4UL or C4SL is available for Cyanide, a SoBRA acute GAC is assigned. Where no S4UL or C4SL is available for MTBE, a CL:AIRE 2010 GAC is assigned. Where exceedances are noted, the trial hole and depth of sample is recorded.

The proposed development includes areas of soft-landscaping, where shallow rooted vegetation may be exposed to aggressive ground conditions. The previous table compares the results of the laboratory analysis to GAC that is protective of Human Health and therefore different GAC is required for vegetation.

Soil Contamination Test Results and Screening Value					
Determinand	**Number of Samples**	**Minimum Concentration (mg/kg)**	**Maximum Concentration (mg/kg)**	**Adopted Screening Value (mg/kg)**	**Was the adopted screening value exceeded for relevant land-use scenario?**
Copper	12	6.5	70	200	No
Nickel	12	6.1	29	110	No
Zinc	12	18	200	300	No
The derivation of the Soil Assessment Criteria used within this report can be seen within Appendix G. The soil concentrations were compared to BS3882:2015 *Specification for Topsoil* and based on differing pH. For the purpose of conservatism, the pH of the soils have been assumed to be below 6 within this table. Where exceedances are noted, the trial hole and depth of sample is recorded.					

7.3.2. Soil Assessment

The comparison between the laboratory analysis and the assessment criteria indicates that there is an unacceptable risk to future receptors caused by exceedances of the following determinands: Benzo(a)pyrene; Benzo(b)fluoranthene; and Dibenzo(a,h)anthracene. The remaining determinands were identified at below the adopted screening value and are not considered to represent an unacceptable risk to future receptors. Where an unacceptable risk to future receptors remains, mitigation is required.

The contamination was identified in BH1, BH2 and TP201 from this investigation. Contamination was also identified as part of the Hydrock Investigation where there was widespread PAH exceedances in WS01, WS03, WS05 and LWS02 and localised exceedances of Lead, Arsenic and Trichloromethane in WS05. Aniline, Dimethyl phthalate, 4-Chlorophenyl phenyl ether and Anthraquinone were above the laboratory limit of detection but there were no assessment criteria for the determinands in WS03/0.8, WS05/1.2 and LWS02/0.7m bgl.

It is recommended that a clean capping system is implemented for all soft landscaped areas to protect the end users. Details will be provided in Section 8.1.

Asbestos

Asbestos was identified within one sample (BH1/0.20m) as amosite fibres. Quantification was undertaken on the sample and indicated that asbestos was present at <0.001%.

A quantification risk assessment was carried out for the concentration recorded, in accordance with the guidance within CIRIA 733. The background, considerations taken, and the calculations can be seen in Appendix H. A summary of the results is shown in the table below.

Asbestos Risk Assessment				
Sample	**Mesothelioma Accumulated Risk (fibres/ml.year)**	**Mesothelioma Risk**	**Lung Cancer Accumulated Risk (fibres/ml.year)**	**Lung Cancer Risk**
BH1/0.20	0.00202	Between "about 2 (highest arguable 15) and "highest arguable becomes insignificant"	0.00144	Insignificant

Based on CIRIA Table 14.1 for Mesothelioma, the risk for BH1/0.20m bgl was considered to potentially pose a small risk and with Table 14.3 for Lung Cancer insignificant. **Given the asbestos was identified in the location that will be a car park/hardstanding, this can stay in-situ.** As part of the Hydrock investigation, asbestos was also identified in WS05/0.30 as chrysotile loose fibres 0.001% and LWS02/0.20-0.70 as chrysotile loose fibrous debris 0.015%. **Remediation is required with respect to this asbestos as well as for the PAH contamination and will be outlined in Section 8.1.**

The most recent site works were attempted on 13th and 29th July 2026 but were postponed due to ACMs that were identified sitewide at surface and up to ~1.00m bgl. It is understood the ACMs were as a result of the demolition process. The successful site works were then undertaken on 17th – 18th July 2026, where the site was in the process of being hand picked by non-licensed professionals and double bagged ready for appropriate disposal as hazardous waste. Waste tickets for their disposal should be provided as part of the validation report.

An **Asbestos Management Strategy** should be put in place so that any potentially asbestos containing materials are identified and removed from site in a suitable manner to prevent cross-contamination.

7.3.3. Water Supply Pipe Risk Assessment

As part of the proposed development it is expected that new water supply pipes will be installed at the site. Water supply pipes have the potential to be exposed to contaminants in the ground that can lead to unacceptable concentrations within the drinking water. If a risk is identified, specialist pipes that are protective of the drinking water are required.

A pipe selection risk assessment should be submitted to the water supply company as part of the development based on the supplier's assessment criteria. An indication of whether there is likely to be a risk can be seen tabulated below, where the PE pipe thresholds are based on *UKWIR Contaminated Land Assessment Guidance, 2014*.

Pipe Selection Risk Assessment			
Determinand	**PE Pipe Threshold (mg/kg)**	**Laboratory Analysis Range (mg/kg)**	**Was the Threshold Exceeded?**
Total BTEX and MTBE	0.1	LOD	No
Total VOCs	0.5	LOD	No
Total SVOCs	2	LOD	No
Phenols	2	LOD	No

TPH EC5 – EC10 (aliphatics and aromatics)	2	LOD	No
TPH EC10 – EC16 (aliphatics and aromatics)	10	LOD - <38.4	Yes – BH1
TPH EC16 – EC40 (aliphatics and aromatics)	500	<64 - 800	Yes – BH1
Naphthalene	5	LOD – 0.33	No

The results indicate that TPHs were above the threshold for the use of a PE pipe at the site in the location of BH1. TPH contamination was also identified as part of the Hydrock investigation at varying depths within the Made Ground from 0.3m to 1.2m bgl, which are depths where typical pipework may be placed and at this stage barrier pipes are recommended. If Made Ground is to be removed from site, barrier pipe may not be required and further testing is recommended prior to placement.

7.4. Groundwater Risk Assessment

In the UK, the water environment is protected under a number of regulatory regimes, mainly governed by the Environment Agency. The Environment Agency is consulted when there may be a risk to Controlled Waters, or where a pollution incident has occurred historically. The Water Framework Directive is implemented in various guises covering groundwater, surface water and drinking water supply. In addition to the water environment receptors, contaminated groundwater has the potential to cause unacceptable risk to human health through vapours.

7.4.1. Background Information

The DEFRA online maps indicated that the site was located on Secondary A Aquifer associated with the bedrock Lambeth Group, underlain by a Principal Aquifer associated with the chalk. If Alluvium is encountered on-site these are classified as a Secondary A Aquifer.

From analysis of hydrogeological and topographical maps the groundwater table was anticipated to be encountered at a moderate depth within the Lambeth Group and at depth within the Chalk. Perched water was also likely to be found within the Made Ground, especially after periods of intense or prolonged rainfall. It was considered that the groundwater was flowing westwards, towards the River Kennet and in alignment with local topography.

The nearest surface water feature was recorded to be the River Kennet located ~100m north-west and 120m west. A drain connecting to the River Kennet was identified ~180m south.

The site was not located within a Source Protection Zone and there are no active licensed groundwater abstractions within 1000m of the site.

During the Hydrock investigation groundwater was encountered during drilling at depths predominantly within the Lambeth Group between 2.5m and 3.2m bgl within the external window sample boreholes, these initial strikes were noted to rise after 20 minutes by between 0.2m and 0.6m. Groundwater during the monitoring visits undertaken between 13th January 2025 and 3rd February 2025 recorded groundwater at 0.91 – 1.59m bgl.

During this site investigation, Made Ground was encountered to a maximum depth of 2.50m bgl, overlying sandy clay and clayey sand of the Lambeth Group to the base of the window sample boreholes (1.40-3.00m bgl). In the cable percussion boreholes chalk was encountered at 4.30 – 5.30m bgl to the base of the boreholes at 20.45m bgl. Groundwater strikes were noted between 2.00 – 4.45m

bgl within the boreholes. It should be noted that groundwater strikes may be obscured by the drilling/excavation process.

During the current site investigation, Made Ground was encountered to a maximum depth of 3.00m bgl, overlying sandy clay and clayey sand of the Lambeth Group to 5.00m bgl 3.20 – 5.20m bgl where chalk was then encountered to the base of the boreholes at 5.00m bgl in the windowless sampler boreholes and 15.00m bgl in the cable percussion boreholes. Groundwater strikes were noted between 1.70 – 4.45m bgl within the boreholes. WS301, WS302 and WS305 did not encounter any groundwater strikes. It should be noted that groundwater strikes may be obscured by the drilling/excavation process. A summary of the groundwater observations during site works has been provided below.

A summary of the groundwater observations during site works has been provided below.

Groundwater Strikes during Drilling				
Trial Hole	**Groundwater reading (m bgl)**		**Depth after 20 minutes (m bgl)**	
	m bgl	**m AOD**	**m bgl**	**m AOD**
BH1	3.00	-*	2.76	-*
BH2	2.80	-*	2.77	-*
	4.45	-*	4.42	-*
WS1	2.00	-*	-	
WS2	2.30	-*	-	
WS3	2.00	-*	-	
WS4	None		-	
WS4A	2.00	-*	-	
BH1A	1.40	41.47	-	
BH2A	1.40	41.39	-	
BH201	6.10	36.43	5.80	36.73
BH202	5.80	37.18	5.40	37.58
BH203	3.10	40.43	1.90	41.63
	5.90	37.63	5.10	38.43
WS301	None		-	
WS302	None		-	
WS303	3.00		-	
WS304	3.00		-	
WS305	None		-	
WS306	1.70		-	
***levels unknown prior to demolition.**				

Leachate Testing

As the site is located on a Secondary A Aquifer of the Lambeth Group, it is considered that the aquifer may support base flow to rivers and surface water at a local level. It is therefore concluded that the most applicable screening values to be used is the Environmental Quality Standards (EQS), which are protective of ecology within the water. Where no EQS is available, other water quality standards have been noted within the table. The leachate risk assessment compares the recorded concentration (eluate) to a pre-defined GAC (EQS, USEPA and UK drinking water standard).

Leachate Contamination Test Results and Screening Values				
Determinand	**Minimum Concentration (µg/l)**	**Maximum Concentration (µg/l)**	**Adopted Screening Value (µg/l)**	**Was the adopted screening value exceeded?**
INORGANICS				
pH	7.5	8	6.5 – 9.5[5]	No
METALS				
Arsenic	1.7	4.8	50[1]	No
Boron	44	65	750[1]	No
Cadmium	<0.08	0.17	0.08 – 0.25[1,2]	No
Chromium (III)	2.3	22	4.7[1]	Yes – TP212/0.20 and BH201/0.40
Chromium (Hexavalent)	<5	18	3.4[1]	Yes - BH201/0.40
Copper	5	13	1[1,5]	Yes all - TP212/0.20, BH201/0.40, TP201/1.00 and TP205/0.20-0.40
Lead	<1	10	1.2[1]	Yes - TP212/0.20, BH201/0.40 and TP201/1.00
Mercury	<0.5	<0.5	0.07[1]	No
Nickel	2.4	4.6	4[1]	Yes – TP212/0.20
Selenium	<4	<4	7.5[1]	No
Vanadium	6.8	11	86[7]	No
Zinc	4.8	34	10.9[1,5]	Yes - TP212/0.20, BH201/0.40, TP201/1.00
PETROLEUM HYDROCARBONS				
Aliphatic >C5 – C6	<1	<1	15,000[3]	No
Aliphatic >C6 – C8	<1	<1		No
Aliphatic >C8 – C10	<1	<1	300[3]	No
Aliphatic >C10 – C12	<1	<1		No
Aliphatic >C12 – C16	<1	<1		No
Aliphatic >C16 – C21	<1	<1	Not derived	No
Aliphatic >C21 – C35	<1	<1	Not derived	No
Aromatic >EC5 – EC7	<1	<1	10[3]	No
Aromatic >EC7 – EC8	<1	<1	700[3]	No
Aromatic >EC8 – EC10	<1	<1	300[3]	No
Aromatic >EC10 – EC12	<1	<1	90[3]	No
Aromatic >EC12 – EC16	<1	<1		No
Aromatic >EC16 – EC21	<1	<1	90[3]	No
Aromatic >EC21 – EC35	<1	<1		No
Benzene	<1	<10	10[1]	No
Toluene	<1	<10	74[1]	No
Ethylbenzene	<1	<10	300[3]	No
Xylene	<1	<10	15.5-63.6[1]	No
POLYCYCLIC-AROMATIC HYDROCARBONS				
Anthracene	<0.01	<0.01	0.1[1]	No
Benzo(a)pyrene	<0.01	<0.01	0.00017[1]	No - LOD
Benzo(b)fluoranthene	<0.01	<0.01	0.00017[8]	No - LOD
Benzo(k)fluoranthene	<0.01	<0.01		No - LOD

Leachate Contamination Test Results and Screening Values				
Determinand	**Minimum Concentration (µg/l)**	**Maximum Concentration (µg/l)**	**Adopted Screening Value (µg/l)**	**Was the adopted screening value exceeded?**
INORGANICS				
Benzo(ghi)perylene	<0.01	<0.01	[7]	No - LOD
Dibenzo(a,h)anthracene	<0.01	<0.01	0.0025[6]	No - LOD
Fluoranthene	<0.01	0.1	0.0063[1]	Yes - BH201/0.40, TP201/1.00 and TP205/0.20-0.40
Fluorene	0.02	0.03	290[6]	No
Indeno(1,2,3-cd)pyrene	<0.01	<0.01	0.00017[8]	No - LOD
Naphthalene	<0.01	0.24	2[1]	No
Total EPA-16 PAHs	0.21	0.39	0.1[5]	Yes all - TP212/0.20, BH201/0.40, TP201/1.00 and TP205/0.20-0.40
SEMI-VOLATILE ORGANIC COMPOUND				
Diethyl phthalate	0.29	0.42	Not derived	Yes - BH201/0.40 and TP201/1.00
Dibutyl phthalate	0.25	0.86	Not derived	Yes - BH201/0.40 and TP201/1.00
Total SVOCs	<0.05	<0.05	Above LOD?	No
VOLATILE ORGANIC COMPOUND				
Total VOCs	<1	<3	Above LOD?	No

[1]Water Framework Directive Environmental Quality Standards (EQS)
[2]Water Framework Directive Threshold for groundwater
[3]Screening value changes as a result of calcium carbonate concentration of aquifer
[4]WHO Guidelines for drinking water quality, 2022
[5]Site specific threshold calculated based on the bio-availability per sample
[6]UK Drinking Water Standards
[7]United States Environmental Protection Agency
[8]For the group of priority substances for PAH, the AA EQS in water refer to the concentration of Benzo(a)pyrene on the toxicity of which they are based. Benzo(a)pyrene can be considered as a marker for other PAH's, hence only Benzo(a)pyrene must be monitored for comparison with the AA EQS.
[8]SoBRA GACgwvap
LOD = Limit of Detection

Leachate testing has been undertaken on four samples of Made Ground (TP212/0.20, BH201/0.40, TP201/1.00 and TP205/0.20-0.40) and has identified exceedances, summarised below.

Chromium (III), Chromium (Hexavalent), Copper, Lead, Nickel, Zinc, Fluoranthene, Total PAHs were noted to be elevated above each of their adopted screening values. Diethyl phthalate and Dibutyl phthalate did not have any screening criteria to compare against but were an order of magnitude above their respective limit of detection.

It should be noted that groundwater was encountered during monitoring visits conducted so far. The leachate samples were taken directly from the Made Ground. Concentrations of the contaminants noted would decrease as the leachate flows downwards towards the groundwater.

Given a significant proportion of the site will be occupied by the building footprint which will involve removal of soils for the foundation excavations and the removal of 450mm of soils for the capping system in the soft landscaped areas, the majority of the worst soils will be removed and are considered unlikely to pose a long-term risk to controlled water receptors.

Following the site investigation, 6No. return groundwater monitoring visits were undertaken. The groundwater levels can be seen can be seen below.

Depth of Groundwater within Trial Holes					
Trial Hole	**Date**	**Depth of Groundwater**		**Depth of Standpipe**	
		m bgl	**m AOD**	**m bgl**	**m AOD**
BH1 (Lambeth Group)	09/04/2025	3.49	-*	-	
BH2 (Lambeth Group)		1.74	-*	-	
BH1 (Lambeth Group)	16/05/2025	3.50	-*	9.10	-*
BH2 (Lambeth Group)		3.20	-*	9.40	-*
BH1 (Lambeth Group)	22/05/2025	3.20	-*	9.10	-*
BH2 (Lambeth Group)		3.10	-*	9.40	-*
BH1A (Lambeth Group)	05/02/2026	1.41	41.46	4.47	36.99
BH2A (Lambeth Group)		1.59	41.20	4.69	36.51
BH203 (s) (Lambeth Group)		1.68	41.85	3.18	40.35
BH201 (Chalk)		2.76	39.77	12.65	29.88
BH202 (Chalk)		2.88	40.10	12.29	30.69
BH203 (d) (Chalk)		3.11	40.42	13.44	30.09
BH1A (Lambeth Group)	23/02/2026	1.41	41.46	4.47	38.40
BH2A (Lambeth Group)		1.59	41.20	4.69	38.10
BH203 (s) (Lambeth Group)		1.87	41.66	3.18	40.35
BH201 (Chalk)		2.76	39.77	12.65	29.88
BH202 (Chalk)		2.88	40.10	12.29	30.69
BH203 (d) (Chalk)		4.83	38.70	13.12	30.41
BH1A (Lambeth Group)	25/03/2026	2.24	40.63	4.50	38.37
BH2A (Lambeth Group)		1.64	41.15	4.63	38.16
BH203 (s) (Lambeth Group)		2.13	41.40	3.25	40.28
BH201 (Chalk)		3.08	39.45	12.74	29.79
BH202 (Chalk)		2.94	40.04	13.40	29.58
BH203 (d) (Chalk)		6.30	37.23	11.80	31.73

During the monitoring rounds on the 16th May 2025 and 22nd May 2025, samples were recovered from BH1 and BH2. During the rounds on the 5th and 23rd February 2026 and 25th March 2026, samples were retrieved from the newly installed BH1A and BH2A (called BH1 and BH2 on the results), BH201, BH202 and BH203 (s and d). During the first and third visits the samples were taken following the removal of three times the borehole volume in order to develop the well. Samples were collected within a series of plastic and glass bottles, glass vials and bottles with preservatives to meet the requirements of BS5667 and as requested by the laboratory.

7.4.2. Level 2 (groundwater) Risk Assessment

As the site is located on a Secondary A Aquifer of the Lambeth Group, it is considered that the aquifer may support base flow to rivers and surface water at a local level. It is therefore concluded that the most applicable screening values to be used is the Environmental Quality Standards (EQS), which are protective of ecology within the water. Where no EQS is available, other water quality standards have been noted within the table. A level 2 (groundwater) risk assessment compares the recorded concentration of a determinand to a pre-defined GAC (EQS, USEPA and UK drinking water standard).

The chemical laboratory results are presented in Appendix F and have been summarised within the table below and overleaf. Only determinands that have an appropriate screening value have been included within the table.

Due to the amount of solids in the first visit samples, it was not possible to filter the groundwater sample and therefore the metals testing was not possible. It should be noted that BH1 and BH2 samples were obtained on 16th (visit 1) and 22nd May 2025 (visit 2) and all boreholes (BH1, BH2, BH201, BH202, BH203 (s) and BH203 (d) were samples on 5th February (visit 3), 23rd February (visit 4) and 25th March 2026 (visit 5).

Groundwater Contamination Test Results and Screening Values				
Determinand	**Minimum Concentration (µg/l)**	**Maximum Concentration (µg/l)**	**Adopted Screening Value (µg/l)**	**Was the adopted screening value exceeded?**
INORGANICS				
pH	6.95	7.64	6.5 – 9.5[6]	No
Cyanide	< 50	< 50	1[1]	Yes/Below LOD
Phenols	< 2	< 2	7.7[1]	No
METALS				
Arsenic	<0.5	57.9	50[1]	Yes – BH203 (s) final visit
Boron	63.4	781	750[1]	No
Cadmium	< 0.08	0.213	0.08 – 0.25[1,2]	No
Chromium (III)	<1	4.02	4.7[1]	No
Chromium (Hexavalent)	< 30	< 30	3.4[1]	Yes/Below LOD
Copper	<0.3	4.62	1[1,5]	Yes – BH1 all visits, BH2 visits 1,2,5, BH201 visit 3,5, BH202 visit 5, Bh202 (s) visits 3,4
Lead	<0.2	7.02	1.2[1]	Yes – BH1 visit 3, BH201 visit 3, BH203 (s) visit 4
Mercury	< 0.01	0.0109	0.07[1]	No
Nickel	2.14	23.4	4[1]	Yes – BH1 BH2, BH201 and BH202 all visits, BH203 (s) visit 4
Selenium	<1	25.2	7.5[1]	Yes – BH1 visit 3,4
Vanadium	<1	2.49	86[7]	No
Zinc	3.19	215	10.9[1,5]	Yes – BH1 visit 3,4,5, BH2 visit 5,

				BH201 all visits, BH202 visit 4,5, BH203 (s) all visits
PETROLEUM HYDROCARBONS				
Aliphatic >C5 – C6	<10	<10	15,000[3]	No
Aliphatic >C6 – C8	<10	10		No
Aliphatic >C8 – C10	<10	11	300[3]	No
Aliphatic >C10 – C12	<10	13		No
Aliphatic >C12 – C16	<10	<500		No
Aliphatic >C16 – C21	<10	<500	Not derived	No
Aliphatic >C21 – C35	<10	8,990	Not derived	Yes – BH2 visit 3 only
Aromatic >EC5 – EC7	<10	<10	10[3]	No
Aromatic >EC7 – EC8	<10	<10	700[3]	No
Aromatic >EC8 – EC10	<10	<10	300[3]	No
Aromatic >EC10 – EC12	<10	<10	90[3]	No
Aromatic >EC12 – EC16	<10	<500		No
Aromatic >EC16 – EC21	<10	<500	90[3]	No
Aromatic >EC21 – EC35	<10	2,370		Yes – BH1 visit 2, BH2 visit 3
Total TPH	<10	11,400	-	Yes – BH1 visit 2, BH2 visit 3
Benzene	< 1	< 1	10[1]	No
Toluene	< 1	<1	74[1]	No
Ethylbenzene	< 1	< 1	300[6]	No
Xylene	< 1	< 1	15.5-63.6[1]	No
POLYCYCLIC-AROMATIC HYDROCARBONS				
Anthracene	< 0.005	3.27	0.1[1]	Yes – BH1 visit 1,2 and BH2 all visits
Benzo(a)pyrene	< 0.002	116	0.00017[1]	Yes – all BHs on most visits
Benzo(b)fluoranthene	< 0.005	172	0.00017[8]	Yes – all BHs on most visits
Benzo(k)fluoranthene	< 0.005	58.8		Yes – all BHs on most visits
Benzo(ghi)perylene	< 0.005	97.4		Yes – all BHs on most visits
Dibenzo(a,h)anthracene	< 0.005	14.2	0.0025[6]	Yes – all BHs on most visits
Fluoranthene	< 0.005	57.4	0.0063[1]	Yes – all BHs on most visits
Fluorene	< 0.005	0.59	290[6]	No
Indeno(1,2,3-cd)pyrene	< 0.005	84.1	0.00017[8]	Yes – all BHs on most visits
Naphthalene	< 0.01	0.987	2[1]	No
Total EPA-16 PAHs	< 0.082	778	0.1[5]	Yes – BH1 visit 2,3,4,5, BH2 all visits, BH201 visit 4, BH202 visit 3, BH203 (d) visit 3,4, BH203 (s) all visits
SEMI-/VOLATILE ORGANIC COMPOUNDS				

Benzo(b)fluoranthene	<2	113 - <200	0.00017[8]	Yes – BH2 first visit
Benzo(k)fluoranthene	<2	76.8 - <200	0.00017[8]	Yes – BH2 first visit
Benzo(a)pyrene	<2	82.1 - <200	0.00017[1]	Yes – BH2 first visit
Fluoranthene	<2	69.4 - <200	0.0063[1]	Yes – BH2 first visit
Remaining SVOCs	<10	<1000	Above LOD?	No
Vinyl Chloride	<1	2.04	0.50[6]	Yes – BH1 third visits and BH202 all visits
1,2-Dichloroethane	<1	<1	36[6]	No
Tetrachloroethene	<1	59.7	10[6]	Yes – BH1 visit 1,2,3,5, BH2 all visits, BH201 visit 4,5, BH202 visit 4,5
Trichloroethene	<1	2.59		
Chloroform	<1	8.99	100[6]	No
Bromoform	<1	1.03		
Dibromochloromethane	<1	<1		
Bromodichloromethane	<1	<1		
Remaining VOCs	<1	<3	Above LOD?	No

[1]Water Framework Directive Environmental Quality Standards (EQS)
[2]Water Framework Directive Threshold for groundwater
[3]Screening value changes as a result of calcium carbonate concentration of aquifer
[4]WHO Guidelines for drinking water quality, 2022
[5]Site specific threshold calculated based on the bio-availability per sample
[6]UK Drinking Water Standards
[7]United States Environmental Protection Agency
[8]For the group of priority substances for PAH, the AA EQS in water refer to the concentration of Benzo(a)pyrene on the toxicity of which they are based. Benzo(a)pyrene can be considered as a marker for other PAH's, hence only Benzo(a)pyrene must be monitored for comparison with the AA EQS.
[8]SoBRA GACgwvap

A level 2 (groundwater) risk assessment has been undertaken on the results from the investigation and has identified numerous exceedances within the groundwater at the site.

The level 2 (groundwater) risk assessment has been undertaken and found determinands that are likely to have a detrimental effect on the underlying aquifer and potentially impacting the surface water nearby. Given the former use of the site as a brick works and the infilled ground which extended off-site significantly, it is likely that the determinands are a combination of the historical use on-site and off-site. This is with the exception of the VOCs/SVOCs which will be from an off-site source only (likely the landfill to the south).

Given a significant proportion of the site will be occupied by the building footprint which will involve removal of soils for the foundation excavations and the removal of 450mm of soils for the capping system in the soft landscaped areas, the majority of the worst soils will be removed and are considered unlikely to pose a long-term risk to controlled water receptors.

7.4.3. Groundwater Levels

Review of the groundwater levels to estimate the groundwater flow direction within the Lambeth Group and Chalk has shown large fluctuations in the flow direction as shown in the table below.

Well_Ref	Depth to Water (m bgl)	Water Level Elevation (m AOD)	Depth to Water (m bgl)	Water Level Elevation (m AOD)	Depth to Water (m bgl)	Water Level Elevation (m AOD)
	05/02/2026		23/02/2026		25/03/2026	
Lambeth Group						
BH1	1.41	41.46	1.41	41.46	2.24	40.63
BH2	1.59	41.20	1.59	41.20	1.64	41.15
BH203 (s)	1.68	41.85	1.87	41.66	2.13	41.40
	South-west flow		South-west flow		North-west flow	
Chalk						
BH201	2.76	39.77	2.76	39.77	3.08	39.45
BH202	2.88	40.10	2.88	40.10	2.94	40.04
BH203 (d)	3.11	40.42	4.83	38.70	6.30	37.23
	South-west flow		East flow		East flow	

Review of the groundwater levels shows large fluctuations and therefore is inconclusive in helping to predict the groundwater flow direction (anticipated to be north-west/west).

Variable groundwater strikes with the Lambeth Group are anticipated. The chalk is a significant aquifer in Reading with high permeabilities and ability to store and transmit large volumes of groundwater, as well as being able to support large abstractions, so a regional water table is also expected within the chalk. Nearby boreholes (SU77SW910 drilled to 16.61m bgl and SU77SW26 drilled to 45.72m bgl) either did not record groundwater depths or did not reach groundwater.

Recharge to the Alluvium deposits would be expected to take place locally with recharge to the chalk taking place on outcrops to the west of the River Kennet from site.

Some recharge to the Chalk would be expected to occur locally via the superficial deposits and Lambeth Group. Which can in turn create a pathway for potential contamination to leach into the chalk aquifer below.

Therefore, it is expected that the Lambeth Group could be a pathway for determinands to migrate to the River Kennet. However, the on-site originating contamination is being dealt with through the development/remediation to protect the end users of the development. With regards to the vapour contamination originating off-site and migrating beneath the west of the site. It is clear degradation is already occurring. The soil risk assessment shows that VOCs and SVOCs are not present within the smear zone above the detection limit of the laboratory, supporting the theory that the vapours are originating from off-site and migrating beneath the site within the groundwater.

Without remediating the off-site source of contamination, there are no further measures or obligations that our client is required to discharge and would provide no socioeconomic gain. The remedial measures to protect the on-site end users is included within Section 8.

7.4.4. Refined Conceptual Site Model

The Vinyl Chloride is elevated above Drinking Water Standards within BH1 on the third visit and BH202 on all three visits (both north-west). The Tetrachloroethene (PCE) and Trichloroethene (TCE) combined

were above the Drinking Water Standards in BH1 on visit 1,2,3,5, BH2 all visits, BH201 visit 4,5 and BH202 visit 4,5. The highest concentrations were in BH2 (closest to the landfill in south-west). BH203 screened in the Lambeth Group and Chalk did not encounter any VOCs/SVOCs above the limit of detection of the laboratory. This shows clear degradation of the PCE and TCE (found in south-west) to the Vinyl Chloride (found in north-west) which suggests the migration of the VOCs is from the landfill to the south travelling north/westwards. The results have shown the VOCs are travelling within the Lambeth Group (Secondary A Aquifer) as well as the Chalk (Principal Aquifer).

Reinforced deep strip foundations (anticipated to between 2.30 – 3.00m bgl) is the method of foundation construction to be used at the site which will terminate within the Lambeth Group. They will remain above the underlying Chalk Principal Aquifer. Given the heterogeneous nature of the Lambeth Group, foundations may locally be constructed within cohesive or granular strata. The foundations are therefore not considered to represent a direct pathway into the Principal Aquifer.

Nevertheless, excavation and subsequent backfilling of foundation trenches and associated below ground infrastructure could locally modify groundwater flow through the Lambeth Group, particularly where excavations cross relatively low-permeability cohesive horizons. To minimise the potential for preferential contaminant migration, foundation and service excavations should be designed and constructed to avoid unnecessary penetration of cohesive Lambeth strata and to prevent the creation of continuous permeable backfilled pathways across contrasting geological horizons. Where appropriate, low-permeability plugs or equivalent measures should be incorporated into service/foundation trenches in accordance with the geotechnical and structural design.

Groundwater encountered during construction should be managed in accordance with a site-specific groundwater management procedure. Unnecessary dewatering should be avoided, and any groundwater encountered within VOC-impacted areas should be appropriately characterised and managed prior to discharge or disposal. Prolonged pumping of contaminated groundwater should not be undertaken without an appropriate assessment and regulatory controls.

Groundwater monitoring should be undertaken before and, where appropriate, during and following construction to provide evidence that the works have not resulted in significant changes in groundwater levels or contaminant concentrations. Trigger criteria and contingency measures should be established for unexpected groundwater conditions, significant dewatering or changes in VOC concentrations.

These measures are intended to minimise modification of existing groundwater pathways within the Lambeth Group and do not rely on the foundations providing containment of the existing VOC plume.

7.5. Ground Gas Risk Assessment

A review of the Phase I desk study, has identified a source of ground gas on-site or within influencing distance of the site that warrants investigation through ground gas monitoring.

The investigation undertaken to date have identified the main sources of ground gases to be associated with the degradation of putrescible material within deep Made Ground/Infilled Land both on-site and off-site, where the off-site sources include the presence of a historical landfill adjacent to the south-west. Ground gases have the potential to migrate vertically through preferential pathways

and build up within the proposed development, especially enclosed spaces on the ground floor. Based on the preceding information, ground gas monitoring was undertaken at the site.

7.5.1. Available Data

Spot Gas Monitoring

In order to assess the ground-gas risk, two combined ground-gas/groundwater monitoring standpipes were installed to a maximum depth of 4.20 – 5.20m bgl. The construction of the wells has been tabulated below.

Monitoring Well Construction				
Trial Hole	**Piping internal diameter (mm)**	**Depth of Installation (m bgl)**	**Response Zone (m bgl)**	**Response Zone Strata**
BH1	50	5.20	2.20 – 5.20	Lambeth Group
BH2	50	4.20	2.20 – 4.20	Lambeth Group

Spot monitoring using a GFM400 series gas analyser by a GGS representative was undertaken on 9th April 2025 and by Ground and Water on 16th and 22nd May 2025, the results are tabulated below and provided within Appendix I.

Spot Ground-Gas Monitoring Results							
Trial Hole	**Highest CH_4 (% v/v)**	**Highest CO_2 (% v/v)**	**Lowest O_2 (% v/v)**	**Highest H_2S (ppm)**	**Highest CO (ppm)**	**Highest Flow Rate (l/hr)**	**Shallowest Groundwater (m BGL)**
BH1	0.10	4.30	10.30	<1	3	<0.10	3.49
BH2	0.20	0.40	20.10	<1	4	<0.10	1.74

During the Hydrock investigation, ground-gas monitoring was undertaken in WS01, WS04 and WS05 on four visits between 13th January – 3rd February 2025. The results revealed a maximum carbon dioxide concentration of 2.1%v/v. Methane and flow rates were not recorded above the monitors limit of detection. WS01 and WS05 were screened within dep on-site Made Ground and WS04 was screened in the natural Lambeth Group.

Continuous Gas Monitoring

Continuous monitoring has been undertaken using Gas Sentinels installed on the monitoring wells installed in BH1 and BH2 over a 4 week period with two falling pressure scenarios captured. Where the reliability of the monitoring results will require consideration in line with CIRIA C665 and BS8485:2015+A1:2019, the table has been highlighted orange.

Continuous Ground-Gas Monitoring Results							
Trial Hole	**Highest CH_4 (% v/v)**	**Highest CO_2 (% v/v)**	**Lowest O_2 (% v/v)**	**Highest H_2S (ppm)**	**Highest CO (ppm)**	**Highest Flow Rate (l/hr)**	**Shallowest Groundwater (m BGL)**
BH1	0.10	3.70	19.20	4	30	0.01	-
BH2	0.10	1.80	19.20	6	27	0.10	-

Methane was encountered at a maximum concentration of 0.20%v/v, carbon dioxide at a maximum concentration of 4.50%v/v. A maximum of positive flow was encountered within the boreholes at a maximum of 0.1l/hr. No wells were noted to be flooded.

7.5.2. Data Quality

A review was made of the quality of the available data for the site, which can be viewed in the table below. CIRIA Report C665 (2007), BS 8485:2015+A1:2019 and BS 8576:2013 stress the need for risk assessments to be based on good quality data and give guidance as to best practice in this respect.

Review of Data Quality			
Data Type	**Current Understanding**	**UK Practice**	**Recommendation**
Geological and hydro-geological conditions	The CSM identified the site to be located on Made Ground (2.50m), overlying both permeable and impermeable strata of the Lambeth Group over chalk. Groundwater has been encountered at shallow depth during drilling and during monitoring.	CIRA C665 & C659, Wilson and Card (1999) and BS 8485 recommend that geology and hydrogeology be fully understood.	The geological and hydrogeological model is understood to a standard that will not comprise the findings of the risk assessment. **No further action required.**
Monitoring period	The monitoring has been undertaken for a 4week period. Monitoring has been undertaken during a variety of atmospheric conditions including periods of falling, steady and rising pressure. The calibration certificates for the equipment were not available for review from the Hydrock investigation.	CIRIA C665 and BS 8576 recommends monitoring over a range of weather conditions. Concentrations of ground gas are likely to be highest during falling pressures, with sharp falls providing the worst-case results. In line with CIRIA C665 a minimum of 4No. monitoring visits are required.	Monitoring should be undertaken over a month period with between weekly and fortnightly readings. Continuous Monitoring was undertaken over a 4week period. Monitoring has been undertaken during atmospheric pressures of between 994 and 1033 mbar **No further action required.**
Gas data sets	Methane was detected at concentrations up to 0.20%v/v. Carbon dioxide concentrations were recorded up to 4.30%. Hydrogen sulphide was detected at a maximum of 6ppm and carbon monoxide and 30ppm. Monitoring revealed a maximum positive flow of 0.10l/hr.	Borehole flow velocity and borehole gas volume (methane and carbon dioxide) are required for ground gas flux categorisation. Modified Wilson and Card classification, CIRIA C665 (2007), BS8485:2015+A1:2019.	A suitable gas dataset is available for the risk assessment. **No further action required.**

7.5.3. Risk Assessment

Gas Monitoring Data

The ground gas monitoring undertaken to date has been reviewed and following any omissions caused by contradiction of the UK guidance (e.g. flooded wells), is deemed suitable for use in the risk assessment. The monitoring undertaken recorded methane concentrations of up to 0.20%v/v, carbon

dioxide concentrations of up to 4.30%v/v and the maximum steady-state flow rate recorded was 0.1l/hr.

Based on the documentation presented in BS 8485:2015+A1:2019 "Code of practice for the characterisation and remediation from ground gas in affected developments", the *hazardous gas flow rate (Q_{hg})* should be calculated for each borehole using the equation below.

$$Q_{hg}=(C_{hg}/100) * q$$

Where: Q_{hg} is the measured hazardous gas concentration (in percentage volume-by-volume);
q is the flow rate (in litres per hour) of combined gases found by direct measurement.

The hazardous gas flow rate has been calculated for each borehole, referred to as the Gas Screening Value (GSV) using the worst-case steady-state concentration and flow, from all monitoring to date. The results are presented within the table below. Following the generation of the GSV, a ground gas characteristic situation can be assigned to the borehole. This has also been included within the table below.

Hydrock Investigation Hazardous Gas Flow Rate Assessment							
Trial Hole	**CH_4 (%v/v)**	**CO_2 (%v/v)**	**Flow Rate (l/hr)**	**CH_4 GSV (l/hr)**	**Characteristic Situation**	**CO_2 GSV (l/hr)**	**Characteristic Situation**
WS01	0.2[1]	1.5	<0.1[3]	0.0002	CS1	0.0015	CS1
WS04	0.2[1]	1.7	<0.1[3]	0.0002	CS1	0.0017	CS1
WS05	0.2[1]	2.0	<0.1[3]	0.0002	CS1	0.0020	CS1

[1]Where a value of 0.0 %v/v is detected the detection error is to be used of 0.2%v/v for methane.
[2]Where a value of 0.0 %v/v is detected the detection error is to be used of 0.1%v/v for carbon dioxide.
[3]Where a value of 0.0 l/hr is detected the detection error is to be used of 0.1 l/hr for flow.
[4]CS1 typically when <1% methane and <5% carbon dioxide otherwise *consider* an increase to CS2.

Current Investigation Hazardous Gas Flow Rate Assessment							
Trial Hole	**CH_4 (%v/v)**	**CO_2 (%v/v)**	**Flow Rate (l/hr)**	**CH_4 GSV (l/hr)**	**Characteristic Situation**	**CO_2 GSV (l/hr)**	**Characteristic Situation**
BH1	0.2[1]	4.3	<0.1[3]	0.0002	CS1	0.0043	CS1
BH2	0.1	1.8	0.1	0.0001	CS1	0.0018	CS1

[1]Where a value of 0.0 %v/v is detected the detection error is to be used of 0.2%v/v for methane.
[2]Where a value of 0.0 %v/v is detected the detection error is to be used of 0.1%v/v for carbon dioxide.
[3]Where a value of 0.0 l/hr is detected the detection error is to be used of 0.1 l/hr for flow.
[4]CS1 typically when <1% methane and <5% carbon dioxide otherwise *consider* an increase to CS2.

Based upon the available ground gas monitoring to date, the risk from ground gas is considered to be **very low (CS1),** in accordance with BS8485:2015+A1:2019.

Consideration is required to any GSV that falls into the CS1 category, however the methane concentration is greater than 1% and/or the carbon dioxide concentration is greater than 5%. These locations are typical of sites where the hazardous gas concentration is significant, however marginal flow has been recorded during monitoring. It should be noted that consideration does not indicate that an increase is required. The monitoring results indicate that consideration is not required for an increase.

Assessing the sufficiency of the data is a requirement of BS 8576:2013, to determine whether further monitoring is required and the impact that this may have on the risk assessment. The current worst-case scenario is within BH1, which has identified a carbon dioxide GSV of 0.0043 l/hr. A GSV of 0.07 l/hr or above would result in an increase to Characteristic Situation CS2. Should the flow rate remain (1.0l/hr), a carbon dioxide concentration of 70% would be required to increase the classification to CS2. The understanding of the CSM indicates that this is unlikely to occur, however a slight increase may be plausible. Should the concentration of carbon dioxide remain constant (4.3%), a borehole flow rate of 1.62l/hr would be required to increase the classification to CS2. This increase in flow is possible within the understanding of the CSM but unlikely. A worst-case falling pressure has been noted during monitoring.

For Carbon Monoxide the WHO indoor air guidelines for Europe indicated anything above 6ppm over a 24hour period was an unacceptable level. OSHA (Occupational Safety and Health Administration) sets a safety limit of 50 ppm for an 8-hour exposure. The HSE has a Workplace Exposure Limit (WEL) for hydrogen sulphide of 5 ppm 8-hour time-weighted average (TWA) based on data indicating a shift towards anaerobic respiration at exposures to 10 ppm. The explosive range of hydrogen sulphide in air is 4.3 to 45%.

Carbon monoxide was recorded at a maximum of 30ppm and hydrogen sulphide was detected at 6ppm a concentration to warrant further assessment. Based on the risk assessment it is considered unlikely carbon monoxide and hydrogen sulphide will pose a risk at the site, however, the protection measures to protect against the vapours would also protect against these.

7.5.4. Ground Gas Risk Assessment Summary

The ground gas monitoring and the derived GSVs have indicated that there is a very low risk from ground gases, equating to **Characteristic Situation CS1** across the site. Based on the risk assessment it is considered unlikely carbon monoxide and hydrogen sulphide will pose a risk at the site, however, the protection measures to protect against the vapours would also protect against these.

Therefore, based on the evidence available to date, the risk assessment for the site indicates that the site should be classified as **Characteristic Situation CS2**. The vapour risk assessment also influences this classification where a vapour membrane is required and will be discussed further in the section below.

Boreholes can act as preferential pathways for ground gas and therefore prior to construction, all boreholes should be suitably decommissioned in line with Environment Agency guidance. This usually comprises pumping liquid grout down a tremie pipe to the base of the borehole, raising as the borehole fills.

The gas protection methods are outlined in BS8485:2015+A1:2019 and should be installed in line with CIRIA C735. The protection measures required are summarised within Section 8.3.

7.6. Vapour Risk Assessment

The CSM identified has not identified a significant source of contamination that may pose an unacceptable risk to receptors through vapours from an on-site source but there is from an off-site source.

7.6.1. Soil Assessment

In order to assess the potential for a vapour risk at the site, soil samples were sent to the laboratory for analysis (Appendix G). The testing suites included contaminants that may be present in the vapour phrase (Mercury, Naphthalene, TPHs and volatile Organic Compounds (VOCs)) taken within Made Ground samples.

All samples scheduled (5 - 13No.) identified contaminants that may pose a risk through the vapour pathway at concentrations lower than the laboratory limit of detection or below the respective relevant assessment criteria.

During the Hydrock investigation, results revealed a localised exceedance of Trichloromethane in WS05. Aniline, Dimethyl phthalate, 4-Chlorophenyl phenyl ether and Anthraquinone were above the laboratory limit of detection but there were no assessment criteria for the determinands in WS03/0.8, WS05/1.2 and LWS02/0.7m bgl.

7.6.2. Leachate Assessment

Leachate testing has been undertaken on four samples of Made Ground (TP212/0.20, BH201/0.40, TP201/1.00 and TP205/0.20-0.40) for VOC and SVOC analysis and has identified Diethyl phthalate and Dibutyl phthalate above the laboratory limit of detection. Diethyl phthalate and Dibutyl phthalate did not have any screening criteria to compare against but were an order of magnitude above their respective limit of detection. All other test results were below the laboratory limit of detection.

7.6.3. Human Health Risk Assessment from Dissolved Contaminants

In order to assess potential risk to site users, dissolved concentrations of potential contaminants have been compared to generic assessment criteria (GAC_{gwvap}) for assessing vapour risk to human health for volatile contaminants in groundwater for a residential end-use, published by the Society for Brownfield Risk Assessment (SoBRA). The table below and overleaf summarises the results of the laboratory analysis. Potential contaminants have been split into the groups presented in the SoBRA Report. Only determinands of concern that were detected in at least one sample over the monitoring period above the LOD where a SoBRA GAC_{gwvap} is published have been included. The results are included as Appendix G.

Groundwater Contamination Test Results			
Determinand	**SoBRA GAC_{gwvap} (µg/l)**	**Laboratory Analysis Range (µg/l)**	**Was the GAC Exceeded?**
POLYCYCLIC-AROMATIC HYDROCARBONS			
Acenapthene	170,000	<2 - <200	No
Acenapthylene	220,000	<2 - <200	No
Fluorene	210,000	<2 - <200	No
Naphthalene	220	<2 - <200	No
HALOGENATED ORGANICS			
Chloroethene (Vinyl Chloride)	0.62	<1 - 2.04	Yes – BH1 (5th visit) and BH202 (All - 3rd, 4th and 5th visit)
cis-1,2-Dichloroethene	130	<1 – 10.1	No
Trichloromethane (Chloroform)	790	<1 – 9.67	No
Trichloroethene (TCE)	5.7	1.57 – 2.59	No

Tetrachloroethene (PCE)	34	15.3 – 61.8	Yes – BH2 (1st, 3rd and 4th visit)
Bromoform (Tribromomethane)	3,100	<1 - 1.03	No
trans-1,2-Dichloroethene	160	<1 – 1.19	No

The assessment of risk to human health from vapours associated with dissolved contaminants in groundwater summarised in the table above indicates that the majority of the determinands are significantly below the GACgwvap adopted. However, Vinyl Chloride has been identified in BH1 and BH202 (north-west) and PCE in BH2 (south-west).

PCE can degrade to TCE and Vinyl Chloride and the source of the vapours is considered to be from the landfill to the south. At this stage the vapour risk within the groundwater is at a level that needs further assessment/protection. Therefore, it is recommended to install CS2 protection measures for ground-gases but with an upgraded membrane to protect against vapours.

7.6.4. Borehole Monitoring

During the monitoring of the boreholes installed, an oil-water interface probe and Photoionization Detector (PID) was utilised. The interface probe did not identify any dense or light non-aqueous phase liquids (DNAPL / LNAPL) during any of the monitoring visits. During all visits the highest PID reading was 0ppm in the current and Hydrock investigations. However, as part of the monitoring of the boreholes on the 5th February 2026, PID readings of between 5.5 – 109.2 were recorded. The highest PID reading originating from BH2 (closest to the landfill to the south).

It should be noted that the PID result will provide an indication on the total VOC concentration and will not speciate the determinands.

7.7. Updated Conceptual Site Model

Following completion of the Phase 2 Site Investigation, the CSM, inclusive of associated risk, within Section 2.8 of this report was re-evaluated.

For ease of reference and understanding, the risks have been re-assigned within this risk assessment against three possible levels / categories, summarised in the table below.

Risk Categories used in the Tabulated CSM	
Low Risk	Regarding this potential SPR linkage, the site is considered suitable for the proposed end-use and there is not considered to be an unacceptable risk to receptors.
Moderate Risk	Regarding this potential SPR linkage, the site is suitable for the proposed end-use however remediation and/or further investigation is required.
High Risk	Regarding this potential SPR linkage, the site is not suitable for proposed end-use and there is an unacceptable risk to receptors. Urgent action required in the short term.

Tabulated Conceptual Site Model – Pollutant Linkage Summary (On-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Former brick works and kilns: • PAHs, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public	**Moderate – Widespread PAHs and localised arsenic and lead identified**
	• Direct uptake of groundwater • Direct uptake of determinands in the soil	**Flora and Fauna** • Vegetation within soft landscaped areas • Ecological Receptor (Waterloo Meadows adj. south-west)	**Moderate – localised zinc and copper**
	• Anthropogenic (man-made) pathways • Vertical and lateral migration in permeable strata • Surface water runoff	**Controlled Waters** • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); and • River Kennet (From ~100m north-west)	**Moderate – PAHs, and metals**
Asbestos in the building structure	• Inhalation of dust and soil derived dust (indoors and outdoors) with asbestos fibres	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public	**Moderate – ACMs identified post-demo requiring removal as hazardous waste**
Existing building, formerly used as laboratory: • Asbestos, • Metals, • PAHs, and • TPHs.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands • Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works • Neighbours and public	**Moderate – asbestos, widespread PAHs and localised arsenic and lead**
	• Direct uptake of groundwater • Direct uptake of determinands in the soil	**Flora and Fauna** • Vegetation within soft landscaped areas • Ecological Receptor (Waterloo Meadows adj. south-west)	**Moderate – localised zinc and copper**

	• Anthropogenic (man-made) pathways • Vertical and lateral migration in permeable strata • Surface water runoff	**Controlled Waters** • Secondary A Aquifer (Lambeth Group) • Principal Aquifer (Chalk); and • River Kennet (From ~100m north-west)	**Moderate – PAHs, metals and TPHs**
Aggressive ground conditions with Made Ground and natural ground, including groundwater: • Sulphates.	• Direct contact with aggressive ground conditions	**Building Materials and Services** • Buried Concrete	**Low – DC-1, AC-1**
Aggressive ground conditions with Made Ground and natural ground, including groundwater: • PAH/TPH.	• Direct contact with aggressive ground conditions	**Building Materials and Services** • Underground services (water pipes)	**Moderate – barrier pipes or removal of MG required due to TPHs**
Ground gases generated by infilled land and alluvium (if encountered): • Methane, • Carbon Dioxide, • Hydrogen Sulphide, and • Carbon Monoxide.	• Migration through anthropogenic & natural pathways • Inhalation of Asphyxiating gases • Explosion (methane only)	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development (especially in confined spaces) • Site operatives during maintenance works in confined spaces • Neighbours and public	**Moderate – CS2 protection**
	• Migration through anthropogenic & natural pathways • Explosion (methane only)	**Building Materials and Services** • Buildings • Confined spaces • Underground services	**Moderate – CS2 protection**

Tabulated Conceptual Site Model – Pollutant Linkage Summary (Off-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
Landfill leachate: • PAHs, • TPHs, • SVOCs/VOCs, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands •	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development • Site operatives during maintenance works	**Moderate – Widespread PAHs and localised arsenic and lead identified**
	• Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)		**Moderate - Vinyl Chloride, PCE and TCE in groundwater**
	• Direct uptake of groundwater	**Flora and Fauna** • Vegetation within soft landscaped areas	**Moderate – localised zinc and copper**
Made Ground from nearby works incl. engineering works: • PAHs, • TPHs, • SVOCs/VOCs, • Sulphates, and • Metals.	• Direct ingestion of soil and soil derived dust • Dermal contact of soil and soil derived dust • Inhalation of dust (indoors and outdoors) with elevated concentration of determinands	**Human Health** • End Users (Residents/Future site visitors) • Construction workers during development Site operatives during maintenance works	**Moderate – Widespread PAHs and localised arsenic and lead identified**
	• Direct ingestion of groundwater • Inhalation of volatile vapour (indoors and outdoors)		**Moderate - Vinyl Chloride, PCE and TCE in groundwater**
	• Direct uptake of groundwater	**Flora and Fauna** Vegetation within soft landscaped areas	**Moderate – localised zinc and copper**
Aggressive ground conditions with Made Ground and natural ground, including groundwater: • Sulphates.	• Direct contact with aggressive ground conditions	**Building Materials and Services** • Buried Concrete	**Low – DC-1, AC-1**
Aggressive ground conditions with Made Ground and natural ground, including groundwater: PAH/TPH.	• Direct contact with aggressive ground conditions	**Building Materials and Services** Underground services (water pipes)	**Moderate – barrier pipes or removal of MG required due to TPHs**
Ground gases generated by landfill adj. to south-west:	• Migration through anthropogenic & natural pathways • Inhalation of Asphyxiating gases	**Human Health** • End Users (Residents/Future site visitors)	**Moderate – CS2 protection**

Tabulated Conceptual Site Model – Pollutant Linkage Summary (Off-Site Sources)			
Potential Sources	Potential Absorption Pathways	Potential Receptors	Risk Classification
• Methane, • Carbon Dioxide, • Hydrogen Sulphide, and • Carbon Monoxide.	• Explosion (methane only)	• Construction workers during development (especially in confined spaces) • Site operatives during maintenance works in confined spaces	
	• Migration through anthropogenic & natural pathways • Explosion (methane only)	**Building Materials and Services** • Buildings • Confined spaces • Underground services	**Moderate – CS2 protection**

8. CONTAMINATION RECOMMENDATIONS AND REMEDIATION STRATEGY

Based on the results of the intrusive works, chemical analyses and risk assessments undertaken, the following has been identified that requires further action:

- From a human health perspective, PAHs were encountered widespread across the site and localised arsenic and lead.
- From a plants perspective localised zinc and copper have been found at an unacceptable concentrations within the soils across the site.
- Asbestos fibres have been identified in three locations within the soil and as ACMs sitewide post-demolition.
- Vinyl Chloride, PCE and TCE in the groundwater.

An Asbestos Management Strategy should be put in place so that any potentially asbestos containing materials are identified and removed from site in a suitable manner to prevent cross-contamination. An asbestos survey should be undertaken prior to demolition of the existing building.

8.1. Soils

At this stage, due to the contamination identified across the site, it is recommended that a clean capping system is implemented for all soft landscaped areas.

The engineered capping system that is recommended within all soft landscaped areas is as follows:

Based on the available information within this report it was proposed that the following remedial methodology should be undertaken within **all soft landscaping areas**:

- Reduce dig of 450mm;
- Placement of 150mm anti-dig layer, overlaid by a geotextile marker membrane;
- Placement of 300mm clean capping of soil;
- Validation of the clean capping system by a suitably trained Ground and Water Limited engineer.

Full liaison must be made with the statutory authority, prior to the implementation of this remediation strategy and/or removal of soils from the site. All works must be undertaken to meet their approval.

8.1.1. 450mm Reduce Dig

Made Ground should be removed from the locations to a minimum depth of 0.45m bgl to allow for the placement of the engineered capping system. On sites where levels are raised, the imported materials should be clean and validated, and can therefore enable a reduction in the reduce level dig. Should site levels be lowered, or natural soils encountered, samples of the natural soils should be sent to the laboratory for testing. If the soils are deemed suitable for use, the risk assessment should be revisited and a new remediation strategy agreed with the regulators.

Materials should be removed and stockpiled on an impermeable liner with raised edges and covered at all times. This contamination stockpile destined for removal from site should be stored away from imported soils to avoid cross-contamination. Materials to be removed off-site must be classified by carrying out Waste Acceptance Criteria (WAC) testing. A registered contractor must undertake the

removal of waste. Consignment notes for the removal of waste must be obtained and kept for inclusion within the final validation Report.

8.1.2. 150mm Anti-dig layer and Marker Membrane

Following the excavation of the 450mm reduce dig, the void should be infilled with 150mm thick anti-dig layer comprising gap graded certified clean material (e.g. recycled crushed concrete), free from rebar and debris.

Following placement of the anti-dig layer a geotextile marker membrane should be placed to act as a barrier between the clean soils above and the anti-dig layer and contaminated soils below.

8.1.3. 300mm Clean Capping of Soil

The capping system should be at least 300mm in thickness within all garden areas and soft landscaping. It is recommended that at least the top 150mm of the clean capping should comprise suitable topsoil for use as a growing medium. It is a requirement that this should be no less than 100mm thick.

All subsoil and topsoil must be fit for purpose to ensure that the receptors cannot come into contact with determinands that could be detrimental to their health, see 'Imported Material' Section 4.8.

8.1.4. Validation

The remediation works outlined above will need to be inspected and independently validated by a Ground and Water Limited Engineer. All excavations will need to be inspected, documented and photographed.

The remediation works should be validated through a site visit and photographed by a suitably trained Ground and Water Limited Engineer following the 450mm reduce dig, placement of the no dig layer (prior to placement of the geotextile membrane) and after placement of the clean soils.

Validation holes should prove the depth of the clean cover to the marker membrane to ensure that it is present and enable the sampling of soils. Due to the design of the proposed development, 1 validation trial hole per area of soft-landscaping and a sample taken equating to 1 sample per 50m^3 imported.

8.1.5. Water Supply Pipes

The results indicate that TPHs were above the threshold for the use of a PE pipe at the site in the location of BH1. TPH contamination was also identified as part of the Hydrock investigation at varying depths within the Made Ground from 0.3m to 1.2m bgl, which are depths where typical pipework may be placed and at this stage barrier pipes are recommended. If Made Ground is to be removed from site, barrier pipe may not be required.

8.2. Groundwater

The Vinyl Chloride is elevated above Drinking Water Standards within BH1 on the third visit and BH202 on all three visits (both north-west). The Tetrachloroethene (PCE) and Trichloroethene (TCE) combined were above the Drinking Water Standards in BH1 on visit 1,2,3,5, BH2 all visits, BH201 visit 4,5 and BH202 visit 4,5. The highest concentrations were in BH2 (closest to the landfill in south-west). BH203 screened in the Lambeth Group and Chalk did not encounter any VOCs/SVOCs above the limit of

detection of the laboratory. This shows clear degradation of the PCE and TCE (found in south-west) to the Vinyl Chloride (found in north-west) which suggests the migration of the VOCs is from the landfill to the south travelling north/westwards. The results have shown the VOCs are travelling within the Lambeth Group (Secondary A Aquifer) as well as the Chalk (Principal Aquifer).

Reinforced deep strip foundations (anticipated to between 2.30 – 3.00m bgl) is the method of foundation construction to be used at the site which will terminate within the Lambeth Group. They will remain above the underlying Chalk Principal Aquifer. Given the heterogeneous nature of the Lambeth Group, foundations may locally be constructed within cohesive or granular strata. The foundations are therefore not considered to represent a direct pathway into the Principal Aquifer.

Nevertheless, excavation and subsequent backfilling of foundation trenches and associated below ground infrastructure could locally modify groundwater flow through the Lambeth Group, particularly where excavations cross relatively low-permeability cohesive horizons. To minimise the potential for preferential contaminant migration, foundation and service excavations should be designed and constructed to avoid unnecessary penetration of cohesive Lambeth strata and to prevent the creation of continuous permeable backfilled pathways across contrasting geological horizons. Where appropriate, low-permeability plugs or equivalent measures should be incorporated into service/foundation trenches in accordance with the geotechnical and structural design.

Groundwater encountered during construction should be managed in accordance with a site-specific groundwater management procedure. Unnecessary dewatering should be avoided, and any groundwater encountered within VOC-impacted areas should be appropriately characterised and managed prior to discharge or disposal. Prolonged pumping of contaminated groundwater should not be undertaken without an appropriate assessment and regulatory controls.

Groundwater monitoring should be undertaken before and, where appropriate, during and following construction to provide evidence that the works have not resulted in significant changes in groundwater levels or contaminant concentrations. Trigger criteria and contingency measures should be established for unexpected groundwater conditions, significant dewatering or changes in VOC concentrations.

These measures are intended to minimise modification of existing groundwater pathways within the Lambeth Group and do not rely on the foundations providing containment of the existing VOC plume.

8.2.1. Groundwater and Dewatering Controls

The proposed development will comprise foundations extending to approximately 2.3–3.0m bgl. The Made Ground is underlain by variable cohesive and granular deposits of the Lambeth Group, extending to approximately 4.0–5.5 m bgl, with Chalk beneath. The Lambeth Group is classified as a Secondary A Aquifer and the underlying Chalk as a Principal Aquifer.

Groundwater has been identified at approximately 1.4–6.3 m bgl. Based on the current foundation depths, groundwater may therefore be encountered locally during foundation excavation, particularly where formation levels extend into the shallow groundwater body. The available monitoring data indicate that the shallow Lambeth groundwater is present at approximately 40.6–41.9m AOD, while groundwater in the Chalk has been recorded between approximately 37.2 and 40.4m AOD.

The paired shallow and deep installations at BH203 provide evidence of a downward hydraulic head difference between the Lambeth Group and Chalk. At BH203, the measured difference between the shallow Lambeth and deeper Chalk water levels increased from approximately 1.4 m on 05 February 2026 to approximately 4.2 m on 25 March 2026. This indicates that there is an existing downward hydraulic driving force at this location. However, the available data is insufficient to determine whether this represents a sustained site-wide hydraulic gradient, the extent of hydraulic connectivity between the Lambeth Group and Chalk, or whether VOC mass is currently migrating from the Lambeth Group into the Chalk.

8.2.2. Recommended Baseline Monitoring (Pre-Construction)

The three groundwater monitoring rounds undertaken prior to construction are considered to provide an initial pre-construction baseline against which construction-related changes can be assessed. Given the observed temporal variability in groundwater levels, a further confirmation monitoring round should be undertaken shortly before commencement of foundation excavation and any dewatering. This should comprise groundwater-level measurements and groundwater-quality sampling from the existing monitoring network and should form the immediate pre-construction reference condition.

Monitoring should comprise the three shallow Lambeth wells (BH1, BH2 and BH203(s)) and the three Chalk wells (BH201, BH202 and BH203(d)). The paired BH203 installations should be given particular consideration, with concurrent measurements of shallow and deep groundwater levels used to assess the vertical hydraulic gradient. Analysis should include, VOC Screen, together with appropriate field parameters such as pH, electrical conductivity, dissolved oxygen and redox potential. This data should be used to establish both the spatial distribution and natural variability of the VOC plume prior to construction.

8.2.3. Groundwater and Dewatering Management (During Construction)

The construction methodology should seek to minimise groundwater interception and avoid unnecessary dewatering. Foundation excavation should, where practicable, be undertaken using localised and short-duration groundwater control measures rather than prolonged or extensive pumping.

Prior to construction, the contractor should prepare a detailed dewatering method statement identifying:

- Anticipated foundation formation levels;
- The expected groundwater level range;
- Areas where groundwater is expected to enter excavations;
- Proposed pumping methods and locations;
- Maximum anticipated abstraction/pumping rates;
- Duration of pumping;
- Arrangements for storage, treatment and disposal of abstracted water;
- Monitoring requirements;
- Contingency measures in the event of unexpected groundwater or contaminant conditions.

Where groundwater is encountered, the preferred approach should be to minimise the hydraulic disturbance and avoid creating a large or prolonged cone of depression. Localised sump pumping or

other low-volume measures may be appropriate where practicable, subject to confirmation that such measures will not result in unacceptable mobilisation of contaminated groundwater. Broad-area or prolonged pumping should be avoided unless demonstrated to be necessary and appropriately controlled.

Any water abstracted from excavations should be treated as potentially contaminated until analytical results demonstrate otherwise. Pumped groundwater should not be discharged to a surface-water body, sewer or infiltrated to ground without confirming that the proposed discharge route and water quality are acceptable and that any necessary regulatory permissions or consents are in place.

The abstraction rate and duration should be recorded throughout dewatering. Where significant pumping is required, the pumped volume should be used with groundwater concentrations to estimate contaminant mass removal. This should be considered alongside groundwater-level and groundwater-quality data when assessing the potential impact of the works.

8.2.4. Construction Monitoring and Trigger Levels (During Construction)

A groundwater monitoring and action-level system should be incorporated into the Construction Environmental Management Plan/dewatering management plan. Trigger levels should be established from the pre-construction baseline rather than relying solely on generic groundwater concentrations.

The purpose of the monitoring is to prevent uncontrolled mobilisation of VOC-contaminated groundwater and to protect the underlying Chalk Principal Aquifer.

8.2.4.1. Before Excavation Starts

Before excavation in each area:

- Check the groundwater level in the relevant monitoring wells.
- Confirm the planned foundation formation level.
- Confirm whether groundwater is expected to be encountered.
- Ensure the agreed groundwater/dewatering arrangements are in place.

The most recent pre-construction monitoring results shall be used as the reference condition.

The purpose of the monitoring is to prevent uncontrolled mobilisation of VOC-contaminated groundwater and to protect the underlying Chalk Principal Aquifer.

8.2.4.2. During Excavation

GREEN – No groundwater encountered

Condition:

- Excavation remains above groundwater; and
- No unexpected groundwater inflow is observed.

Action:

- Continue excavation in accordance with the approved method statement.
- No groundwater pumping is permitted unless authorised under the dewatering plan.

- Continue routine groundwater monitoring.

AMBER – Groundwater encountered

Condition:

- Groundwater enters the excavation; or
- Groundwater levels rise to or above foundation formation level; or
- Pumping/dewatering becomes necessary.

Action:

- Stop and notify the Site Manager who should then contact Ground and Water Limited.
- Do not commence or increase pumping without approval.
- Record the location, approximate water level and nature/rate of inflow.
- Undertake additional groundwater-level monitoring.
- Sample groundwater where required by the Environmental Manager.
- Confirm that the proposed discharge/treatment arrangements are suitable before water is removed from site.

Excavation may only continue once the groundwater control method has been confirmed as acceptable.

RED – Potential contaminant mobilisation

Condition:

Any of the following occurs:

- Unexpected or rapidly increasing groundwater inflow;
- Significant drawdown of groundwater levels;
- Groundwater pumping is required for a prolonged period or at a substantially greater rate than anticipated;
- Visible evidence of contamination or unusual odour is observed;
- Monitoring identifies a significant increase in VOC concentrations;
- Monitoring indicates deterioration in groundwater quality in the chalk.

Action:

- Stop groundwater pumping, where safe to do so.
- Stop or suspend the affected excavation activity where appropriate.
- Immediately notify the Site Manager who should then contact Ground and Water Limited.
- Prevent uncontrolled discharge of groundwater.
- Collect representative groundwater samples as instructed.
- Review groundwater levels in the shallow Lambeth and Chalk monitoring wells.
- Do not recommence pumping or discharge until the Environmental Manager has confirmed the revised control measures.

The numerical trigger values should be established following completion of the additional baseline monitoring. In particular, separate groundwater-level trigger ranges should be established for the shallow Lambeth and Chalk monitoring networks. A single site-wide groundwater elevation should not be used as the sole trigger because the monitoring data demonstrate significant spatial and temporal variability.

A groundwater/dewatering log should be maintained throughout the works, recording excavation location and depth, groundwater occurrence, pumping rates and duration, groundwater disposal/treatment route and analytical results. A verification report will be prepared following completion of the works to demonstrate compliance with the groundwater management requirements.

8.2.5. VOC Control and Treatment (During Construction)

Given the existing detection of PCE, TCE and vinyl chloride, any groundwater entering foundation excavations should be subject to appropriate chemical characterisation before being discharged. Where VOC concentrations are above the agreed discharge criteria, treatment should be undertaken prior to discharge. A Remediation Specialist should be appointed to assist with this.

The treatment system should be selected following confirmation of the contaminant concentrations, abstraction rate and anticipated water chemistry. Depending on the confirmed concentrations and flow rate, treatment options may include activated carbon or other appropriate VOC treatment technologies. The treatment system should be designed on the basis of measured contaminant concentrations and should include appropriate monitoring of influent and treated water.

Where practicable, the system should be configured to prevent uncontrolled release of volatile contaminants, including appropriate containment of pumped water and consideration of vapour emissions from treatment/storage equipment.

8.2.6. Protection of the Chalk Principal Aquifer (During Construction)

The principal environmental objective during construction should be to avoid materially increasing the existing contaminant flux from the Lambeth Group towards the Chalk.

The three Chalk monitoring wells should therefore be retained as the principal receptor. Groundwater levels and VOC concentrations in BH201, BH202 and BH203(d) should be compared with the established pre-construction baseline throughout foundation construction and any dewatering.

Particular attention should be given to BH203 because the paired shallow/deep installations indicate an existing downward hydraulic gradient. Any construction-related increase in the downward hydraulic gradient, particularly if accompanied by an increase in VOC concentrations in the deeper monitoring horizon or Chalk, should trigger investigation and review of the dewatering regime.

Following completion of the foundations and cessation of dewatering, groundwater monitoring should continue to demonstrate recovery towards baseline conditions. Initial post-construction monitoring should be undertaken at relatively short intervals, with monitoring frequency subsequently reduced if groundwater levels, hydraulic gradients and VOC concentrations remain stable.

The final monitoring period should be sufficient to demonstrate that the foundations have not resulted in a persistent change to groundwater flow or groundwater quality and that no deterioration of Chalk groundwater quality has occurred as a consequence of the construction works.

8.2.7. Post-Construction

Following completion of foundation construction and cessation of dewatering:

- Groundwater levels shall be monitored to confirm recovery;
- Groundwater quality shall be monitored at the agreed monitoring locations;
- Any persistent change in groundwater levels, flow conditions or VOC concentrations shall be investigated.

The monitoring programme shall continue until groundwater conditions have stabilised and Ground and Water Limited with the support of a Remediation Specialist considers that the construction-related groundwater risk has been adequately controlled.

8.2.8. Decommissioning of Monitoring Boreholes

The decommissioning of all boreholes must be undertaken in line with the available EA guidance post construction. Boreholes have the potential to provide preferential pathways for contaminants to move into the groundwater and for gases and vapours to migrate vertically to the surface.

There are numerous ways in which a borehole can be decommissioned, typically comprising a backfill to mimic geology or low permeability backfill, such as grout. It is recommended that the latter is undertaken at the site, in line with the following steps:

- Removal of headworks and surrounding soils from the upper portion of standpipe.
- Pumping of water to the surface to remove excess groundwater head.
- Mixing of bentonite grout at the surface.
- Lowering of tremie pipe to the base of the borehole and injection of bentonite grout. It is important to note that the borehole should be filled from the base in order to displace any water within the well and prevent the bentonite from sitting at the top of the water.
- Raise tremie pipe as borehole fills.
- Removing top 0.50m of standpipe prior to filling top of borehole with liquid grout.
- Sealing of the top of the borehole with liquid grout, covering an area greater than the diameter of the borehole drilled.

Each decommissioned trial hole location should be documented for inclusion within the verification report. The documentations should include: measurement of groundwater prior to decommissioning; type and quantity of bentonite grout used; Any changes made to the boreholes; any problems encountered during the decommissioning. Before and After photographs must be included within the verification report.

8.3. Ground Gas and Vapours

Based on risk assessment undertaken, vapour protection measures will be required or further vapour risk assessment. If not further monitoring/testing is undertaken the following is required:

Characteristic Situation CS2 should be installed, where precautions to prevent the ingress of ground-gas/vapours are necessary. Type B buildings on CS2 classified sites require **3.5 points** worth of protection, in accordance with BS8485:2015+A1:2019. Points must be made up through a structural barrier, ventilation, and/or membrane, where at least two methods are incorporated.

An example of the gas protection measures that could be adopted are:

Cast in situ monolithic ground bearing raft or suspended floor slab (with minimal penetrations) (1 point)
In accordance with BS8485: Any raft or floor slab would need to ensure it is suitably reinforced to minimise potential cracking and must have limited penetrations caused by services. This reinforcement should be in accordance with Annex A, Section 2.2.2.

Passive sub-floor dispersal layer, typically no fine gravel or polystyrene (1.5 points):
In accordance with BS8485: The volume flow-through rate is governed by the size and number of side vents; for small to medium width buildings (up to 15 m wide – considered to be present onsite), the minimum area of side ventilation should be 1500mm^2/m run of wall on at least two opposite sides. Where there are multiple internal obstructions to air flow (caused by beams), there should be four or five times the area of the side vents provided in the internal obstructions.

Gas/vapour Resistant Membrane (Visqueen vapour barrier or similar) meeting the criteria below (2 points):

- Sufficiently impervious to the gases (carbon monoxide and hydrogen sulphide) and vapours (PCE);
- Sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas emissions;
- Sufficiently strong to withstand in-service stresses (e.g. settlement if placed below a floor slab);
- Sufficiently strong to withstand the installation process and following trades until covered (e.g. penetration from steel fibres in fibre reinforced concrete, penetration of reinforcement ties, tearing due to working above it, dropping tools, etc);
- Capable, after installation, of providing a complete barrier to the entry of the relevant gas;
- Verified by a suitably trained Engineer in accordance with CIRIA C735.

Please note any deviation from the above should meet the points criteria, as outlined within BS8485:2015+A1:2019. Gas/vapour protection measures should be suitably designed by a qualified professional following confirmation of the construction design.

8.3.1. Prior to Construction

Prior to construction of the buildings, the following should be undertaken:

- Suitable design of ground gas/vapour protection measures.

8.3.2. During Construction

During construction of the structure, the following should be undertaken within each plot:

- Following the excavation and construction of foundations, a passive subfloor dispersal layer should be installed, complete with ventilation bricks.

- The subfloor dispersal layer should be verified by an appropriately trained Ground and Water Limited Engineer, and photographs obtained.
- Following installation of ventilation system, a gas resistant membrane (Visqueen Vapour barrier or similar) should be installed by a suitably qualified groundworker prior to pouring of the floor slab.
- The gas resistant membrane must be visually verified in accordance with CIRIA C735, by an appropriately trained Engineer, and photographs obtained of all components (overlaps, service entries, corners, repairs). This is required prior to pouring of the floor slab.
- The floor slab should be poured to prevent any damage or loss of integrity to the installed ground gas/vapour precautions.

8.3.3. Verification

- Due to the requirement to monitor the groundwater during and post- piling, the decommissioning of all boreholes must be undertaken post construction, in line with the EA guidance as outlined in Section 8.2.1.
- Following completion of all the verification works, outlined above, a report should be submitted to the local authority for approval. This should include as a minimum, verification photographs of the visual checks.

8.4. Discovery Strategy

There may be areas of contamination that have not been identified during the course of the intrusive investigation (e.g. underground storage tanks). Such occurrences may be discovered during the construction phases for the redevelopment of the site. The Principal Contractor for this development will be responsible for the discovery strategy being followed.

Groundworkers should be instructed to report to the Site Manager any evidence for such contamination; as part of any site induction a toolbox talk on the potential signs of contamination that may be encountered at the site should be undertaken. A signed record of anyone that has received the toolbox talk should be kept and provided at the end of construction along with a signed letter from the Principal Contractor confirming whether any contamination was encountered.

The toolbox talk must cover the following:
Visual indicators:

- Fibrous materials within the soil,
- Discolouration of soil.

Olfactory indicators:
The nature of any odour must be communicated:

- The strength of the odour should be categorised by:
    - Weak (just detectable at source);
    - Distinct (detectable immediately adjacent to source);
    - Strong (detectable up to 20m from source, bearable at source); or
    - Very strong (detectable >20m from source, pungent at source).

- The following odour types should be used:
    - Hydrogen Sulfide (H2S) (rotten egg);
    - Mercaptan (Rotten cabbage);
    - Naphthalene (mothballs);
    - Solvent (acetone – nail varnish);
    - Chlorinated solvent ('Tippex');
    - Acetic (vinegar);
    - Fuel (petrol, diesel, paraffin);
    - Mineral oil (engine oil, lubricating oil);
    - Creosote / coal tar;
    - Putrid (decaying waste).

Well-being indicators:

- Light-headedness,
- Dizziness,
- Blacking out.

Should any of these be encountered by the groundworkers, they must be reported to the site manager immediately. It is the site manager's responsibility to seek advice from a suitably qualified person before proceeding, such that appropriate remedial measures and health and safety protection may be applied.

It is a requirement that any suspected contamination is reported to the Local Authority as soon as practically possible and no further development (unless otherwise agreed in writing by the Council) shall be carried out until a report indicating the nature of the contamination and how it is to be dealt with is submitted to, and agreed in writing by, the Council.

Following the completion of the works, the site manager must pass all information with respect to the discovery strategy to the Principal Contractor and Ground and Water Limited for inclusion within the verification report. A summary statement written by an experienced individual who has been on-site during the works saying that no contamination was found must also be included within the verification report, should this be the case.

8.5. Imported Material

It is required that clean soils will be brought onto site as part of the validation works. Any soil which is to be imported onto the site must undergo chemical analysis to prove that it is suitable for the purpose for which it is intended.

The soil must be fit for purpose and must either be supplied with traceable chemical laboratory test certificates or be tested, prior to placing (ideally) and after placing, to ensure that the future receptors (human health and vegetation) cannot come into contact with compounds that could be detrimental to their health. The compounds that are to be tested for are those given in the Generic Assessment Criteria, which can be viewed in Appendix G of this report.

8.6. Waste Disposal

The excavation of foundations and other soils is likely to produce waste which will require classification and then recycling or removal from site.

Under the Landfill (England and Wales) Regulations 2002 (as amended), prior to disposal, all waste must be classified as either: Inert; Non-hazardous; or Hazardous.

The Environment Agency's Hazardous Waste Technical Guidance (WM3) document outlines the methodology for classifying wastes. Once classified the waste can be removed to the appropriately licensed facilities, with some waste requiring pre-treatments prior to disposal.

Following the investigation, 6No. samples were submitted to the analytical laboratory to undergo a suite of testing for contamination testing, as discussed in the previous sections. Sampling depths were chosen to reflect the receptor of concern, human health, and typically comprised a surface or near surface sample and periodically to 1.00m bgl. Any horizon where olfactory or visual evidence of contamination was present was also sampled.

Based on a risk phase analysis of the chemical laboratory test results, in accordance with EC Hazardous Waste Directive and undertaken by Ground and Water Limited, all soil samples of Made Ground encountered on-site were NON-HAZARDOUS. The results of the assessment are given within Appendix J. Based on the Hydrock investigation, all soil samples encountered were NON-HAZARDOUS with the exceptions of WS05/0.30 for levels of zinc and TPHs and FP01/GL-0.10m bgl for levels of zinc classifying the soils as HAZARDOUS.

Some of the bituminous hardstanding was also screened and confirmed that coal tars were not present.

Soils containing asbestos are considered HAZARDOUS if the level of asbestos in the Made Ground is above the threshold of 0.1% or visual fragments can be observed. As quantification of the asbestos in the sample recovered from BH1/0.20m bgl was <0.001% and from the Hydrock report 0.001% in WS05/0.30 and 0.015% in LWS02/0.20-0.70 (less than 0.1%) the Made Ground with asbestos detected in was NON-HAZARDOUS with respect to waste classification. The ACMs identified will need to be removed as Hazardous waste.

It is important to note that whilst we consider our in-house assessment tool to be an accurate interpretation of the requirements of WM3, therefore producing an initial classification in accordance with the guidance, this method classifies soils as either non-hazardous or hazardous and landfill operators have their own assessment tools and can often come to different conclusions. As a result, some landfill operators could refuse to take apparently suitable waste. It is recommended that the receiving landfill views the results of this assessment and the chemical laboratory results to determine their own classification.

In addition to the samples described above, 1No. sample was scheduled to undergo Waste Acceptance Criteria (WAC) testing with single batch leachate. The results indicate that the sample conformed to the Inert Waste Classification.

It should be noted that the receiving landfill may see the presence of Made Ground within the soils to be indicative of a non-hazardous classification despite the presence of the WAC testing certificates indicating that it is inert. Therefore, it should be considered that all Made Ground is classified as Non-hazardous, subject to finalising with the receiving landfill.

Where contaminated soils are to be removed, they should be placed on an impermeable membrane (visqueen or similar) to ensure that no cross-contamination of soils occurs.

8.7. Duty of Care

Groundworkers must maintain a good standard of personal hygiene including the wearing of overalls, boots, gloves and eye protectors and the use of dust masks during periods of dry weather.

To prevent exposure to airborne dust by both the general public and construction personnel the site should be kept damp during dry weather and at other times when dust would be generated as a result of construction activities.

The site should be securely fenced at all times to prevent unauthorised access. Washing facilities should be provided and eating restricted to mess huts.

FIGURES

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

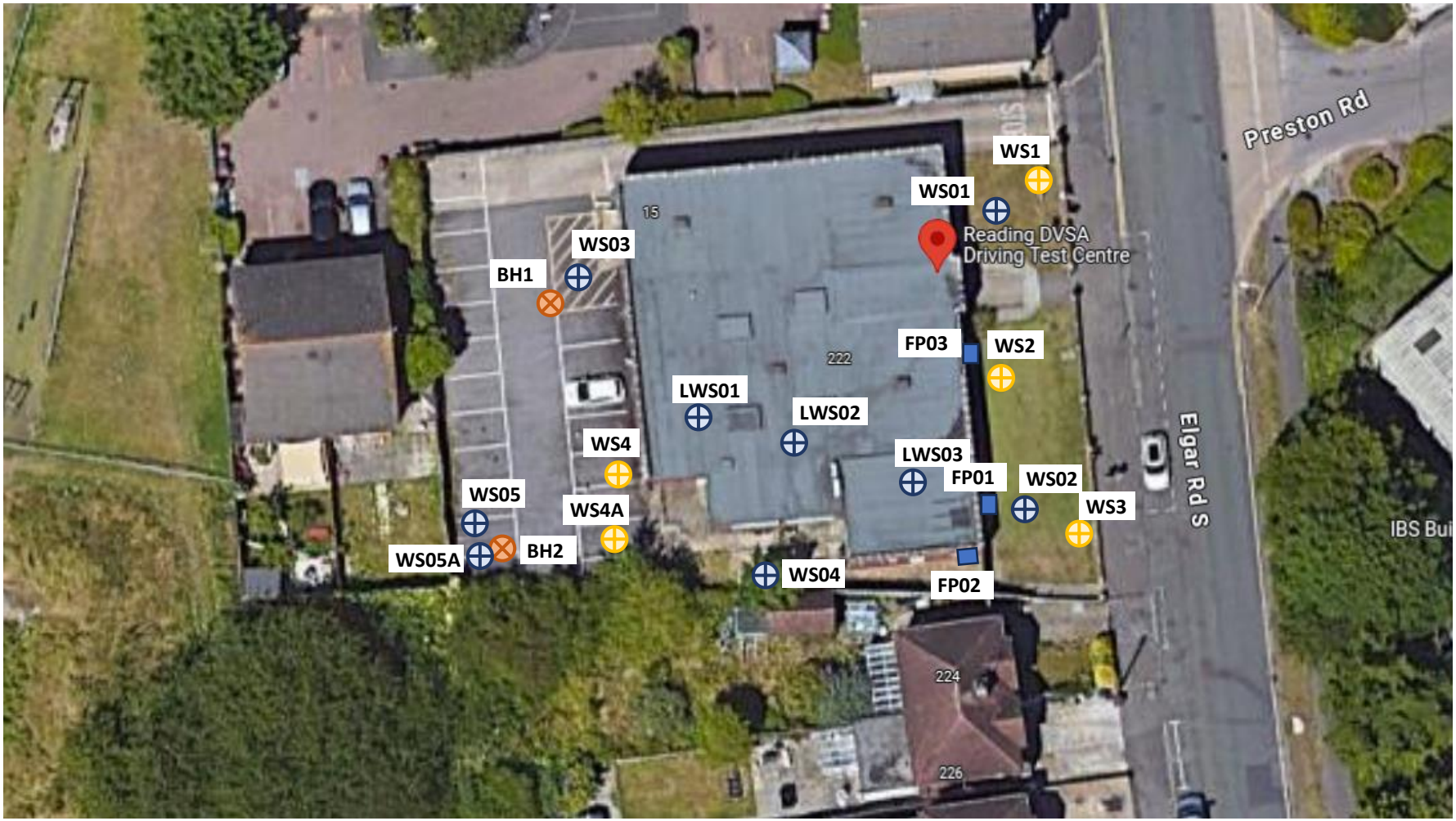
Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Site boundary

220 Elgar Road, South Reading RG2 0BW	
Abri	**October 2026**
Figure 1 – Site Location Plan	**GWPR6817**

220 Elgar Road, South Reading RG2 0BW

Abri	**October 2026**
Figure 2 – Proposed Development Plan	**GWPR6817**



Site boundary

Previous Hydrock SI:

Windowless Sampler Borehole

Hand Excavated Trial Pit Foundation Exposure

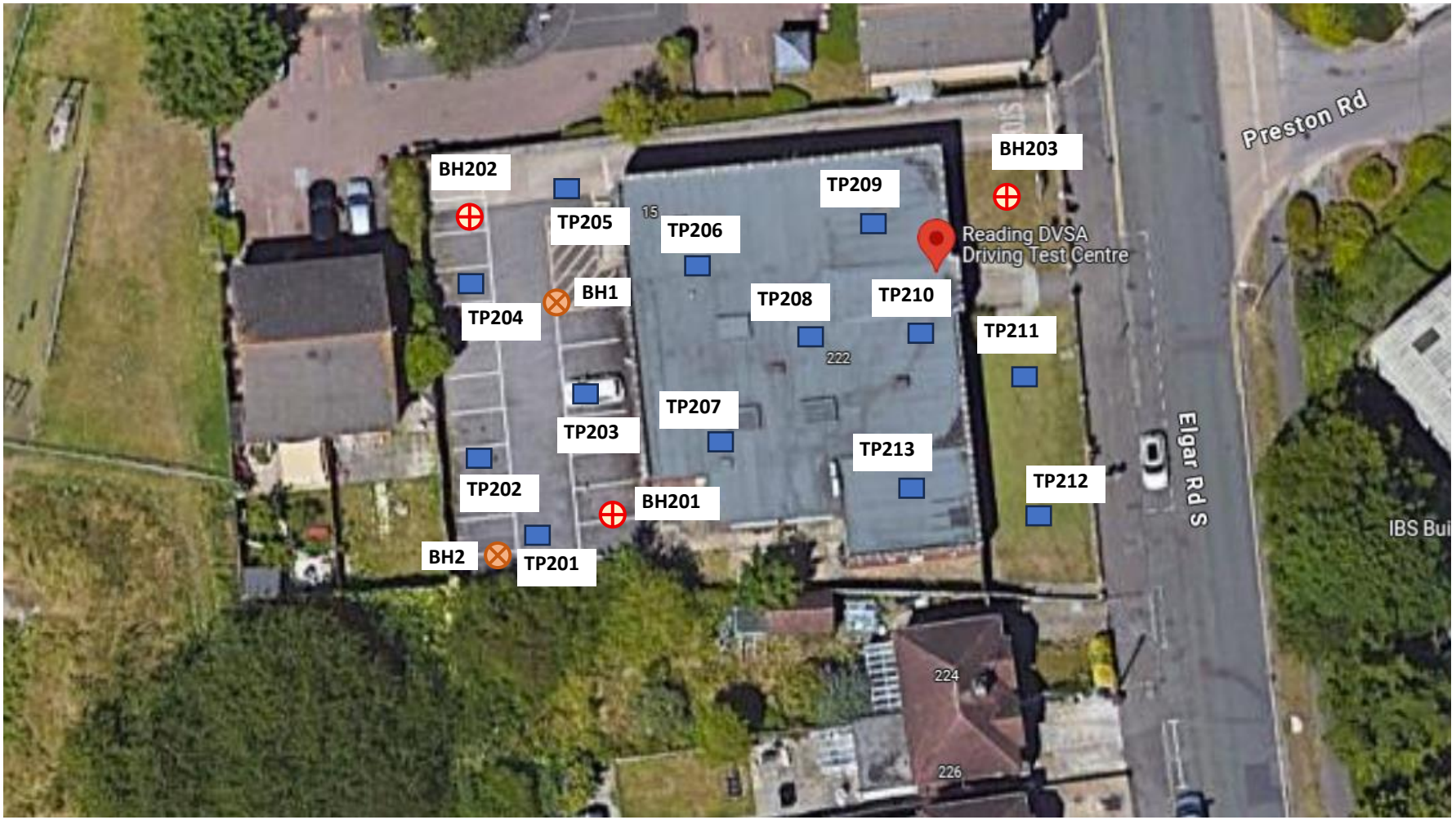
G&W SI:

Cable Percussion Borehole

Windowless Sampler Borehole

220 Elgar Road, South Reading RG2 0BW	
Abri	**October 2026**
Figure 3A – GWPR6540 Trial Hole Location Plan	**GWPR6817**

ground&water



Site boundary

G&W SI Visit 1:

Cable Percussion Borehole

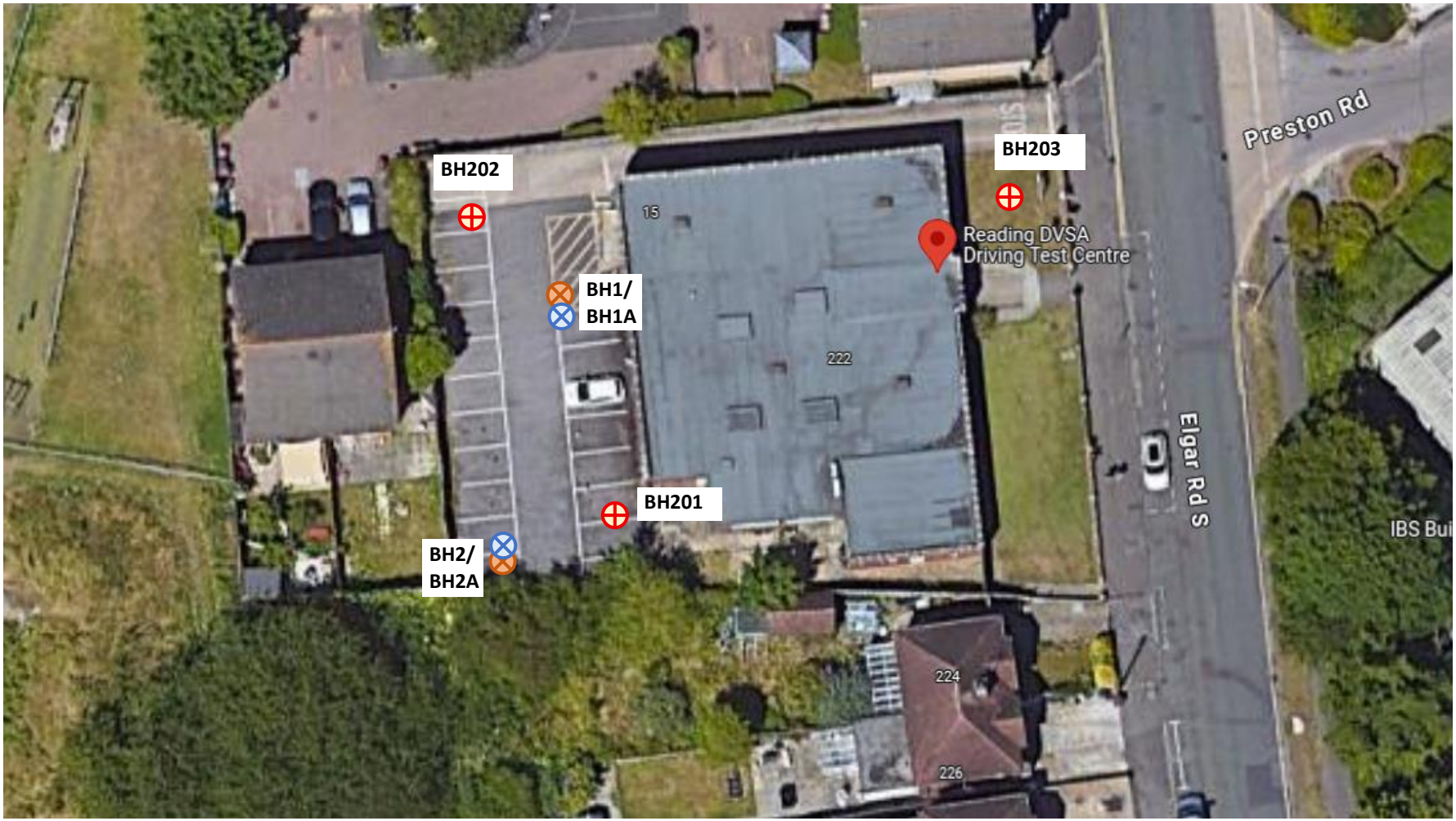
G&W SI Visit 2:

Cable Percussion Borehole

Machine Excavated Trial Pit

220 Elgar Road, South Reading RG2 0BW	
Abri	**October 2026**
Figure 3B – GWPR6817 Trial Hole Location Plan	**GWPR6817**

ground&water



Site boundary

G&W SI Visit 1:

Cable Percussion Borehole **(Wells lost/ damaged)**

G&W SI Visit 2:

Cable Percussion Borehole

G&W SI Visit 3:

Windowless Sampler Borehole

220 Elgar Road, South Reading RG2 0BW	
Abri	**October 2026**
Figure 3C – Well Location Plan	**GWPR6817**

ground&water

Site boundary

G&W Well Installs:

Cable Percussion Borehole (Visit 1)

Cable Percussion Borehole (Visit 2)

Windowless Sampler Borehole (Visit 3)

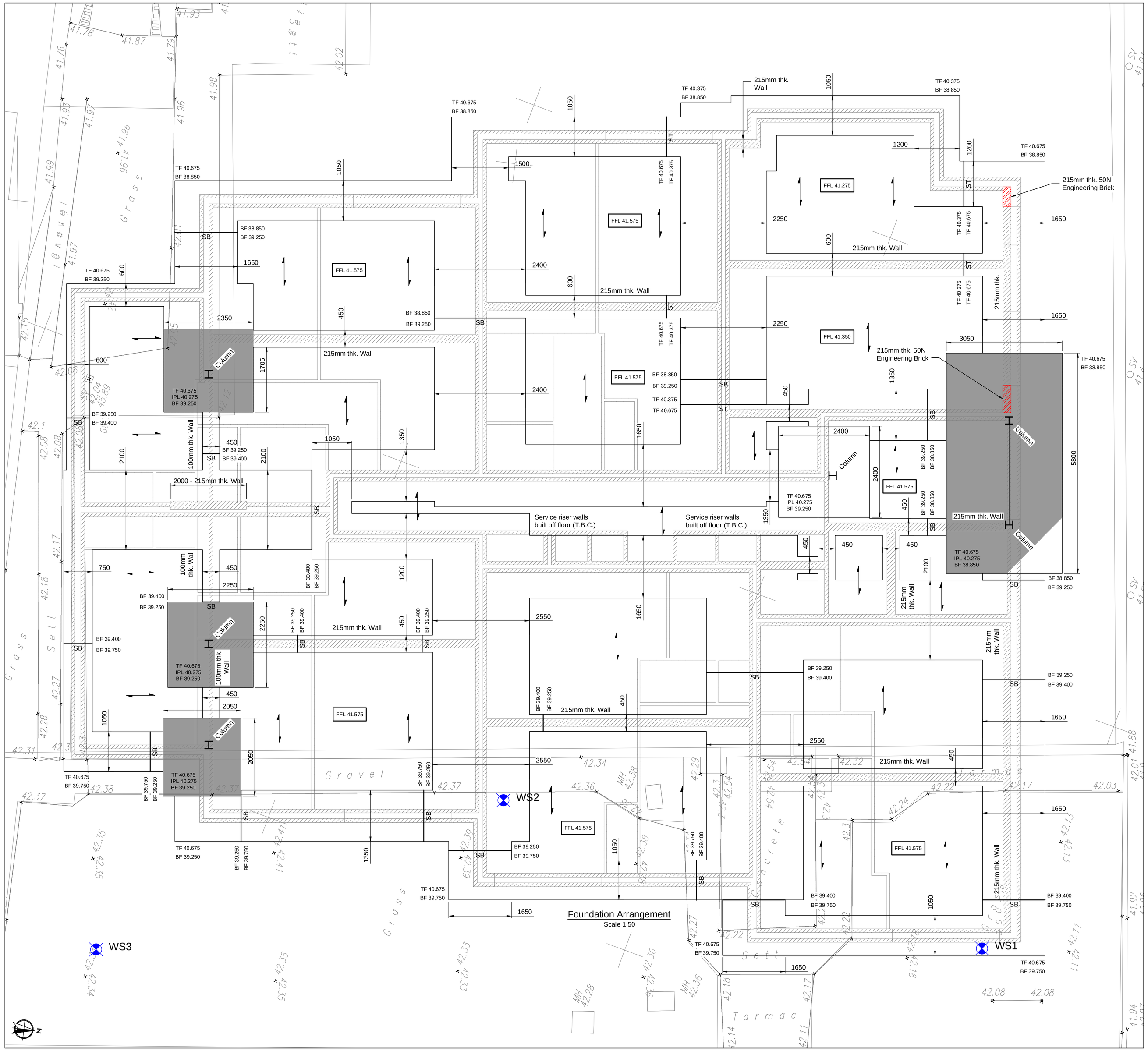
G&W SI Visit 4:

Windowless Sampler Borehole

220 Elgar Road, South Reading RG2 0BW	
Abri	**October 2026**
Figure 3D – GWPR7110 Trial Hole Location Plan	**GWPR7110**

ground&water

Figure 4: Foundation Construction Drawings



FOUNDATION NOTES

1. Foundation recommendations are based on the Ground and Water Ltd Phase II Site Investigation Report, Ref: GWPR6540/SIR/June 2025.
2. The report states: "The ground conditions encountered consisted of Made Ground overlying interbedded cohesive and granular soils of the Lambeth Group, which in turn overlay the Seaford and Newhaven Chalk Formation. Made Ground was found to be 2.0 – 2.5m thick in places. The cohesive Lambeth Group consisted of orangish brown silty sandy CLAY; granular deposits consisted of clayey medium SAND."
3. Based on the information contained within the ground investigation report, foundations are recommended to be pile and ground beams.
4. The CLAY is classified as having MEDIUM volume change potential.
5. The ground investigation report classifies sub-surface concrete as follows:

   DS-1, AC-1 concrete design mix is recommended for all strata.
6. Mass unreinforced concrete to be grade GEN1, Reinforced foundations to be RC 28/35, or as noted on the layout.
7. Groundwater was encountered during drilling at depths of 2.0m – 4.45m bgl. Monitoring installations were placed in BH1 and BH2. Long-term groundwater monitoring results were to be issued as a revision to the report (not included at time of writing).
8. The site lies within a 1–3% radon potential area. No radon protection measures are required.
9. The Geotechnical Report by Ground & Water states: Based upon the available ground gas monitoring to date, the risk from ground gas is considered to be very low (CS1), in accordance with BS8485:2015+A1:2019.
10. The Geotechnical Report by Ground & Water states: A review of the freely available UK Health Security Agency radon database, UK Radon, indicated that the site was located within a 1km grid square, where the maximum radon potential of 1 – 3% was recorded for above ground structures. Basic radon protection measures are required in areas where more than 3% of houses are at or above the Action Level. The site was in an area where a risk assessment was not required.
11. The Geotechnical Report by Ground & Water states: UXO risk is classified as low based on Zetica UXO data (<15 bombs/1000 acres).

Below Ground Block Strengths :

All concrete blocks for use below dpc level should comply with BS EN 771 and have a compressive strength not less than 7.3N/mm² unless noted otherwise.

REINFORCED PAD FOUNDATION

Reinforced Foundations denote thus:

1. All pad foundations shall consist of 2 No. concrete pours.
2. The first concrete pour shall form the lower mass concrete fill, extending from the bearing level / Bottom of Foundation (BF).
3. The top of the first pour shall finish at Intermediate Pour Level (IPL).
4. The second concrete pour shall form the reinforced pad foundation, extending from IPL to Top of Foundation (TF).
5. Prior to the second concrete pour, place the top and bottom reinforcement within the upper pad, maintaining the specified concrete cover.
6. First pour concrete grade to be - GEN1
   Second upper reinforced concrete grade to be RC28/35
7. Reinforcement to top and bottom of RC pad to be:
   2No. A393 T&B (4No. in total).
8. 50mm Cover all round.

LEGEND

FFL + ??.???m	Finished Floor Level
SSL + ??.???m	Structural Slab Level
TF + ??.???m	Top of Foundation
IPL + ??.???m	Intermediate Pour Level
BF + ??.???m	Bottom of Foundation
	Denotes span of beam & block floor by Specialist
ST	Step in Top of Foundation
SB	Step in Bottom of Foundation
	Reinforced Foundation
	BH Locations
	WS Locations

GENERAL NOTES

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and specifications.
2. All materials and workmanship to be in accordance with relevant British Standards or recognized codes of practice.
3. For details of setting out, levels, damp proof courses and finishes, refer to Architect's drawings unless noted otherwise.
4. The Contractor is responsible for the accuracy of all dimensions and the setting out.
5. All dimensions are in millimetres unless noted otherwise.
6. All dimensions and levels are to be checked on site by the contractor prior to preparing any working drawings or commencing on site.
7. The contractor must ensure and will be held responsible for the overall stability of the building/structure/excavation at all stages of the work.
8. All proprietary materials to be in accordance with manufacturers specifications and to Engineer's approval.
9. All work by the contractor must be carried out in such a way that all requirements under the 'Health and Safety at Work Act' are satisfied.

TYPICAL FOUNDATION NOTES FOR STRIP AND TRENCHFILL FOUNDATIONS:

1. To allow for proposed landscaping, bottom of foundations have been set in accordance with NHBC chapter 4.2, table 4 & 6. Please note, the current foundation proposal does not take into account specific landscaping proposals. The proposed landscaping (i.e. trees & shrubs) should be specified in accordance with the NHBC guidance document and should suit the proposed foundation design.
2. Any trees, bushes and scrub should be cleared and all root systems removed. If encountered, foundations must be deepened to ensure they do not bear onto ground containing roots or rootlets as the founding level must be 300mm below the level of fibrous root systems.
3. In the event that existing foundations or structures are encountered, existing foundations and sub-structures should be cleared and the proposed foundations are to be found on undisturbed strata below.
4. Surface voids resulting from the site preparation work should be filled with well compacted suitable fill material.
5. Foundation excavations must be carefully bottomed out and loose soil or soft spots removed prior to the foundations concrete or blinding being placed. Failure to ensure that foundation excavations are suitably bottomed out, could result in additional settlements.
6. Once the formation level of the trench has been achieved, the bottom of the trench is to be compacted using the back of the excavator bucket
7. Foundation excavations should be concrete or blinded as soon after excavation as possible. Where concreting could take place the following day it is recommended that excavations are not taken to full depth overnight and that the final 0.5m of cover is only removed immediately prior to concreting.
8. Minimum concrete thickness to foundations to be 250mm unless noted otherwise. Steps in foundations to be in accordance with Building Regulations Approved Document A, dia 21 and Warrantee provider's guidance documentation.
9. All work is to be carried out in compliance with the requirements of the relevant statutory authorities and regulations.
10. Contractor to ensure that ALL foundations are at or below invert levels of drains that are in close proximity to the building.
11. Where service invert levels are below the foundation's formation level, the foundations are to be increased in depth to a minimum of 300mm below the service invert level and also 300mm to the sides of the entry. Any service entry must be sleeved with a minimum of service 25mm clearance to any face by either low-density polystyrene or a UPVC sleeve.

In addition to the hazards/risks normally associated with the type of work detailed on this drawing note should be made of the following:

- Working in vicinity of deep excavations (refer to site investigation for soil parameters for temporary works design).
- Asbestos identified on site following tests.
- Localised elevated levels of Hydrocarbons.

It is assumed that all works will be carried out by a competent contractor working to an appropriate construction phase plan.

Rev.	Date	Details	Initials
P01	20.08.26	Initial Issue.	AW

Drawing Status: PRELIMINARY

Project: Elgar Road South, Reading

Client: Abri

SUMMIT ENGINEERING CONSULTANCY LTD
INFO@SUMMIT-ENG.UK WWW.SUMMIT-ENG.UK

Drawing Title: Plot 1-16 Mass Concrete Foundation Layout

Drawn	Checked	Scales	Paper Size	Date
AW	JV	1:50	A1	01.08.26

Job No.	Drawing No.	Revision
S250067	ERR-SUM-ZZ-F1-DR-S-111-02	P01

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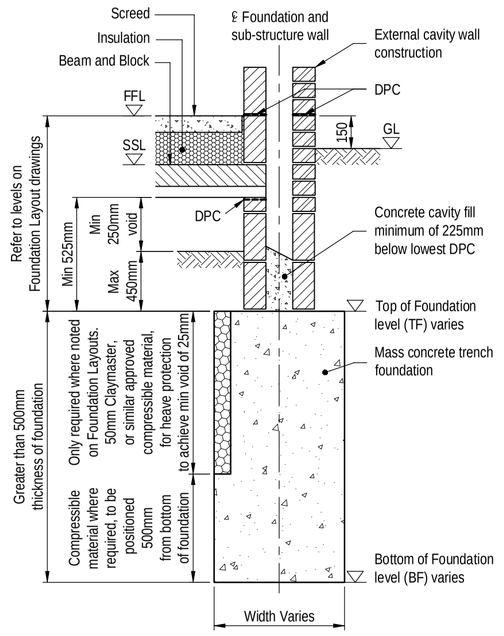
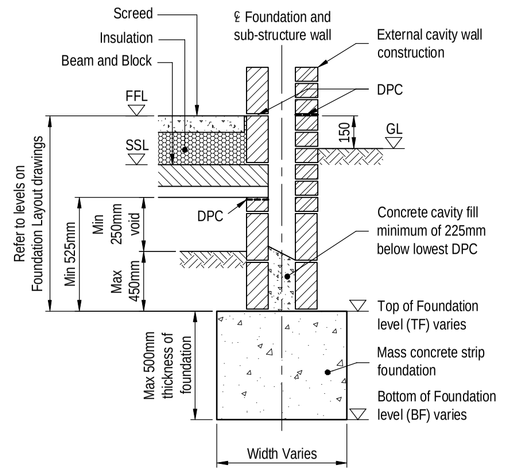
Dimensions should be checked and verified on site and any discrepancies should be reported to Summit as soon as possible.



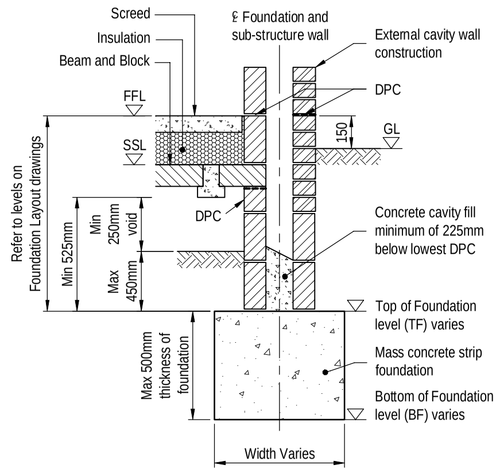
Typical Trenchfill Foundation Detail 1

Beam & Block Spanning into External Wall
MEDIUM Volume Change Potential
Scale 1:20



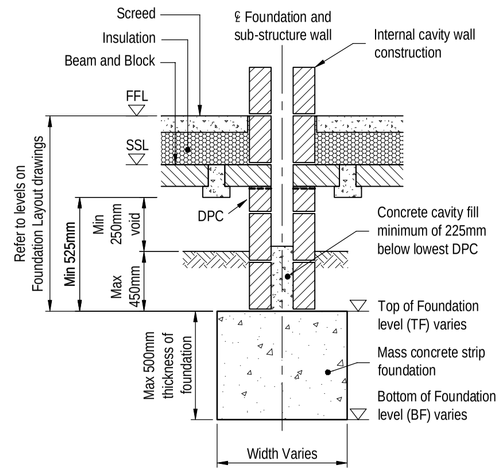
Typical Strip Foundation Detail 2

Beam & Block Spanning into External Wall
MEDIUM Volume Change Potential
Scale 1:20



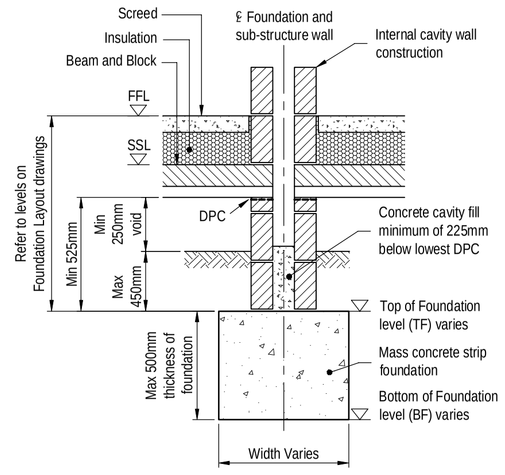
Typical Strip Foundation Detail 3

Beam & Block Spanning Parallel to External Wall
MEDIUM Volume Change Potential
Scale 1:20



Typical Strip Foundation Detail 4

Beam & Block Spanning Parallel to Party Wall
MEDIUM Volume Change Potential
Scale 1:20



Typical Strip Foundation Detail 5

Beam & Block Spanning into Party Wall
MEDIUM Volume Change Potential
Scale 1:20

Typical Strip Foundation Detail 6

100mm Sleeper Wall
MEDIUM Volume Change Potential
Scale 1:20

Typical Strip Foundation Detail 7

100mm Sleeper Wall with Wall Over
MEDIUM Volume Change Potential
Scale 1:20

Typical Strip Foundation Detail 8

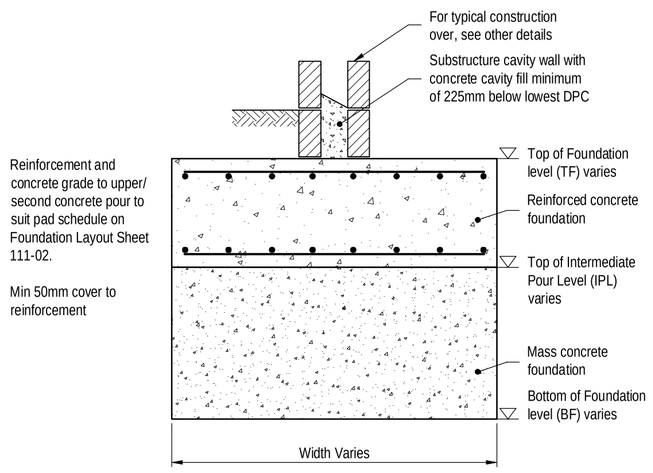
215mm Sleeper Wall
MEDIUM Volume Change Potential
Scale 1:20

Typical Detail for Trench Foundation Step

Minimum Foundation Thickness 550mm
Scale 1:20

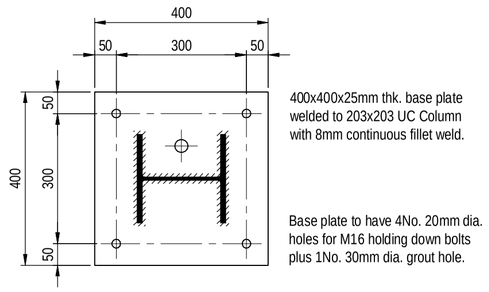
Typical Detail for Strip Foundation Step

Minimum Foundation Thickness 250mm
Scale 1:20



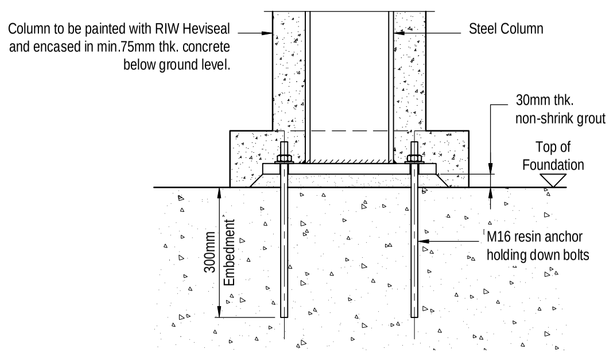
Typical Foundation Reinforcement Detail Bearing in Differing Strata

Scale 1:20



203x203 UC Base Plate

Scale 1:10



Base Plate Section

Scale 1:10

GENERAL NOTES

1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and specifications.
2. All materials and workmanship to be in accordance with relevant British Standards or recognized codes of practice.
3. For details of setting out, levels, damp proof courses and finishes, refer to Architect's drawings unless noted otherwise.
4. The Contractor is responsible for the accuracy of all dimensions and the setting out.
5. All dimensions are in millimetres unless noted otherwise.
6. All dimensions and levels are to be checked on site by the contractor prior to preparing any working drawings or commencing on site.
7. The contractor must ensure and will be held responsible for the overall stability of the building/structure/excavation at all stages of the work.
8. All proprietary materials to be in accordance with manufacturers specifications and to Engineer's approval.
9. All work by the contractor must be carried out in such a way that all requirements under the 'Health and Safety at Work Act' are satisfied.

FOUNDATION DETAILS - NOTES

1. Refer to Architect's Standard Details for all floor construction details, damp proofing, DPCs, vapour barriers, door threshold and under floor ventilation requirements.
2. Screed to be reinforced to beam and block manufacturer's, or Other's, requirements.
3. Beam and Block floor to Specialist manufacturer's design.
4. Any floor blocks that are built into support walls, floor blocks must be of the same strength as the wall blocks they are built into.
5. Concrete blocks for use below DPC should comply with BS EN 771 and have:
   a density exceeding 1500 kg/m³
   or
   a compressive strength not less than 7.3 N/mm²
6. The ground investigation report has identified the ground has a volume change potential of MEDIUM
7. Due to the volume change potential of soil, compressible material to be provided to the inside face of external trenchfill foundations.
8. Compressible material for heave protection to achieve min void of: 25 mm

Rev.	Date	Details	Initials
P01	20.08.26	Inital Issue	AW

Drawing Status: PRELIMINARY

Project: Elgar Road South, Reading

Client: Abri

SUMMIT ENGINEERING CONSULTANCY LTD
INFO@SUMMIT-ENG.UK WWW.SUMMIT-ENG.UK

Drawing Title: Plots 1-16
Typical Mass Concrete Foundation Details

Drawn	Checked	Scales	Paper Size	Date
AW	JV	1:20	A1	01.08.26

Job No.	Drawing No.	Revision
S250067	ERR-SUM-ZZ-F1-DR-S-112-02	P01

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APPENDIX A: Conditions and Limitations

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly, any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report ("you" or "the Recipient") are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist.

The conclusions and recommendations relate to 220 Elgar Road South, Reading, RG2 0BW.

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

APPENDIX B: Technical Glossary

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

HYDROGEOLOGY:

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary (A) Aquifers consist of deposits with permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Secondary (B) Aquifers consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Aquifers (Undifferentiated) are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

FLOOD ZONES:

Environment Agency Flood Zone 2, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Environment Agency Flood Zone 3 shows the extent of a river flood with a 1 in 100 (1%0 or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

Environment Agency Flood Zone 3 area that benefits from flood defences, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

GROUNDWATER SOURCE PROTECTION ZONES (SPZS):

Inner Zone (SPZ1): This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

Outer Zone (SPZ2): This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

Total Catchment (SPZ3): This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

Zone of Special Interest (SPZ4): This zone is where local conditions require additional protection.

IN-SITU STRENGTH GEOTECHNICAL TESTING:

Windowless Sample and/or Cable Percussion and/or Rotary Boreholes provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

Dynamic Probing involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

APPENDIX C: Trial Hole Logs

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 02/04/2025 - 03/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471489.00 N172106.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP		LB	1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	D		0.20			BITUMINOUS HARDSTANDING.
		0.50	D					MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash, chalk and concrete.
		0.80	D					*Slight hydrocarbon odour at 0.45m bgl.*
		1.00	D					
		1.20	SPT	2 (1 for 75mm/2 for 150mm)				
		1.50	D					
		2.00	SPT	N=8 (1,1/1,2,2,3)	2.20			
		2.50	D					Brown and grey clayey medium SAND. (LAMBETH GROUP).
		3.00	SPT	N=6 (1,3/2,2,1,1)				
		3.50	D		3.60			
		4.00	D					Orangish brown silty sandy CLAY with pockets of medium sand. (LAMBETH GROUP).
		4.00	SPT	N=4 (1,1/1,1,1,1)				
		4.50	D					
		5.00	SPT	N=7 (2,2/1,2,2,2)				
		5.50	D		5.30			Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		6.00	SPT	N=8 (1,2/2,1,3,2)				
		6.50	D					
		7.50	SPT	N=8 (1,2/2,1,3,2)				
		8.00	D					
		8.50	D					
		9.00	SPT	N=15 (3,3/1,2,7,5)				
		9.70	D					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 3.00m bgl rising to 2.76m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 02/04/2025 - 03/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471489.00 N172106.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP		LB	1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50	D					Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		10.50	SPT	N=36 (8,3/10,9,7,10)				
		12.00	SPT	N=21 (3,4/5,5,5,6)				
		12.50	D					
		13.00	D					
		13.50	SPT	N=19 (2,4/4,5,5,5)				
		14.00	D					
		14.70	D					
		15.00	SPT	50 (2,8/50 for 140mm)				
		16.50	SPT	N=24 (5,5/5,5,9,5)				
		17.00	D					
		18.00	SPT	N=31 (7,7/9,7,7,8)				
		19.50	D					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 3.00m bgl rising to 2.76m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 02/04/2025 - 03/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471489.00 N172106.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP		LB	1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		20.00	SPT	N=49 (4,5/49 for 285mm)	20.45			Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION). End of Borehole at 20.450m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 3.00m bgl rising to 2.76m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 03/04/2025 - 04/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471484.00 N172093.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP		LB	1:50	Sheet 1 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			BITUMINOUS HARDSTANDING.
		0.50	D					MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash, chalk and concrete.
		0.80	D					
		1.00	D					
		1.20	SPT	42 (1 for 75mm/42 for 225mm)				*Layer of red brick between 1.30 - 1.60m bgl.*
		2.00	D					
		2.50	SPT	N=8 (2,2/2,2,2,2)	2.50			Brown and grey clayey medium SAND. (LAMBETH GROUP).
		3.00	D					
		3.50	SPT	N=8 (1,1/1,2,2,3)	3.60			Orangish brown silty sandy CLAY with pockets of medium sand. (LAMBETH GROUP).
		4.00	D					
		4.50	SPT	N=12 (3,4/3,3,3,3)	4.30			Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		5.00	D					
		5.50	SPT	N=23 (3,3/5,6,6,6)				
		6.00	D					
		7.50	SPT	N=16 (2,3/4,4,4,4)				
		8.00	D					
		8.50	D					
		9.00	SPT	N=25 (3,4/5,3,9,8)				
		10.00	D					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.80m bgl rising to 2.77m bgl after 20mins. Groundwater was also encountered at 4.45m bgl rising to 4.42m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 03/04/2025 - 04/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471484.00 N172093.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP		LB	1:50	Sheet 2 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50	SPT	N=22 (3,4/4,6,6,6)				Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		11.00	D					
		12.00	SPT	N=23 (3,3/4,6,7,6)				
		13.50	SPT	N=31 (3,3/5,6,9,11)				
		15.00	SPT	50 (4,8/50 for 130mm)				
		16.50	SPT	N=25 (4,6/4,6,8,7)				
		17.30	D					
		18.00	SPT	N=41 (4,5/7,10,11,13)				
		19.00	D					
		20.00	SPT	N=35 (3,5/5,8,10,12)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.80m bgl rising to 2.77m bgl after 20mins. Groundwater was also encountered at 4.45m bgl rising to 4.42m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 03/04/2025 - 04/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471484.00 N172093.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP		LB	1:50	Sheet 3 of 3

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					20.45			Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION). End of Borehole at 20.450m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.80m bgl rising to 2.77m bgl after 20mins. Groundwater was also encountered at 4.45m bgl rising to 4.42m bgl after 20mins.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: - 07/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471522.00 N172118.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS1	WLS		LB	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.30			MADE GROUND: Dark brown sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine, brick and flint.
		0.50	D					Orangish brown fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
	▼	2.00	D					
		2.50	D		2.50			Brown very sandy CLAY. Sand is medium (LAMBETH GROUP).
		3.00	D		3.00			End of Borehole at 3.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.00m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: - 07/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471520.00 N172103.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS2	WLS		LB	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.40			MADE GROUND: Dark brown sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine, brick and flint.
		0.50	D					Orangish brown fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
	▼	2.00	D					
		2.50	D		2.70			Brown very sandy CLAY. Sand is medium (LAMBETH GROUP).
		3.00	D		3.00			End of Borehole at 3.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.30m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: - 07/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471526.00 N172094.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS3	WLS		LB	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine to coarse, brick and flint.
		0.50	D					
		0.80	D					
		1.00	D					
		1.50	D					
	▼	2.00	D		1.90			Brown very sandy CLAY. Sand is medium (LAMBETH GROUP).
		2.50	D					
		3.00	D		3.00			End of Borehole at 3.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.00m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: - 07/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471493.00 N172097.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS4	WLS		LB	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.10			BITUMINOUS HARDSTANDING.
		0.50	D					MADE GROUND: Dark brown sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine to coarse, brick and flint.
		0.80	D		0.80			Dark red brick rubble, possible concrete obstruction at 1.40m bgl.
		1.00	D					
		1.30	D		1.40			End of Borehole at 1.400m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
No groundwater strikes encountered.
Borehole was terminated at 1.40m bgl due to possible concrete obstruction.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: - 07/04/2025
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471493.00 N172094.00
Project No. : GWPR6540	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS4A	WLS		LB	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.10			BITUMINOUS HARDSTANDING.
		0.50	D					MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash and chalk.
		0.80	D					
		1.00	D					
		1.50	D					
	▼	2.00	D		2.00			Light brown very sandy CLAY. Sand is medium (LAMBETH GROUP).
		2.50	D		2.50			Light brown slightly clayey fine to medium SAND. (LAMBETH GROUP).
		3.00	D		3.00			End of Borehole at 3.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater encountered at 2.00m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 06/02/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471495.99 N172112.22
Project No. : GWPR6817	Crew Name: Reece Bray	Drilling Equipment: Hand Tools+Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1A	WS	42.87m AoD	Reece Bray	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		1.00 - 2.00	L					MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash and concrete.
	▼				1.30	41.57		Brown and grey clayey medium SAND. (LAMBETH GROUP).
		2.00 - 3.00	L					
		3.00 - 4.00	L					
		4.00 - 5.00	L					
					4.80	38.07		Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
					5.00	37.87		End of Borehole at 5.000m

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
5.00	113	5.00	113					0.00	5.00	90	0

Remarks

No roots noted.
Groundwater strike at 1.40m bgl which did not rise after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 06/02/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471484.36 N172092.91
Project No. : GWPR6817	Crew Name: Reece Bray	Drilling Equipment: Window Sample+Hand Tools

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2A	WS	42.79m AoD	Reece Bray	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		1.00 - 2.00	L		1.20	41.59		MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash, chalk and concrete.
	▼	2.00 - 3.00	L					Brown and grey clayey medium SAND. (LAMBETH GROUP).
		3.00 - 4.00	L					
		4.00 - 5.00	L					
					4.80	37.99		Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
					5.00	37.79		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
5.00	113	5.00	113					0.00	5.00	90	0

Remarks

No roots noted.
Groundwater strike at 1.40m bgl which did not rise after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 16/01/2026 - 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471487.79 N172096.12
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Drilling Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH201	CP	42.53m AoD	NK	1:50	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown gravelly CLAY. Gravel is sub-angualr to sub-rounded, fine to coarse brick and concrete.
		0.40	D					
		0.80	D					
		1.00	D					
		1.20	SPT	50 (18,41/50 for 75mm)				*Layer of red brick (potential foundation) 1.10 - 2.60m bgl.*
		1.70	D					
		2.20	SPT	50 (11,18/50 for 150mm)				
		2.70	D		2.60	39.93		Orangish brown silty sandy CLAY. (LAMBETH GROUP).
		3.20	SPT	N=8 (2,1/2,2,2,2)	3.20	39.33		Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION)
		3.70	D					
		4.20	SPT	N=10 (2,2/2,2,3,3)				
		4.70	D					
		5.20	SPT	N=21 (2,4/7,4,4,6)				
		5.90	D					
		6.50	SPT	N=18 (3,4/4,4,5,5)				
		7.20	D					
		8.00	SPT	N=35 (6,8/9,11,8,7)				
		8.70	D					
		9.50	SPT	N=25 (6,6/5,7,7,6)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 6.10m bgl which rose to 5.80m bgl after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 16/01/2026 - 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471487.79 N172096.12
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Drilling Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH201	CP	42.53m AoD	NK	1:50	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION)
		11.00	SPT	N=28 (4,6/6,7,7,8)				
		11.70	D					
		12.50	SPT	N=27 (11,8/7,7,6,7)				
		13.20	D					
		14.00	SPT	N=23 (4,4/4,6,6,7)				
		14.70	D					
		15.00	SPT	N=26 (3,5/6,5,7,8)				
					15.45	27.08		End of Borehole at 15.450m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 6.10m bgl which rose to 5.80m bgl after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 14/01/2026 - 16/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471486.45 N172113.16
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Borehole Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH202	CP	42.98m AoD	NK	1:50	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown gravelly CLAY. Gravel is sub-angualr to sub-rounded, fine to coarse brick and concrete.
		0.40	D					
		0.80	D					
		1.00	D					
		1.20	SPT	N=3 (1,0/1,0,1,1)	1.10	41.88		MADE GROUND: Black and dark grey gravelly CLAY. Gravel is fine to medium sub-angular to sub-rounded brick and ash.
		1.70	D					
		2.20	SPT	N=4 (1,1/1,1,1,1)				
		2.70	D					
		3.20	SPT	N=7 (1,2/1,2,2,2)	3.00	39.98		Orangish brown silty CLAY. (LAMBETH GROUP).
		3.70	D					
		4.20	SPT	N=15 (4,6/4,4,3,4)				
		4.70	D		4.60	38.38		Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		5.20	SPT	N=33 (6,8/7,8,7,11)				
		5.90	D					
		6.50	SPT	N=26 (4,4/6,6,7,7)				
		7.20	D					
		8.00	SPT	N=30 (3,11/11,8,6,5)				
		8.70	D					
		9.50	SPT	N=23 (4,4/4,6,6,7)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 5.80m bgl which rose to 5.40m bgl after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 14/01/2026 - 16/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471486.45 N172113.16
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Borehole Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH202	CP	42.98m AoD	NK	1:50	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		11.00	SPT	N=23 (2,1/3,7,7,6)				
		11.70	D					
		12.50	SPT	N=21 (2,3/4,4,6,7)				
		13.20	D					
		14.00	SPT	N=26 (4,6/6,6,7,7)				
		14.70	D					
		15.00	SPT	N=37 (8,11/12,9,8,8)				
					15.45	27.53		End of Borehole at 15.450m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 5.80m bgl which rose to 5.40m bgl after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 08/01/2026 - 13/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471518.67 N172114.06
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Drilling Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH203	CP	43.53m AoD	NK	1:50	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Light brown very sandy gravelly CLAY. Sand is medium and gravel is fine to medium sub-angular to sub-rounded brick and concrete.
		0.40	D					
		0.80	D					
		1.00	D					
		1.20	SPT	N=5 (1,0/1,1,1,2)				
		1.70	D					
		2.20	SPT	N=8 (1,1/2,2,2,2)				
		2.70	D		2.70	40.83		Brown becoming blueish grey silty sandy CLAY. Sand is fine. (LAMBETH GROUP).
		3.20	SPT	N=9 (2,3/2,2,2,3)				
		3.70	D					
		4.20	SPT	N=14 (1,4/3,4,4,3)				
		4.70	D					
		5.20	SPT	N=8 (1,2/1,2,2,3)	5.20	38.33		Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		5.90	D					
		6.50	SPT	N=24 (4,6/5,6,6,7)				
		7.20	D					
		8.00	SPT	N=22 (4,4/4,6,6,6)				
		8.70	D					
		9.50	SPT	N=41 (3,5/8,10,11,12)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 3.10m bgl which rose to 1.90m bgl after 20minutes.
Groundwater strike at 5.90m bgl which rose to 5.10m bgl after 20minutes.

Percussion Drilling Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 08/01/2026 - 13/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	Co-ords: E471518.67 N172114.06
Project No. : GWPR6817	Crew Name: LAS	Drilling Equipment: Cable Percussive Drilling Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH203	CP	43.53m AoD	NK	1:50	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.20	D					Off-white gravelly SILT. Gravel is fine to medium, medium density CHALK with occasional fine to medium flint. (SEAFORD AND NEWHAVEN CHALK FORMATION).
		11.00	SPT	N=26 (4,4/6,6,7,7)				
		11.70	D					
		12.50	SPT	N=23 (3,3/4,6,6,7)				
		13.20	D					
		14.70	D					
		15.00	SPT	N=25 (3,3/6,6,6,7)				
					15.45	28.08		End of Borehole at 15.450m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

No roots noted.
Groundwater strike at 3.10m bgl which rose to 1.90m bgl after 20minutes.
Groundwater strike at 5.90m bgl which rose to 5.10m bgl after 20minutes.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP201	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown and black clayey gravelly fine SAND. Gravel is sub-rounded to angular, fine to coarse, flint and brick.
		0.40	D					
		1.00	D		0.95			Brick cobble.
					1.00			End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP202	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown and black clayey gravelly fine SAND. Gravel is sub-rounded to angular, fine to coarse, flint and brick.
		0.40	D					
		1.00	D		1.00			End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP203	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown gravelly fine to coarse SAND. Gravel is sub-rounded to angular, fine to coarse, flint, tile, concrete and brick.
		0.40	D		0.40			Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to angular, fine to coarse, flint. (LAMBETH GROUP).
		1.00	D		1.00			End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP204	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					TOPSOIL: Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular to angular, fine to coarse, flint.
		0.40	D		0.40			MADE GROUND: Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular to angular, fine to coarse, brick and flint.
		1.00	D		1.00			End of Borehole at 1.000m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 19/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP205	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular to angular, fine to coarse, brick and flint.
		0.40	D					
		1.00	D		1.00			End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP206	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown very sandy gravelly CLAY. Gravel is sub-angular, fine to coarse, brick, concrete and other crushed building material.
		0.50	D					
		0.80	D					
		1.00	D					
					1.40			
		1.50	D					Yellowish brown very sandy CLAY. (LAMBETH GROUP).
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP207	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown very sandy gravelly CLAY. Gravel is sub-angular, fine to coarse, brick, concrete and other crushed building material.
					1.40			Yellowish brown very sandy CLAY. (LAMBETH GROUP).
					2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP208	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Brown sandy CLAY.
		0.50	D					Yellowish brown clayey fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP209	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown very sandy gravelly CLAY. Gravel is sub-angular, fine to coarse, brick, concrete and other crushed building material.
		0.50	D					
		0.80	D					
		1.00	D					
		1.50	D		1.45			Yellowish brown very sandy CLAY. (LAMBETH GROUP).
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP210	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Brown sandy CLAY.
		0.50	D					Yellowish brown clayey fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP211	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Brown sandy CLAY.
		0.50	D					Yellowish brown clayey fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP212	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Brown sandy CLAY.
		0.50	D					Yellowish brown clayey fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Trial Pit Log

Project Name: 220 Elgar Road South, Reading, RG2 0BW	Client: Abri	Date: 12/01/2026
Location: 220 Elgar Road South, Reading, RG2 0BW	Contractor:	
Project No. : GWPR6817	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP213	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Brown sandy CLAY.
		0.50	D					Yellowish brown clayey fine to medium SAND. (LAMBETH GROUP).
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No roots noted.
No groundwater strikes encountered.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471486.00 N172121.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS301	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30			MADE GROUND: Brown gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse.
					0.90			MADE GROUND. Black gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of brick, flint and metal fragments.
					1.55			MADE GROUND: red gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to medium of brick.
					1.65			MADE GROUND: white silty GRAVEL. Gravel is subangular to sub rounded fine to medium of chalk.
								Firm grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is angular to rounded fine to coarse of chalk and flint. (LAMBETH GROUP)
					2.45			Firm grey sandy SILT. Sand is fine to coarse. (LAMBETH GROUP)
					3.77			
		4.00 - 4.50	ES					Firm grey very sandy SILT. Sand is fine to coarse. (LAMBETH GROUP)
		4.50 - 5.00	ES		4.45			Structureless white CHALK recovered as very gravelly SILT. Gravel is subangular fine and medium of extremely weak low density white chalk. Rare fossilised wood. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					6.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
No groundwater strikes encountered.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471495.00 N172109.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS302	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.40			MADE GROUND: Brown gravelly SAND. Sand is fine to coarse. Gravel is angular to sub rounded and fine to medium of brick, chalk.
								MADE GROUND: Brown gravelly SAND. Sand is fine to coarse. Gravel is angular to sub rounded and fine to medium of brick, chalk,
					1.70			MADE GROUND: Brown slightly gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of brick.
					2.10			MADE GROUND: Firm to stiff bluish grey mottled brown sandy CLAY.
					2.70			MADE GROUND: Brown slightly gravelly silty SAND. Sand is fine to medium. Gravel is subangular to subrounded fine to medium of brick.
					3.10			Firm bluish grey mottled brown sandy CLAY with occasional orange brown sand. Sand is fine to medium. (LAMBETH GROUP)
		4.00 - 4.70	ES					
		4.90 - 6.00	ES		4.70			Structureless white CHALK recovered as gravelly SILT. Gravel is subangular fine and medium of extremely weak low density white chalk and flint. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					6.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
No groundwater strikes encountered.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471499.00 N172100.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS303	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.40			MADE GROUND. Brown gravelly SAND. Sand is fine to coarse. Gravel is sub rounded to angular and fine to coarse of, brick, ceramic tile, sandstone.
					0.60			MADE GROUND. Firm brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is sub rounded to angular and fine to coarse of flint and brick.
					1.10			MADE GROUD. Slightly gravelly slightly clayey SAND with low cobble content. Sand is fine to coarse. Gravel is angular to sub rounded and fine to coarse of , brick, concrete, chalk, flint.
					1.50			MADE GROUND. Firm brown gravelly sandy CLAY. Sand fine to coarse. Gravel is sub rounded to angular and fine to coarse of flint and brick.
					1.90			Firm brown sandy SILT. Sand is fine. (LAMBETH GROUP)
	▼							Brown silty SAND. Sand is fine to coarse. (LAMBETH GROUP)
					3.50			Firm black sandy CLAY. Sand is fine. (LAMBETH GROUP)
					4.00			Brown silty SAND. Sand is fine and medium. (LAMBETH GROUP)
		5.00 - 5.50	ES					
		5.50 - 6.00	ES		5.50			Structureless white CHALK recovered as slightly gravelly SILT. Gravel is subangular fine and medium of extremely weak low density white chalk and flint. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					6.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
Groundwater strike encountered at 3.00m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471495.00 N172100.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS304	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: grey very gravelly SAND. Sand is fine to coarse. Grave is sub rounded to angular and fine to coarse of flint, brick, bituminous bound macadam.
					0.80			
					0.90			MADE GROUND: Brown gravelly SAND. Sand is fine to coarse. Gravel is subrounded to angular fine of flint and brick.
								Soft to Firm brown sandy SILT with lenses of silty SAND. Sand is fine. (LAMBETH GROUP)
	▼				3.00			Brown SAND. Sand is medium. (LAMBETH GROUP)
		4.60 - 4.90	ES					
		4.90 - 5.30	ES		4.90			Structureless white Chalk recovered as slightly gravelly SILT. Gravel is subangular fine and medium of extremely weak low density chalk. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					5.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
Groundwater strike encountered at 3.00m bgl.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471487.00 N172091.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS305	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Black very gravelly SAND. Sand is fine to coarse. Gravel is sub rounded to angular and fine to coarse of flint, brick, bituminous bound macadam.
					0.70			MADE GROUND: Red and grey very gravelly SAND. Sand is fine to coarse. Gravel is sub rounded to angular and fine to coarse of flint, brick and bituminous bound macadam.
					1.20			MADE GROUND: Red slightly sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse of brick.
					1.50			MADE GROUND: Grey and purple slightly sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of brick
					1.60			Firm dark grey sandy SILT. Sand is fine. (LAMBETH GROUP)
					3.55			Brown silty SAND. Sand is fine. (LAMBETH GROUP)
		4.30 - 4.50	ES					
		4.60 - 6.00	ES					
					5.50			Structureless white CHALK recovered as slightly gravelly SILT. Gravel is subangular fine and medium of extremely weak low density chalk. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					6.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
No groundwater strikes encountered.

Percussion Drilling Log

Project Name: 220 Elgar Road South Reading RG2 0BW	Client: Abri	Date: 17/09/2026
Location: 220 Elgar Road South Reading RG2 0BW	Contractor: Ground and Water	Co-ords: E471487.00 N172097.00
Project No. : GWPR7110	Crew Name: JU Drilling	Drilling Equipment: Dando Terrier

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS306	WLS		SH/FW	1:50	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND: Dark brown gravelly SAND. Sand is fine and medium. Gravel is sub angular to sub rounded fine to coarse of flint, brick, bituminous bound macadam and ceramic pipe.
					0.60			MADE GROUND: Orangish brown gravelly SAND. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of brick.
					1.20			MADE GROUND: Dark brown gravelly SAND with low cobble content. Sand is fine to coarse. Gravel is fine to medium subangular to sub rounded of brick. Cobbles are sub angular to rounded of sandstone.
	▼				1.30 1.50 1.65 1.75			MADE GROUND: Black gravelly SAND. Sand is fine to coarse. Gravel is fine to medium subangular to sub rounded of brick.
					2.00			MADE GROUND: Red gravelly SAND with low cobble content. Sand is fine to medium. Gravel is fine and medium subrounded to rounded of brick.
								MADE GROUND: White mottled black GRAVEL. Gravel is fine to medium angular to sub rounded white chalk.
								MADE GROUND: Brown very sandy SILT. Sand is fine to coarse. Gravel is fine to coarse angular to subrounded of brick.
								Brown silty SAND. Sand is fine to medium. (LAMBETH GROUP)
		4.70 - 4.90	ES					
		4.90 - 5.10	ES		4.90			Structureless white CHALK recovered as slightly gravelly SILT. Gravel is subangular to rounded fine and medium of extremely weak low density chalk. (SEAFORD AND NEWHAVEN CHALK FORMATION)
					6.00			End of Borehole at 6.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

Borehole terminated at scheduled depth.
No roots or rootlets.
Groundwater strike encountered at 1.70m bgl.

APPENDIX D: Geotechnical Laboratory Testing

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

Contract Number: 78223

Client Ref: **GWPR6540**
Client PO: **GWPR6540**

Date Received: **16-04-2025**
Date Completed: **30-04-2025**
Report Date: **30-04-2025**

Client: **Ground and Water Limited**

Contract Title: **220 Elgar Road South, Reading, RG2 0BW**
For the attention of: **Natasha Kearl**

This report has been checked and approved by:

Darren Bourne
Quality Senior Technician

Description	Qty
Determination of water content BS EN ISO 17892-1:2014 - @ Non Accredited Test	2
1 point Liquid & Plastic Limit.. BS EN ISO 17892-12 - * UKAS	2
Particle Size Distribution BS EN ISO 17892-4 : 5.1 - * UKAS	1
Saturated Moisture Content of chalk (SMC) BS 1377:1990 - Part 2 : 3.3 - * UKAS	2

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)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX** **BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit** **BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content**	
Contract Number	78223	
Project Name	220 Elgar Road South, Reading, RG2 0BW	
Date Tested	24/04/2025	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
WS2		B	3.00	-		Brown silty sandy CLAY
BH1		D	4.50	-		Brown silty CLAY
				-		
				-		
				-		
				-		
				-		
				-		
				-		
				-		
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				-		
				-		
				-		
				-		

Operator
Clayton. J

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**WATER CONTENT, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX** **BS EN ISO 17892-12:2018+A2:2022 1 Point Liquid Limit** **BS EN ISO 17892-1:2014+A1:2022 Determination of Water Content**	
Contract Number	78223	
Project Name	220 Elgar Road South, Reading, RG2 0BW	
Date Tested	24/04/2025	
Test Comments	80g/30° Fall cone used	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Water Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Factor Applied	Remarks
WS2		B	3.00	-		17.0	41	16	25	100	0.993	CI Intermediate Plasticity
BH1		D	4.50	-		33.3	63	30	33	100	0.993	CH High Plasticity
				-								
				-								
				-								
				-								
				-								
				-								
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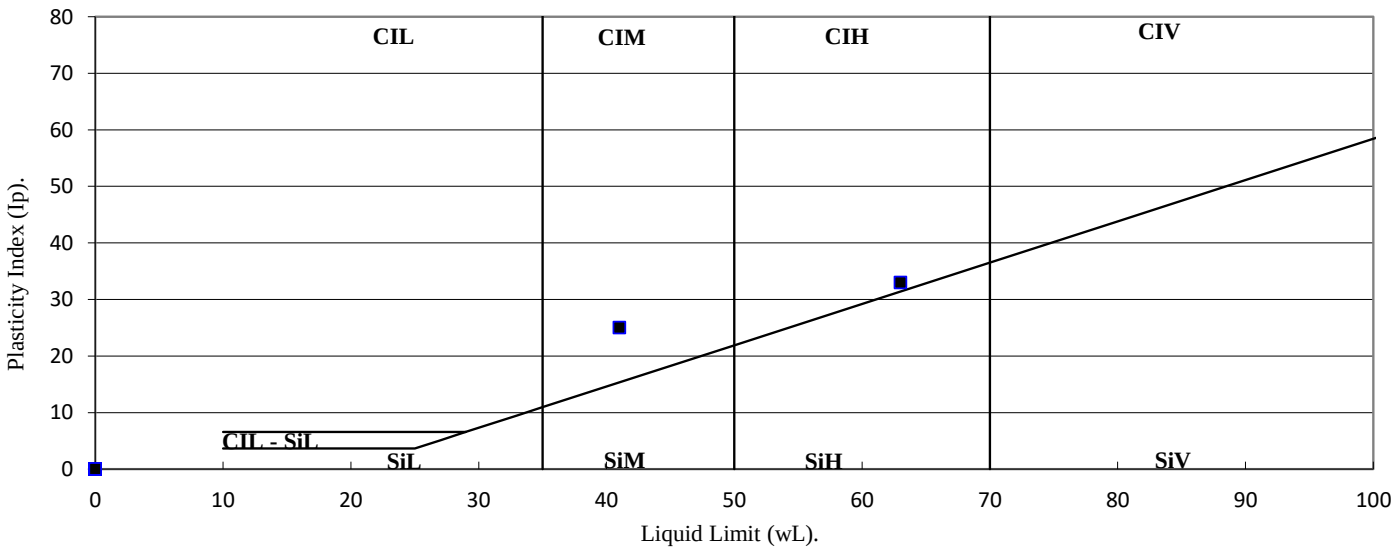
				-								
				-								

SYMBOLS : NP = Non Plastic **NB: All liquid limits are 4 point and wet sieved**

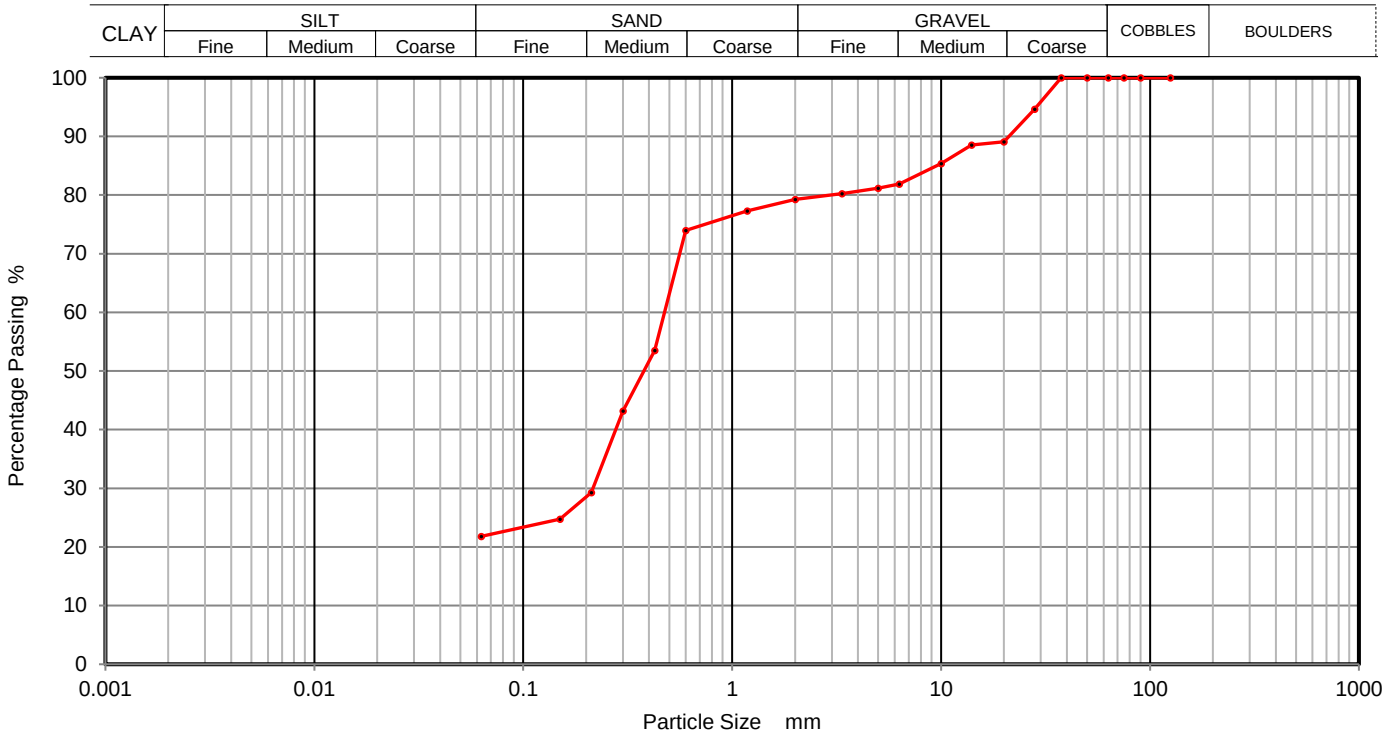
PLASTICITY CHART
BS EN ISO 14688-2:2018 Clause 4.4



***For sample descriptions please see sample descriptions sheet**

Operator
Clayton. J

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION BS EN ISO 17892-4:2016 Wet Sieve, Clause 5.2**	Contract Number	**78223**
		Borehole/Pit No.	**WS3**
Project Name	**220 Elgar Road South, Reading, RG2 0BW**	Sample No.	
Sample Description	Brown fine to coarse gravelly silty/clay fine to coarse SAND	Depth Top	**1.50**
		Depth Base	
Date Tested	24/04/2025	Sample Type	**B**



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	95		
20	89		
14	89		
10	85		
6.3	82		
5	81		
3.35	80		
2	79		
1.18	77		
0.63	74		
0.425	54		
0.30	43		
0.20	29		
0.15	25		
0.063	22		

Sample Proportions	% dry mass
Cobbles	0
Gravel	21
Sand	57
Silt and Clay	22

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Operator
Cameron. T

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES

Saturation Moisture Content of Chalk
BS 1377 : Part 2 : 1990 Section 3.3

Contract Number	78223
Project Name	220 Elgar Road South, Reading, RG2 0BW
Date Tested	16/04/2025

Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content	Bulk Density	Dry Density	Saturated Moisture Content	Remarks
BH2		D	10.00	-		28	1.97	1.54	28	NON-STANDARD
BH1		D	14.00	-		23	2.04	1.65	23	NON-STANDARD
				-						
				-						
				-						
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Key	Reported As	Clause
Moisture Content	%	3.2
Bulk Density	Mg/m^3	7.2
Dry Density	Mg/m^3	7.2
SMC	%	3.3.6

If there is a NON-STANDARD in the remarks next to the reported SMC result this means there was no lump of chalk of sufficient volume (300mL-500mL) present in the samples received to meet the testing requirements of the stated standard.

Operator
Julian Jones

APPENDIX E: Groundsure Datasheets and Maps

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Groundsure LOCATION INTELLIGENCE

Geo Insight

220, ELGAR ROAD SOUTH, READING, RG2 0BW

Order Details

Date: 14/05/2025

Your ref: GWPR6540

Our Ref: GS-LIP-E4W-BJN-FRA

Site Details

Location: 471501 172103

Area: 0.15 ha

Authority: Reading Borough Council ↗

Summary of findings p. 2 >

Aerial image p. 5 >

OS MasterMap site plan p.10 >

Insight User Guide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
11 >	1.1 >	10k Availability >	Identified (within 500m)				
12 >	1.2 >	Artificial and made ground (10k) >	1	0	3	4	-
14 >	1.3 >	Superficial geology (10k) >	0	1	1	0	-
15	1.4	Landslip (10k)	0	0	0	0	-
16 >	1.5 >	Bedrock geology (10k) >	1	0	2	2	-
17	1.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
18 >	2.1 >	50k Availability >	Identified (within 500m)				
19 >	2.2 >	Artificial and made ground (50k) >	1	0	2	2	-
20	2.3	Artificial ground permeability (50k)	0	0	-	-	-
21 >	2.4 >	Superficial geology (50k) >	0	1	1	0	-
22 >	2.5 >	Superficial permeability (50k) >	Identified (within 50m)				
22	2.6	Landslip (50k)	0	0	0	0	-
22	2.7	Landslip permeability (50k)	None (within 50m)				
23 >	2.8 >	Bedrock geology (50k) >	1	0	2	2	-
24 >	2.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
24	2.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	3.1 >	BGS Boreholes >	0	0	34	-	-
Page	Section	Natural ground subsidence >					
28 >	4.1 >	Shrink swell clays >	Moderate (within 50m)				
29 >	4.2 >	Running sands >	Low (within 50m)				
31 >	4.3 >	Compressible deposits >	Moderate (within 50m)				
33 >	4.4 >	Collapsible deposits >	Very low (within 50m)				
34 >	4.5 >	Landslides >	Very low (within 50m)				
35 >	4.6 >	Ground dissolution of soluble rocks >	Low (within 50m)				

Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	5.1 >	BritPits >	0	1	6	9	-
42 >	5.2 >	Surface ground workings >	0	5	25	-	-
43	5.3	Underground workings	0	0	0	0	0
43	5.4	Underground mining extents	0	0	0	0	-
43 >	5.5 >	Historical Mineral Planning Areas >	0	0	0	1	-
44 >	5.6 >	Non-coal mining >	1	0	1	1	3
45 >	5.7 >	JPB mining areas >	Identified (within 0m)				
45	5.8	The Coal Authority non-coal mining	0	0	0	0	-
45 >	5.9 >	Researched mining >	1	1	7	1	-
46	5.10	Mining record office plans	0	0	0	0	-
46	5.11	BGS mine plans	0	0	0	0	-
46	5.12	Coal mining	None (within 0m)				
47	5.13	Brine areas	None (within 0m)				
47	5.14	Gypsum areas	None (within 0m)				
47	5.15	Tin mining	None (within 0m)				
47	5.16	Clay mining	None (within 0m)				

Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
48	6.1	Natural cavities	0	0	0	0	-
49 >	6.2 >	Mining cavities >	0	0	1	4	24
50	6.3	Reported recent incidents	0	0	0	0	-
50	6.4	Historical incidents	0	0	0	0	-

Page	Section	Radon >	
51 >	7.1 >	Radon >	Less than 1% (within 0m)

Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	8.1 >	BGS Estimated Background Soil Chemistry >	2	1	-	-	-
53	8.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
53	8.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m

54	9.1	Underground railways (London)	0	0	0	-	-
54	9.2	Underground railways (Non-London)	0	0	0	-	-
55	9.3	Railway tunnels	0	0	0	-	-
55 >	**9.4 >**	**Historical railway and tunnel features >**	0	0	14	-	-
56	9.5	Royal Mail tunnels	0	0	0	-	-
56 >	**9.6 >**	**Historical railways >**	0	0	2	-	-
56	9.7	Railways	0	0	0	-	-
56	9.8	Crossrail 2	0	0	0	0	-
57	9.9	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/04/2022

Site Area: 0.15ha

Recent site history - 2019 aerial photograph

Capture Date: 29/06/2019

Site Area: 0.15ha

Recent site history - 2013 aerial photograph

Capture Date: 08/07/2013

Site Area: 0.15ha

Recent site history - 2010 aerial photograph

Capture Date: 22/09/2010

Site Area: 0.15ha

Recent site history - 1999 aerial photograph

Capture Date: 04/09/1999

Site Area: 0.15ha

OS MasterMap site plan

Site Area: 0.15ha

1 Geology 1:10,000 scale - Availability

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Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

1.1 10k Availability

Records within 500m	1

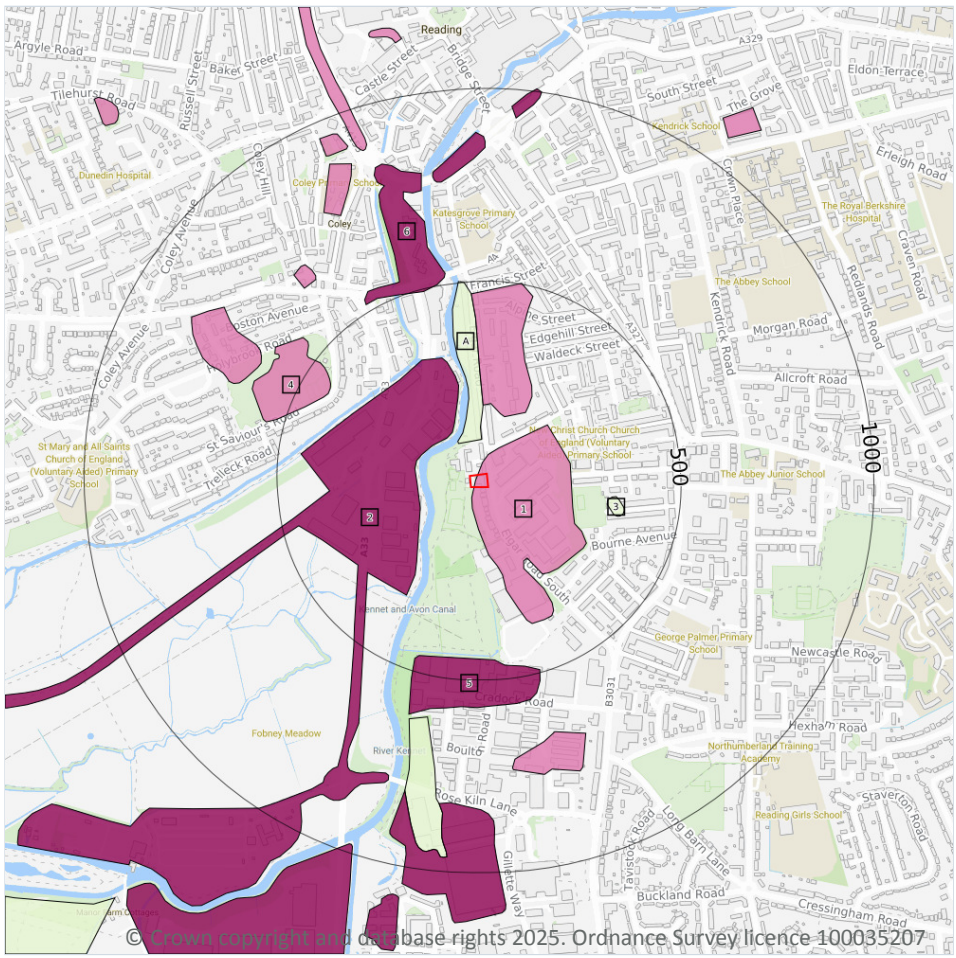
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 11 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SU77SW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



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Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

1.2 Artificial and made ground (10k)

Records within 500m **8**

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

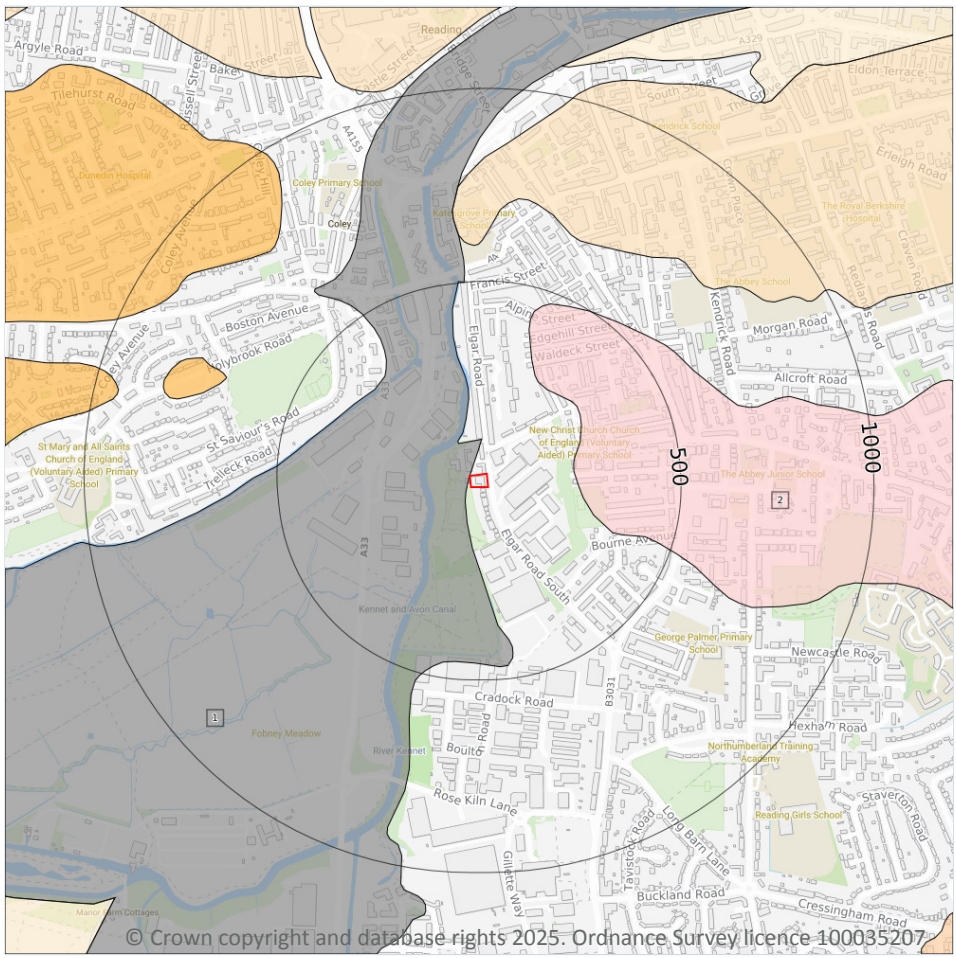
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 12 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WGR-VOID**	**Worked Ground (Undivided)**	**Void**
A	88m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	115m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	155m N	WGR-VOID	Worked Ground (Undivided)	Void

ID	Location	LEX Code	Description	Rock description
3	311m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	425m NW	WGR-VOID	Worked Ground (Undivided)	Void
5	444m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	493m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

1.3 Superficial geology (10k)

Records within 500m	2

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 14 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-Z**	**Alluvium - Silt (unlithified Deposits Coding Scheme)**	**Silt**
2	225m E	BHT-XSV	Boyn Hill Gravel Member - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

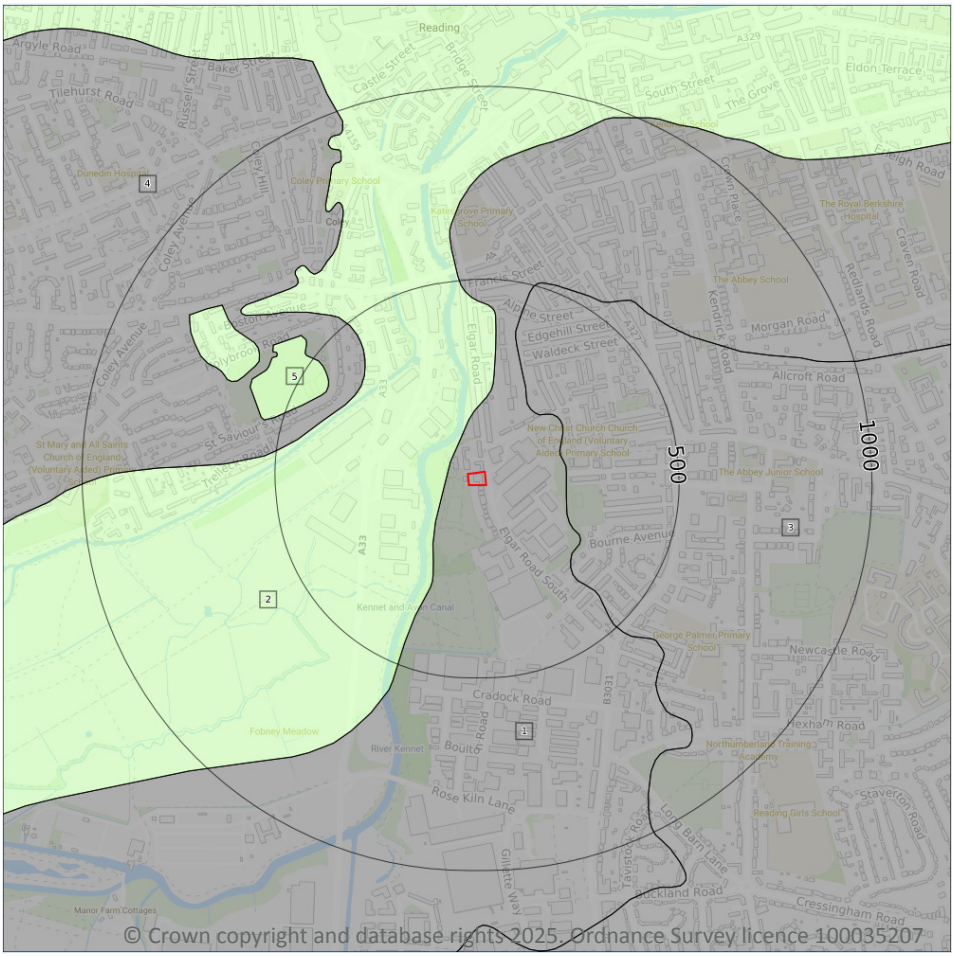
1.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

1.5 Bedrock geology (10k)

Records within 500m **5**

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 16 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LMBE-CLSISA**	**Lambeth Group - Clay, Silt And Sand**	**Paleocene Epoch**
2	51m W	LSNCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian Age
3	201m NE	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch

ID	Location	LEX Code	Description	Rock age
4	357m NW	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	Paleocene Epoch
5	425m NW	LSNCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian Age

This data is sourced from the British Geological Survey.

1.6 Bedrock faults and other linear features (10k)

Records within 500m	**0**

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

2 Geology 1:50,000 scale - Availability

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Site Outline

Search buffers in metres (m)

Geological map tile

2.1 50k Availability

Records within 500m	1

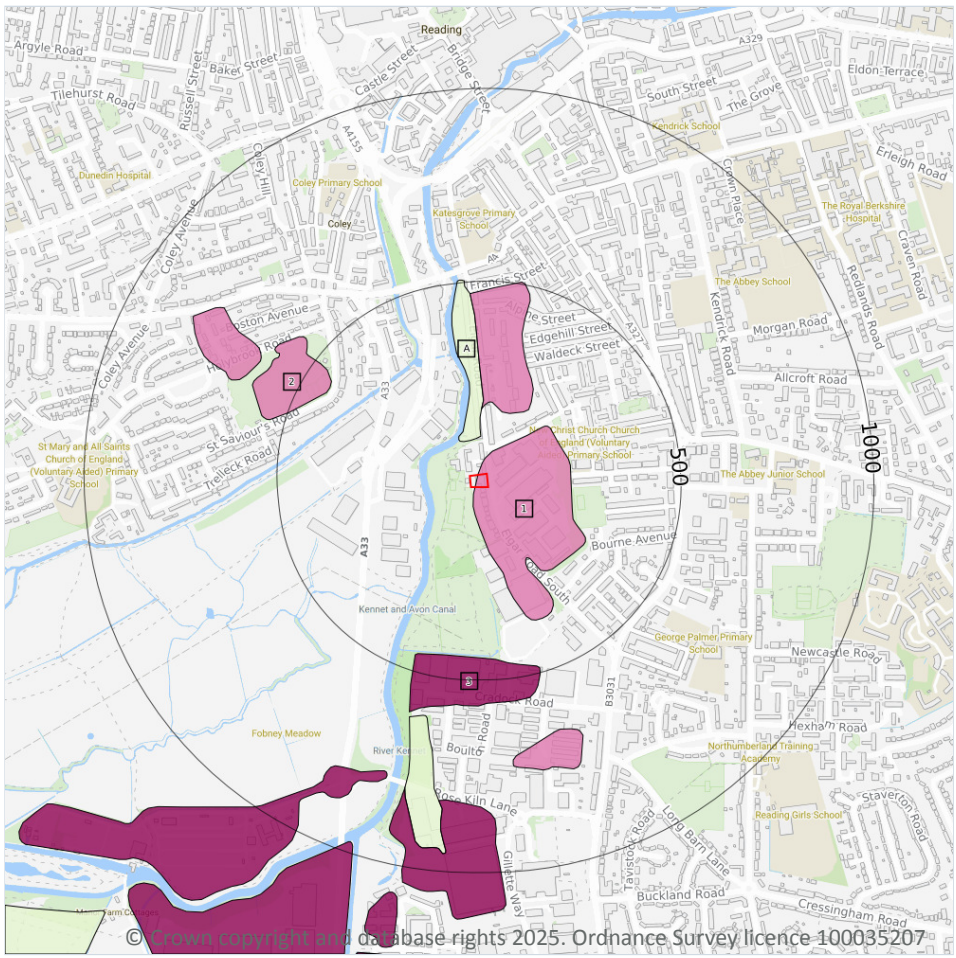
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 18 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**EW268_reading_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



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Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

2.2 Artificial and made ground (50k)

Records within 500m	5

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 19 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WGR-VOID**	**WORKED GROUND (UNDIVIDED)**	**VOID**
A	91m N	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
A	165m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
2	429m NW	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

ID	Location	LEX Code	Description	Rock description
3	439m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

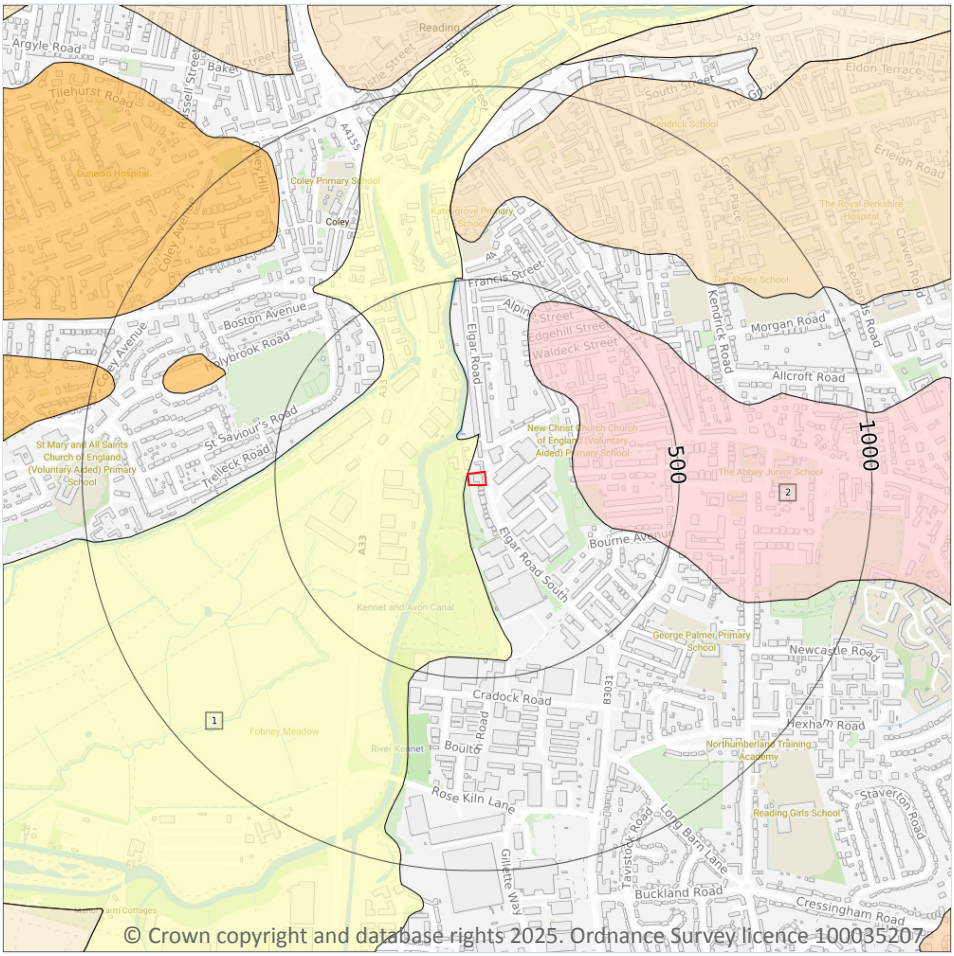
2.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

2.4 Superficial geology (50k)

Records within 500m **2**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 21 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**
2	228m E	BHT-XSV	BOYN HILL GRAVEL MEMBER	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

2.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**High**	**Very Low**

This data is sourced from the British Geological Survey.

2.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

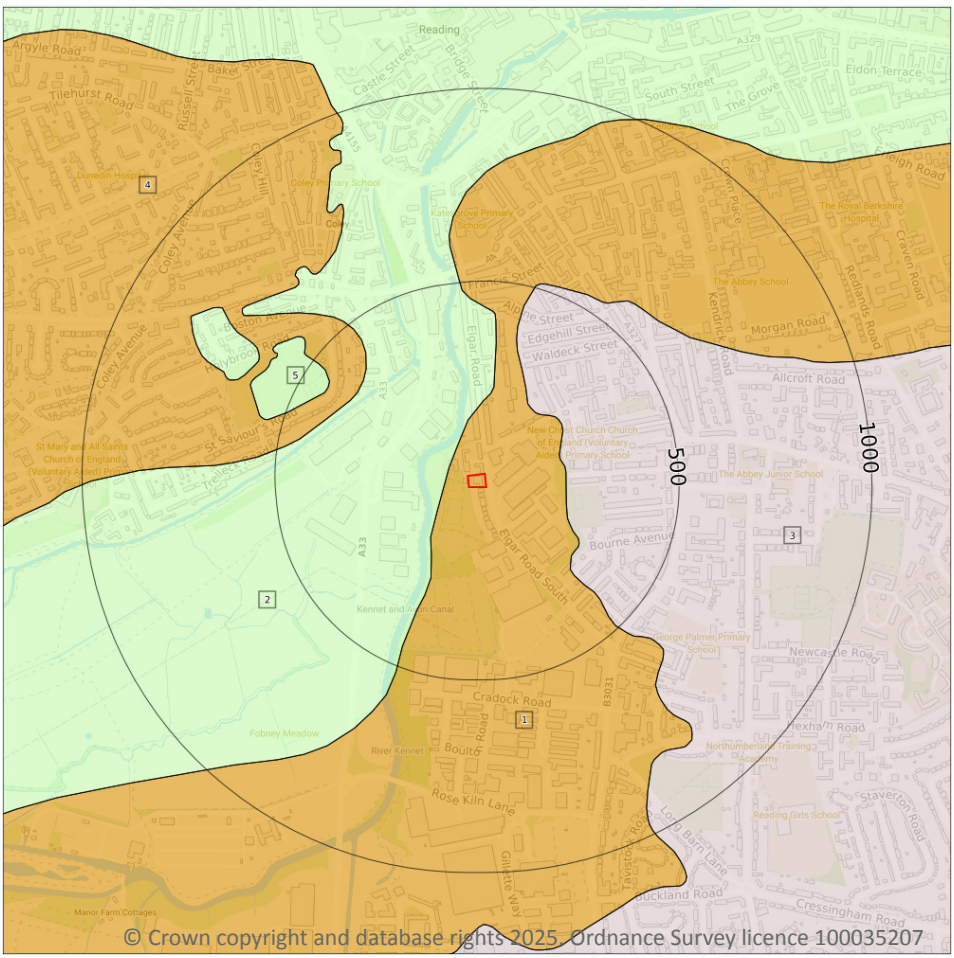
2.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

2.8 Bedrock geology (50k)

Records within 500m **5**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 23 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LMBE-XCZS**	**LAMBETH GROUP - CLAY, SILT AND SAND**	**THANETIAN**
2	53m W	SNCK-CHLK	SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CONIACIAN
3	199m E	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

ID	Location	LEX Code	Description	Rock age
4	359m NW	LMBE-XCZS	LAMBETH GROUP - CLAY, SILT AND SAND	THANETIAN
5	429m NW	SNCK-CHLK	SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CONIACIAN

This data is sourced from the British Geological Survey.

2.9 Bedrock permeability (50k)

Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Moderate**	**Very Low**

This data is sourced from the British Geological Survey.

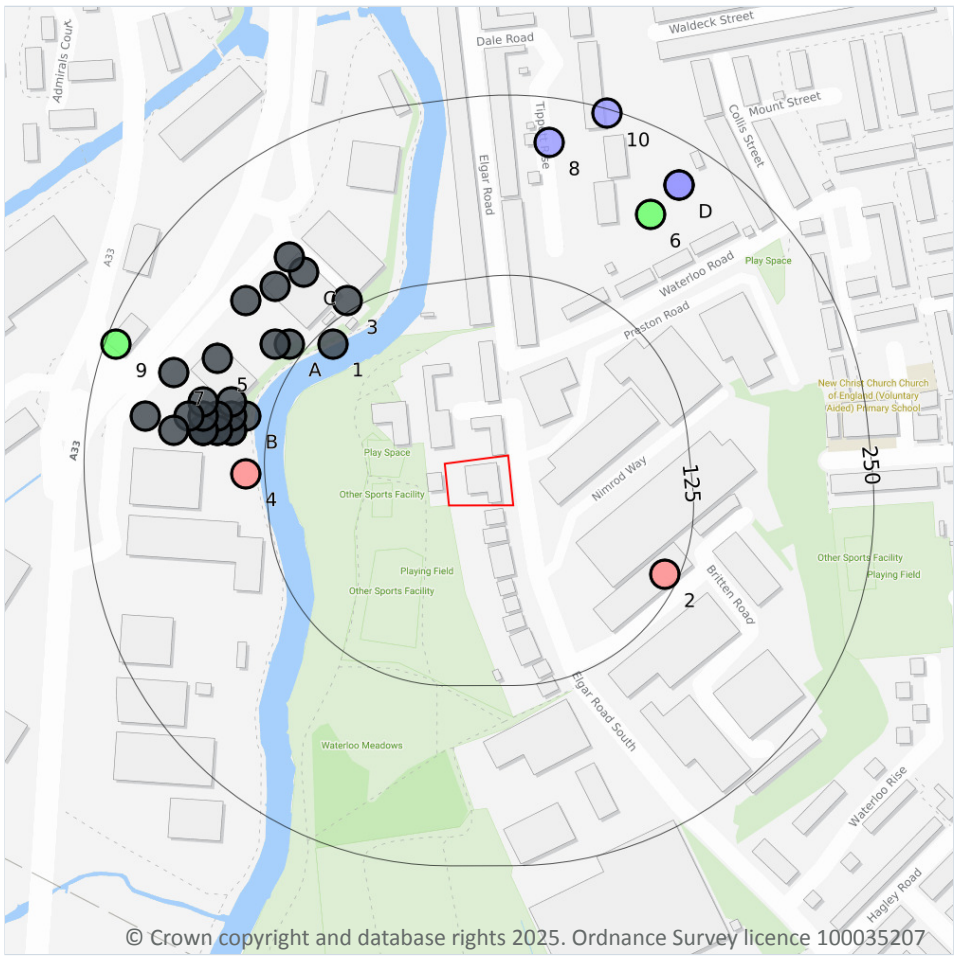
2.10 Bedrock faults and other linear features (50k)

Records within 500m	**0**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

3 Boreholes



3.1 BGS Boreholes

Records within 250m	34

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 25 >**

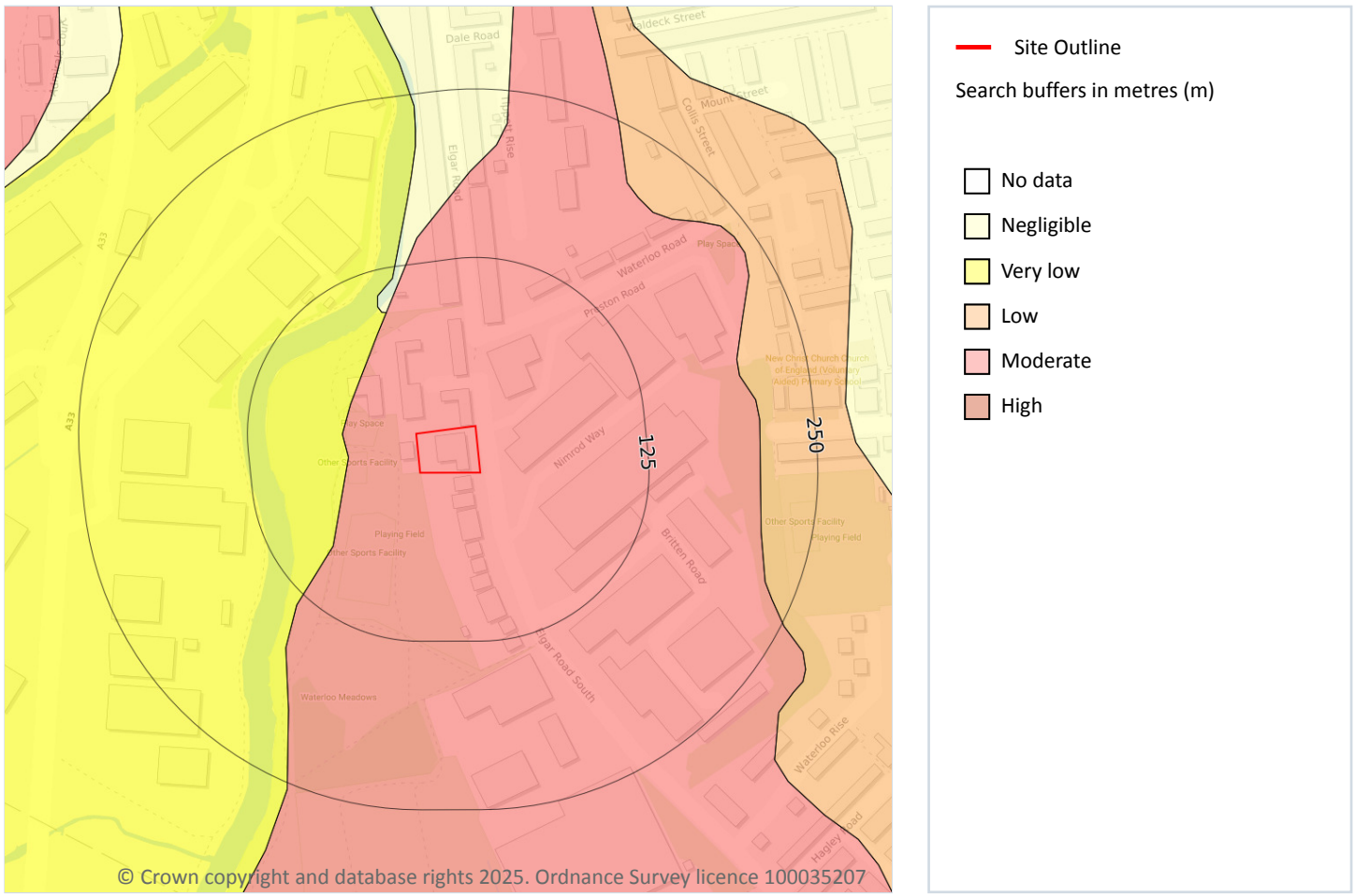
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	114m NW	471400 172200	ROSE KILN LANE READING 1	-	Y	N/A
2	115m SE	471630 172040	ELGAR ROAD READING	30.48	N	428835 ↗
3	132m NW	471410 172230	ROSE KILN LANE READING WS1	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	136m NW	471370 172200	ROSE KILN LANE READING WS5	-	Y	N/A
4	138m W	471340 172110	COOP PRESERVE WORKS COLEY	45.72	N	428174 ↗
B	142m W	471340 172150	ROSE KILN LANE READING WS2	-	Y	N/A
A	144m NW	471360 172200	ROSE KILN LANE READING WS7	-	Y	N/A
B	149m W	471330 172140	ROSE KILN LANE READING WS8	-	Y	N/A
B	149m W	471330 172140	ROSE KILN LANE READING WS13A	-	Y	N/A
B	151m W	471330 172150	ROSE KILN LANE READING WS3	-	Y	N/A
B	154m W	471330 172160	ROSE KILN LANE READING WS10	-	Y	N/A
B	159m W	471320 172140	ROSE KILN LANE READING 5	-	Y	N/A
B	159m W	471320 172140	ROSE KILN LANE READING WS14	-	Y	N/A
B	161m W	471320 172150	ROSE KILN LANE READING WS12	-	Y	N/A
C	165m NW	471380 172250	ROSE KILN LANE READING 2	-	Y	N/A
B	169m W	471310 172140	ROSE KILN LANE READING WS16	-	Y	N/A
B	169m W	471310 172140	ROSE KILN LANE READING WS18	-	Y	N/A
B	169m W	471310 172140	ROSE KILN LANE READING WS19	-	Y	N/A
C	170m NW	471360 172240	ROSE KILN LANE READING WS6	-	Y	N/A
B	171m W	471310 172150	ROSE KILN LANE READING WS17	-	Y	N/A
B	173m W	471310 172160	ROSE KILN LANE READING WS11	-	Y	N/A
5	174m NW	471320 172190	ROSE KILN LANE READING WS9	-	Y	N/A
C	178m NW	471340 172230	ROSE KILN LANE READING 3	-	Y	N/A
C	179m NW	471370 172260	ROSE KILN LANE READING WS4	-	Y	N/A
B	181m W	471300 172150	ROSE KILN LANE READING WS22	-	Y	N/A
B	189m W	471290 172140	ROSE KILN LANE READING WS20A	-	Y	N/A
6	194m NE	471620 172290	ELGAR ROAD READING 3	16.61	N	17088200 ↗
7	198m W	471290 172180	ROSE KILN LANE READING WS21	-	Y	N/A
B	210m W	471270 172150	ROSE KILN LANE READING 4	-	Y	N/A
8	219m N	471550 172340	ELGAR ROAD READING 1	9.6	N	17088195 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
D	222m NE	471640 172310	ELGAR ROAD READING 14	3.04	N	17088203 ↗
D	222m NE	471640 172310	ELGAR ROAD READING 15	4.57	N	17088204 ↗
9	242m W	471250 172200	ROSE KILN LANE A & B SITES BH3	20.0	N	15043597 ↗
10	247m N	471590 172360	ELGAR ROAD READING 2	9.9	N	17088199 ↗

This data is sourced from the British Geological Survey.

4 Natural ground subsidence - Shrink swell clays



4.1 Shrink swell clays

Records within 50m	1

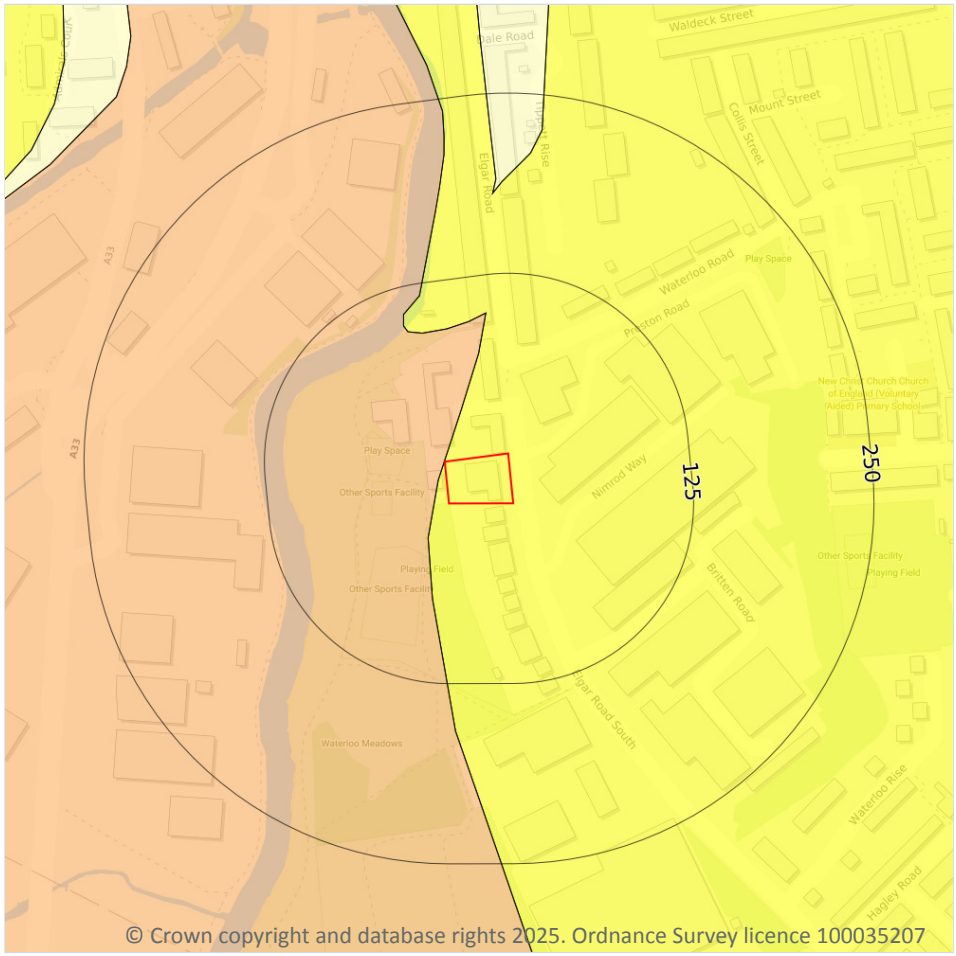
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 28 >**

Location	Hazard rating	Details
On site	**Moderate**	**Ground conditions predominantly high plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.2 Running sands

Records within 50m	2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

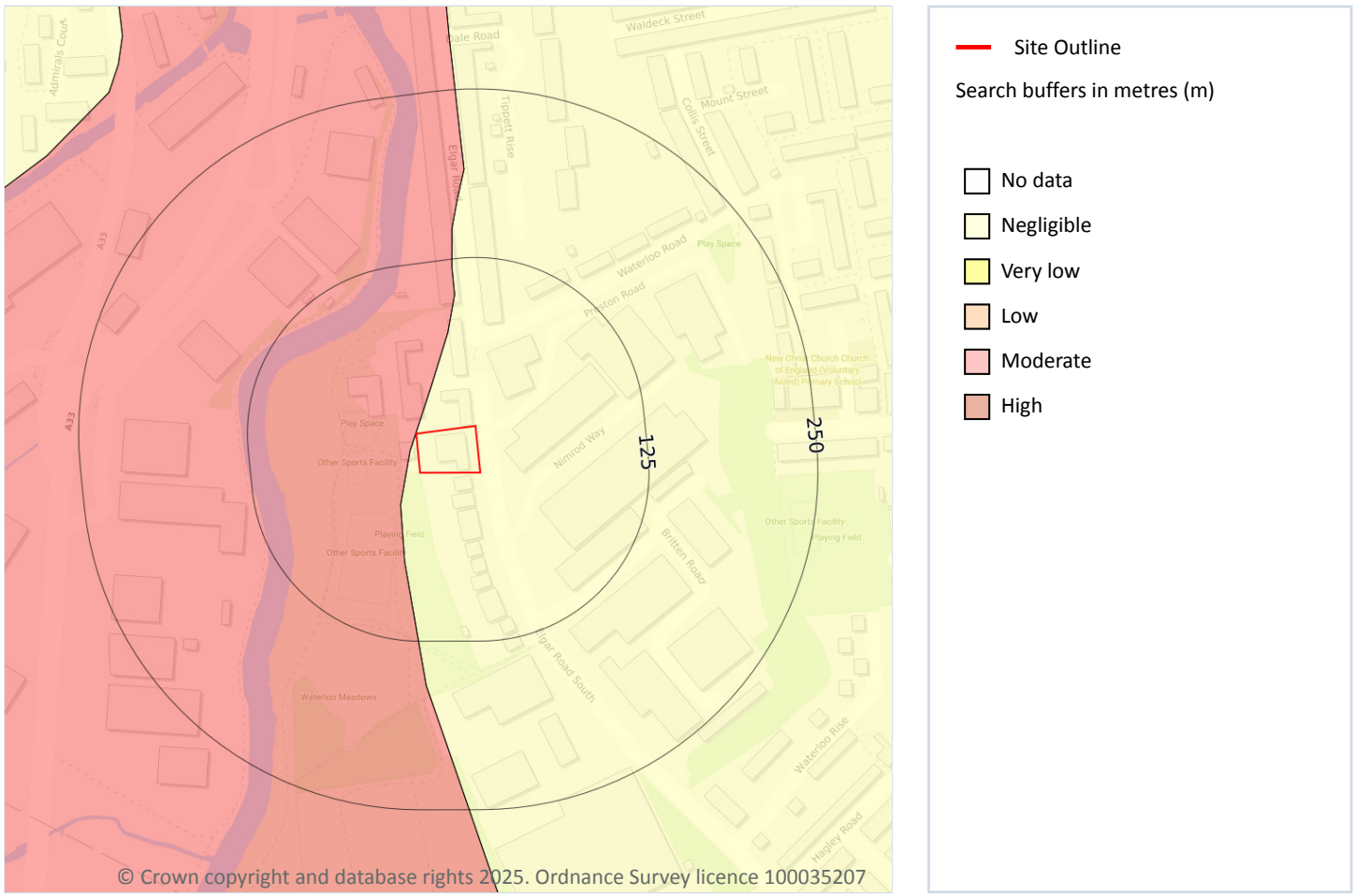
Features are displayed on the Natural ground subsidence - Running sands map on **page 29 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

Location	Hazard rating	Details
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



4.3 Compressible deposits

Records within 50m	2

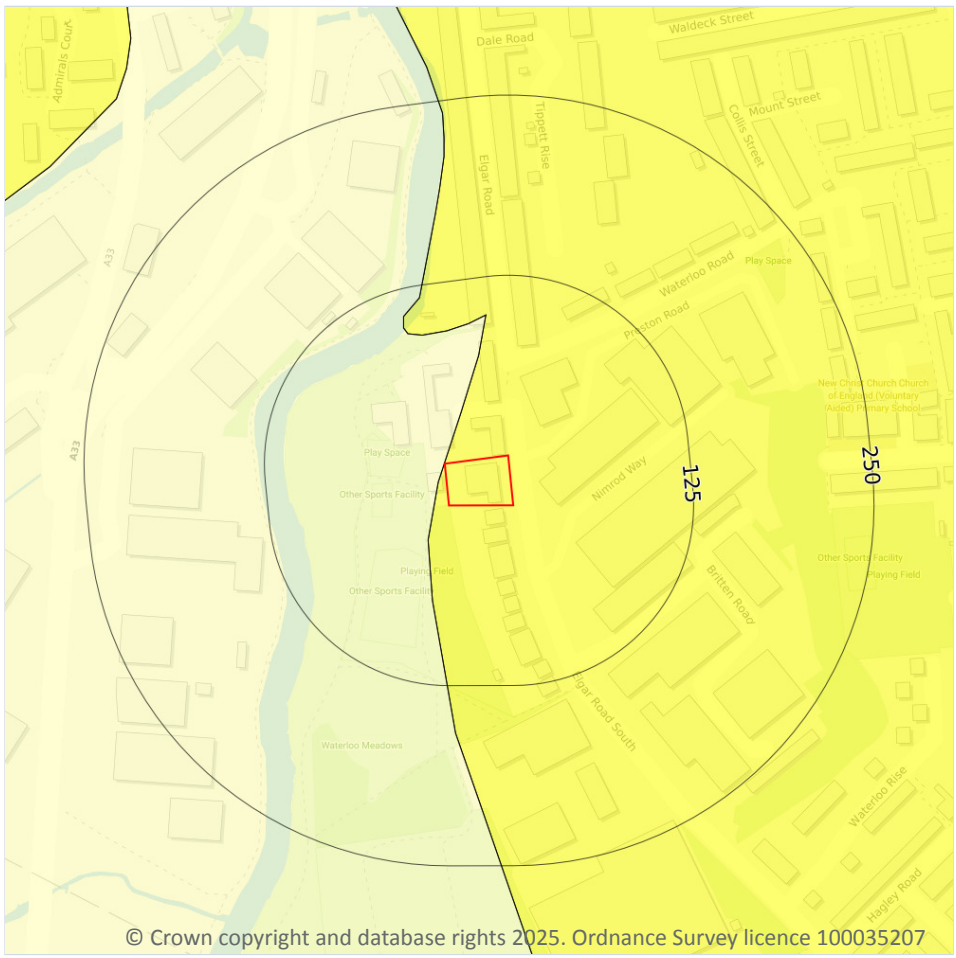
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 31 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.4 Collapsible deposits

Records within 50m	2

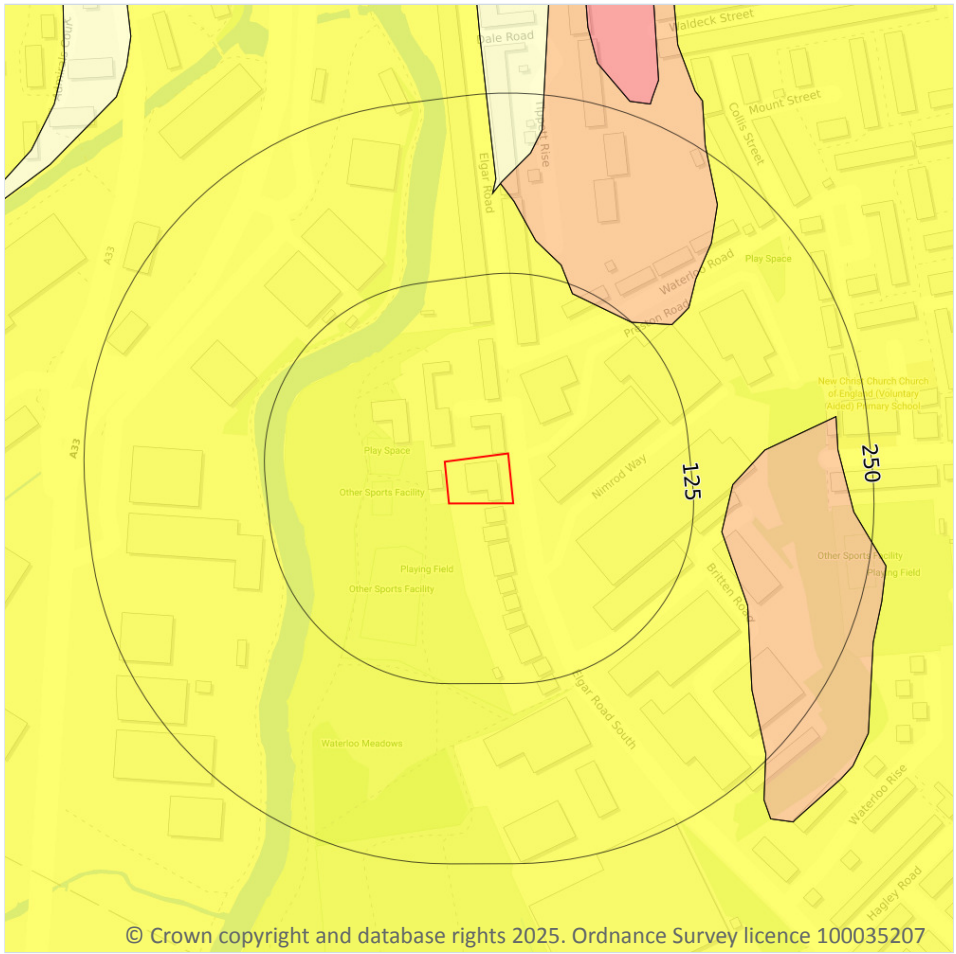
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 33 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

4.5 Landslides

Records within 50m	1

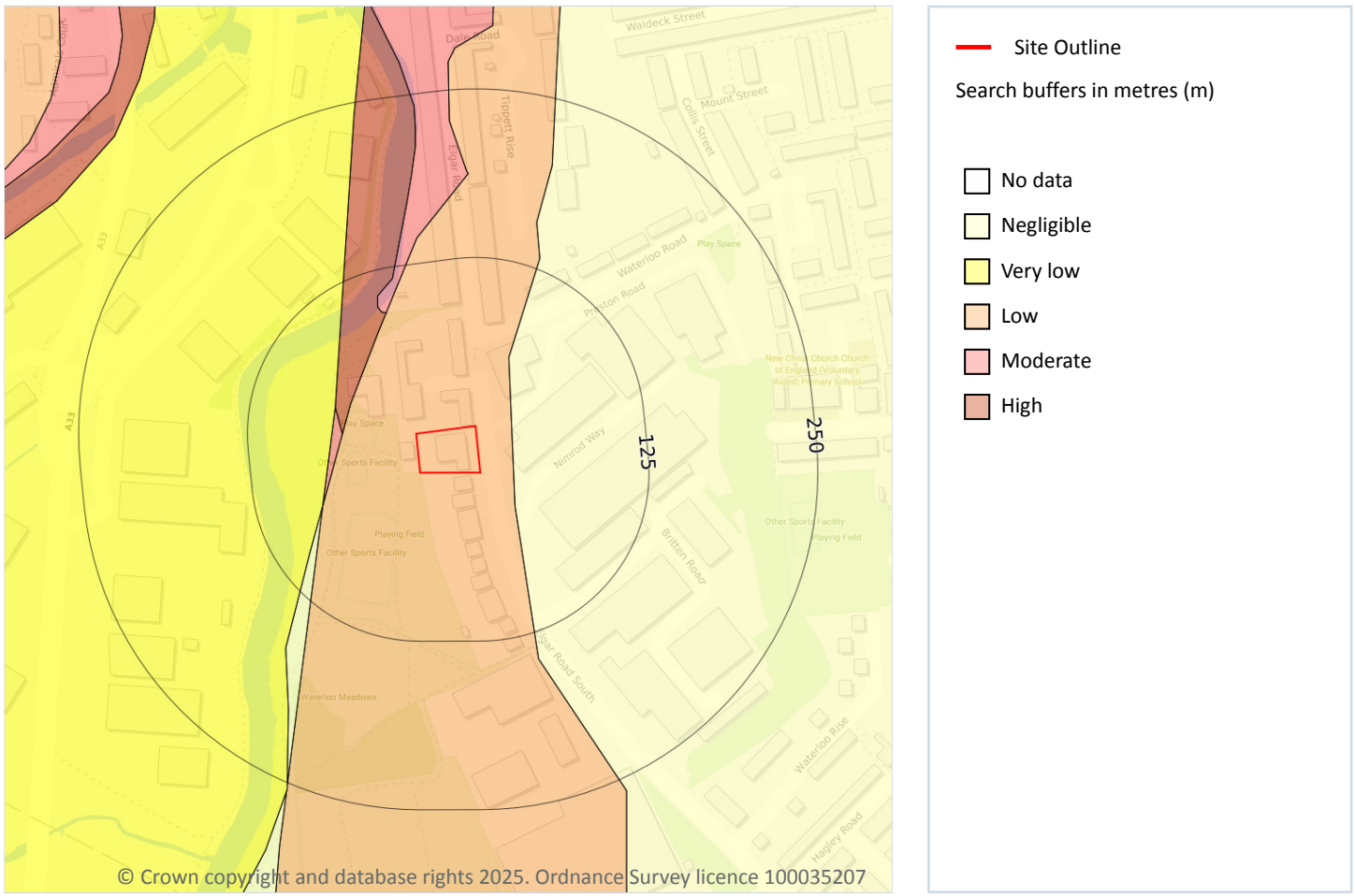
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 34 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



4.6 Ground dissolution of soluble rocks

Records within 50m	2

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

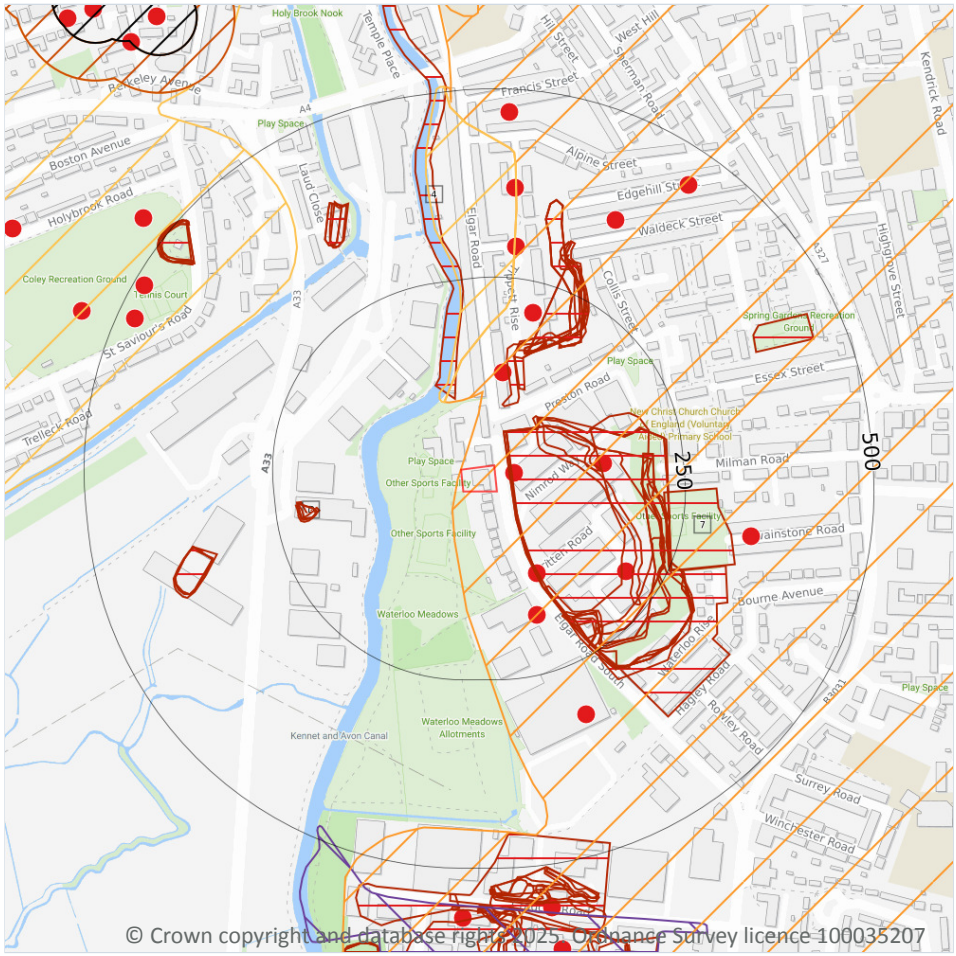
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 35 >**

Location	Hazard rating	Details
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**

Location	Hazard rating	Details
25m E	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

This data is sourced from the British Geological Survey.

5 Mining and ground workings



Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

5.1 BritPits

Records within 500m	16

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on **page 37 >**

ID	Location	Details	Description
2	25m E	Name: Waterloo Kilns Address: Elgar Road, Katesgrove, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
5	120m SE	Name: Waterloo Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
B	124m N	Name: Katesgrove Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
C	144m E	Name: Waterloo Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
6	172m SE	Name: Waterloo Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
A	201m SE	Name: Waterloo Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
B	209m N	Name: Katesgrove Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
8	292m N	Name: Katesgrove Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
9	319m SE	Name: Waterloo Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
11	342m E	Name: Whitley Grove Gravel Pit Address: The Mount, READING, Berkshire Commodity: Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
12	363m NE	Name: Ivy Bridge Brick Field Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
13	370m N	Name: Katesgrove Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

ID	Location	Details	Description
15	452m NE	Name: Ivy Bridge Brick Field Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
16	469m N	Name: Katesgrove Kilns Address: The Mount, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
I	477m NW	Name: Coley Kilns Address: Coley, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
I	486m NW	Name: Coley Kilns Address: Coley, READING, Berkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

5.2 Surface ground workings

Records within 250m	30

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 37 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	19m NE	Brick and Tile Works	1938	1:10560
A	19m NE	Brick and Tile Works	1913	1:10560
A	21m NE	Brick and Tile Works	1938	1:10560
A	21m NE	Brick and Tile Works	1938	1:10560
A	22m NE	Brick and Tile Works	1933	1:10560
A	65m NE	Unspecified Ground Workings	1898	1:10560
B	80m N	Unspecified Ground Workings	1898	1:10560
C	86m NE	Unspecified Ground Workings	1913	1:10560
4	94m N	Canal	1938	1:10560
B	107m NE	Unspecified Ground Workings	1962	1:10560
A	136m E	Unspecified Pit	1962	1:10560
A	143m SE	Unspecified Ground Workings	1933	1:10560
B	147m N	Unspecified Ground Workings	1979	1:10000
B	154m N	Unspecified Ground Workings	1938	1:10560
B	154m N	Unspecified Ground Workings	1913	1:10560
B	154m N	Unspecified Pit	1938	1:10560
B	154m N	Unspecified Pit	1938	1:10560
B	154m N	Unspecified Ground Workings	1933	1:10560
B	178m NE	Unspecified Ground Workings	1979	1:10000
B	178m NE	Unspecified Ground Workings	1962	1:10560
B	178m NE	Unspecified Ground Workings	1973	1:10000
A	192m E	Unspecified Ground Workings	1938	1:10560
D	193m W	Unspecified Ground Workings	1933	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
A	193m E	Unspecified Ground Workings	1938	1:10560
A	193m E	Unspecified Ground Workings	1938	1:10560
D	196m W	Unspecified Heap	1938	1:10560
D	196m W	Unspecified Heap	1938	1:10560
D	197m W	Unspecified Ground Workings	1938	1:10560
A	214m E	Unspecified Ground Workings	1913	1:10560
7	222m E	Brick Works	1898	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

5.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

5.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

5.5 Historical Mineral Planning Areas

Records within 500m	1

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining and ground workings map on **page 37 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
J	483m SW	Whitley Kiln	Sand, brickclay, bricks	Surface mineral working	Valid	05/06/47

This data is sourced from the British Geological Survey.

5.6 Non-coal mining

Records within 1000m	**6**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on **page 37 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Chalk**	**C**	**Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.**
3	93m NW	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	340m NW	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
L	622m NW	Ruby Court	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
L	672m NW	Ruby Court	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
-	943m N	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

5.7 JPB mining areas

Records on site	1

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

Location	Details
On site	**Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk ↗.**

This data is sourced from Johnson Poole and Bloomer.

5.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

5.9 Researched mining

Records within 500m	10

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
On site	**Stone**
27m E	Stone
88m N	Stone
156m N	Stone
174m NE	Unspecified
180m NE	Unspecified
185m NE	Unspecified
224m N	Stone
226m E	Stone
290m N	Stone

This data is sourced from Groundsure.

5.10 Mining record office plans

Records within 500m	**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

5.11 BGS mine plans

Records within 500m	**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

5.12 Coal mining

Records on site	**0**

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

5.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

5.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

5.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

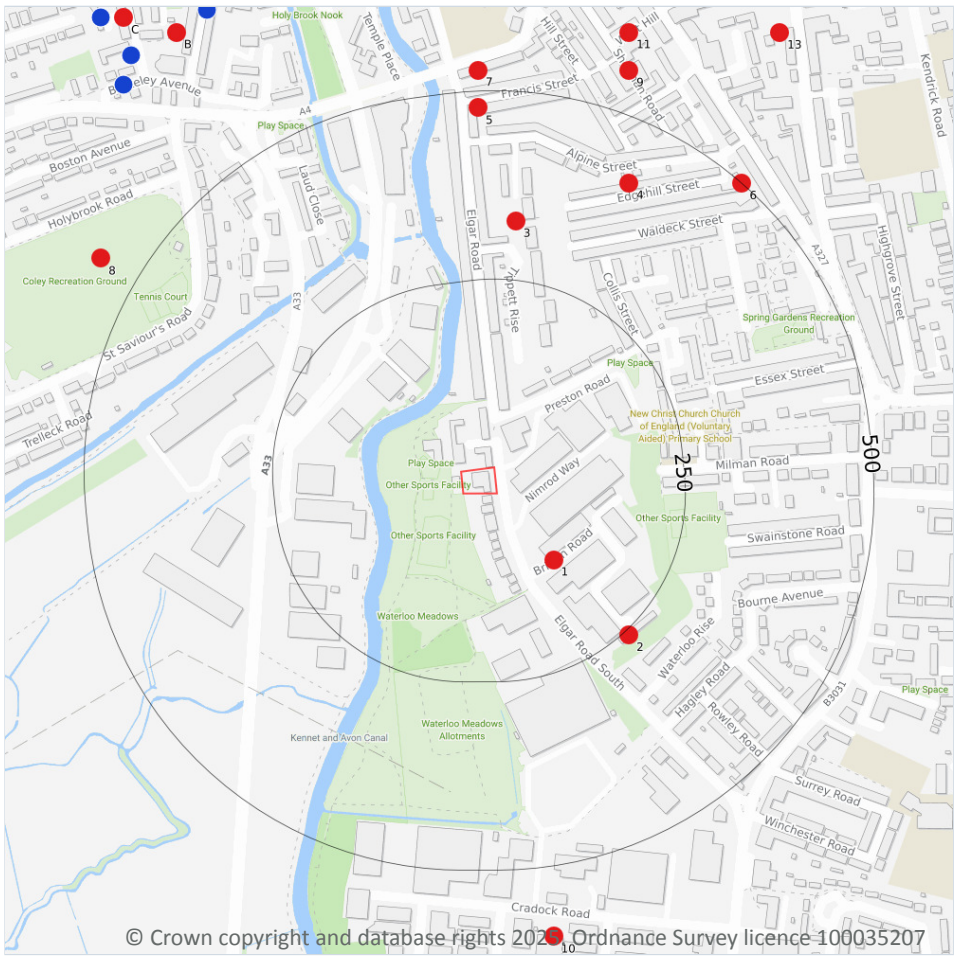
5.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

6 Ground cavities and sinkholes



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- Mining cavities
- Reported recent incidents
- Historical incidents

6.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

6.2 Mining cavities

Records within 1000m	29

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Ground cavities and sinkholes map on **page 48 >**

ID	Location	Mine Address	Mineral
1	116m SE	Waterloo Kiln/clackmans Field, Reading, Berkshire	Chalk
2	257m SE	Waterloo Kiln, Reading, Berkshire	Chalk
3	329m N	Katesgrove Kilns (3), Reading, Berkshire	Chalk
4	418m NE	Ivy Lodge Brickfield/ Southampton Kiln, Reading, Berkshire	Chalk
5	478m N	Katesgrove Kilns (2), Reading, Berkshire	Chalk
6	500m NE	The Upper Kiln, Reading, Berkshire	Chalk
7	528m N	Katesgrove Kilns (1), Reading, Berkshire	Chalk
8	555m NW	Wheeler Works, Reading (Coley), Berkshire	Chalk
9	557m N	Shearmans Brick Kiln, Reading, Berkshire	Chalk
10	593m S	Whitley Kiln, Reading, Berkshire	Chalk
11	604m N	Shearmans Brick Kiln, Reading, Berkshire	Chalk
-	682m NE	Reading, Berkshire	Chalk
13	690m NE	The Old Orchard Kiln, Reading, Berkshire	Chalk
-	693m S	Rose Kiln, Reading, Berkshire	Chalk
B	695m NW	Coley Potteries, Reading (Coley), Berkshire	Chalk
C	751m NW	Lower Field, Reading (Coley), Berkshire	Chalk
-	797m NW	Ruby Court, Reading (Coley), Berkshire	Chalk
-	798m N	Reading, Berkshire	Chalk
-	800m NW	Avenue Works, Reading (Coley), Berkshire	Chalk
-	812m W	Reading (Coley), Berkshire	Chalk
-	834m NW	Castle Hill Kiln, Reading (Coley), Berkshire	Chalk
-	863m NW	Castle Cresent, Reading (Coley), Berkshire	Chalk
-	875m NW	Coley Hill, Reading (Coley), Berkshire	Chalk

ID	Location	Mine Address	Mineral
-	879m NE	Jubilee Square, Reading, Berkshire	Chalk
-	892m NW	Reading (Coley), Berkshire	Chalk
-	917m NW	Reading (Coley), Berkshire	Chalk
-	936m NW	Reading (Coley), Berkshire	Chalk
-	960m NW	Reading (Coley), Berkshire	Chalk
-	997m NW	Reading (Coley), Berkshire	Chalk

This data is sourced from Stantec UK Ltd.

6.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

6.4 Historical incidents

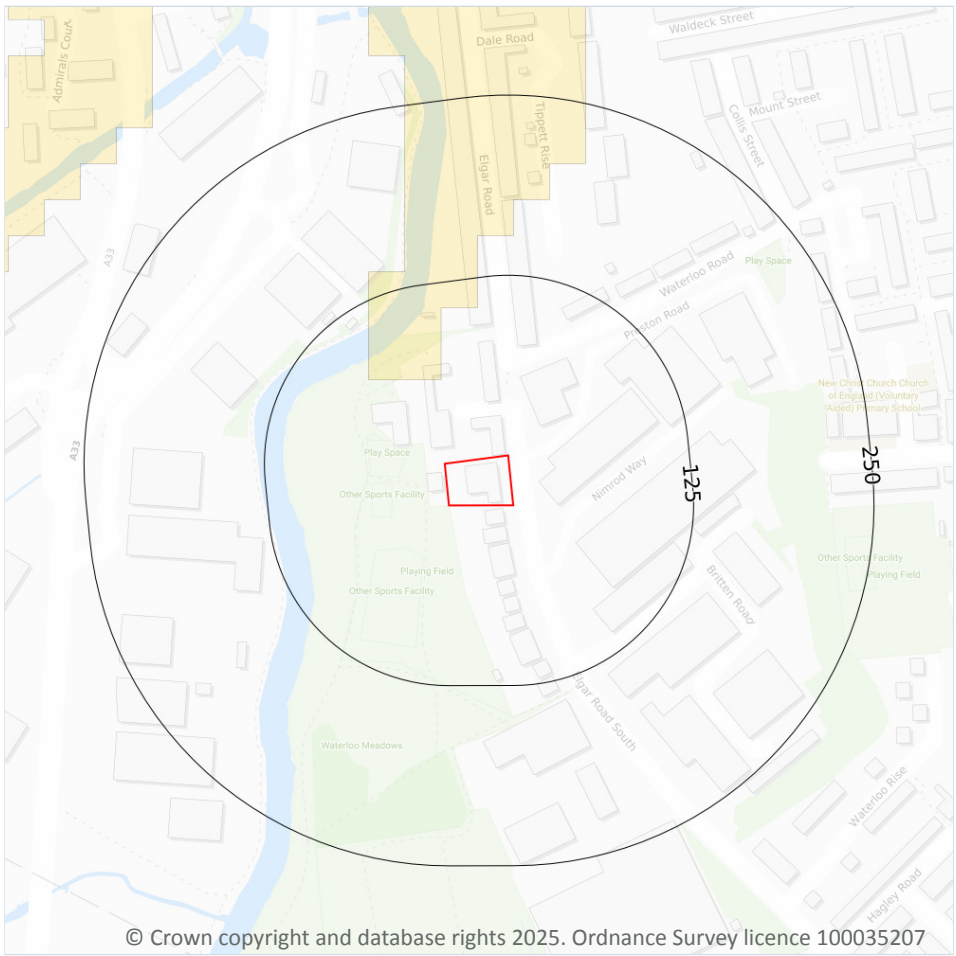
Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

7 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

7.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 51 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

8 Soil chemistry

8.1 BGS Estimated Background Soil Chemistry

Records within 50m	3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

This data is sourced from the British Geological Survey.

8.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

8.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

9 Railway infrastructure and projects

Site Outline

Search buffers in metres (m)

- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

9.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

9.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

9.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

9.4 Historical railway and tunnel features

Records within 250m	14

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 54 >**

Location	Land Use	Year of mapping	Mapping scale
174m NW	Railway Sidings	1957	1250
174m NW	Railway Sidings	1963	1250
174m NW	Railway Sidings	1938	10560
174m NW	Railway Sidings	1958	2500
175m NW	Railway Sidings	1933	10560
175m NW	Railway	1932	-
176m NW	Railway Sidings	1961	2500
177m NW	Railway Sidings	1938	10560
177m NW	Railway Sidings	1932	2500
184m NW	Railway	1911	-
185m W	Railway Sidings	1961	2500
187m NW	Railway Sidings	1962	10560
198m NW	Railway Sidings	1913	10560
205m NW	Railway Sidings	1971	2500

This data is sourced from Ordnance Survey/Groundsure.

9.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

9.6 Historical railways

Records within 250m	2

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on **page 54 >**

Location	Description
207m NW	Abandoned
211m NW	Historical OSM

This data is sourced from OpenStreetMap.

9.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

9.8 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

9.9 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

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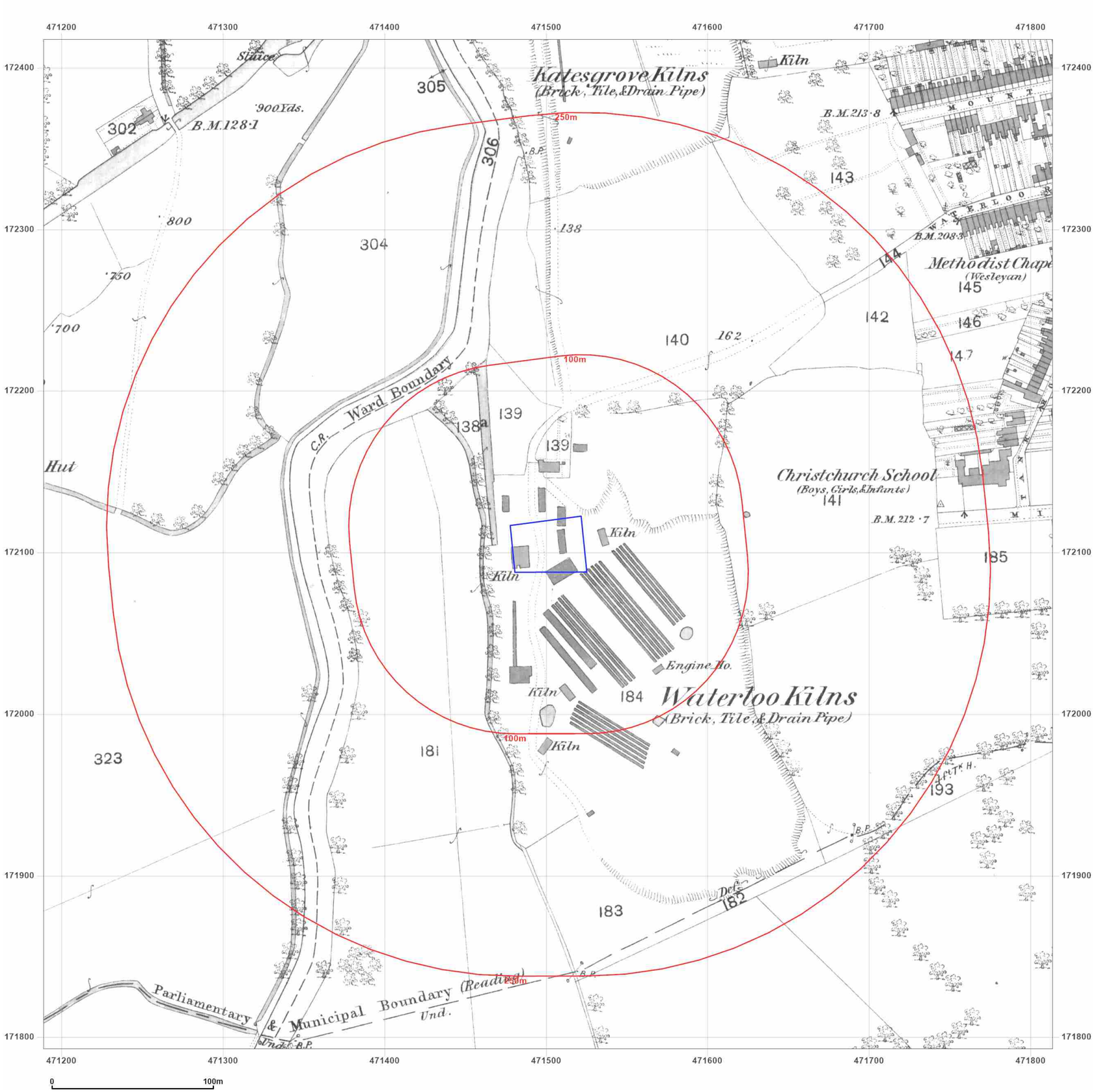

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Site Details:

220, ELGAR ROAD SOUTH,
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Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1879**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
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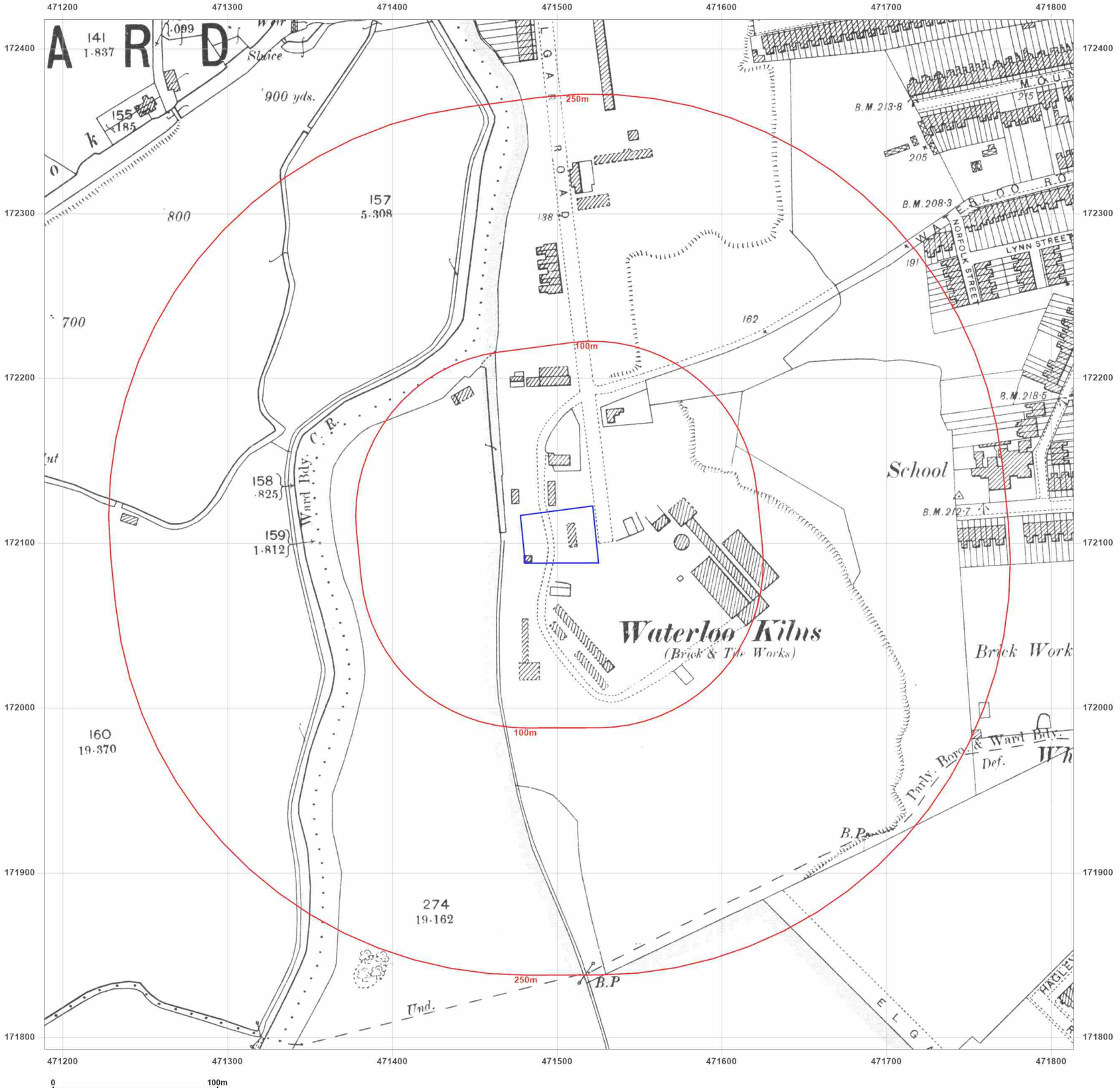

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

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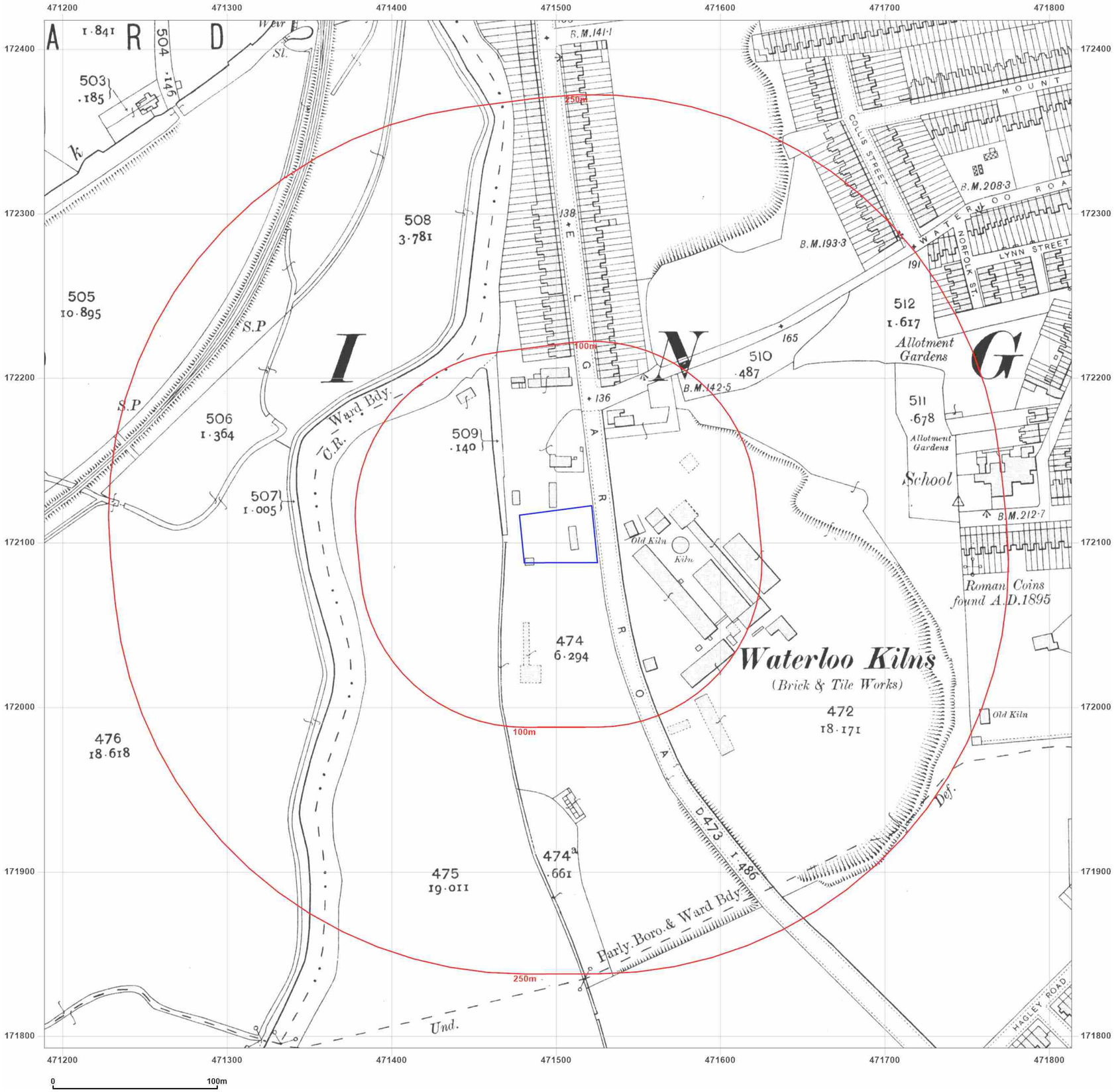

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1911**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1911
Edition N/A
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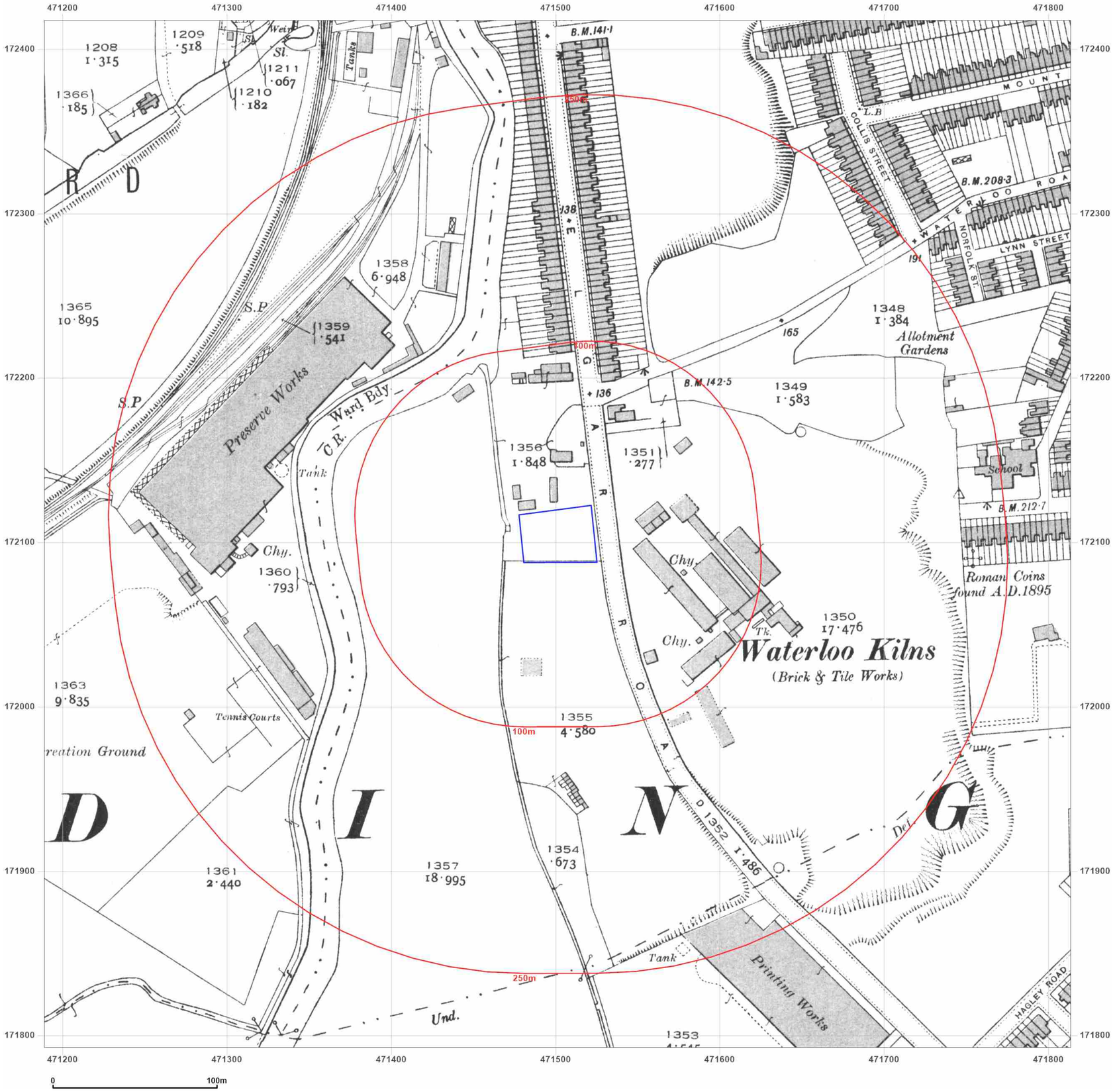

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Site Details:

220, ELGAR ROAD SOUTH,
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Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1932
Edition N/A
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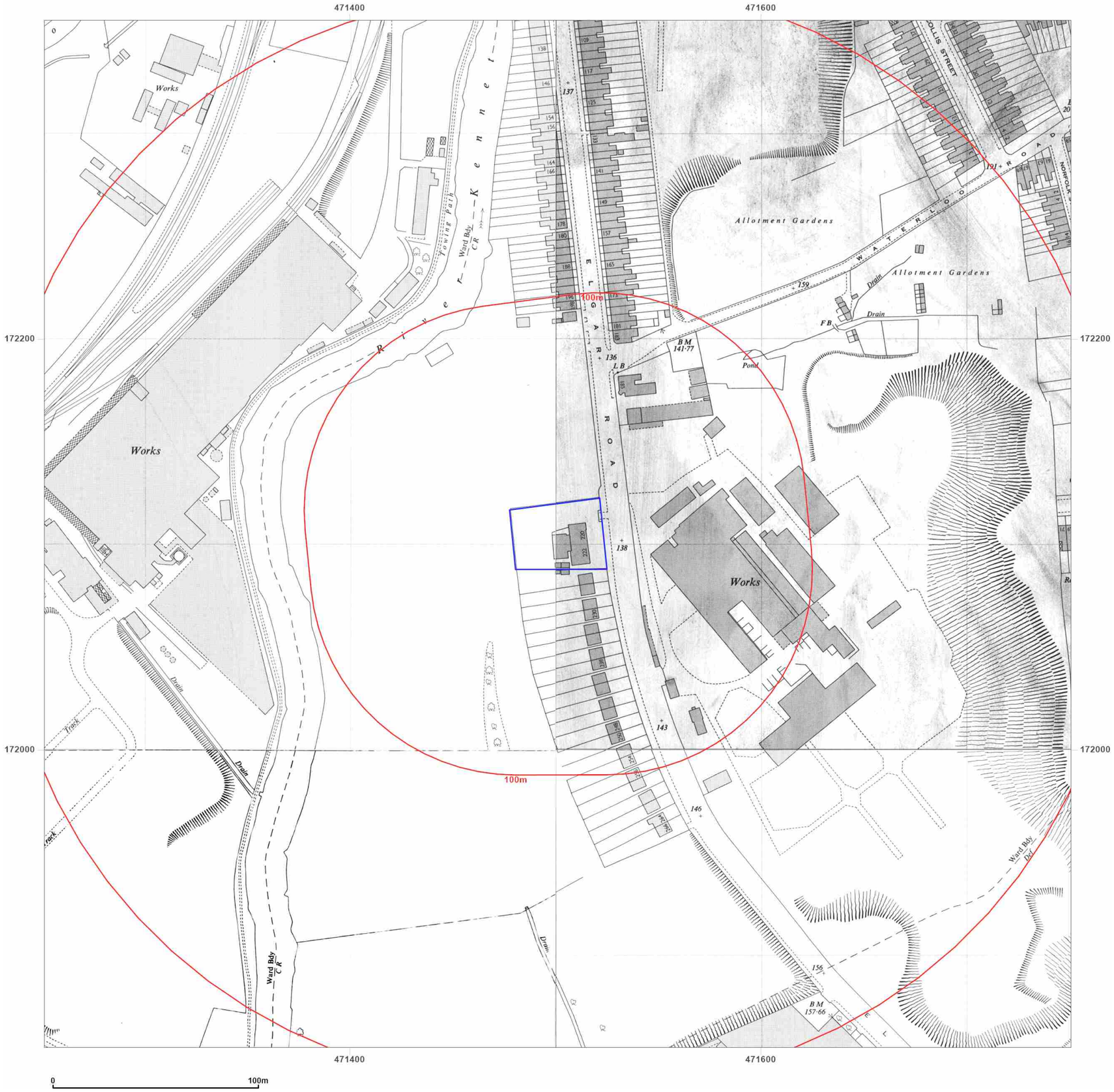

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Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1957-1958**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957 Revised 1957 Edition N/A Copyright N/A Levelled 1951		Surveyed 1957 Revised 1957 Edition N/A Copyright N/A Levelled 1951
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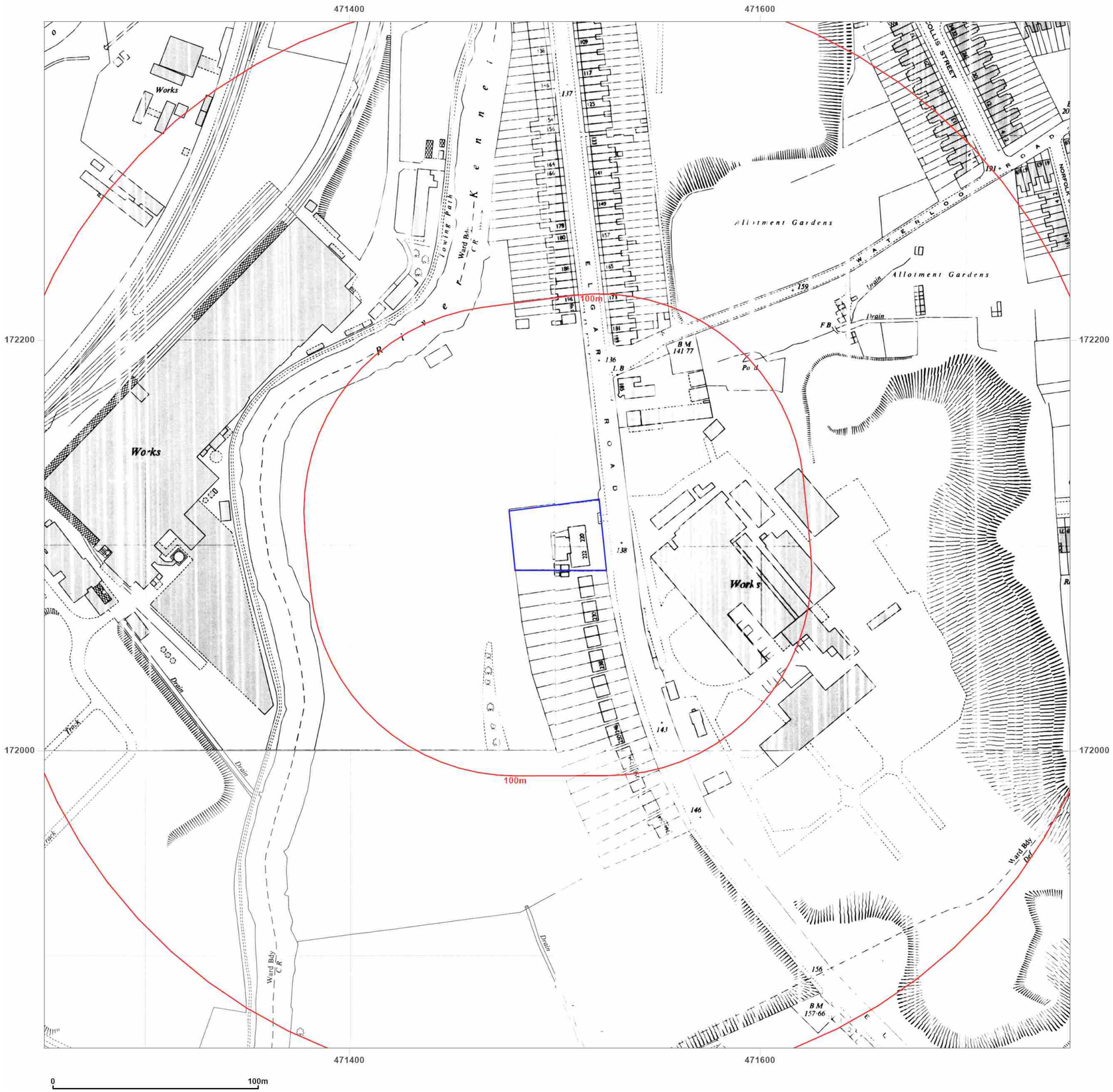

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1957-1958**

Scale: 1:1,250

Printed at: 1:2,000

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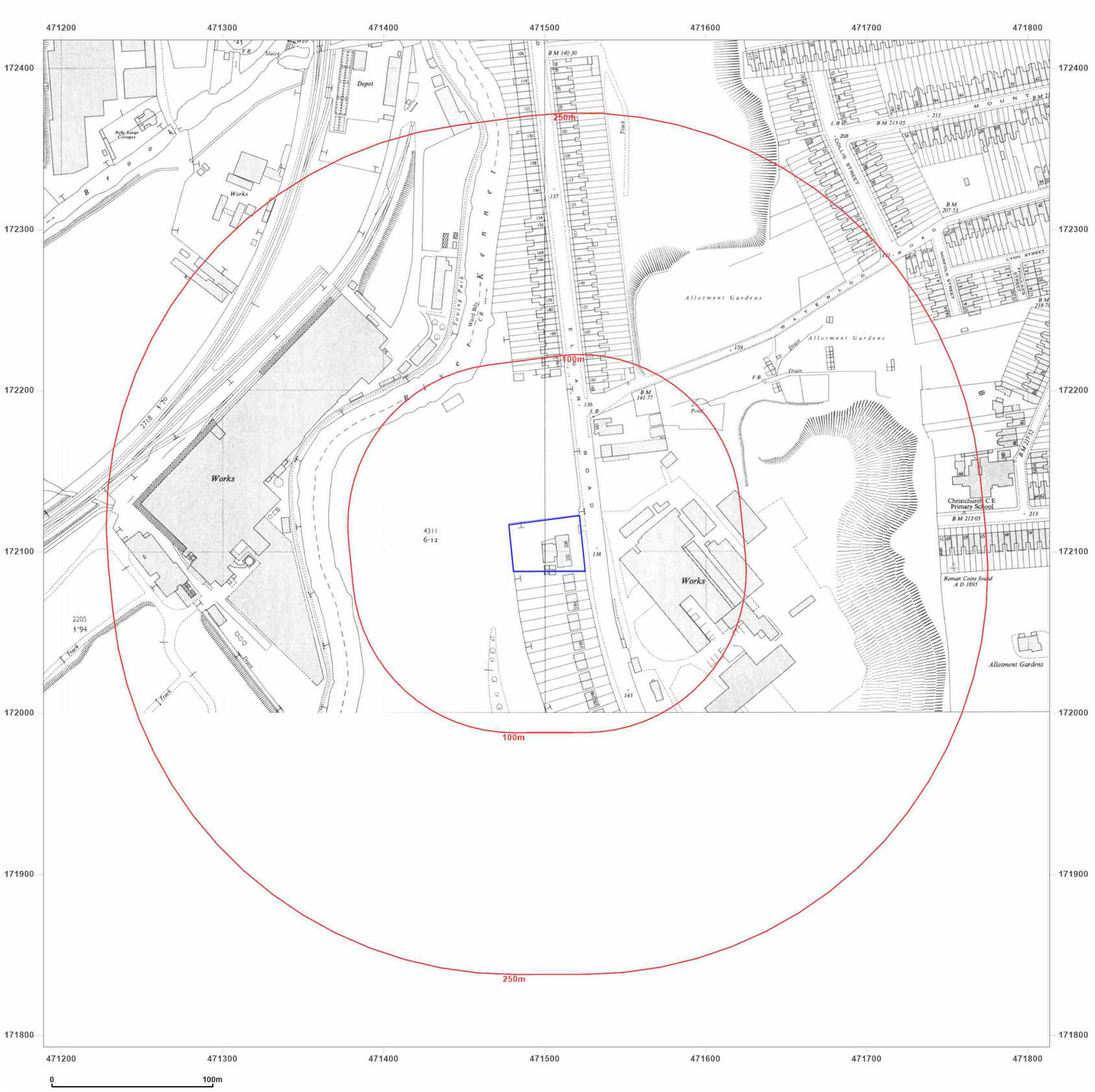

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1958**

Scale: 1:2,500

Printed at: 1:2,500

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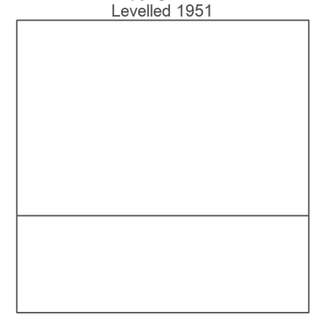
Surveyed 1957
Revised 1957
Edition 1958
Copyright N/A
Levelled 1951



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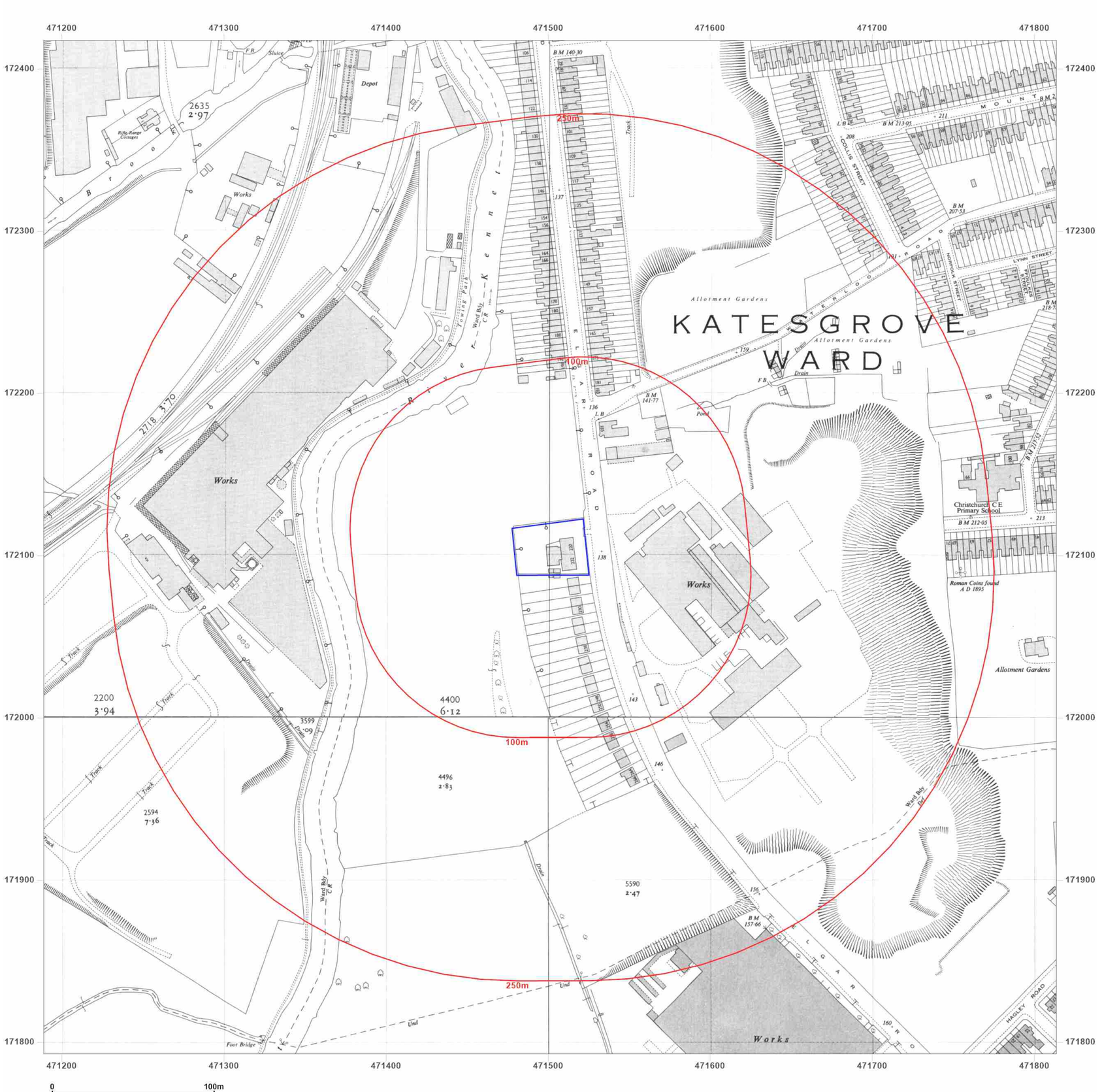

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1958-1961**

Scale: 1:2,500

Printed at: 1:2,500

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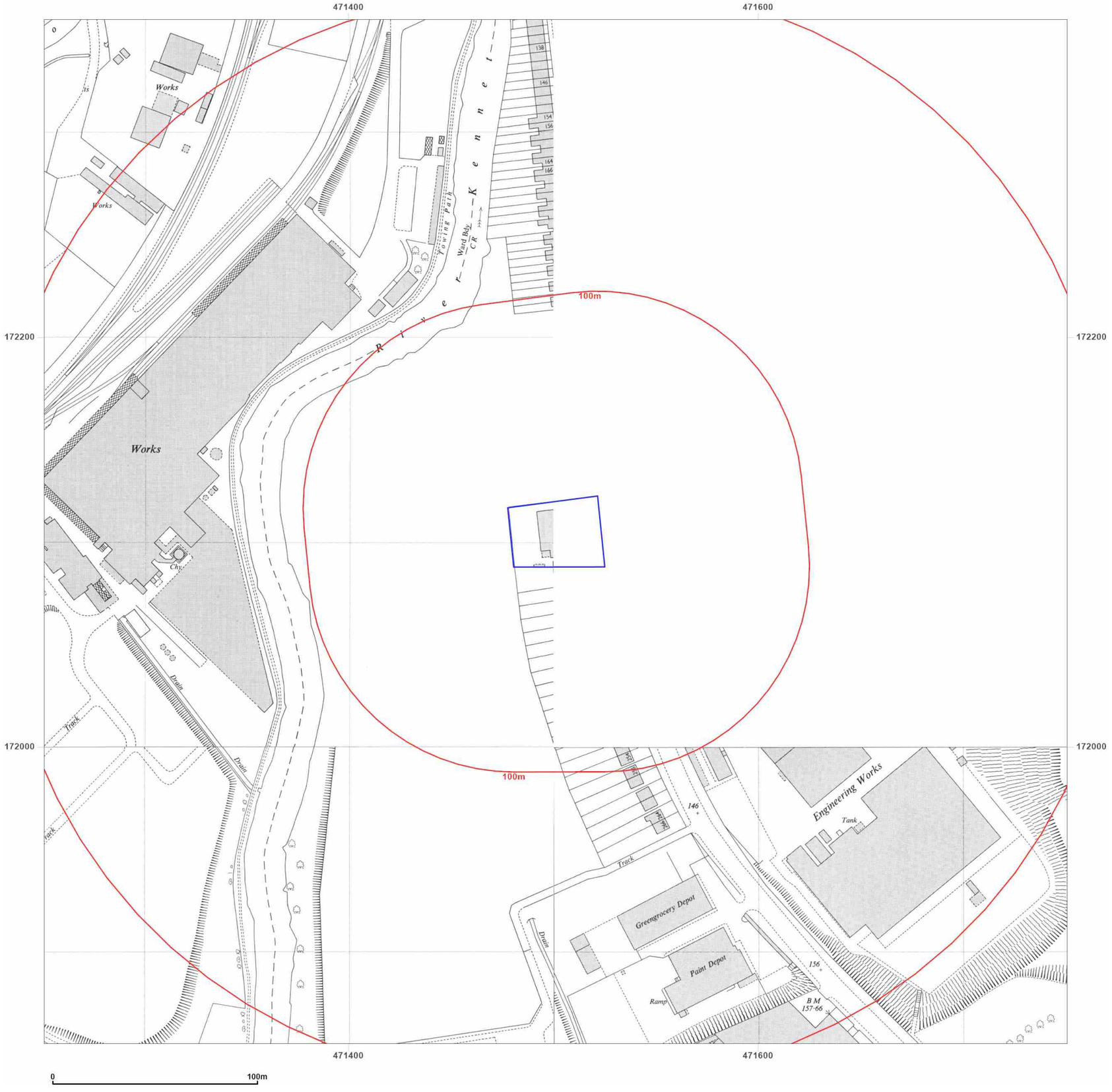

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Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1963-1966**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1963
Revised 1963
Edition N/A
Copyright 1963
Levelled 1951

Surveyed 1957
Revised 1965
Edition N/A
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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1969**

Scale: 1:1,250

Printed at: 1:2,000

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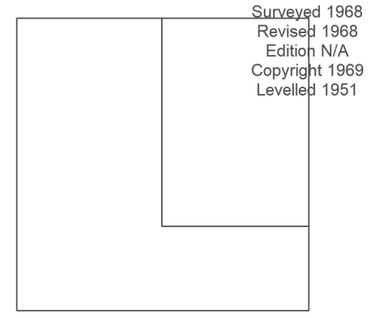

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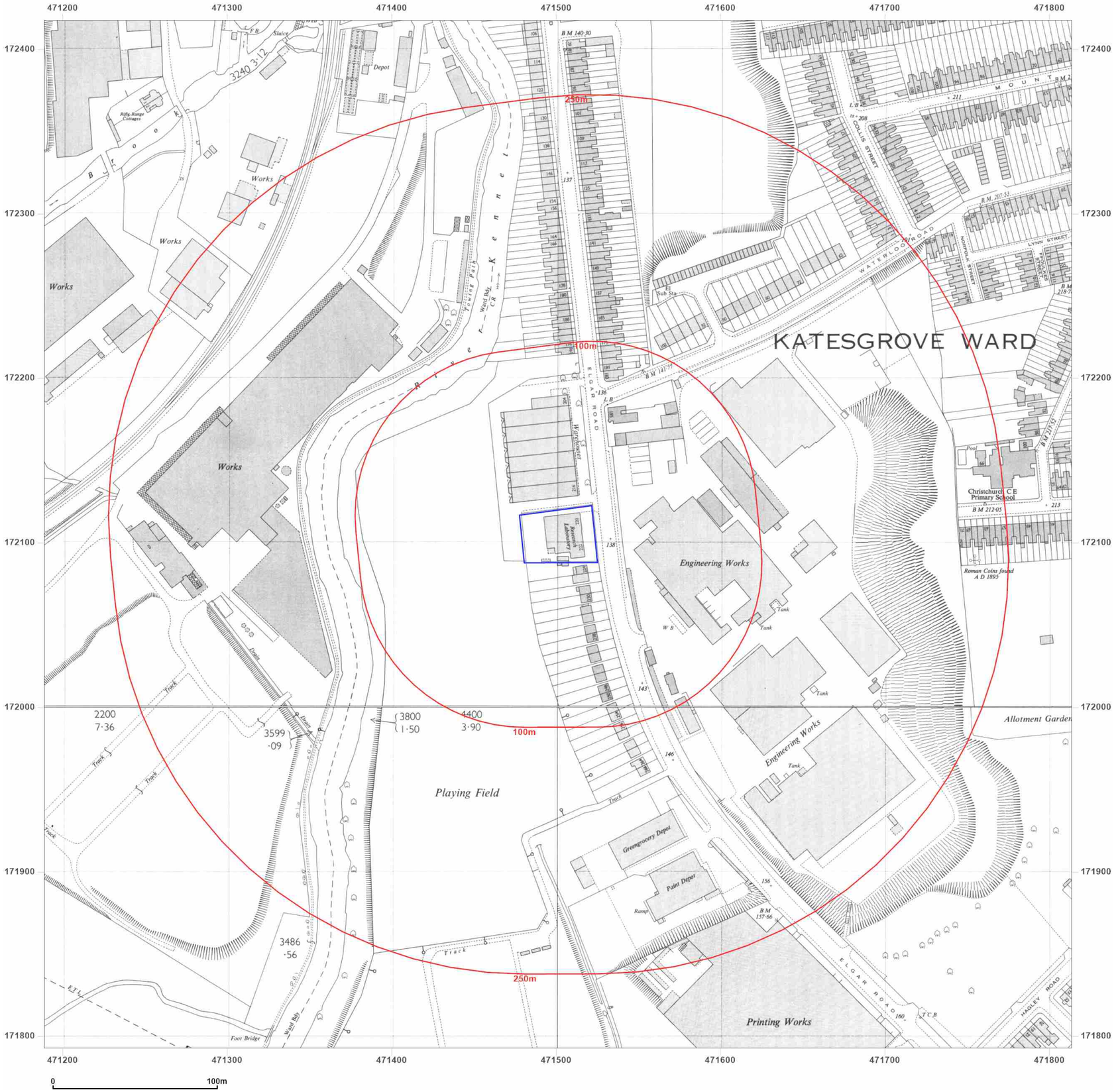

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1967-1971**

Scale: 1:2,500

Printed at: 1:2,500

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Copyright 1971
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Surveyed 1965
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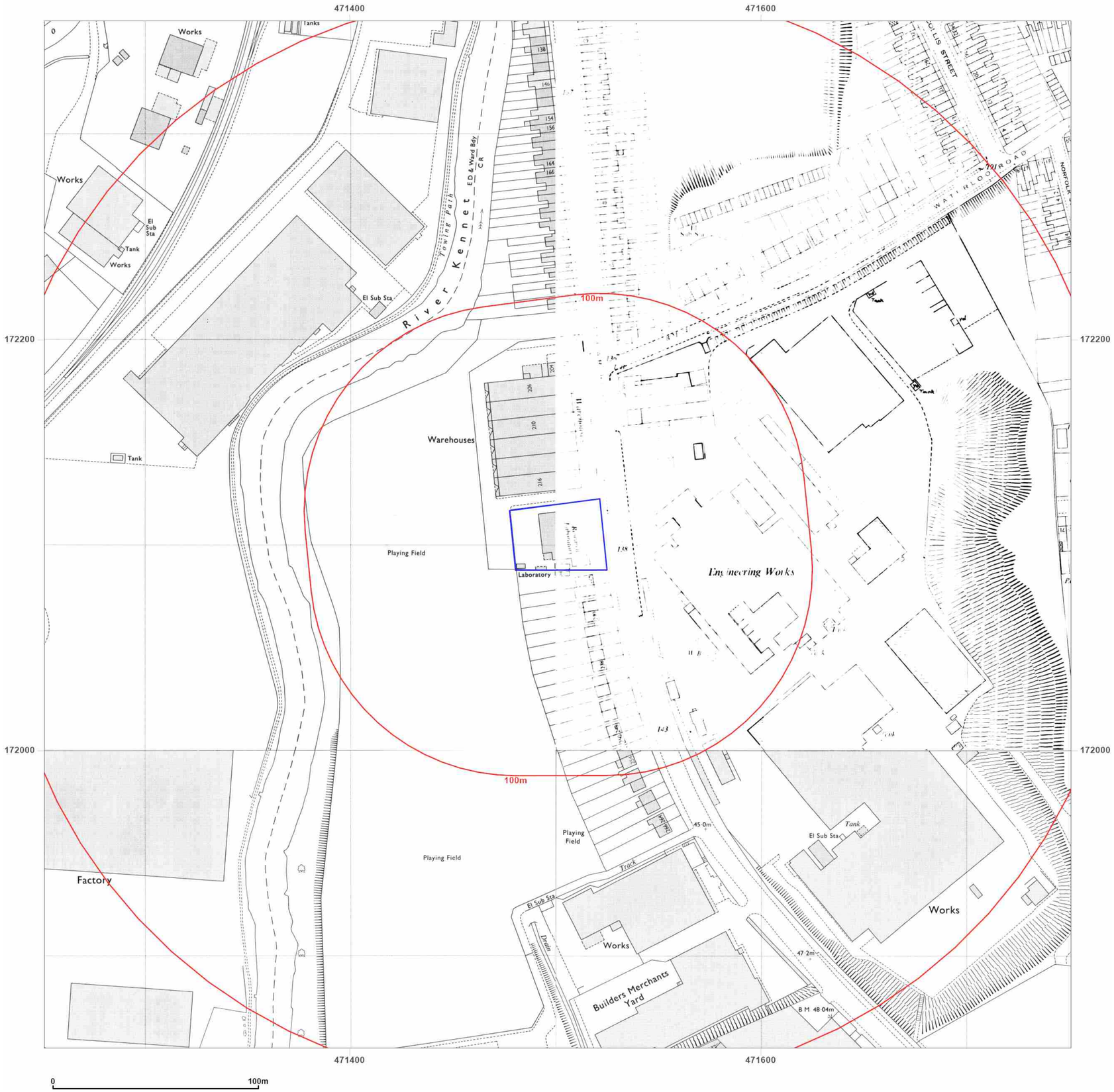

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1972-1976**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957 Revised 1975 Edition N/A Copyright 1976 Levelled 1973		Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
Surveyed 1957 Revised 1975 Edition N/A Copyright 1976 Levelled 1972		Surveyed 1957 Revised 1975 Edition N/A Copyright 1976 Levelled 1972

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Map legend available at:
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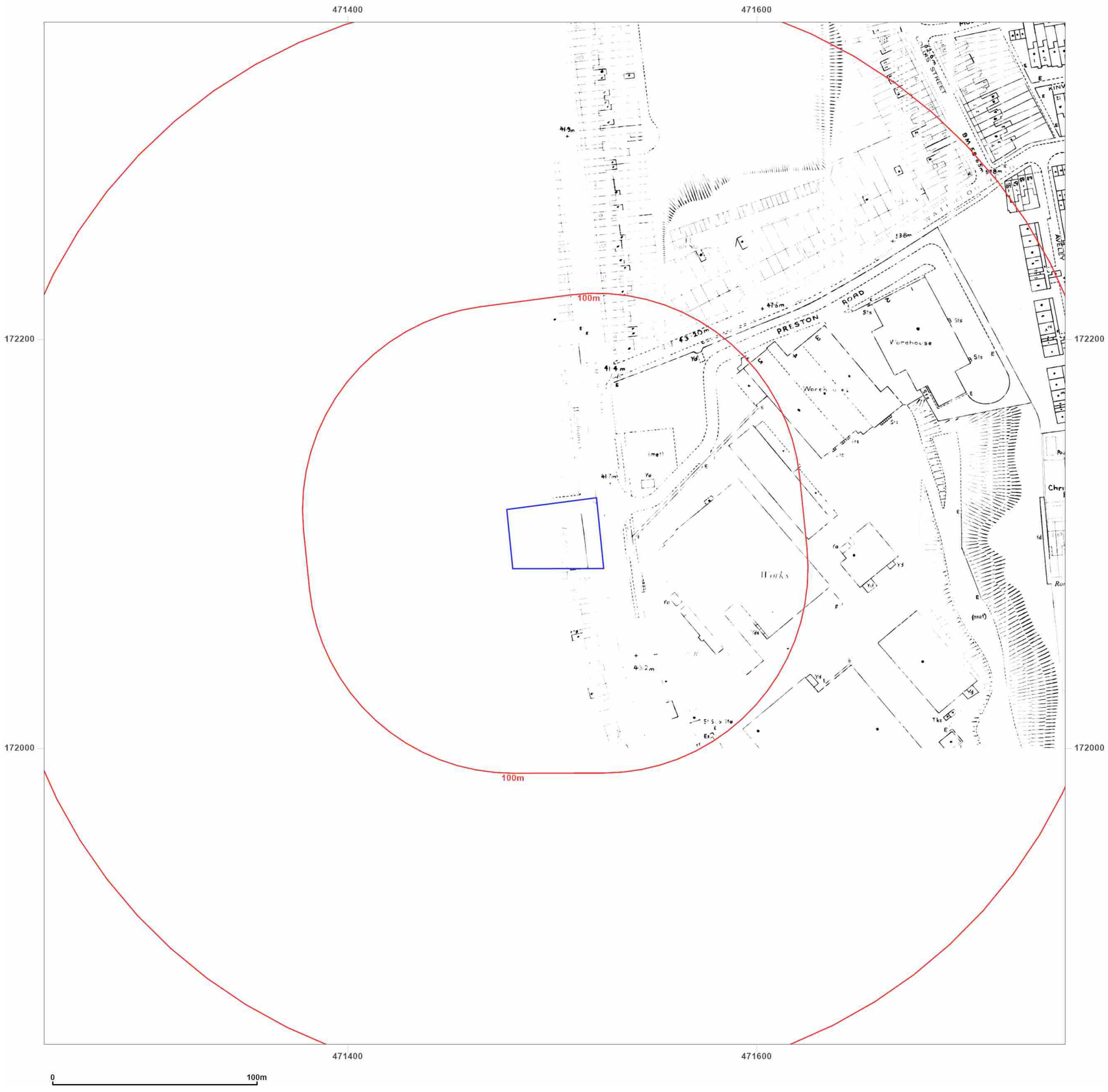

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1978**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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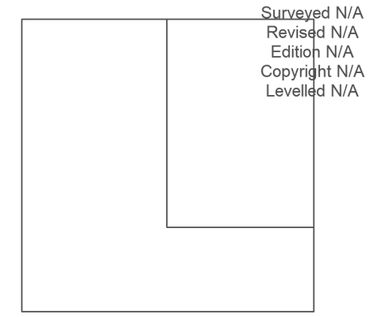

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Production date: 14 May 2025

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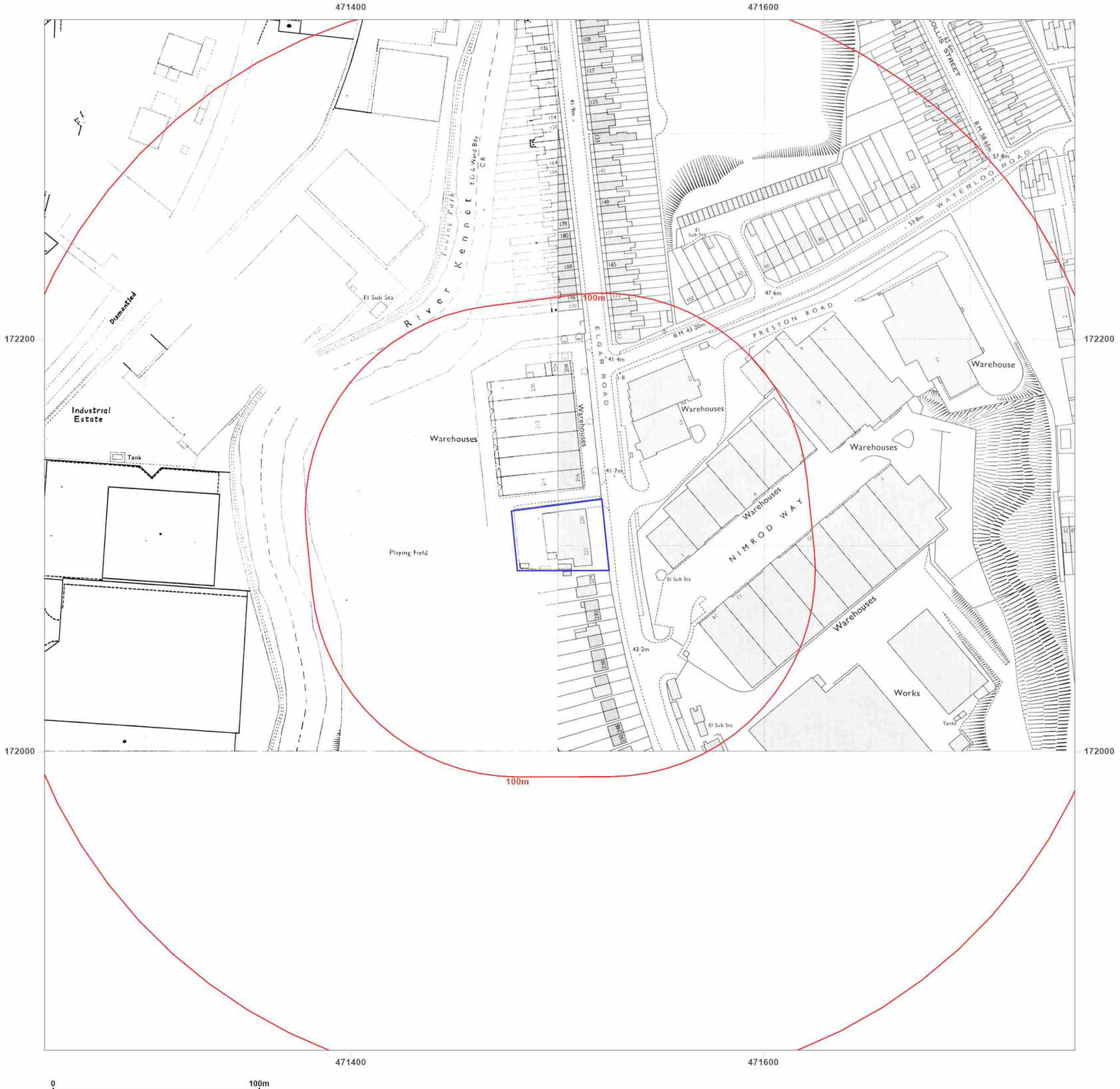

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1981-1986**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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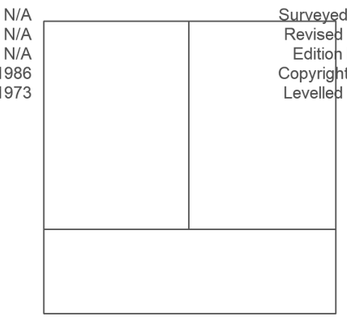
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1986
Levelled 1973

Surveyed 1957
Revised 1980
Edition N/A
Copyright 1981
Levelled 1973



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Production date: 14 May 2025

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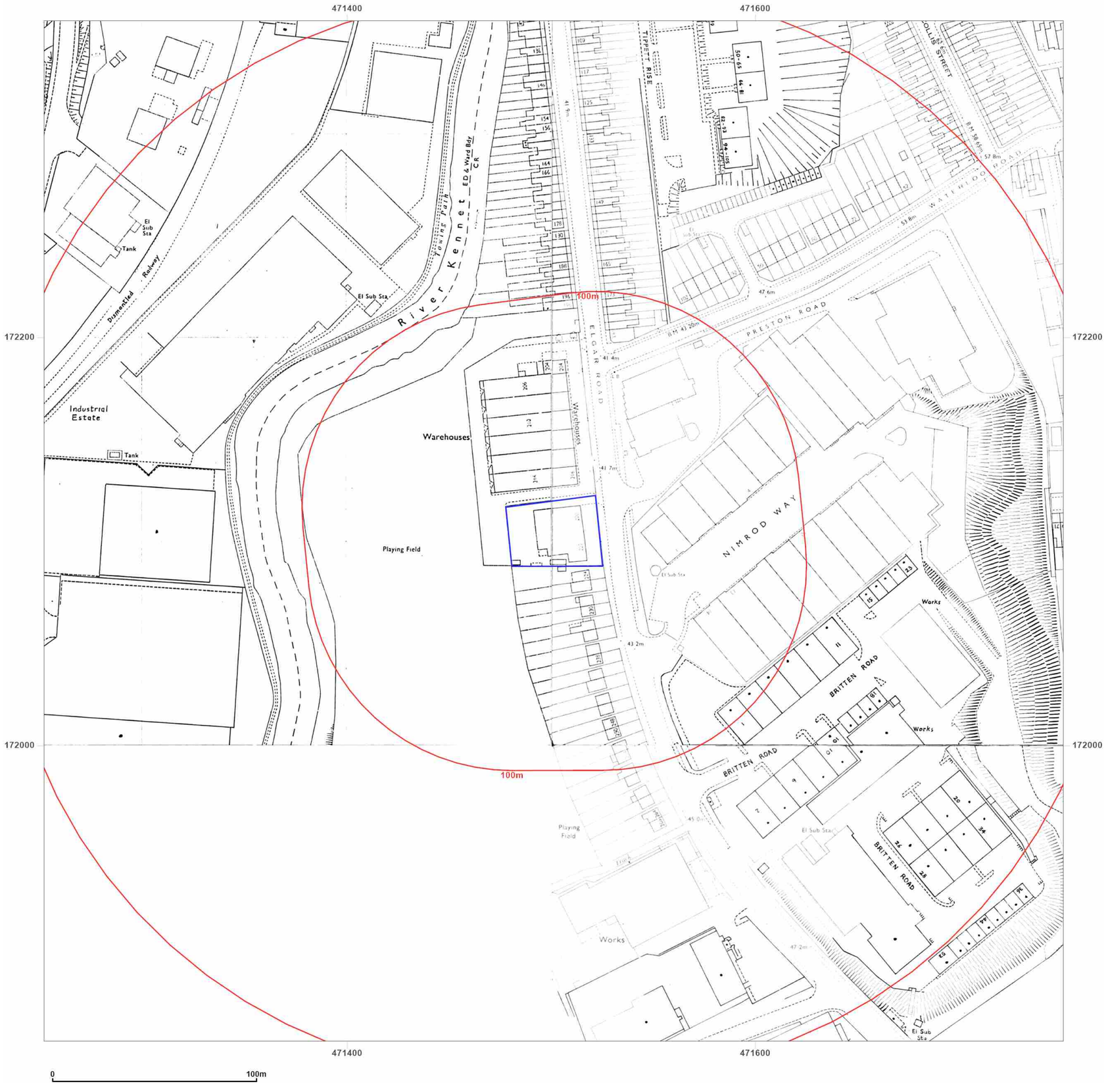

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1987-1990**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1973
Revised 1987
Edition N/A
Copyright 1987
Levelled 1973

Surveyed 1973
Revised 1987
Edition N/A
Copyright 1987
Levelled 1973

Surveyed 1972
Revised 1990
Edition N/A
Copyright 1990
Levelled 1972

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Production date: 14 May 2025

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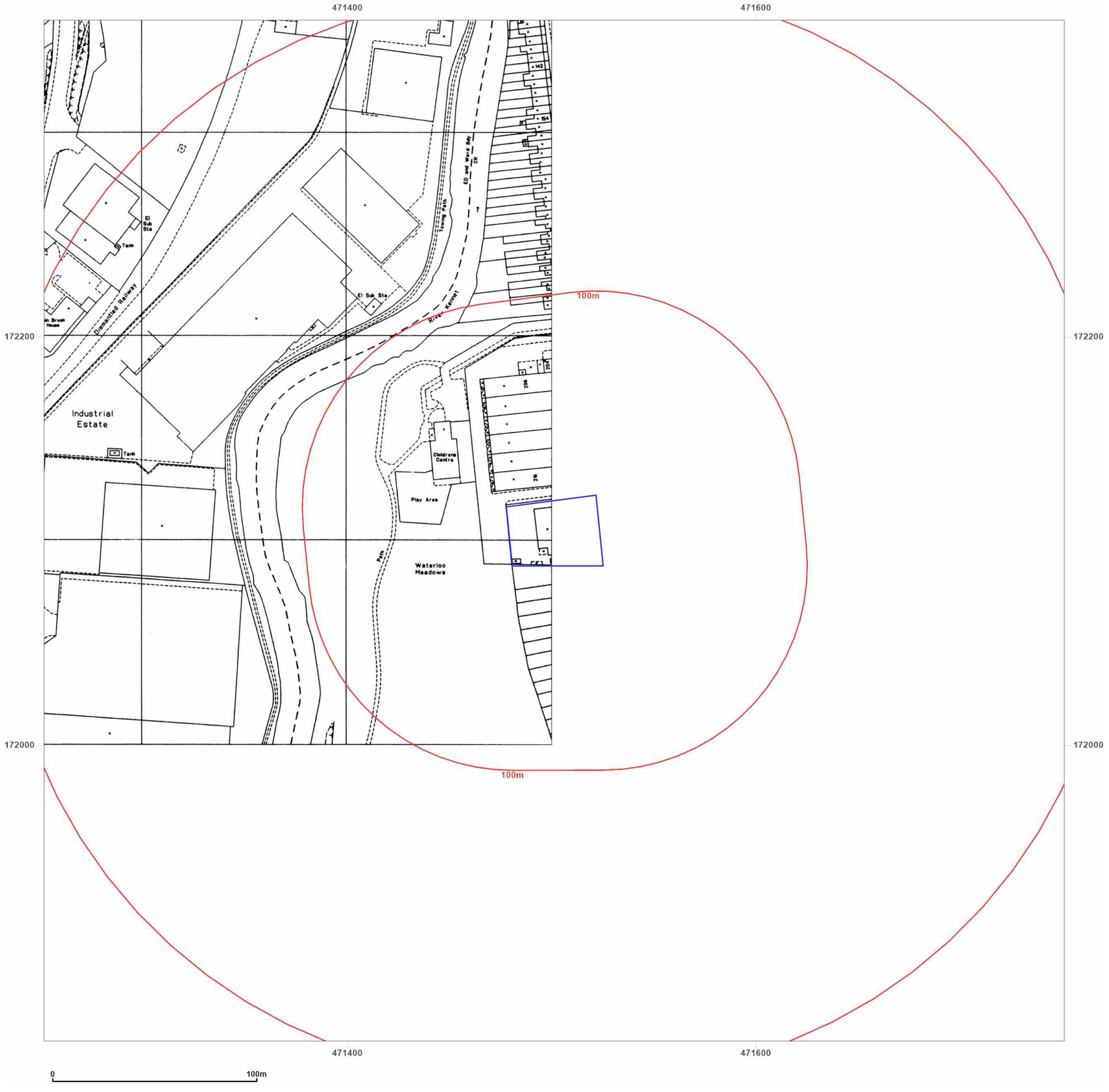

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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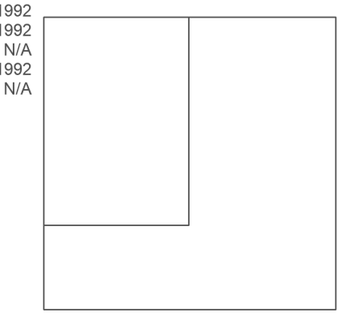
Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A



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Production date: 14 May 2025

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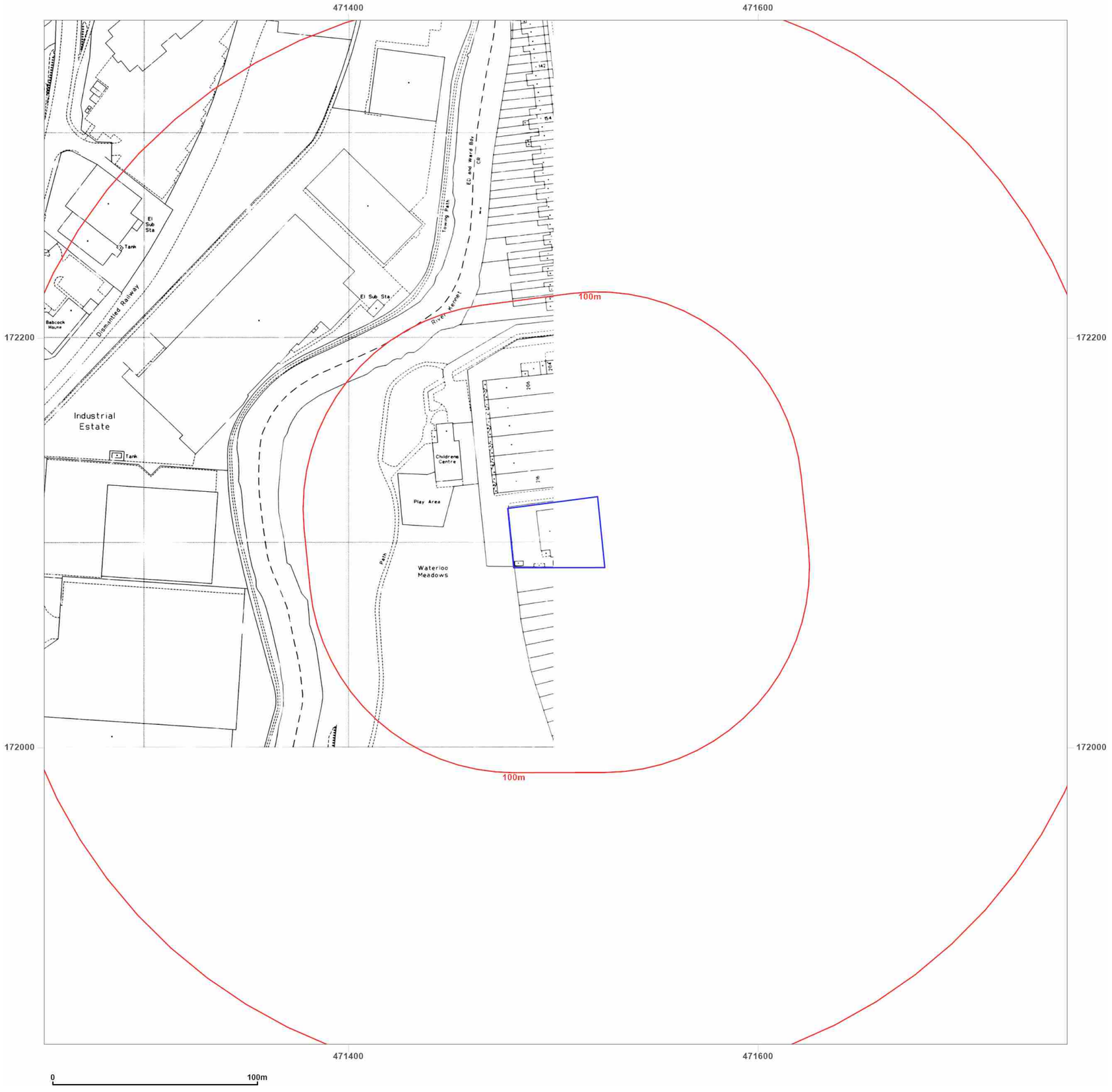

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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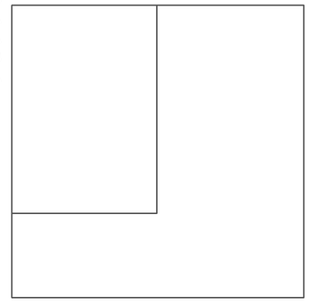
Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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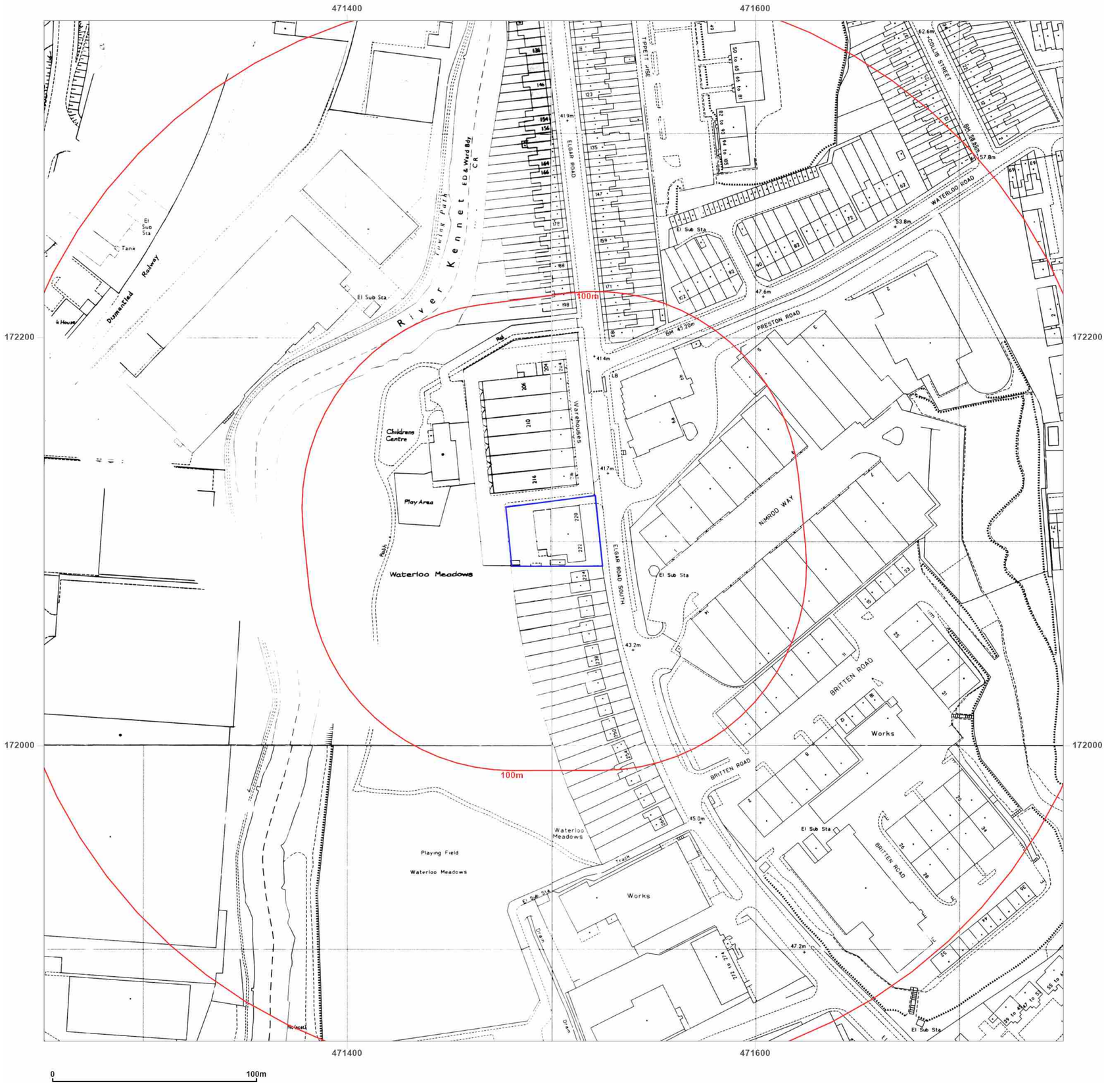

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1991-1993**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed 1973 Revised 1991 Edition N/A Copyright 1991 Levelled 1973		Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A
Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A		Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A

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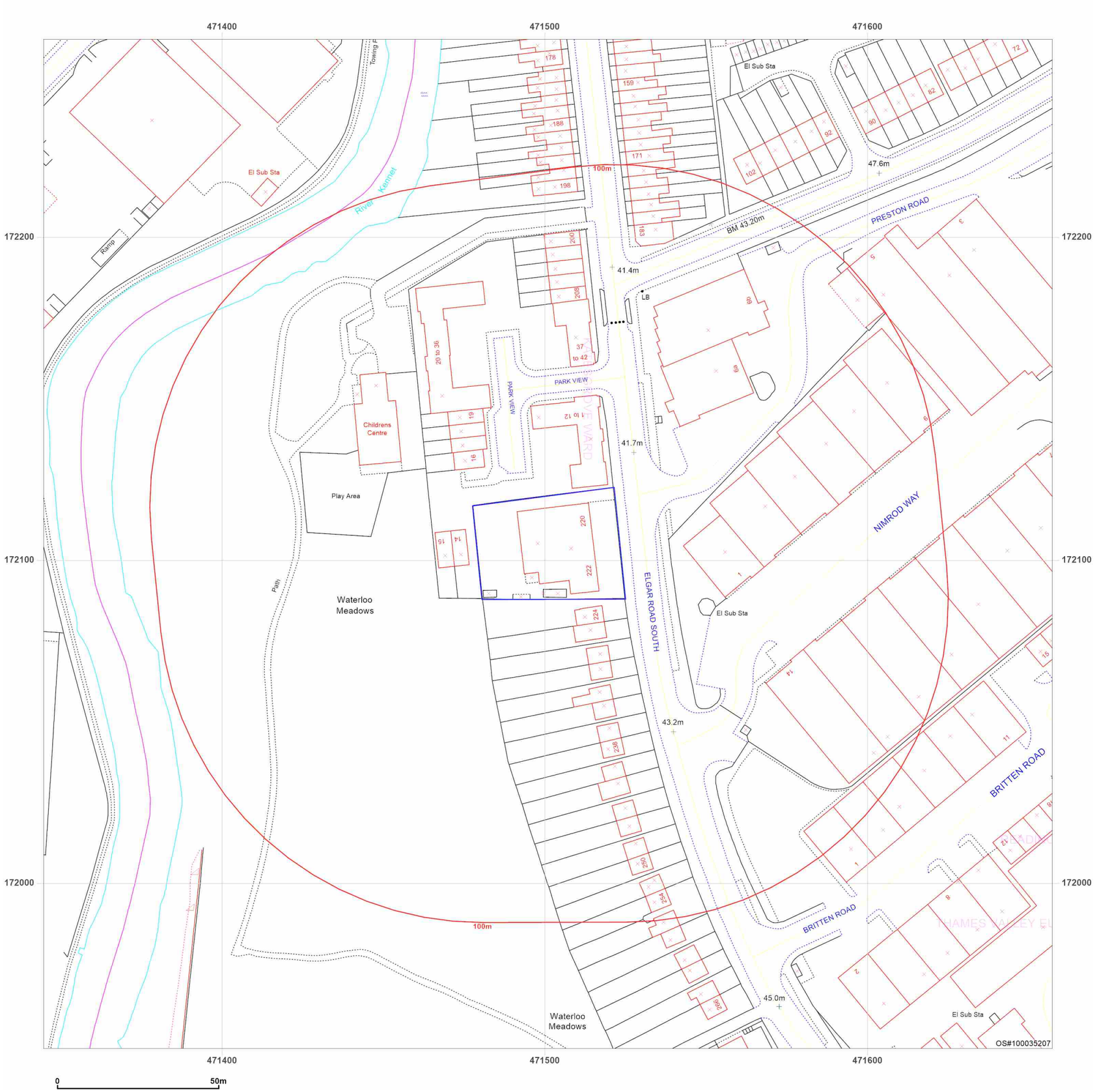

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

N
W E
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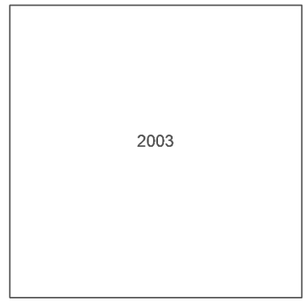

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Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1898**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1898-1900**

Scale: 1:10,560

Printed at: 1:10,560

N
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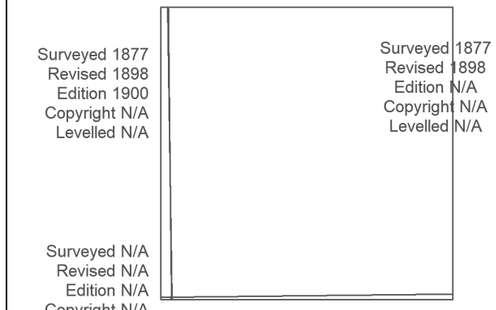

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Groundsure INSIGHTS

Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1898-1900**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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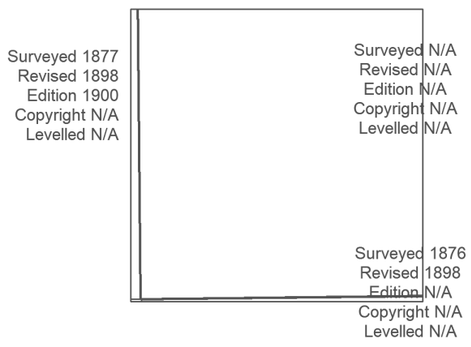

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

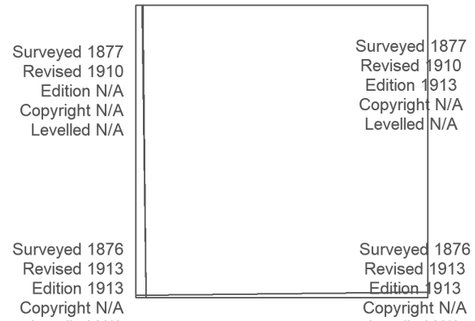
Map Name: County Series

Map date: **1910-1913**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



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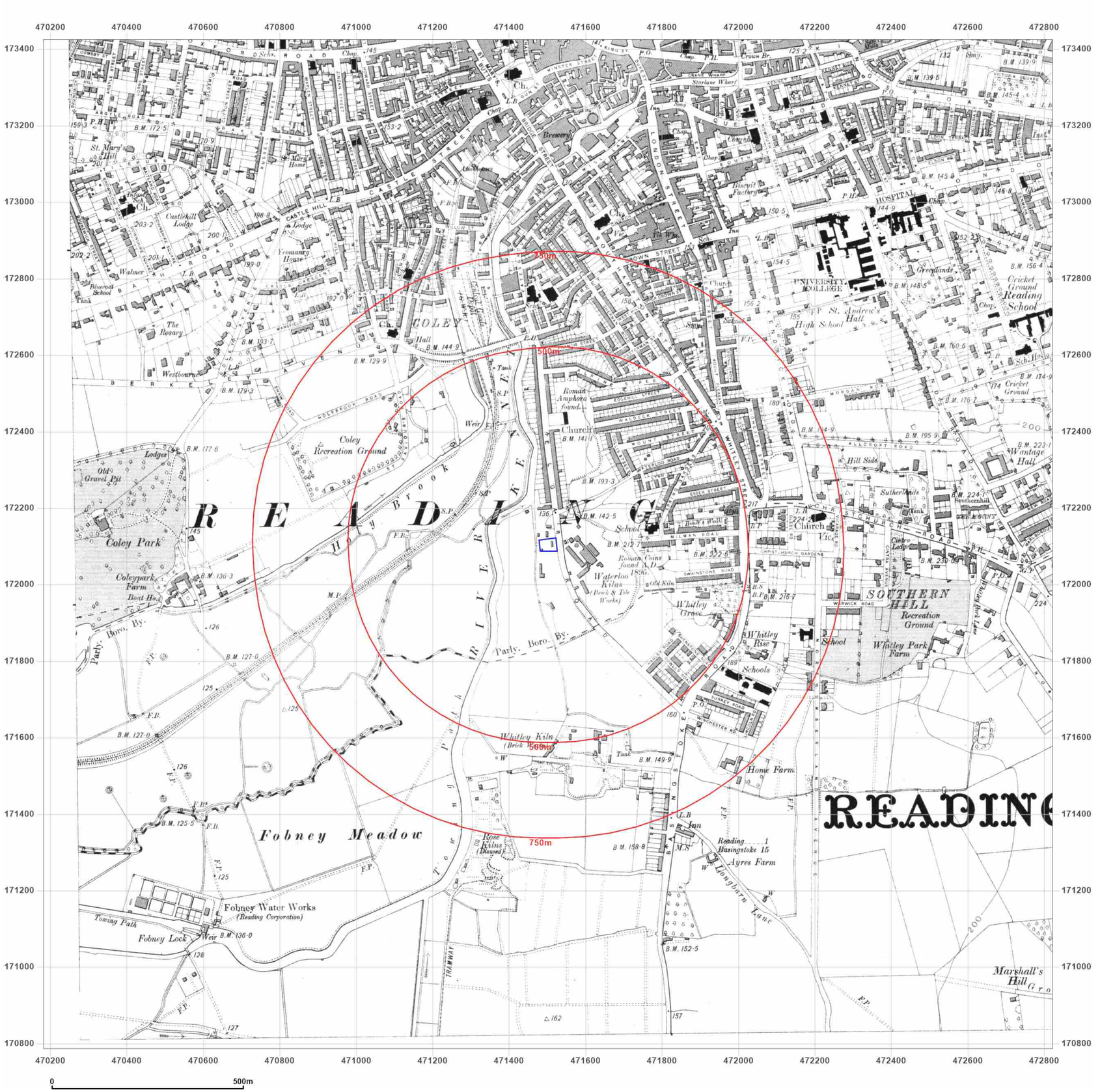

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Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1914**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed N/A
Revised 1914
Edition 1913
Copyright N/A
Levelled N/A

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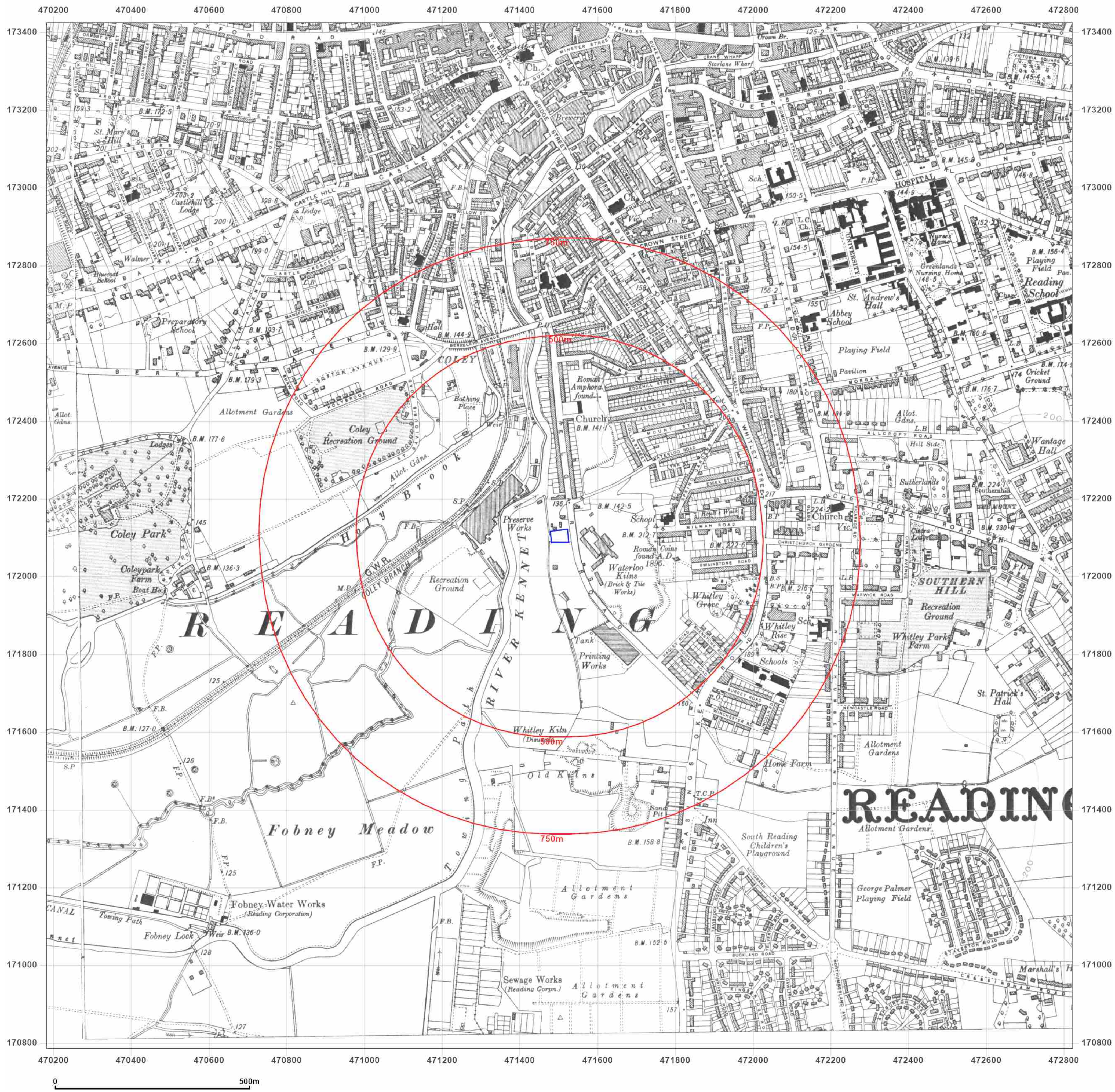

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1932-1933**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1877
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1877
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

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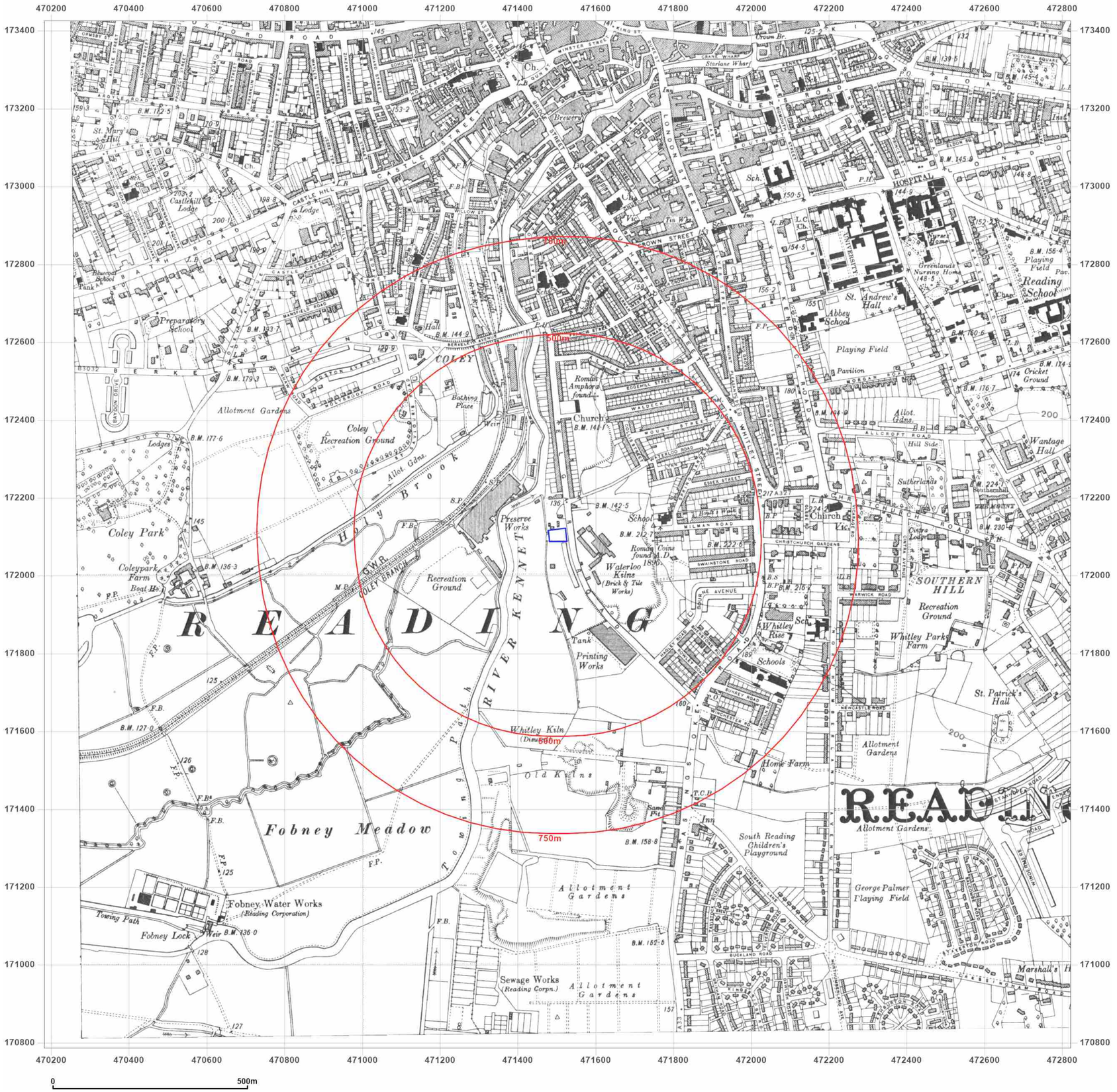

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1877
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

Surveyed 1876
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

Site Details:

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READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: Provisional

Map date: **1962**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1959
Revised 1961
Edition N/A
Copyright 1962
Levelled N/A

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Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1973**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1970
Revised 1973
Edition N/A
Copyright 1973
Levelled N/A

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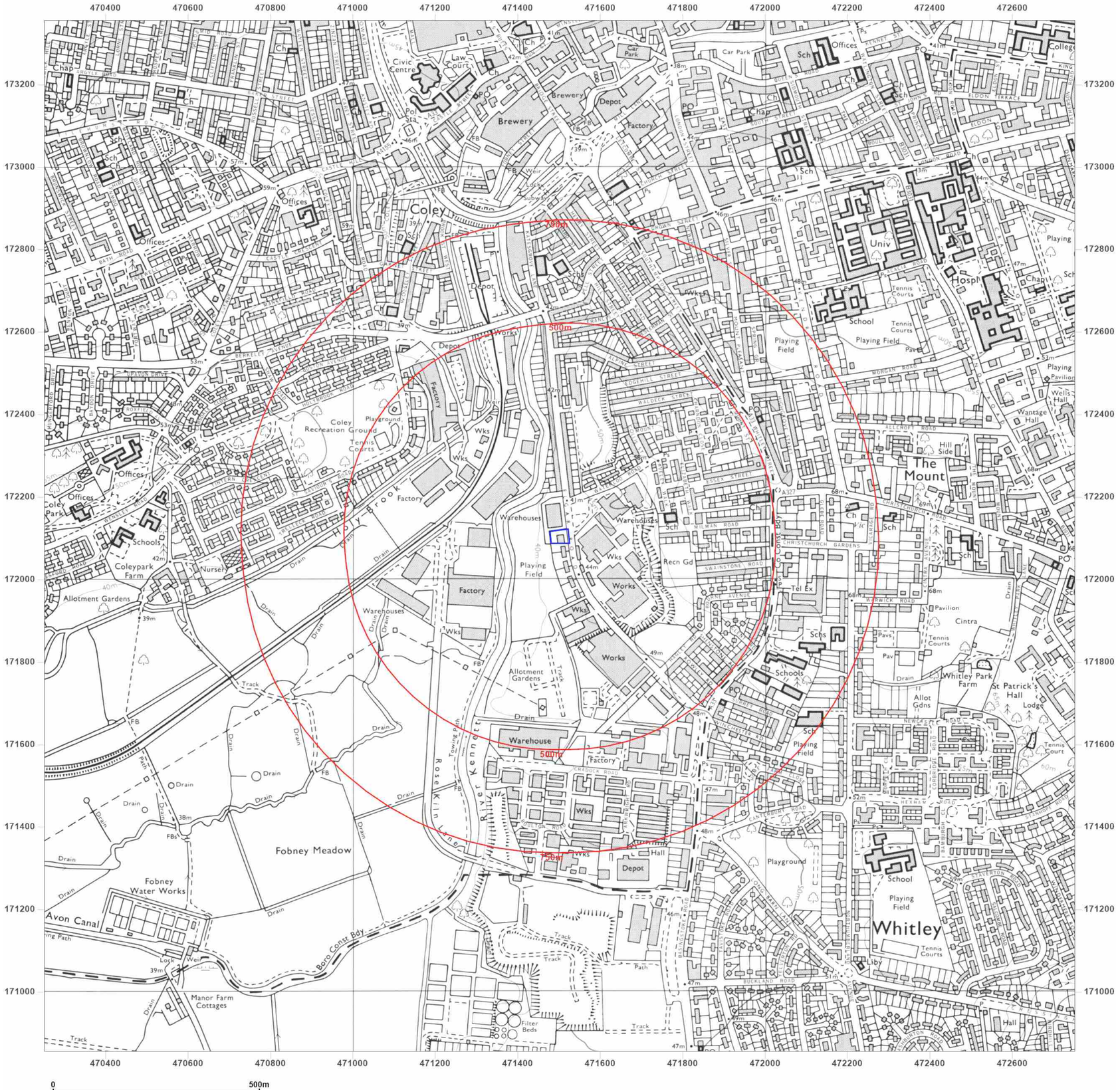

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1979**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1977
Revised 1979
Edition N/A
Copyright 1979
Levelled 1969

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Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1989**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1987
Revised 1989
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 14 May 2025

Map legend available at:
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Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1987
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

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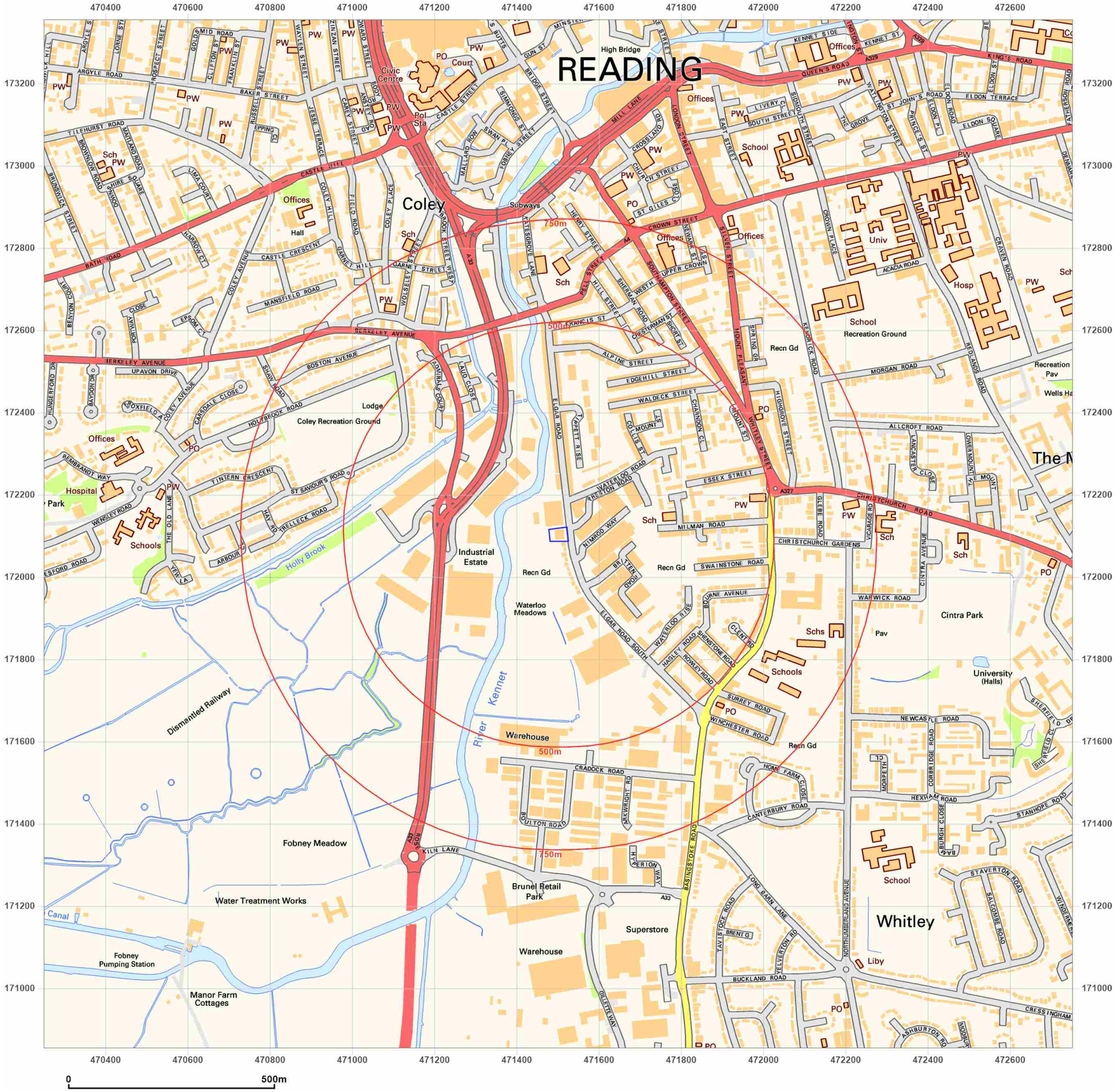

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid
Map date: **2001**
Scale: 1:10,000
Printed at: 1:10,000

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2001

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Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

N W E S

2010

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

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Production date: 14 May 2025

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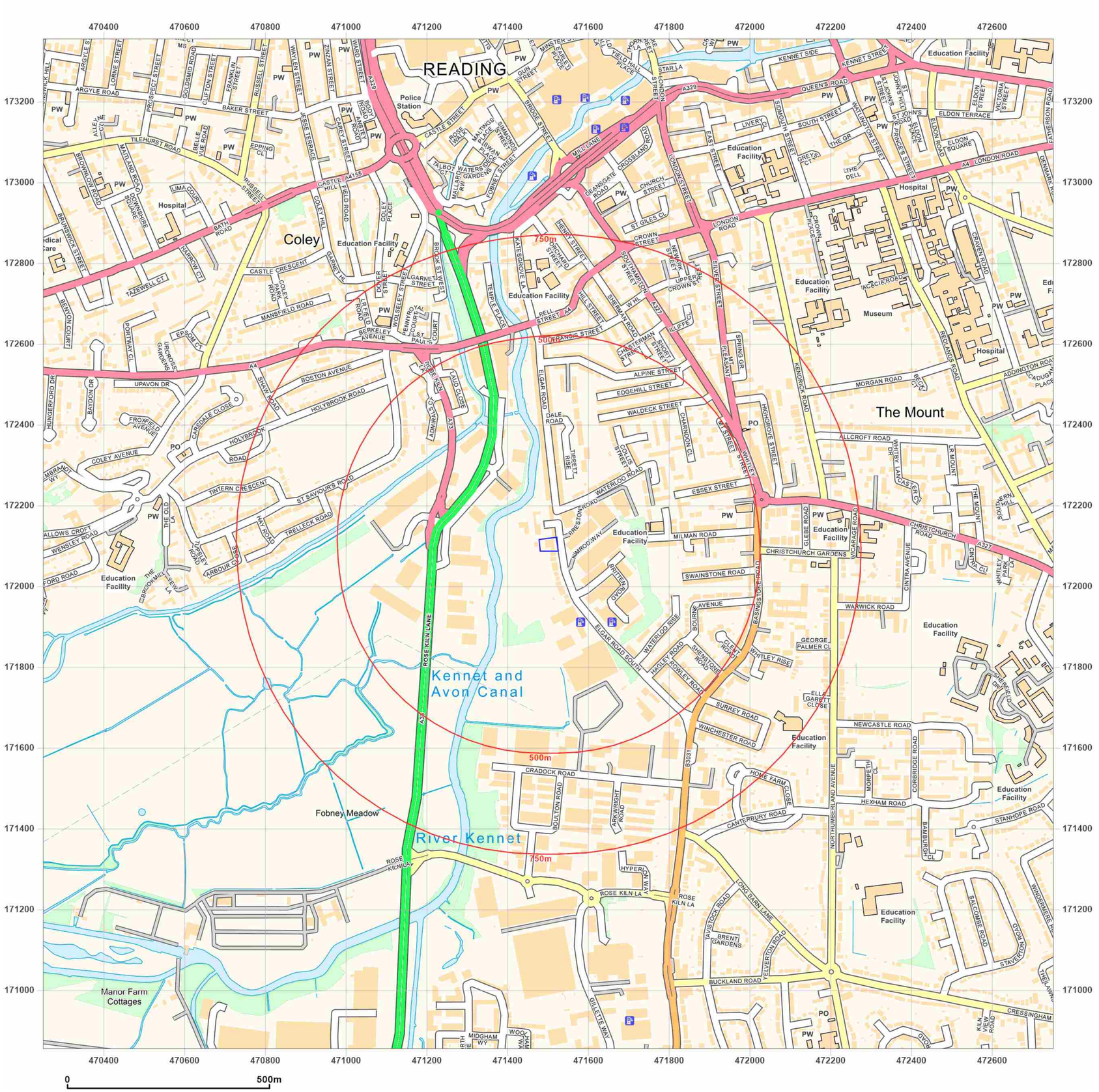

Groundsure INSIGHTS

Site Details:

220, ELGAR ROAD SOUTH,
READING, RG2 0BW

Client Ref: GWPR6540
Report Ref: GS-OQA-S8W-8F8-FEK
Grid Ref: 471501, 172105

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

Printed at: 1:10,000

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2025

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Production date: 14 May 2025

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

APPENDIX F: Chemical Laboratory Testing

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	29 May 2025
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	250517-53
Your Reference:	GWPR6540
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	766145
Order Number:	GWPR6540

We received 2 samples on Saturday May 17, 2025 and 2 of these samples were scheduled for analysis which was completed on Thursday May 29, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31527954	BH1		0.00 - 0.00	16/05/2025
31527971	BH2		0.00 - 0.00	16/05/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	31527954	31527971
			Customer Sample Reference	BH1	BH2
			AGS Reference		
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X						X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2					X							X	
Dissolved Metals by ICP-MS	All	NDPs: 2 Tests: 0				N						N			
EPH and CWG by FID	All	NDPs: 0 Tests: 2	X							X					
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2						X							X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2		X						X					
Mercury Dissolved	All	NDPs: 2 Tests: 0				N						N			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	X						X						
pH Value	All	NDPs: 0 Tests: 2		X						X					
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2			X						X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2		X					X						
TPH CWG (W)	All	NDPs: 0 Tests: 2	X						X						
VOC MS (W)	All	NDPs: 0 Tests: 2						X							X

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	16/05/2025	16/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	17/05/2025	17/05/2025				
			SDG Ref	250517-53	250517-53				
			Lab Sample No.(s)	31527954	31527971				
			AGS Reference						
Sulphate	<2000 µg/l	TM184		66400 #	37600 #				
Cyanide, Total	<50 µg/l	TM227		<50 #	<50 #				
Chromium, Hexavalent	<30 µg/l	TM241		<30 #	<30 #				
pH	<1 pH Units	TM256		7.36 #	7.64 #				
Phenol	<2 µg/l	TM259		<2 #	<2 #				
Cresols	<6 µg/l	TM259		<6 #	<6 #				
Xylenols	<8 µg/l	TM259		<8 #	<8 #				
Phenols, Total Detected monohydric	<16 µg/l	TM259		<16 #	<16 #				

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	16/05/2025	16/05/2025
Sampled Time	00:00	00:00
Date Received	17/05/2025	17/05/2025
SDG Ref	250517-53	250517-53
Lab Sample No.(s)	31527954	31527971
AGS Reference		

Component	LOD/Units	Method		
Naphthalene (aq)	<0.01 µg/l	TM178	<0.1 #	<0.1 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.05 #	<0.05 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.05 #	0.151 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.05 #	2.59 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.05 #	0.183 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.05 #	0.896 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.05 #	0.0674 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.05 #	1.65 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.05 #	2.53 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.05 #	1.11 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.05 #	2.66 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.05 #	1.04 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.02 #	1.56 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.05 #	0.231 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.05 #	1.64 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.05 #	1.13 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.82 #	17.4 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	16/05/2025	16/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	17/05/2025	17/05/2025				
			SDG Ref	250517-53	250517-53				
			Lab Sample No.(s)	31527954	31527971				
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Chlorophenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Methylphenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Nitroaniline (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
2-Nitrophenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
3-Nitroaniline (aq)	<1 µg/l	TM176		<10	<100				
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
4-Chloroaniline (aq)	<1 µg/l	TM176		<10	<100				
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
4-Methylphenol (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
4-Nitroaniline (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
4-Nitrophenol (aq)	<1 µg/l	TM176		<10	<100				
Azobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Acenaphthylene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Acenaphthene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Anthracene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<20 ♦ #	<200 #				
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	16/05/2025	16/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	17/05/2025	17/05/2025				
			SDG Ref	250517-53	250517-53				
			Lab Sample No.(s)	31527954	31527971				
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Carbazole (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Chrysene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Dibenzofuran (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Diethyl phthalate (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Dimethyl phthalate (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<50 ♦ #	<500 #				
Fluoranthene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Fluorene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Pentachlorophenol (aq)	<1 µg/l	TM176		<10	<100				
Phenol (aq)	<1 µg/l	TM176		<10	<100				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Hexachloroethane (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Nitrobenzene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Naphthalene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Isophorone (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<10	<100				
Phenanthrene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				
Pyrene (aq)	<1 µg/l	TM176		<10 ♦ #	<100 #				

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	16/05/2025	16/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	17/05/2025	17/05/2025				
			SDG Ref	250517-53	250517-53				
			Lab Sample No.(s)	31527954	31527971				
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		93	86				
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245		<50 #	<50 #				
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439		<10	<500				
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439		<10	<500				
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439		<10	<500				
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439		<10	<500				
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245		<10	<10				
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245		<10	<10				
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10				
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10				
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439		<10	<500				
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439		<10	<500				
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439		<10	<500				
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439		<10	<500				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439		<10	<10				

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	16/05/2025	16/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	17/05/2025	17/05/2025				
			SDG Ref	250517-53	250517-53				
			Lab Sample No.(s)	31527954	31527971				
			AGS Reference						
Dibromofluoromethane**	%	TM208		106	103				
Toluene-d8**	%	TM208		98.9	95.8				
4-Bromofluorobenzene**	%	TM208		98.9	84.5				
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1				
Chloromethane	<1 µg/l	TM208		<1 #	<1 #				
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #				
Bromomethane	<1 µg/l	TM208		<1 #	<1 #				
Chloroethane	<1 µg/l	TM208		<1 #	<1 #				
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #				
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #				
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #				
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #				
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #				
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #				
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #				
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #				
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1				
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #				
Chloroform	<1 µg/l	TM208		<1 #	9.67 #				
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #				
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #				
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #				
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #				
Benzene	<1 µg/l	TM208		<1 #	<1 #				
Trichloroethene	<1 µg/l	TM208		2.38 #	2.01 #				
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #				
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #				
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #				
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #				
Toluene	<1 µg/l	TM208		<1 #	<1 #				
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #				
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #				

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2				
Depth (m)	0.00 - 0.00	0.00 - 0.00				
Sample Type	Ground Water (GW)	Ground Water (GW)				
Date Sampled	16/05/2025	16/05/2025				
Sampled Time	00:00	00:00				
Date Received	17/05/2025	17/05/2025				
SDG Ref	250517-53	250517-53				
Lab Sample No.(s)	31527954	31527971				
AGS Reference						

Component	LOD/Units	Method						
1,3-Dichloropropane	<1 µg/l	TM208	<1	#	<1	#		
Tetrachloroethene	<1 µg/l	TM208	15.3	#	61.8	#		
Dibromochloromethane	<1 µg/l	TM208	<1	#	<1	#		
1,2-Dibromoethane	<1 µg/l	TM208	<1	#	<1	#		
Chlorobenzene	<1 µg/l	TM208	<1	#	<1	#		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#		
Ethylbenzene	<1 µg/l	TM208	<1	#	<1	#		
m,p-Xylene	<1 µg/l	TM208	<1	#	<1	#		
o-Xylene	<1 µg/l	TM208	<1	#	<1	#		
Styrene	<1 µg/l	TM208	<1	#	<1	#		
Bromoform	<1 µg/l	TM208	<2	#	<1	#		
Isopropylbenzene	<1 µg/l	TM208	<1	#	<1	#		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	#	<1	#		
Bromobenzene	<1 µg/l	TM208	<1	#	<1	#		
Propylbenzene	<1 µg/l	TM208	<1	#	<1	#		
2-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#		
4-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#		
tert-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#		
sec-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#		
4-iso-Propyltoluene	<1 µg/l	TM208	<1	#	<1	#		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#		
n-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1		<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	#	<1	#		
Hexachlorobutadiene	<1 µg/l	TM208	<1	#	<1	#		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	#	<1	#		
Naphthalene	<1 µg/l	TM208	<1	#	<1	#		

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦5@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	16/05/2025	16/05/2025
Sampled Time	00:00	00:00
Date Received	17/05/2025	17/05/2025
SDG Ref	250517-53	250517-53
Lab Sample No.(s)	31527954	31527971
AGS Reference		

Component	LOD/Units	Method		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5

CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Notification of NDPs (No determination possible)

Date Received : 17/05/2025 08:13:22

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
31527954	BH1	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered analy
31527954	BH1	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered analy
31527971	BH2	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered analy
31527971	BH2	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered analy

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

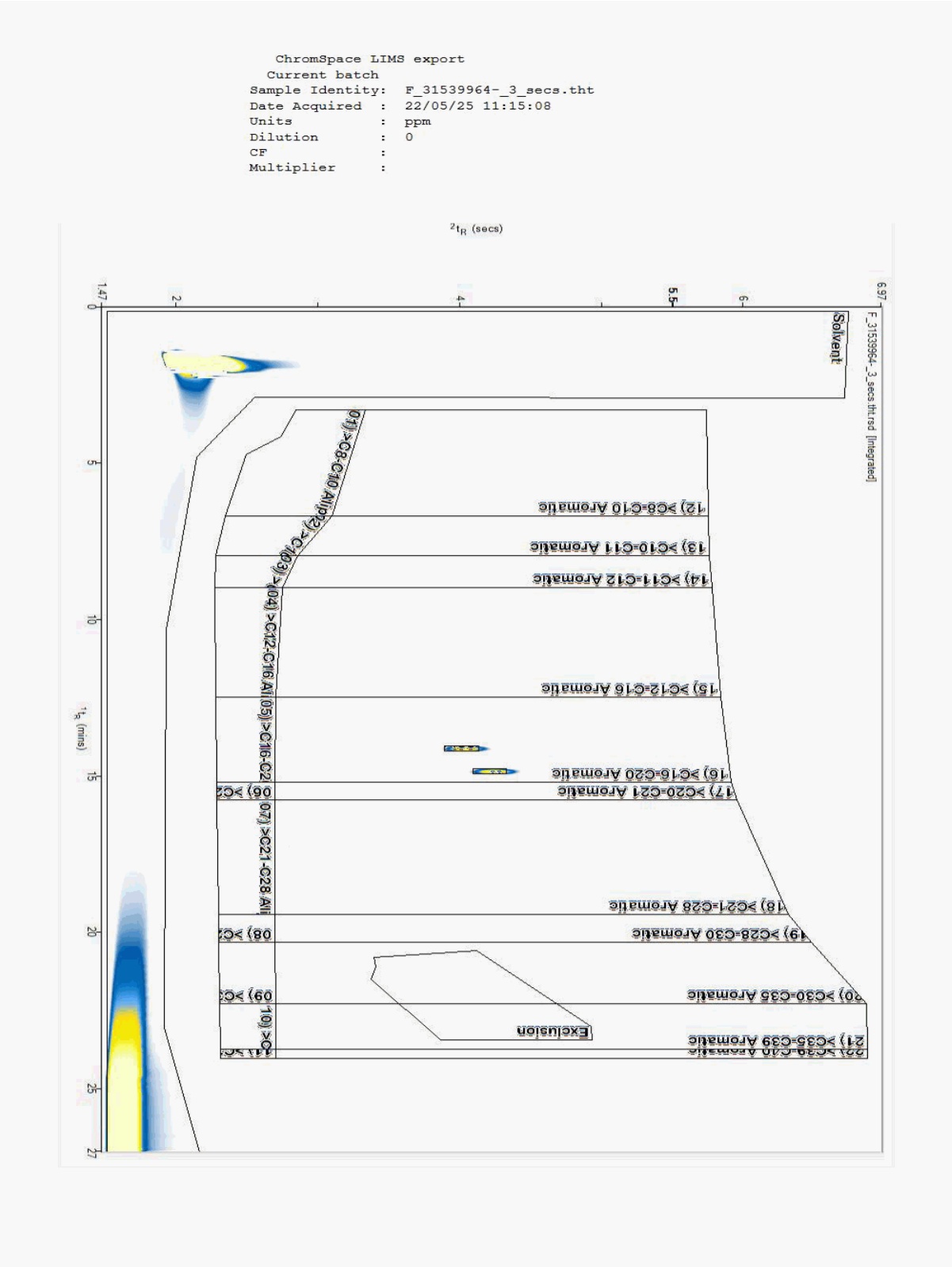
SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Test Completion Dates

Lab Sample No(s)	31527954	31527971
Customer Sample Ref.	BH1	BH2
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water
Anions by Kone (w)	21-May-2025	21-May-2025
Cyanide Comp/Free/Total/Thiocyanate	27-May-2025	27-May-2025
EPH and CWG by FID	23-May-2025	29-May-2025
GRO by GC-FID (W)	27-May-2025	27-May-2025
Hexavalent Chromium (w)	20-May-2025	20-May-2025
PAH Spec MS - Aqueous (W)	22-May-2025	22-May-2025
pH Value	23-May-2025	23-May-2025
Phenols by HPLC (W)	22-May-2025	22-May-2025
SVOC MS (W) - Aqueous	28-May-2025	22-May-2025
TPH CWG (W)	27-May-2025	29-May-2025
VOC MS (W)	27-May-2025	27-May-2025

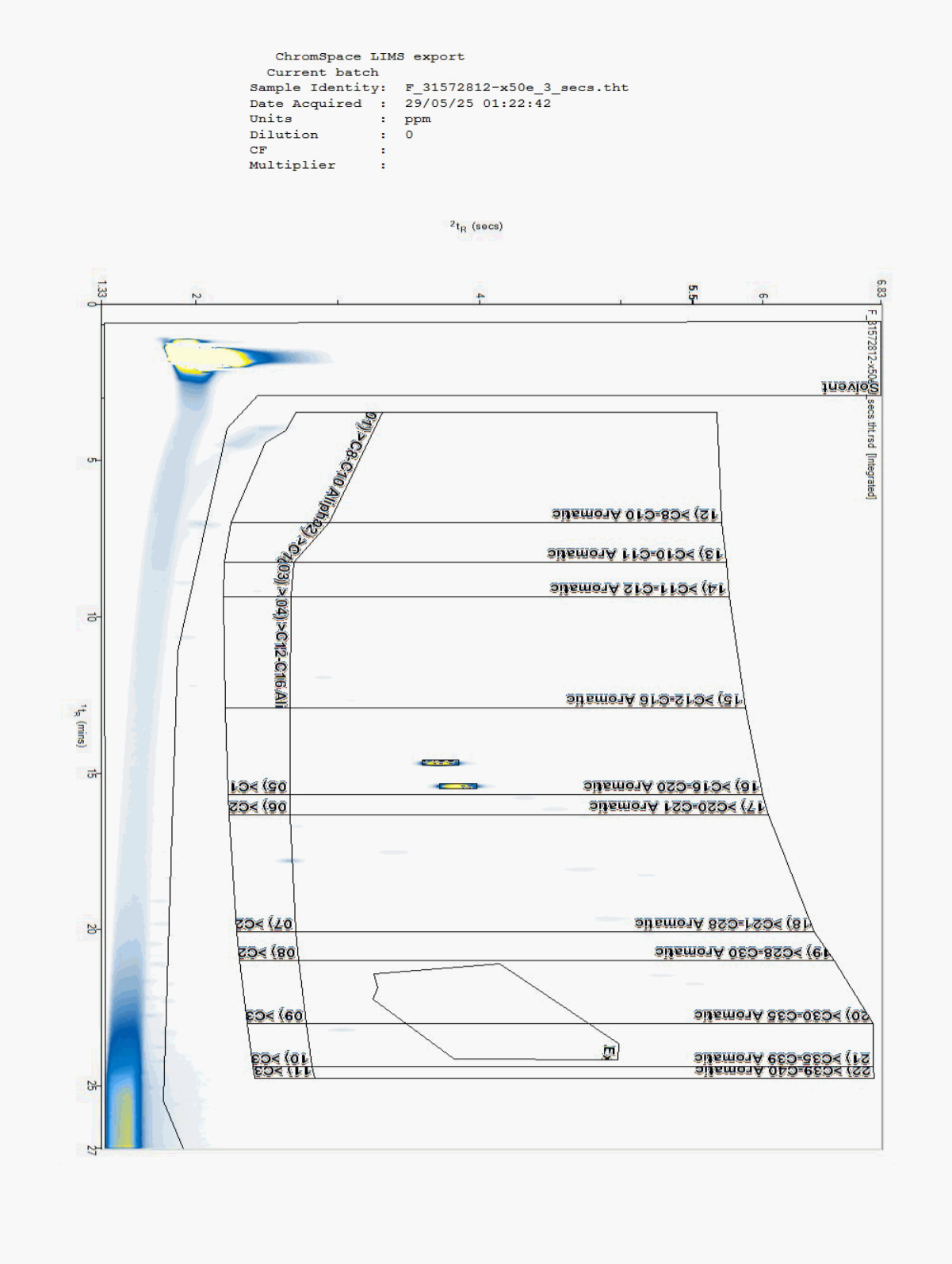
Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 31539964 **Depth :** 0.00 - 0.00
Sample ID : BH1



Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 31572812 **Depth :** 0.00 - 0.00
Sample ID : BH2

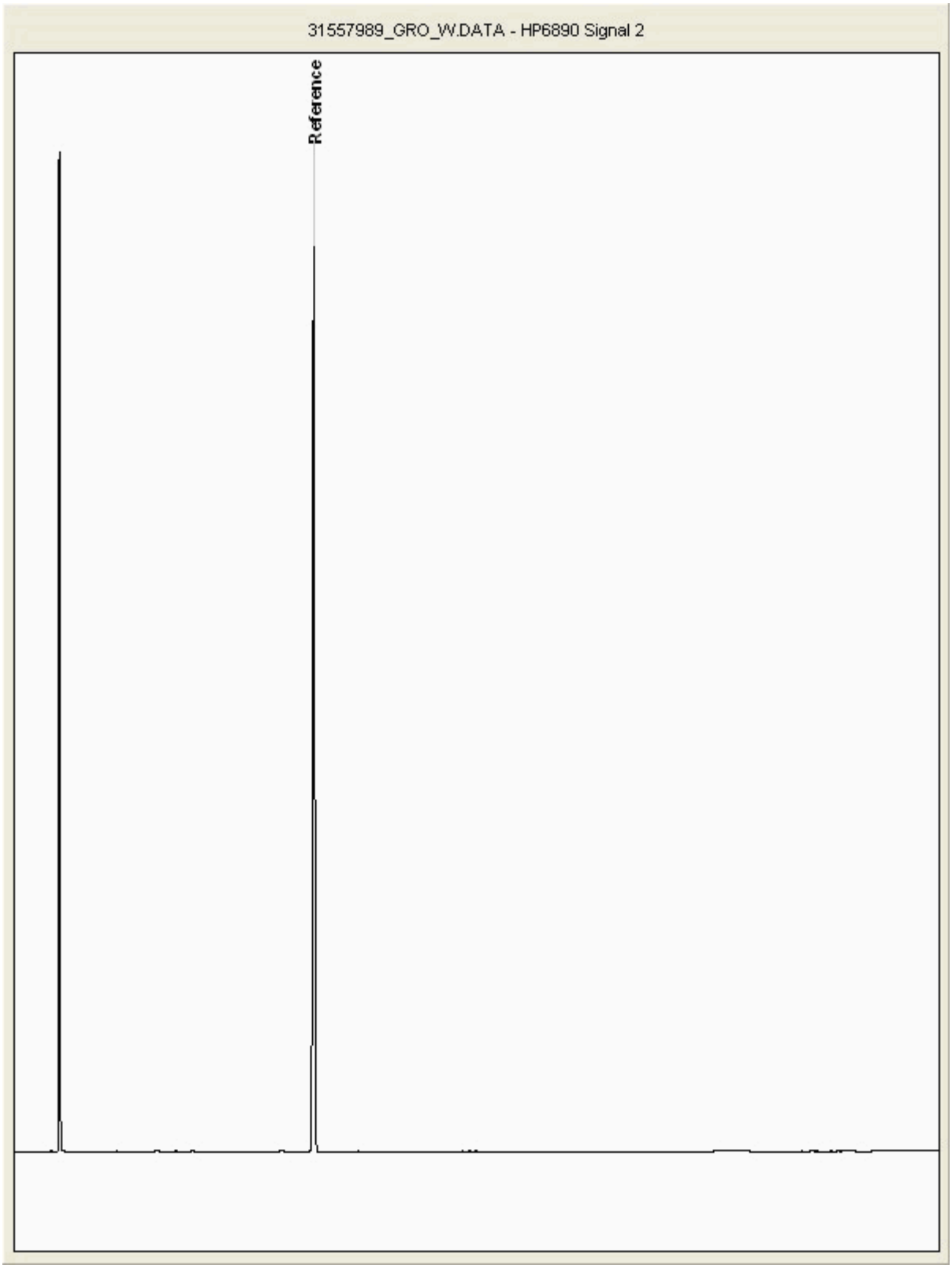


CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 31557989 **Depth :** 0.00 - 0.00
Sample ID : BH1

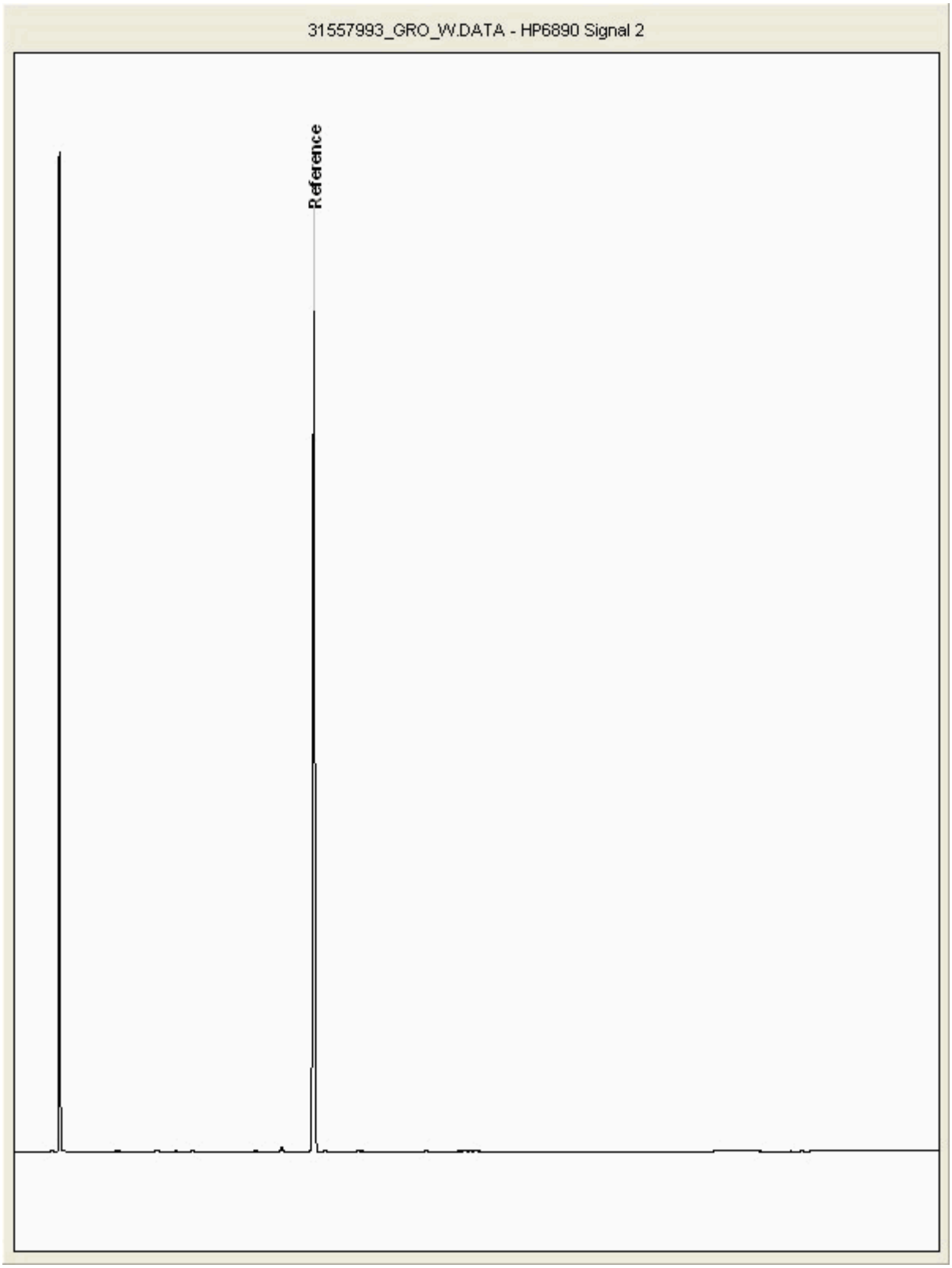


CERTIFICATE OF ANALYSIS

SDG: 250517-53 **Report Number:** 766145 **Superseded Report:**
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 31557993 **Depth :** 0.00 - 0.00
Sample ID : BH2



Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests.
We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 June 2025
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	250523-66
Your Reference:	GWPR6540
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	766678
Order Number:	GWPR6540

This report has been revised and directly supersedes 766474 in its entirety.

We received 2 samples on Friday May 23, 2025 and 2 of these samples were scheduled for analysis which was completed on Tuesday June 03, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31560773	BH1		0.00 - 0.00	22/05/2025
31560786	BH2		0.00 - 0.00	22/05/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)							31560773						31560786
Customer Sample Reference							BH1						BH2
AGS Reference													
Depth (m)							0.00 - 0.00						0.00 - 0.00
Container							0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Sample Type							GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 2						X					X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2								X					X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2						X					X			
EPH and CWG by FID	All	NDPs: 0 Tests: 2	X									X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2									X					X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2						X					X			
Mercury Dissolved	All	NDPs: 0 Tests: 2						X					X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	X									X				
pH Value	All	NDPs: 0 Tests: 2						X					X			
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2							X					X		
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2	X									X				
TPH CWG (W)	All	NDPs: 0 Tests: 2	X									X				
VOC MS (W)	All	NDPs: 0 Tests: 2									X					X

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)
			Date Sampled	22/05/2025	22/05/2025
			Sampled Time	00:00	00:00
			Date Received	23/05/2025	23/05/2025
			SDG Ref	250523-66	250523-66
			Lab Sample No.(s)	31560773	31560786
			AGS Reference		
Arsenic (diss.filt)	<0.5 µg/l	TM152		1.36 2 #	1.33 2 #
Boron (diss.filt)	<10 µg/l	TM152		206 2 #	199 2 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 2 #	<0.08 2 #
Chromium (diss.filt)	<1 µg/l	TM152		<1 2 #	<1 2 #
Copper (diss.filt)	<0.3 µg/l	TM152		2.84 2 #	2.95 2 #
Lead (diss.filt)	<0.2 µg/l	TM152		0.245 2 #	0.232 2 #
Nickel (diss.filt)	<0.4 µg/l	TM152		6.37 2 #	6.26 2 #
Selenium (diss.filt)	<1 µg/l	TM152		2.18 2 #	2.15 2 #
Vanadium (diss.filt)	<1 µg/l	TM152		1.98 2 #	1.77 2 #
Zinc (diss.filt)	<1 µg/l	TM152		5.47 2 #	9.41 2 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 2 #	<0.01 2 #
Sulphate	<2000 µg/l	TM184		41900 #	39100 #
Cyanide, Total	<50 µg/l	TM227		<50 #	<50 #
Chromium, Hexavalent	<30 µg/l	TM241		<30 #	<30 #
pH	<1 pH Units	TM256		7.55 #	7.51 #
Phenol	<2 µg/l	TM259		<2 #	<2 #
Cresols	<6 µg/l	TM259		<6 #	<6 #
Xylenols	<8 µg/l	TM259		<8 #	<8 #
Phenols, Total Detected monohydric	<16 µg/l	TM259		<16 #	<16 #

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	22/05/2025	22/05/2025
Sampled Time	00:00	00:00
Date Received	23/05/2025	23/05/2025
SDG Ref	250523-66	250523-66
Lab Sample No.(s)	31560773	31560786
AGS Reference		

Component	LOD/Units	Method		
Naphthalene (aq)	<0.01 µg/l	TM178	<0.2 #	<0.1 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.1 #	<0.05 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.95 #	0.267 #
Fluoranthene (aq)	<0.005 µg/l	TM178	15.1 #	3.84 #
Anthracene (aq)	<0.005 µg/l	TM178	0.972 #	0.241 #
Phenanthrene (aq)	<0.005 µg/l	TM178	3.92 #	1.09 #
Fluorene (aq)	<0.005 µg/l	TM178	0.178 #	0.0568 #
Chrysene (aq)	<0.005 µg/l	TM178	9.82 #	2.86 #
Pyrene (aq)	<0.005 µg/l	TM178	14.7 #	3.68 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	8.17 #	1.95 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	20.2 #	4.67 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	7.43 #	2.18 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	15.1 #	3.68 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	2.08 #	0.405 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	14 #	3.73 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	14.5 #	2.4 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	127 #	31.1 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	22/05/2025	22/05/2025
Sampled Time	00:00	00:00
Date Received	23/05/2025	23/05/2025
SDG Ref	250523-66	250523-66
Lab Sample No.(s)	31560773	31560786
AGS Reference		

Component	LOD/Units	Method		
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #	<40 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<100 #	<40 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<100	<40
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<100 #	<40 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<100	<40
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<100 #	<40 #
4-Methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<100	<40
Azobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #
Acenaphthylene (aq)	<1 µg/l	TM176	<100 #	<40 #
Acenaphthene (aq)	<1 µg/l	TM176	<100 #	<40 #
Anthracene (aq)	<1 µg/l	TM176	<100 #	<40 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<100 #	<40 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<100 #	<40 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<200 #	<80 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<100 #	<40 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)
			Date Sampled	22/05/2025	22/05/2025
			Sampled Time	00:00	00:00
			Date Received	23/05/2025	23/05/2025
			SDG Ref	250523-66	250523-66
			Lab Sample No.(s)	31560773	31560786
			AGS Reference		
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<100 #	<40 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<100 #	<40 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<100 #	<40 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<100 #	<40 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<100 #	<40 #
Carbazole (aq)	<1 µg/l	TM176		<100 #	<40 #
Chrysene (aq)	<1 µg/l	TM176		<100 #	<40 #
Dibenzofuran (aq)	<1 µg/l	TM176		<100 #	<40 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<100 #	<40 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<100 #	<40 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<100 #	<40 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<100 #	<40 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<500 #	<200 #
Fluoranthene (aq)	<1 µg/l	TM176		<100 #	<40 #
Fluorene (aq)	<1 µg/l	TM176		<100 #	<40 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<100 #	<40 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<100 #	<40 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<100	<40
Phenol (aq)	<1 µg/l	TM176		<100	<40
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<100 #	<40 #
Hexachloroethane (aq)	<1 µg/l	TM176		<100 #	<40 #
Nitrobenzene (aq)	<1 µg/l	TM176		<100 #	<40 #
Naphthalene (aq)	<1 µg/l	TM176		<100 #	<40 #
Isophorone (aq)	<1 µg/l	TM176		<100 #	<40 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<100	<40
Phenanthrene (aq)	<1 µg/l	TM176		<100 #	<40 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<100 #	<40 #
Pyrene (aq)	<1 µg/l	TM176		<100 #	<40 #

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Ground Water (GW)	Ground Water (GW)				
			Date Sampled	22/05/2025	22/05/2025				
			Sampled Time	00:00	00:00				
			Date Received	23/05/2025	23/05/2025				
			SDG Ref	250523-66	250523-66				
			Lab Sample No.(s)	31560773	31560786				
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		91	91				
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245		<50 #	<50 #				
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245		<10	<10				
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439		<200	<100				
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439		<200	<100				
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439		<200	<100				
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439		<200	<100				
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245		<10	<10				
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245		<10	<10				
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10				
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10				
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439		<200	<100				
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439		<200	<100				
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439		265	<100				
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439		265	<100				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439		265	<10				

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)
			Date Sampled	22/05/2025	22/05/2025
			Sampled Time	00:00	00:00
			Date Received	23/05/2025	23/05/2025
			SDG Ref	250523-66	250523-66
			Lab Sample No.(s)	31560773	31560786
			AGS Reference		
Dibromofluoromethane**	%	TM208		114	112
Toluene-d8**	%	TM208		99.6	101
4-Bromofluorobenzene**	%	TM208		96.8	99.8
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #
Chloroform	<1 µg/l	TM208		5.64 #	4.95 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		1.6 #	1.57 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	22/05/2025	22/05/2025
Sampled Time	00:00	00:00
Date Received	23/05/2025	23/05/2025
SDG Ref	250523-66	250523-66
Lab Sample No.(s)	31560773	31560786
AGS Reference		

Component	LOD/Units	Method	BH1	BH2
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208	21.6 #	19.4 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦5@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2
Depth (m)	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)
Date Sampled	22/05/2025	22/05/2025
Sampled Time	00:00	00:00
Date Received	23/05/2025	23/05/2025
SDG Ref	250523-66	250523-66
Lab Sample No.(s)	31560773	31560786
AGS Reference		

Component	LOD/Units	Method	BH1	BH2
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

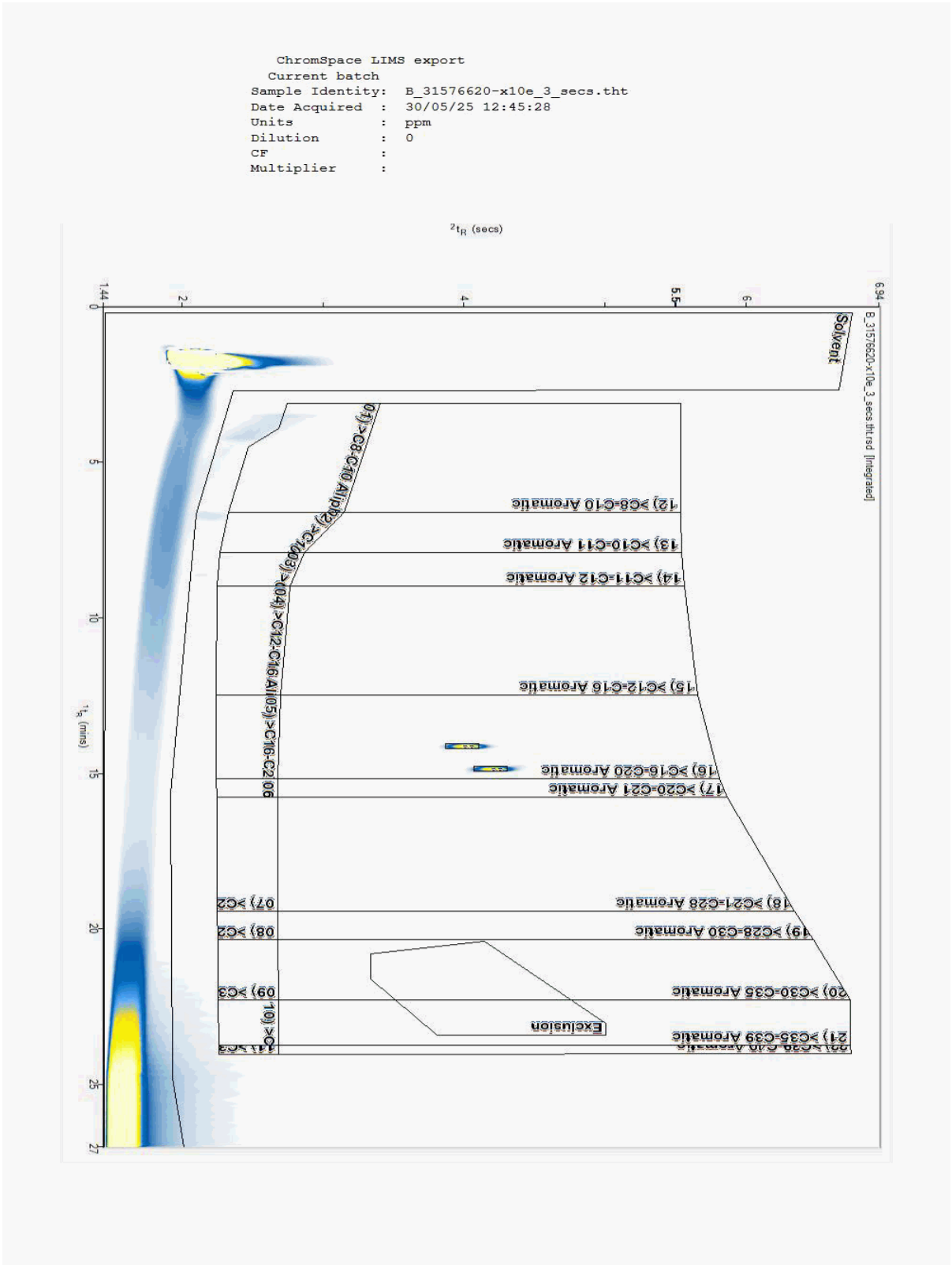
Lab Sample No(s)	31560773	31560786
Customer Sample Ref.	BH1	BH2
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water
Anions by Kone (w)	28-May-2025	28-May-2025
Cyanide Comp/Free/Total/Thiocyanate	30-May-2025	30-May-2025
Dissolved Metals by ICP-MS	03-Jun-2025	03-Jun-2025
EPH and CWG by FID	30-May-2025	30-May-2025
GRO by GC-FID (W)	02-Jun-2025	02-Jun-2025
Hexavalent Chromium (w)	30-May-2025	30-May-2025
Mercury Dissolved	02-Jun-2025	02-Jun-2025
PAH Spec MS - Aqueous (W)	02-Jun-2025	02-Jun-2025
pH Value	30-May-2025	30-May-2025
Phenols by HPLC (W)	29-May-2025	29-May-2025
SVOC MS (W) - Aqueous	30-May-2025	30-May-2025
TPH CWG (W)	02-Jun-2025	02-Jun-2025
VOC MS (W)	30-May-2025	30-May-2025

CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

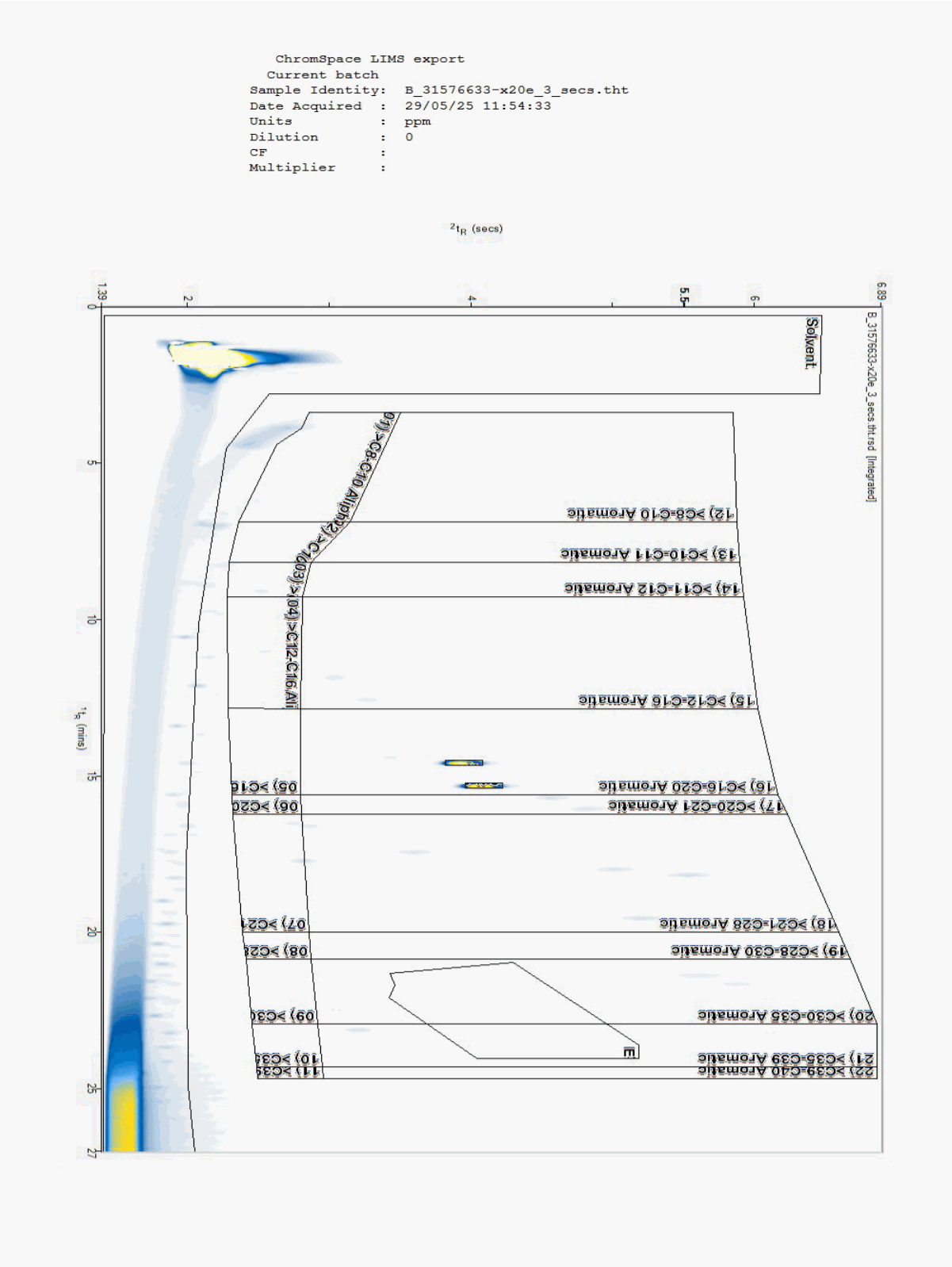
Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 31576620 **Depth :** 0.00 - 0.00
Sample ID : BH2



Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 31576633 **Depth :** 0.00 - 0.00
Sample ID : BH1

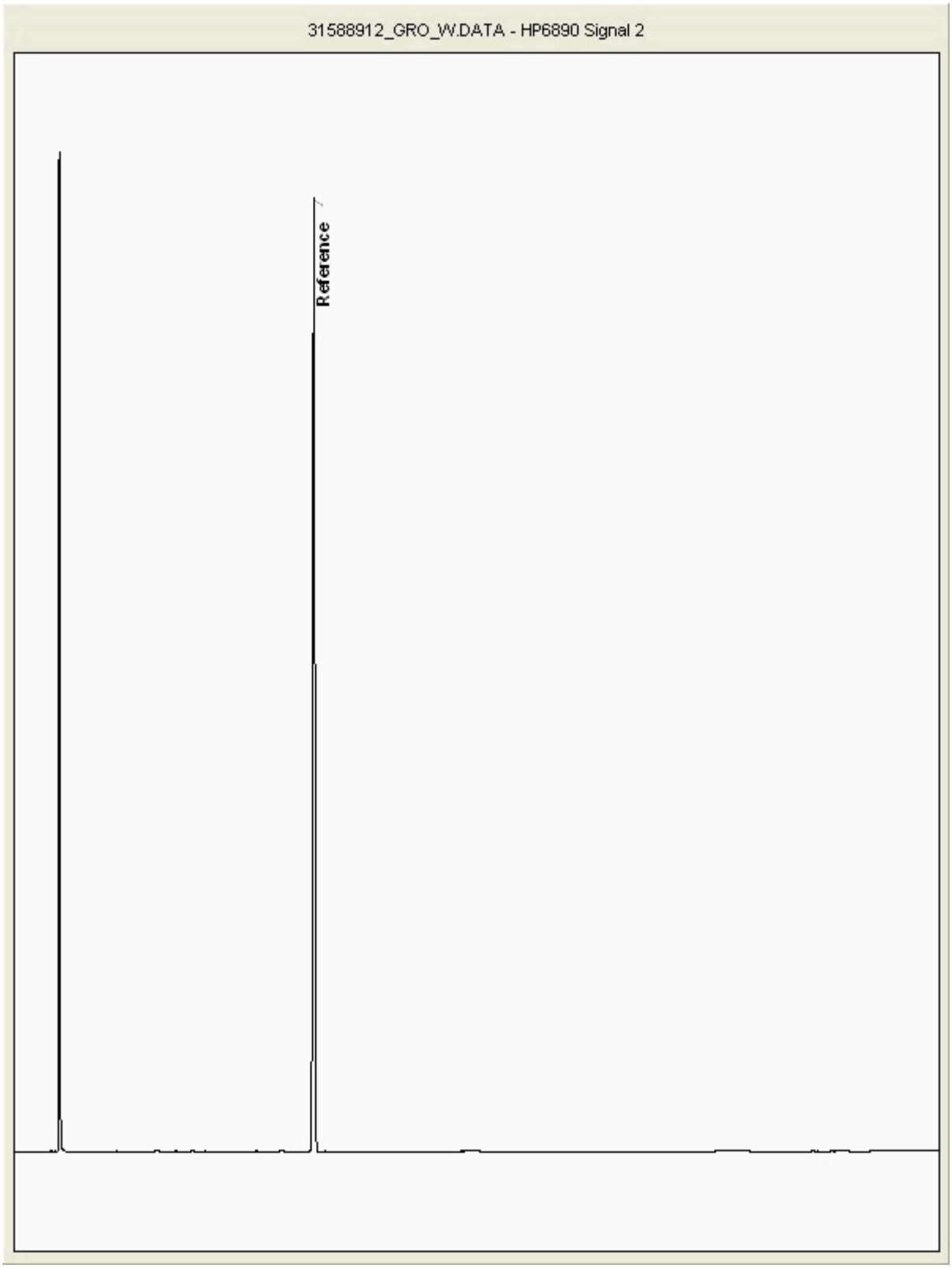


CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 31588912 **Depth :** 0.00 - 0.00
Sample ID : BH1

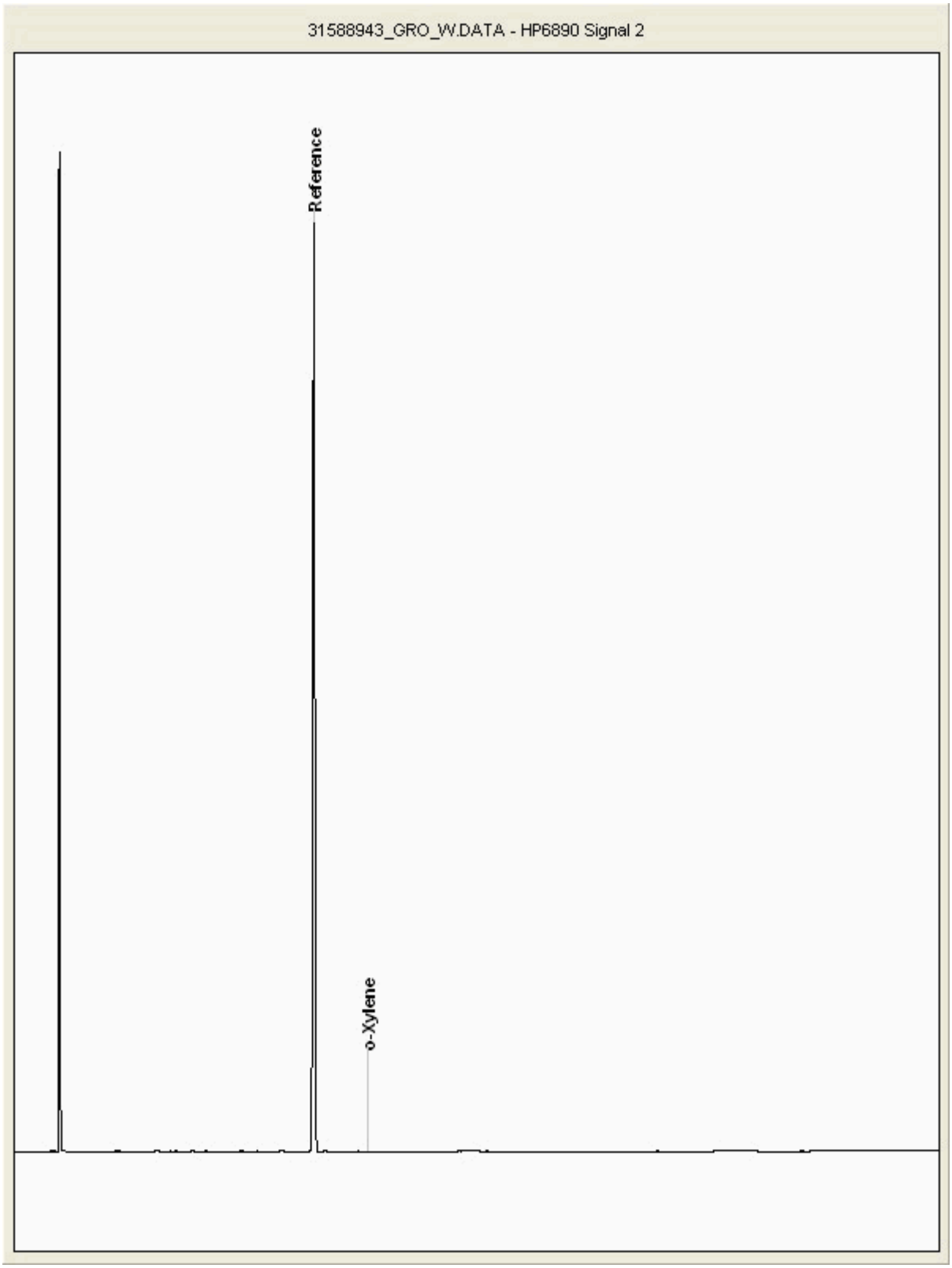


CERTIFICATE OF ANALYSIS

SDG: 250523-66 **Report Number:** 766678 **Superseded Report:** 766474
Client Ref.: GWPR6540 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 31588943 **Depth :** 0.00 - 0.00
Sample ID : BH2



Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests.
We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

General

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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Analytical Report Number : 26-001905

Project / Site name:	220 Elgar Road South, Reading, RG2 0BW	**Samples received on:**	15/01/2026
Your job number:	GWPR6817	**Samples instructed on/ Analysis started on:**	15/01/2026
Your order number:	GWPR6817	**Analysis completed by:**	28/01/2026
Report Issue Number:	1	**Report issued on:**	28/01/2026
Samples Analysed:	5 soil samples - 1 leachate sample		

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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				802094	802095	802096	802097	802098
Sample Reference				TP206	TP209	TP211	TP213	TP207
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)				0.20	0.20	0.20	0.20	0.20
Date Sampled				12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
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	43.7	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	17	11	7.9	16
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1	1	2
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	DSO	DSO	DSO	DSO	DSO
Analysis completed	N/A	N/A	N/A	21/01/2026	21/01/2026	21/01/2026	21/01/2026	21/01/2026
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.5	7.5	8.4	9.2	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	400	88	74	100	41
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	201	43.9	36.8	51.2	20.2
Organic Matter (automated)	%	0.1	MCERTS	0.8	< 0.1	0.2	0.2	0.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	< 0.1	0.1	0.1	0.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.16	< 0.05	< 0.05	0.06	< 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	0.78	< 0.05	0.1	0.23	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.07	0.07	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	4	< 0.05	0.43	0.86	< 0.05
Pyrene	mg/kg	0.05	MCERTS	3.8	< 0.05	0.43	0.86	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.2	< 0.05	0.23	0.5	< 0.05
Chrysene	mg/kg	0.05	MCERTS	2.4	< 0.05	0.29	0.55	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3	< 0.05	0.29	0.66	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.3	< 0.05	0.13	0.31	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.6	< 0.05	0.23	0.54	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.14	0.32	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.11	0.29	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	23.5	< 0.80	2.45	5.32	< 0.80

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Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				802094	802095	802096	802097	802098
Sample Reference				TP206	TP209	TP211	TP213	TP207
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)				0.20	0.20	0.20	0.20	0.20
Date Sampled				12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.9	5.7	2.9	2.6	19
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.4	0.2	0.3	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
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	12	8.5	5.9	5	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	6.7	8.1	6.5	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	7	7.9	8.7	11
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	20	17	7.3	6.1	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	17	11	8.7	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	26	20	18	51
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
VOCs								
Chloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0

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Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				802094	802095	802096	802097	802098
Sample Reference				TP206	TP209	TP211	TP213	TP207
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)				0.20	0.20	0.20	0.20	0.20
Date Sampled				12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroform	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	< 10
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	< 10
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	-	-	-	-	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromoform	µg/kg	5	MCERTS	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0

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Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				802094	802095	802096	802097	802098
Sample Reference				TP206	TP209	TP211	TP213	TP207
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)				0.20	0.20	0.20	0.20	0.20
Date Sampled				12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3

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

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Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				802099
Sample Reference				TP212
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20
Date Sampled				12/01/2026
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
General Inorganics				
pH (automated)	pH Units	N/A	ISO 17025	7.5
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO_4	µg/l	45	ISO 17025	1930
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	2.8
Biochemical Oxygen Demand	mg/l	1	ISO 17025	4.5
Total Phenols				
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
Speciated PAHs				
Naphthalene	µg/l	0.01	NONE	0.24
Acenaphthylene	µg/l	0.01	NONE	0.02
Acenaphthene	µg/l	0.01	NONE	0.05
Fluorene	µg/l	0.01	NONE	0.03
Phenanthrene	µg/l	0.01	NONE	0.05
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	NONE	0.39
Heavy Metals / Metalloids				
Arsenic (dissolved)	µg/l	1	ISO 17025	2.5
Boron (dissolved)	µg/l	10	ISO 17025	50
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.17
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.9
Copper (dissolved)	µg/l	0.7	ISO 17025	5
Lead (dissolved)	µg/l	1	ISO 17025	1.5
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	11
Zinc (dissolved)	µg/l	0.4	ISO 17025	12

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Analytical Report Number: 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				802099
Sample Reference				TP212
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20
Date Sampled				12/01/2026
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Petroleum Hydrocarbons				
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC40 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC40 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC8 - EC10 $_{EH\_1D\_AR\_MS}$	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC40 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC40 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10
TPH Total >EC5 - EC40 $_{EH+HS\_1D\_TOTAL\_MS}$	µg/l	10	NONE	< 10
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0
Benzene	µg/l	1	NONE	< 1.0
Toluene	µg/l	1	NONE	< 1.0
Ethylbenzene	µg/l	1	NONE	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0
o-xylene	µg/l	1	NONE	< 1.0

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

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Analytical Report Number : 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

* 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 *
802094	TP206	None Supplied	0.2	Brown clay and sand with gravel and stones
802095	TP209	None Supplied	0.2	Brown sand
802096	TP211	None Supplied	0.2	Brown sand
802097	TP213	None Supplied	0.2	Brown sand
802098	TP207	None Supplied	0.2	Brown clay and sand

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Analytical Report Number : 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
Organic matter (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
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 (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	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
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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	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
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
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

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Analytical Report Number : 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Biochemical Oxygen Demand of leachate	Determination of biochemical oxygen demand in leachate (5 days)	In-house method based on standard method 5210B	L086B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in leachate	Determination of total petroleum hydrocarbons in leachate by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	NONE
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate (Summed Bands)	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L070B/L088-PL	W	NONE

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Analytical Report Number : 26-001905
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	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.

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

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Analytical Report Number : 26-005368

Project / Site name:	220 Elgar Road South, Reading, RG2 0BW	**Samples received on:**	29/01/2026
Your job number:	GWPR6817	**Samples instructed on/ Analysis started on:**	03/02/2026
Your order number:	GWPR6817	**Analysis completed by:**	16/02/2026
Report Issue Number:	1	**Report issued on:**	16/02/2026
Samples Analysed:	1 soil sample - 3 leachate samples		

Signed:

Adan Cazas Garcia
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

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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.

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Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				820084
Sample Reference				TP201
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20-0.40
Date Sampled				19/01/2026
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	
Stone Content	%	0.1	NONE	75.2
Moisture Content	%	0.01	NONE	11
Total mass of sample received	kg	0.1	NONE	2
Whole Sample Crushed	N/A	N/A	NONE	Crushed

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	OGR
Analysis completed	N/A	N/A	N/A	13/02/2026

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	190
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	96.6
Organic Matter (automated)	%	0.1	MCERTS	2.1
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.18
Acenaphthylene	mg/kg	0.05	MCERTS	0.81
Acenaphthene	mg/kg	0.05	MCERTS	0.11
Fluorene	mg/kg	0.05	MCERTS	0.18
Phenanthrene	mg/kg	0.05	MCERTS	3.9
Anthracene	mg/kg	0.05	MCERTS	0.97
Fluoranthene	mg/kg	0.05	MCERTS	9.9
Pyrene	mg/kg	0.05	MCERTS	8.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.5
Chrysene	mg/kg	0.05	MCERTS	4.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	6.9
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.62
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	56.6

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				820084
Sample Reference				TP201
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20-0.40
Date Sampled				19/01/2026
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	70
Lead (aqua regia extractable)	mg/kg	1	MCERTS	65
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150
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	26
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	26
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	26
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	16
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	46
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	62
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	62
TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	88
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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			
General Inorganics						
pH (automated)	pH Units	N/A	ISO 17025	8	7.7	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO_4	µg/l	45	ISO 17025	-	-	9510
Sulphate as SO_4	mg/l	0.045	ISO 17025	9.02	3	-
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	-	-	5.7
Biochemical Oxygen Demand	mg/l	1	ISO 17025	-	-	9.4
Total Phenols						
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
Speciated PAHs						
Naphthalene	µg/l	0.01	NONE	< 0.01	0.12	0.09
Acenaphthylene	µg/l	0.01	NONE	< 0.01	0.02	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.02	0.03	0.03
Fluorene	µg/l	0.01	NONE	0.02	0.03	0.02
Phenanthrene	µg/l	0.01	NONE	0.04	0.08	0.03
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.1	0.03	0.02
Pyrene	µg/l	0.01	NONE	0.1	0.03	0.02
Benzo(a)anthracene	µg/l	0.01	NONE	0.04	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	0.04	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Total PAH						
Total EPA-16 PAHs	µg/l	0.16	NONE	0.35	0.34	0.21
Heavy Metals / Metalloids						
Arsenic (dissolved)	µg/l	1	ISO 17025	1.7	4.8	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	44	48	65
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	18	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	22	3.5	2.3
Copper (dissolved)	µg/l	0.7	ISO 17025	5.4	13	11
Lead (dissolved)	µg/l	1	ISO 17025	10	9.6	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.4	3.1	2.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	11	6.8	6.8
Zinc (dissolved)	µg/l	0.4	ISO 17025	34	34	4.8

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Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Petroleum Hydrocarbons						
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC40 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC40 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{EH\_1D\_AR\_MS}$	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC40 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC40 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
TPH Total >EC5 - EC40 $_{EH+HS\_1D\_TOTAL\_MS}$	µg/l	10	NONE	< 10	< 10	< 10
VOCs						
Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	-
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	-
1,1-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Trans 1,2-dichloroethylene	µg/l	3	NONE	< 3.0	< 3.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Chloroform	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Carbontetrachloride	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	-
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	-
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	-
Bromoform	µg/l	3	NONE	< 3.0	< 3.0	-
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	-
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	-
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
ter-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,3-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
P-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	-
1,4-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Hexachlorobutadiene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	-

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			
SVOCs						
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	-
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
Diethyl phthalate	µg/l	0.05	NONE	0.29	0.42	-
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	-
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dibutyl phthalate	µg/l	0.05	NONE	0.86	0.25	-
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	-
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	-

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

* 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 *
820084	TP201	None Supplied	0.20-0.40	Brown loam and sand with gravel and stones

Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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 by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in leachate	Determination of total petroleum hydrocarbons in leachate by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	NONE
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate (Summed Bands)	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L070B/L088-PL	W	NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE
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
Whole Sample Crushed	Either: Client specific preparation instructions - sample(s) crushed whole prior to analysis OR Sample unsuitable for standard preparation and therefore crushed whole prior to analysis	In house method, applicable to dry samples only	L019B	D	NONE
Organic matter (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
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 (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	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

Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	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 in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
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
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-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 : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
Biochemical Oxygen Demand of leachate	Determination of biochemical oxygen demand in leachate (5 days)	In-house method based on standard method 5210B	L086B	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 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.

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

Sample Deviation Report

Analytical Report Number : 26-005368

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

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
TP201	N/A	S	820084	bc	Asbestos identification in Soil	A001B	b
TP201	N/A	S	820084	bc	BTEX and/or Volatile organic compounds in soil	L073B	c
TP201	N/A	S	820084	bc	Monohydric phenols in soil	L080-PL	c
TP201	N/A	S	820084	bc	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
TP201	N/A	S	820084	bc	Total cyanide in soil	L080-PL	c
TP201	N/A	S	820084	bc	Total petroleum hydrocarbons with carbon banding by GC-FID in soil	L076B	c
TP201	N/A	S	820084	bc	Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	L088-PL	c
TP201	N/A	S	820084	bc	pH in soil (automated)	L099-PL	c

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Units 7-8 Hawarden Business Park
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Hawarden
Deeside
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Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	18 February 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260206-67
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	792230
Order Number:	GWPR6817

We received 6 samples on Friday February 06, 2026 and 6 of these samples were scheduled for analysis which was completed on Wednesday February 18, 2026. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32857431	BH1		0.00 - 0.00	05/02/2026
32857440	BH2		0.00 - 0.00	05/02/2026
32857449	BH201		0.00 - 0.00	05/02/2026
32857458	BH202		0.00 - 0.00	05/02/2026
32857467	BH203 (d)		0.00 - 0.00	05/02/2026
32857422	BH203 (s)		0.00 - 0.00	05/02/2026

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	32857431	32857440	32857449	32857458
			Customer Sample Reference	BH1	BH2	BH201	BH202
			AGS Reference				
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 6			X						X						X						X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6						X						X						X				
Dissolved Metals by ICP-MS	All	NDPs: 1 Tests: 5					X						X						X					
EPH and CWG by FID	All	NDPs: 0 Tests: 6			X						X						X						X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						X							X						X			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6			X						X						X						X	
Mercury Dissolved	All	NDPs: 1 Tests: 5					X						X						X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6	X						X							X						X		
pH Value	All	NDPs: 0 Tests: 6			X						X						X						X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6				X						X						X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X						X							X						X		
TPH CWG (W)	All	NDPs: 0 Tests: 6	X						X							X						X		
VOC MS (W)	All	NDPs: 0 Tests: 6						X							X						X			

32857422	BH203 (s)		0.00 - 0.00	Vial (ALE297)	GW										X																X
				NaOH (ALE245)	GW				X																						
				HNO3 Filtered (ALE204)	GW						X								X												
				H2SO4 (ALE244)	GW																				X						
				500ml Plastic (ALE208)	GW		X						X				X						X								
				0.5l glass bottle (ALE227)	GW																X						X		X		
32857467	BH203 (d)		0.00 - 0.00	Vial (ALE297)	GW										X																X
				NaOH (ALE245)	GW				X																						
				HNO3 Filtered (ALE204)	GW						X								X												
				H2SO4 (ALE244)	GW																				X						
				500ml Plastic (ALE208)	GW		X						X				X						X								
				0.5l glass bottle (ALE227)	GW																X						X		X		
32857458	BH202		0.00 - 0.00	Vial (ALE297)	GW										X																X
				NaOH (ALE245)	GW				X																						
				HNO3 Filtered (ALE204)	GW					N								N													

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
Arsenic (diss.filt)	<0.5 µg/l	TM152		0.961 #	4.52 2 #	8.58 2 #		20.6 #	6.86 #
Boron (diss.filt)	<10 µg/l	TM152		176 #	709 2 #	781 2 #		186 #	63.4 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 2 #	<0.08 2 #		<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 2 #	4.02 2 #		<1 #	1.92 #
Copper (diss.filt)	<0.3 µg/l	TM152		2.1 #	<0.3 2 #	1.21 2 #		<0.3 #	1.87 #
Lead (diss.filt)	<0.2 µg/l	TM152		7.02 #	0.276 2 #	2.39 2 #		0.201 #	0.919 #
Nickel (diss.filt)	<0.4 µg/l	TM152		10.5 #	14.4 2 #	12.3 2 #		2.98 #	3.48 #
Selenium (diss.filt)	<1 µg/l	TM152		14.9 #	<1 2 #	<1 2 #		<1 #	3.05 #
Vanadium (diss.filt)	<1 µg/l	TM152		<1 #	<1 2 #	1.1 2 #		<1 #	1.2 #
Zinc (diss.filt)	<1 µg/l	TM152		20.4 #	10.1 2 #	14 2 #		6 #	12.9 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 2 #	<0.01 2 #		<0.01 #	<0.01 #
Sulphate	<2000 µg/l	TM184		276000 #	67900 #	92700 #	112000 #	32700 #	56400 #
Cyanide, Total	<50 µg/l	TM227		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Chromium, Hexavalent	<30 µg/l	TM241		<30 #	<30 #	<30 #	<30 #	<30 #	<30 #
pH	<1 pH Units	TM256		7.21 #	7.15 #	6.95 #	6.95 #	7.13 #	7.58 #
Phenol	<2 µg/l	TM259		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Cresols	<6 µg/l	TM259		<6 #	<6 #	<6 #	<6 #	<6 #	<6 #
Xylenols	<8 µg/l	TM259		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
Phenols, Total Detected monohydric	<16 µg/l	TM259		<16 #	<16 #	<16 #	<16 #	<16 #	<16 #

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		0.729 #	0.987 #	<0.01 #	<0.01 #	0.152 #	0.719 #
Acenaphthene (aq)	<0.005 µg/l	TM178		0.112 #	0.368 #	<0.005 #	<0.005 #	<0.025 #	<0.1 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		0.222 #	6.77 #	<0.005 #	<0.005 #	<0.025 #	<0.1 #
Fluoranthene (aq)	<0.005 µg/l	TM178		1.84 #	57.4 #	0.00851 #	0.0667 #	<0.025 #	1.05 #
Anthracene (aq)	<0.005 µg/l	TM178		0.134 #	3.27 #	<0.005 #	<0.005 #	<0.025 #	<0.1 #
Phenanthrene (aq)	<0.005 µg/l	TM178		0.491 #	7.12 #	<0.005 #	0.013 #	<0.025 #	0.18 #
Fluorene (aq)	<0.005 µg/l	TM178		<0.1 #	0.59 #	<0.005 #	<0.005 #	<0.025 #	<0.1 #
Chrysene (aq)	<0.005 µg/l	TM178		1.5 #	51.6 #	<0.005 #	0.0403 #	<0.025 #	0.704 #
Pyrene (aq)	<0.005 µg/l	TM178		2.21 #	60.7 #	0.0111 #	0.0748 #	0.025 #	1.26 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		0.93 #	46 #	<0.005 #	0.0184 #	<0.025 #	0.228 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		3.28 #	172 #	0.0103 #	0.0923 #	0.0307 #	2.33 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		1.29 #	58.8 #	<0.005 #	0.037 #	<0.025 #	0.971 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		2.38 #	116 #	0.00656 #	0.0748 #	0.0211 #	1.85 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		0.299 #	14.2 #	<0.005 #	0.00628 #	<0.025 #	0.127 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		2 #	97.4 #	<0.005 #	0.0418 #	<0.025 #	0.809 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		1.86 #	84.1 #	0.00534 #	0.0481 #	<0.025 #	0.894 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		19.3 #	778 #	<0.082 #	0.513 #	<0.41 #	11.1 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Methylphenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
4-Methylphenol (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
Azobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Acenaphthylene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Acenaphthene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Anthracene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<80 #	<100 #	<8 #	<8 #	<20 #	<40 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<40 #	51.9 #	<4 #	<4 #	<10 #	<20 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<40 #	113 #	<4 #	<4 #	<10 #	<20 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<40 #	76.8 #	<4 #	<4 #	<10 #	<20 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<40 #	82.1 #	<4 #	<4 #	<10 #	<20 #
Carbazole (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Chrysene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Dibenzofuran (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<200 #	<250 #	<20 #	<20 #	<50 #	<100 #
Fluoranthene (aq)	<1 µg/l	TM176		<40 #	69.4 #	<4 #	<4 #	<10 #	<20 #
Fluorene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
Phenol (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Hexachloroethane (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Nitrobenzene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Naphthalene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Isophorone (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<40	<50	<4	<4	<10	<20
Phenanthrene (aq)	<1 µg/l	TM176		<40 #	<50 #	<4 #	<4 #	<10 #	<20 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<40 #	61.2 #	<4 #	<4 #	<10 #	<20 #
Pyrene (aq)	<1 µg/l	TM176		<40 #	64.8 #	<4 #	<4 #	<10 #	<20 #

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		91	84	92	89	86	92
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245		<10	10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245		<10	11	<10	<10	<10	11
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245		<10	11	<10	<10	<10	13
Aliphatics >C12-C16 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<1000	<20	<50	<50	<100
Aliphatics >C16-C21 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<1000	<20	<50	<50	<100
Aliphatics >C21-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	8990	<20	<50	<50	<100
Total Aliphatics >C12-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	8990	<20	<50	<50	<100
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<1000	<20	<50	<50	<100
Aromatics >EC16-EC21 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<1000	<20	<50	<50	<100
Aromatics >EC21-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	2370	<20	<50	<50	<100
Total Aromatics >EC12-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	2370	<20	<50	<50	<100
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439		<10	11400	<10	<50	<10	43

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
Dibromofluoromethane**	%	TM208		106	106	108	106	107	106
Toluene-d8**	%	TM208		101	99.6	102	102	101	102
4-Bromofluorobenzene**	%	TM208		95	89.5	97.5	98	98.1	97.2
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	2.04 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		2.5 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	1.19 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	1.01 #	10.1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	8.99 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	1.77 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		1.49 #	59.7 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
			SDG Ref	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
			Lab Sample No.(s)	32857431	32857440	32857449	32857458	32857467	32857422
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Sum of detected Xylenes	<2 µg/l	TM208		<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208		<5	<5	<5	<5	<5	<5

Notification of NDPs (No determination possible)

Date Received : 06/02/2026 12:22:23

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
32857458	BH202	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered analy
32857458	BH202	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered analy

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM152	Analysis of Aqueous Samples by ICP-MS
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Test Completion Dates

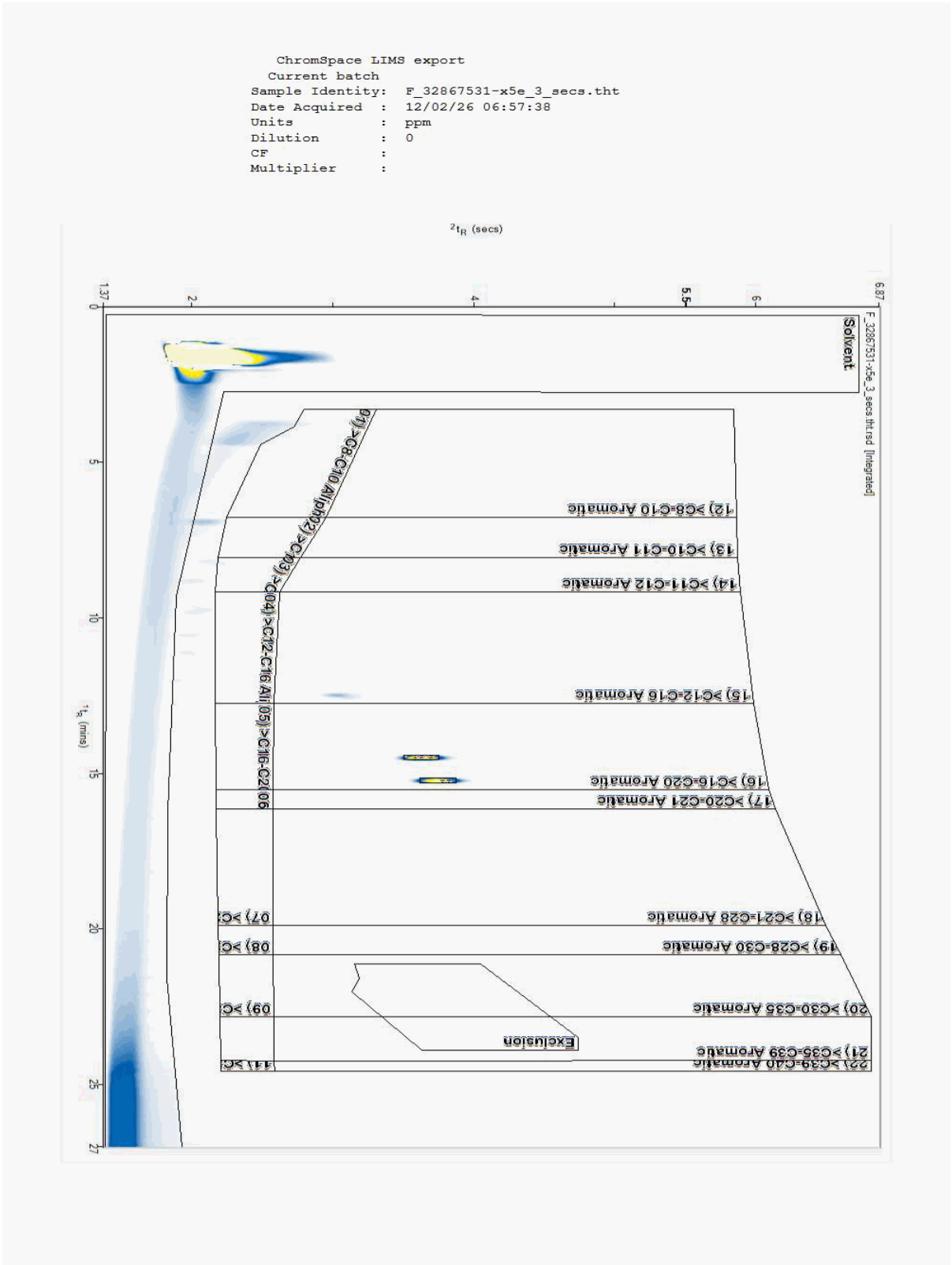
Lab Sample No(s)	32857431	32857440	32857449	32857458	32857467	32857422
Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
AGS Ref.						
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	11-Feb-2026	11-Feb-2026	10-Feb-2026	11-Feb-2026	11-Feb-2026	11-Feb-2026
Cyanide Comp/Free/Total/Thiocyanate	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026
Dissolved Metals by ICP-MS	11-Feb-2026	11-Feb-2026	11-Feb-2026		11-Feb-2026	11-Feb-2026
EPH and CWG by FID	17-Feb-2026	18-Feb-2026	18-Feb-2026	13-Feb-2026	18-Feb-2026	18-Feb-2026
GRO by GC-FID (W)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026
Hexavalent Chromium (w)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026
Mercury Dissolved	13-Feb-2026	13-Feb-2026	13-Feb-2026		13-Feb-2026	13-Feb-2026
PAH Spec MS - Aqueous (W)	16-Feb-2026	16-Feb-2026	15-Feb-2026	16-Feb-2026	16-Feb-2026	16-Feb-2026
pH Value	10-Feb-2026	10-Feb-2026	10-Feb-2026	10-Feb-2026	10-Feb-2026	10-Feb-2026
Phenols by HPLC (W)	12-Feb-2026	12-Feb-2026	12-Feb-2026	12-Feb-2026	12-Feb-2026	12-Feb-2026
SVOC MS (W) - Aqueous	16-Feb-2026	16-Feb-2026	16-Feb-2026	11-Feb-2026	16-Feb-2026	16-Feb-2026
TPH CWG (W)	17-Feb-2026	18-Feb-2026	18-Feb-2026	13-Feb-2026	18-Feb-2026	18-Feb-2026
VOC MS (W)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026

CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32867531 **Depth :** 0.00 - 0.00
Sample ID : BH202

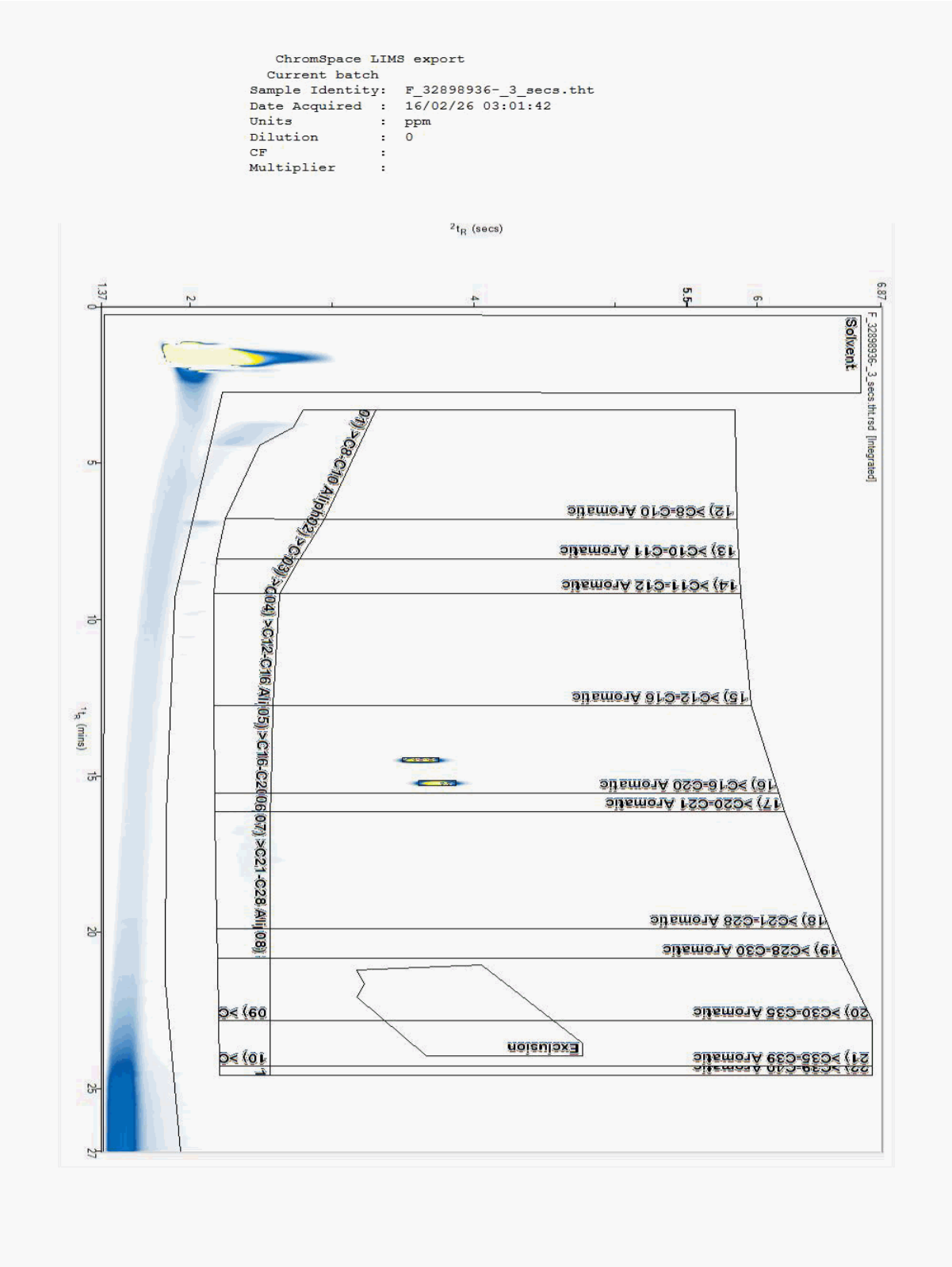


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32898936 **Depth :** 0.00 - 0.00
Sample ID : BH1

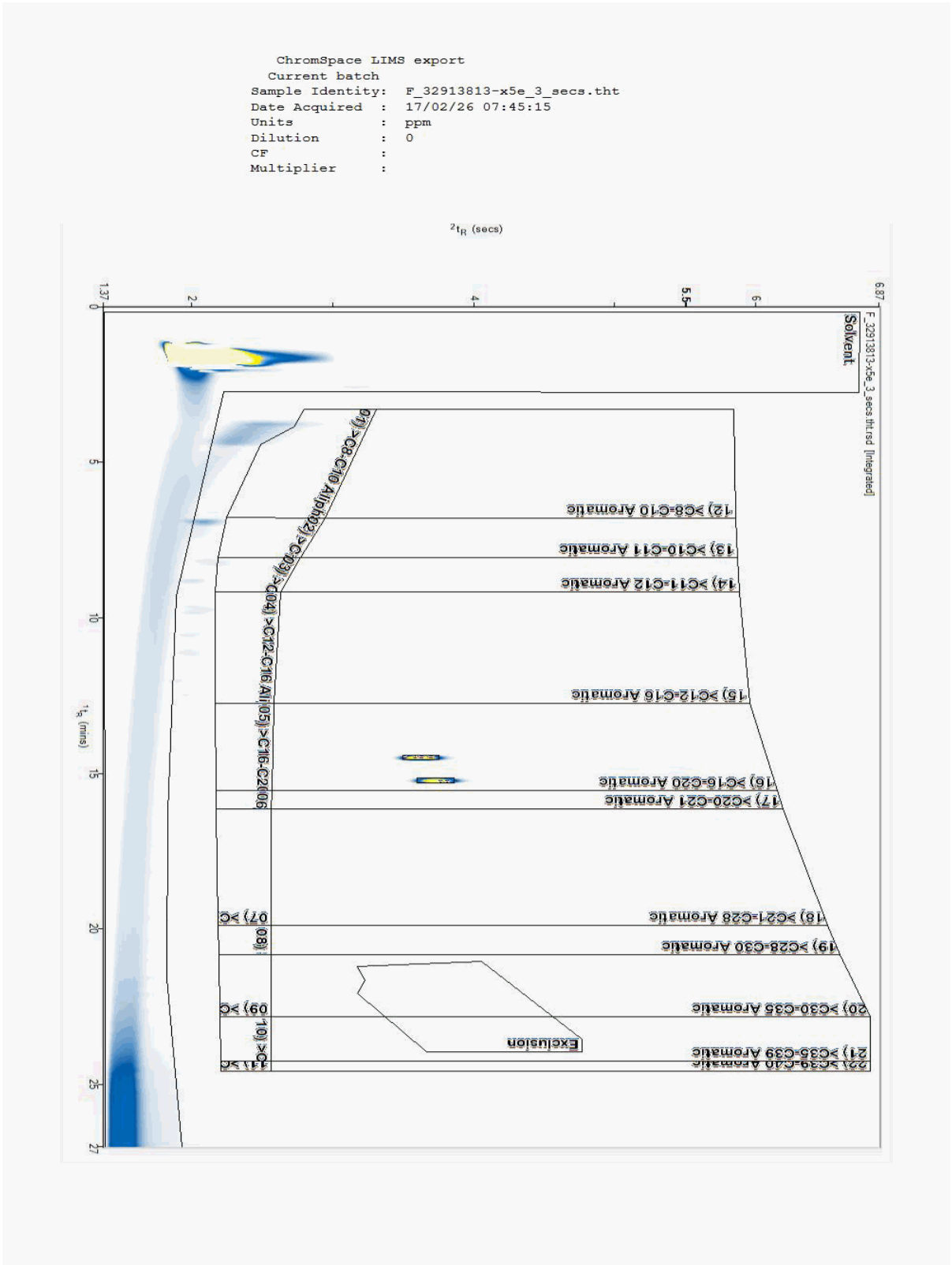


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32913813 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)

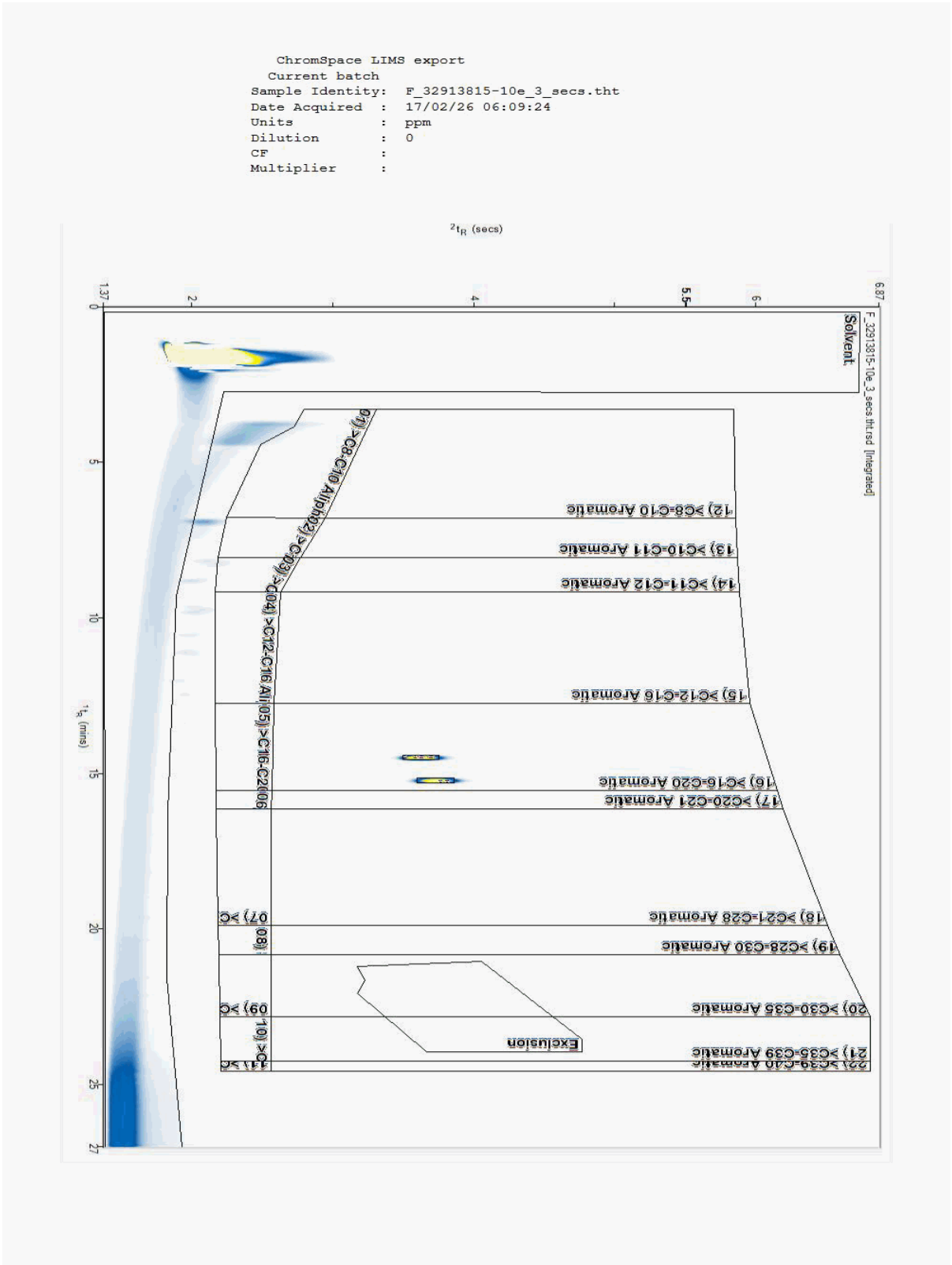


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32913815 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

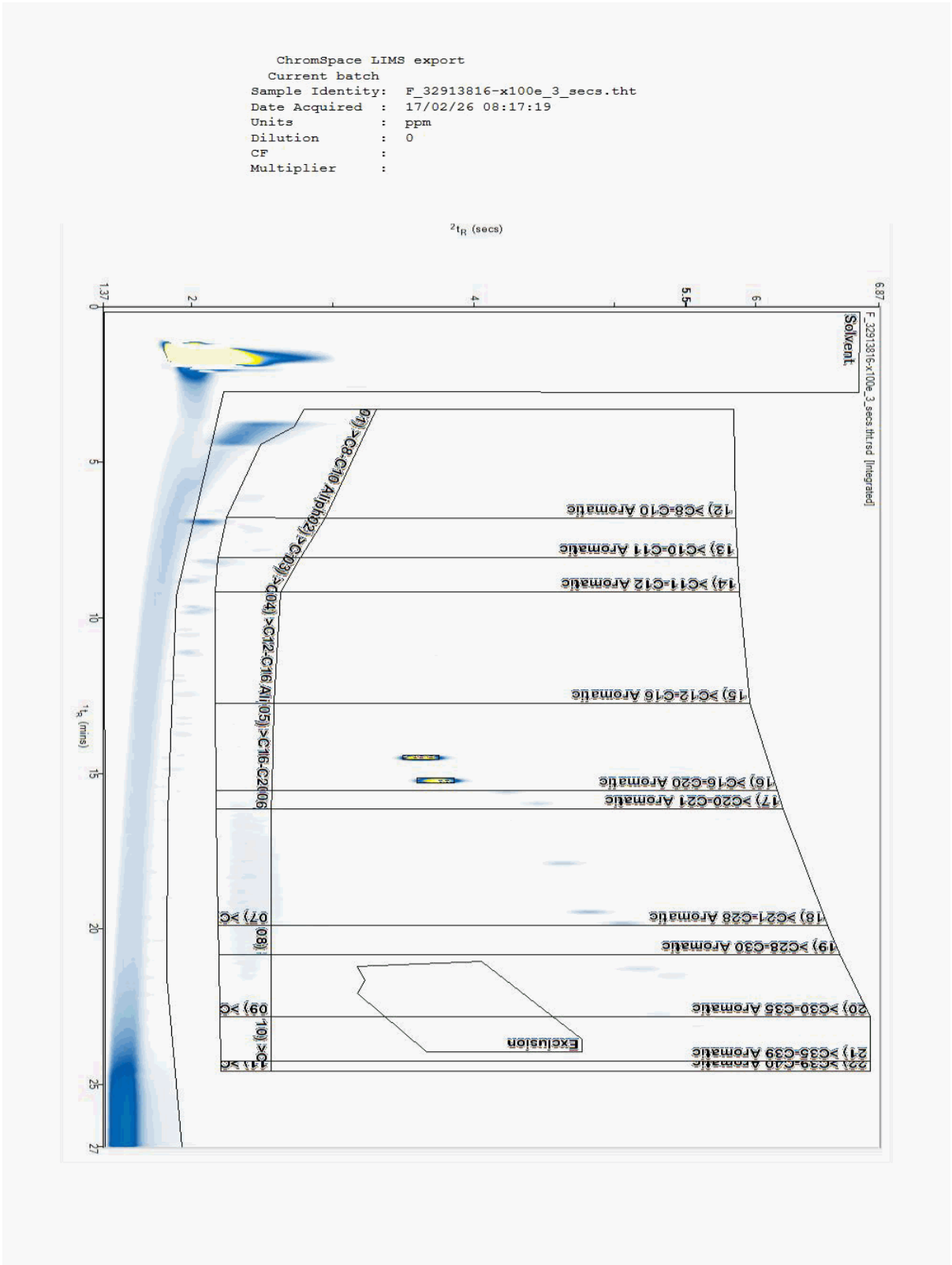


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32913816 **Depth :** 0.00 - 0.00
Sample ID : BH2



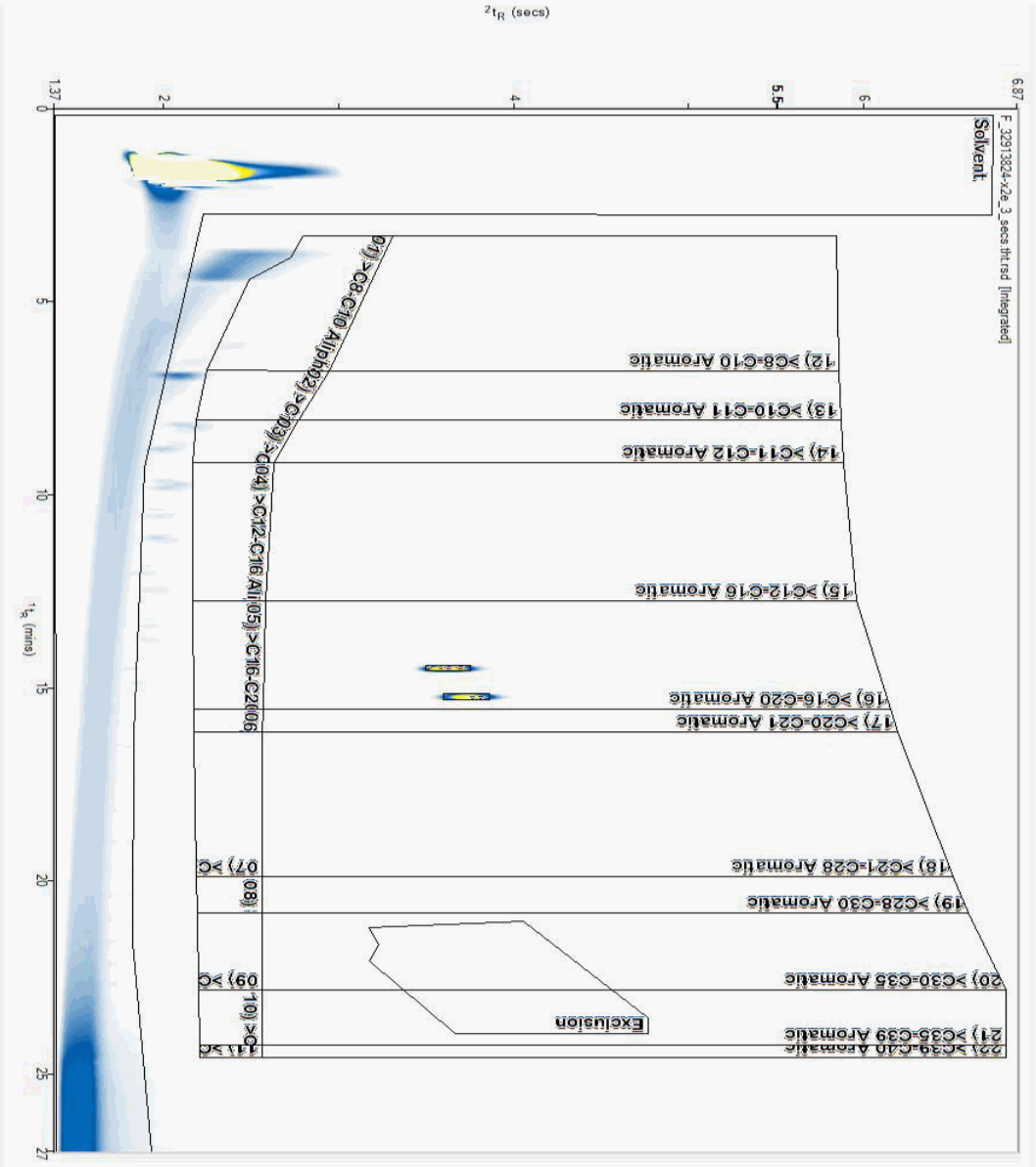
CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32913824 **Depth :** 0.00 - 0.00
Sample ID : BH201

```
   ChromSpace LIMS export
  Current batch
Sample Identity:  F_32913824-x2e_3_secs.tht
Date Acquired   :  17/02/26 08:49:14
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

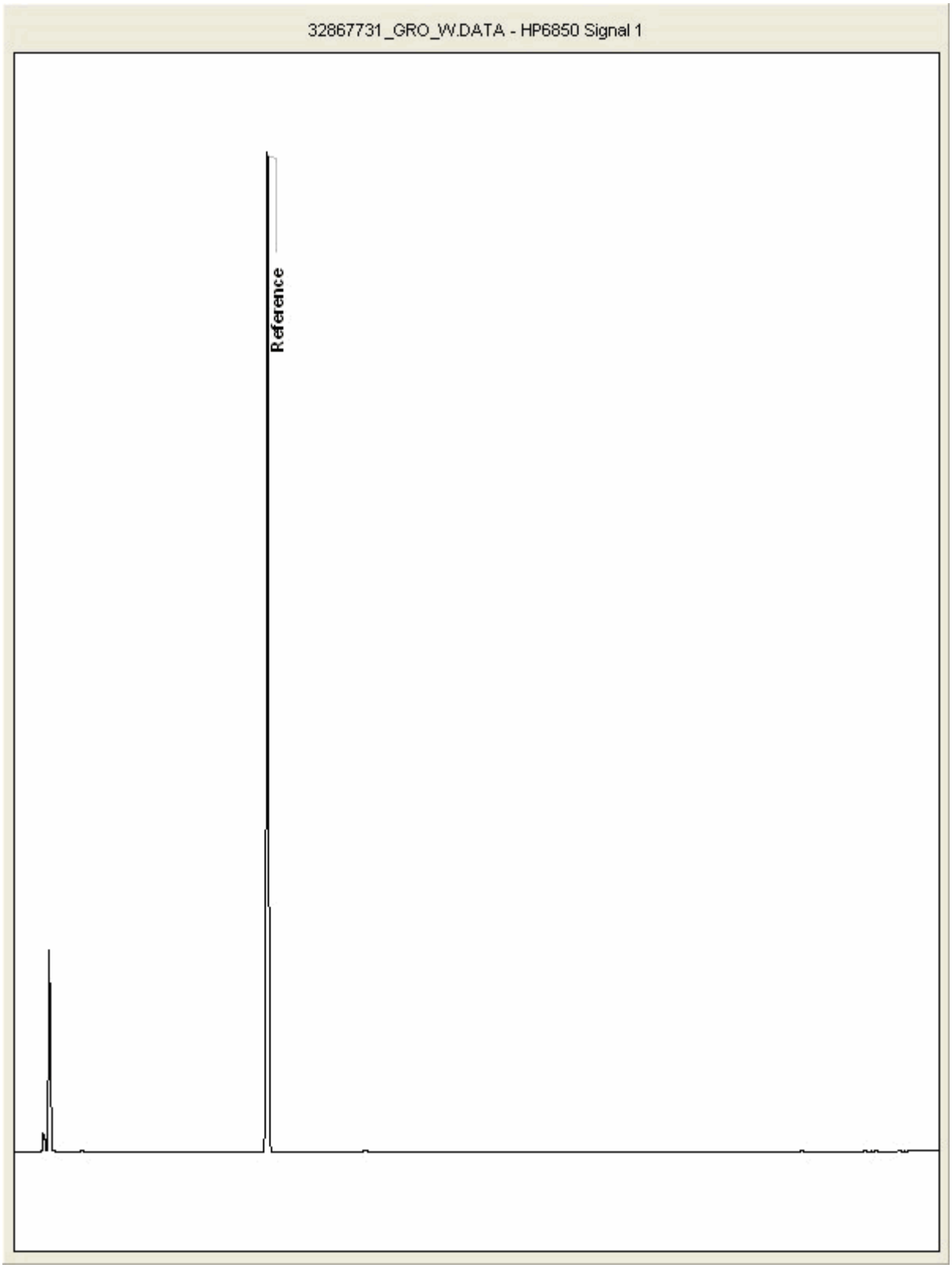


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867731 **Depth :** 0.00 - 0.00
Sample ID : BH201

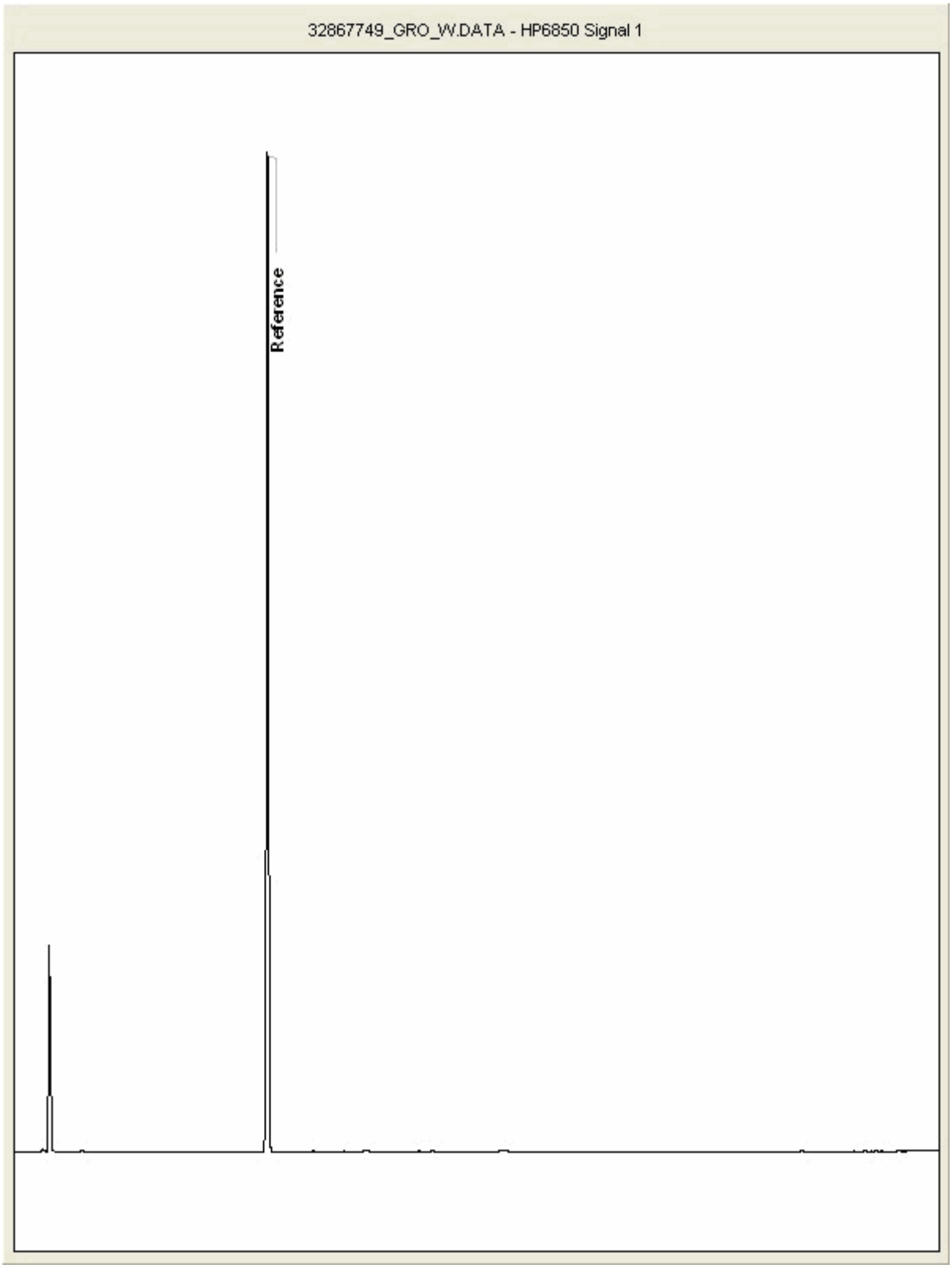


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867749 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

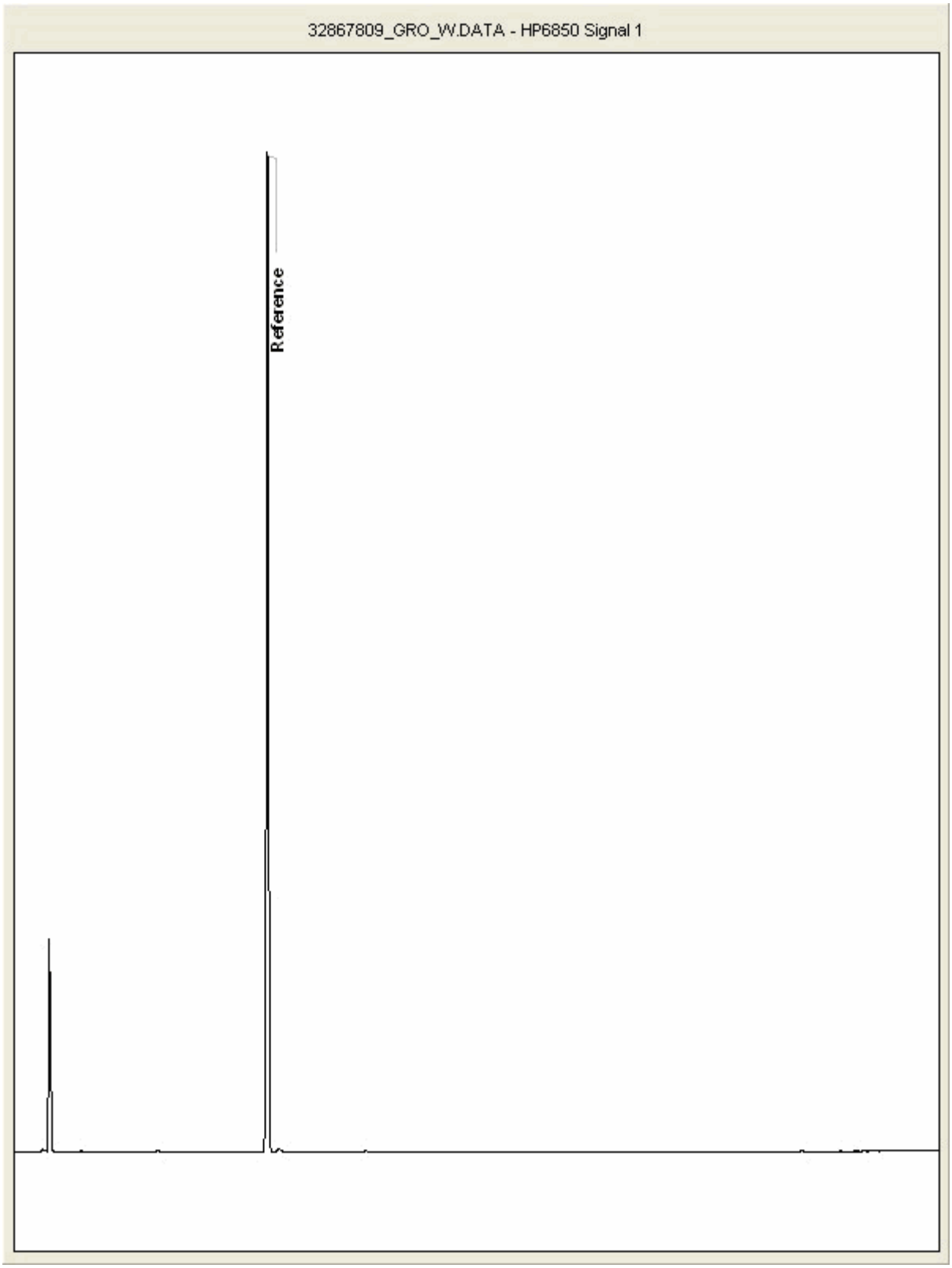


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867809 **Depth :** 0.00 - 0.00
Sample ID : BH1

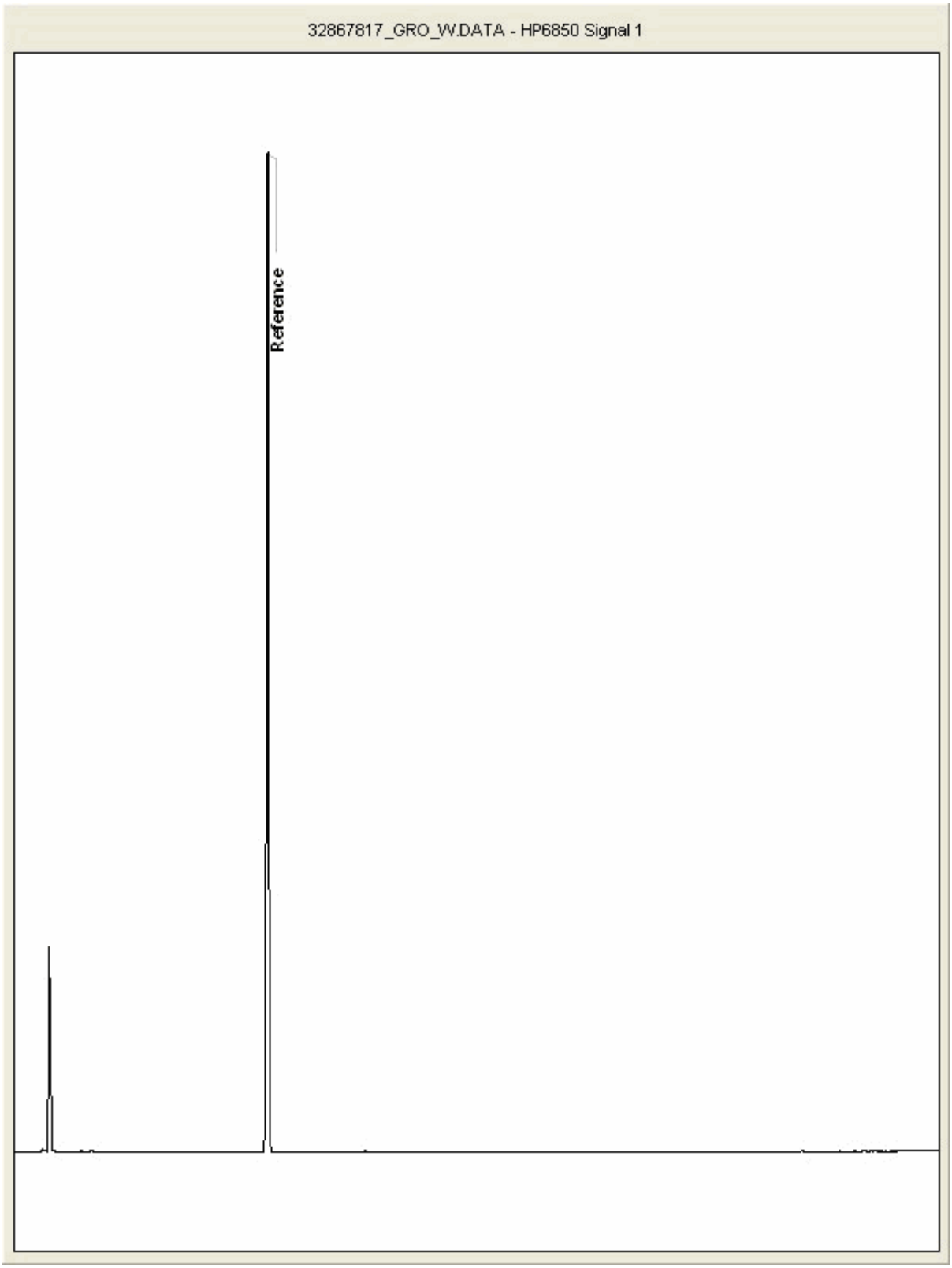


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867817 **Depth :** 0.00 - 0.00
Sample ID : BH202

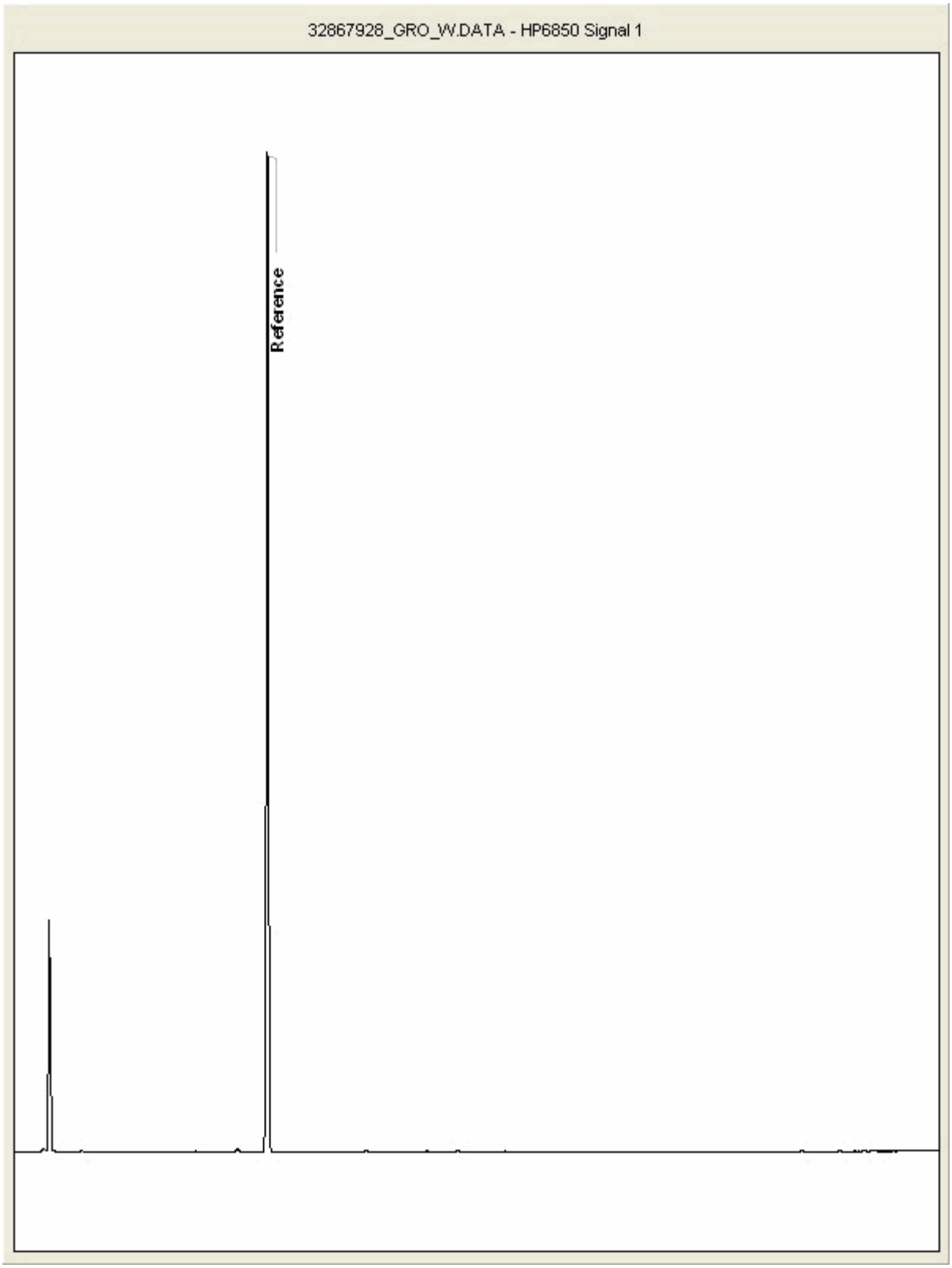


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867928 **Depth :** 0.00 - 0.00
Sample ID : BH2

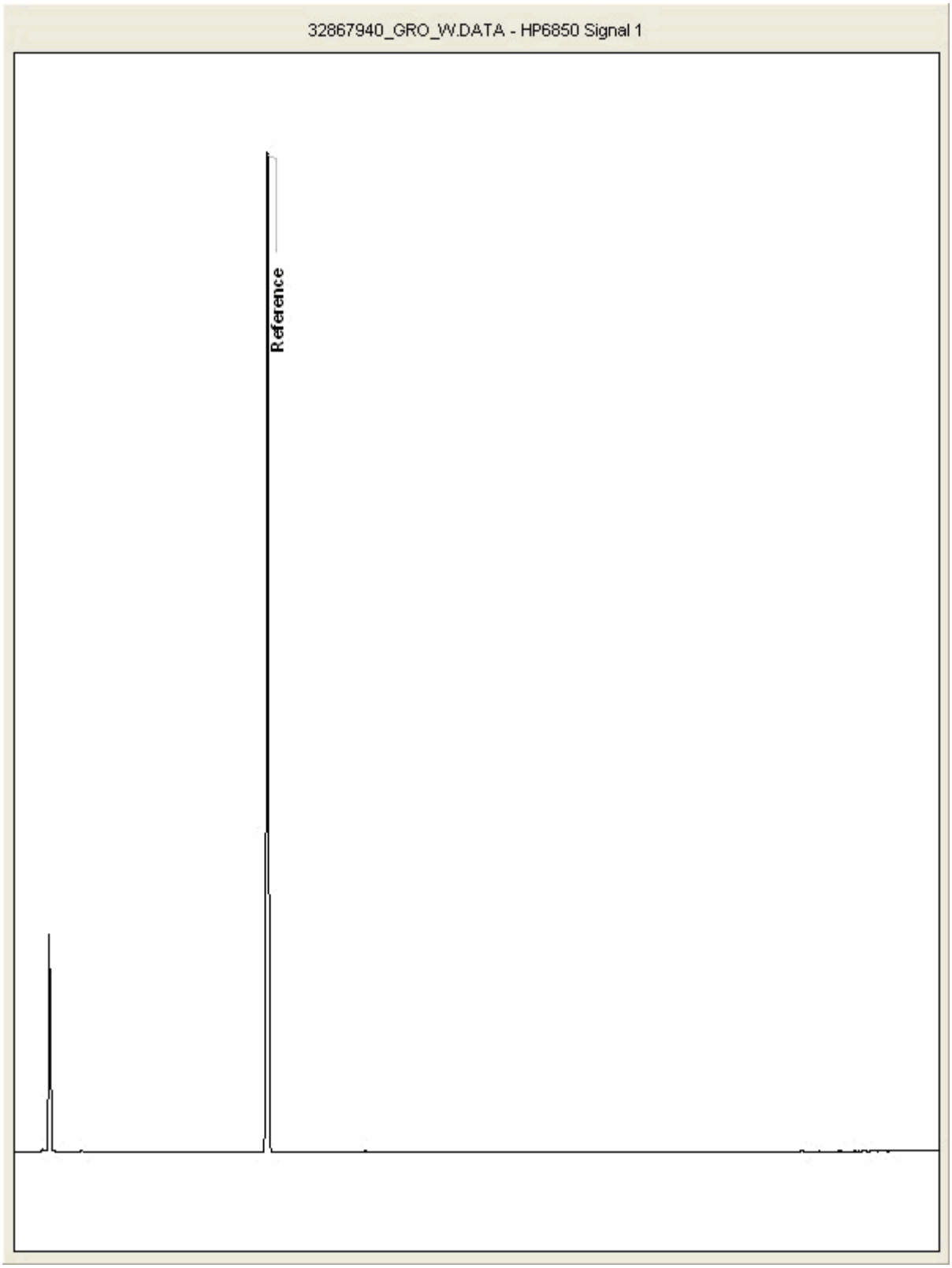


CERTIFICATE OF ANALYSIS

SDG: 260206-67 **Report Number:** 792230 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32867940 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)



Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	04 March 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260224-46
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	793766
Order Number:	GWPR6817

We received 6 samples on Tuesday February 24, 2026 and 6 of these samples were scheduled for analysis which was completed on Wednesday March 04, 2026. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32954941	BH1		0.00 - 0.00	23/02/2026
32954949	BH2		0.00 - 0.00	23/02/2026
32954959	BH201		0.00 - 0.00	23/02/2026
32954968	BH202		0.00 - 0.00	23/02/2026
32954981	BH203 (d)		0.00 - 0.00	23/02/2026
32954927	BH203 (s)		0.00 - 0.00	23/02/2026

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)								32954941						32954949						32954959			32954968
Customer Sample Reference								BH1						BH2						BH201			BH202
AGS Reference																							
Depth (m)								0.00 - 0.00						0.00 - 0.00						0.00 - 0.00			0.00 - 0.00
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 6		X						X						X						X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6					X						X						X				
Dissolved Metals by ICP-MS	All	NDPs: 1 Tests: 5				X						N						X					
EPH and CWG by FID	All	NDPs: 0 Tests: 6	X						X						X						X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						X						X						X			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6		X						X						X						X	
Mercury Dissolved	All	NDPs: 1 Tests: 5				X						N						X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6	X						X						X						X		
pH Value	All	NDPs: 0 Tests: 6		X						X						X						X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6			X						X						X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X						X						X						X		
TPH CWG (W)	All	NDPs: 0 Tests: 6	X						X						X						X		
VOC MS (W)	All	NDPs: 0 Tests: 6						X						X						X			

32954927	BH203 (s)		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						
				H2SO4 (ALE244)	GW										X			
				500ml Plastic (ALE208)	GW	X					X			X				
				0.5l glass bottle (ALE227)	GW				X				X			X	X	
32954981	BH203 (d)		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						
				H2SO4 (ALE244)	GW										X			
				500ml Plastic (ALE208)	GW	X					X			X				
				0.5l glass bottle (ALE227)	GW				X				X			X	X	
32954968	BH202		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
Arsenic (diss.filt)	<0.5 µg/l	TM152		0.987 #		2.26 #	2.46 #	19.6 #	21.5 #
Boron (diss.filt)	<10 µg/l	TM152		158 #		721 #	476 #	247 #	110 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #		<0.08 #	<0.08 #	<0.08 #	0.112 #
Chromium (diss.filt)	<1 µg/l	TM152		2.39 #		<1 #	<1 #	<1 #	1.23 #
Copper (diss.filt)	<0.3 µg/l	TM152		2.9 #		<0.3 #	0.61 #	<0.3 #	4.62 #
Lead (diss.filt)	<0.2 µg/l	TM152		0.463 #		<0.2 #	0.89 #	<0.2 #	3.36 #
Nickel (diss.filt)	<0.4 µg/l	TM152		14.4 #		10.6 #	15.1 #	2.62 #	4.17 #
Selenium (diss.filt)	<1 µg/l	TM152		25.2 #		<1 #	<1 #	<1 #	1.76 #
Vanadium (diss.filt)	<1 µg/l	TM152		<1 #		<1 #	<1 #	<1 #	1.95 #
Zinc (diss.filt)	<1 µg/l	TM152		13.3 #		18.5 #	21.3 #	9.37 #	21.3 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #		<0.01 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<2000 µg/l	TM184		624000 #	35300 #	101000 #	98300 #	34100 #	57300 #
Cyanide, Total	<50 µg/l	TM227		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Chromium, Hexavalent	<30 µg/l	TM241		<30 #	<30 #	<30 #	<30 #	<30 #	<30 #
pH	<1 pH Units	TM256		7.26 #	7.27 #	7.01 #	7.17 #	7.28 #	7.31 #
Phenol	<2 µg/l	TM259		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Cresols	<6 µg/l	TM259		<6 #	<6 #	<6 #	<6 #	<6 #	<6 #
Xylenols	<8 µg/l	TM259		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
Phenols, Total Detected monohydric	<16 µg/l	TM259		<16 #	<16 #	<16 #	<16 #	<16 #	<16 #

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		<0.5 #	<0.2 #	<0.02 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.25 #	0.14 #	<0.01 #	<0.005 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		0.38 #	2.17 #	<0.01 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178		3.56 #	19.7 #	0.0126 #	0.0107 #	0.0232 #	0.0598 #
Anthracene (aq)	<0.005 µg/l	TM178		0.284 #	1.1 #	<0.01 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178		0.978 #	2.56 #	<0.01 #	<0.005 #	<0.005 #	0.00909 #
Fluorene (aq)	<0.005 µg/l	TM178		<0.25 #	0.245 #	<0.01 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178		3.37 #	18.7 #	<0.01 #	0.00715 #	0.017 #	0.0528 #
Pyrene (aq)	<0.005 µg/l	TM178		4.19 #	20.6 #	0.0188 #	0.0132 #	0.026 #	0.0738 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		2.35 #	13 #	<0.01 #	<0.005 #	0.0126 #	0.0367 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		5.26 #	46.9 #	0.0155 #	0.00948 #	0.0258 #	0.0972 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		2.12 #	19.7 #	<0.01 #	<0.005 #	0.00867 #	0.0427 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		4.3 #	32.2 #	0.0108 #	0.00823 #	0.019 #	0.0717 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		0.53 #	3.2 #	<0.01 #	<0.005 #	<0.005 #	0.00606 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		4.03 #	28.2 #	<0.01 #	<0.005 #	<0.005 #	0.0644 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		3.71 #	23.1 #	<0.01 #	0.00665 #	0.0117 #	0.0502 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		35.1 #	231 #	<0.164 #	<0.082 #	0.144 #	0.565 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Methylphenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
4-Methylphenol (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
Azobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Acenaphthylene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Acenaphthene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Anthracene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<400 #	<400 #	<16 #	<16 #	<8 #	<16 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Carbazole (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Chrysene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Dibenzofuran (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<1000 #	<1000 #	<40 #	<40 #	<20 #	<40 #
Fluoranthene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Fluorene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
Phenol (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Hexachloroethane (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Nitrobenzene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Naphthalene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Isophorone (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<200	<200	<8	<8	<4	<8
Phenanthrene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #
Pyrene (aq)	<1 µg/l	TM176		<200 #	<200 #	<8 #	<8 #	<4 #	<8 #

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		86	82 1	77 1	87 1	88 1	89
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245		<50 #	<50 1 #	<50 1 #	<50 1 #	<50 1 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aliphatics >C12-C16 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10 1	<10 1	<10 1	<10 1	<10
Aromatics >EC12-EC16 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439		<200	<200	<10	<10	<10	<10

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
Dibromofluoromethane**	%	TM208		103	102	104 1	104 1	105 1	103
Toluene-d8**	%	TM208		98	95.6	98 1	97.3 1	97.8 1	97.4
4-Bromofluorobenzene**	%	TM208		94.2	87.3	95 1	95.4 1	93.6 1	95.3
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1 1	<1 1	<1 1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	1.28 1 #	<1 1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		3.36 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 1 #	<3 1 #	<3 1 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	1.57 1 #	3.89 1 #	<1 1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1 1	<1 1	<1 1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	4.16 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	1.07 1 #	1.19 1 #	<1 1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		<1 #	39 #	2.28 1 #	2.7 1 #	<1 1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1 1	<1 1	<1 1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
			SDG Ref	260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
			Lab Sample No.(s)	32954941	32954949	32954959	32954968	32954981	32954927
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1 1	<1 1	<1 1	<1
Sum of detected Xylenes	<2 µg/l	TM208		<2	<2	<2 1	<2 1	<2 1	<2
Sum of BTEX	<5 µg/l	TM208		<5	<5	<5 1	<5 1	<5 1	<5

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Notification of NDPs (No determination possible)

Date Received : 24/02/2026 09:49:24

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
32954949	BH2	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered analy
32954949	BH2	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered analy

Table of Results - Appendix

Method No	Description
TM152	Analysis of Aqueous Samples by ICP-MS
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Test Completion Dates

Lab Sample No(s)	32954941	32954949	32954959	32954968	32954981	32954927
Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
AGS Ref.						
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	25-Feb-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026
Cyanide Comp/Free/Total/Thiocyanate	26-Feb-2026	26-Feb-2026	26-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026
Dissolved Metals by ICP-MS	02-Mar-2026		02-Mar-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026
EPH and CWG by FID	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026
GRO by GC-FID (W)	26-Feb-2026	02-Mar-2026	26-Feb-2026	26-Feb-2026	27-Feb-2026	26-Feb-2026
Hexavalent Chromium (w)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
Mercury Dissolved	03-Mar-2026		03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026
PAH Spec MS - Aqueous (W)	04-Mar-2026	04-Mar-2026	04-Mar-2026	03-Mar-2026	04-Mar-2026	04-Mar-2026
pH Value	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
Phenols by HPLC (W)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
SVOC MS (W) - Aqueous	27-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026
TPH CWG (W)	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026
VOC MS (W)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026

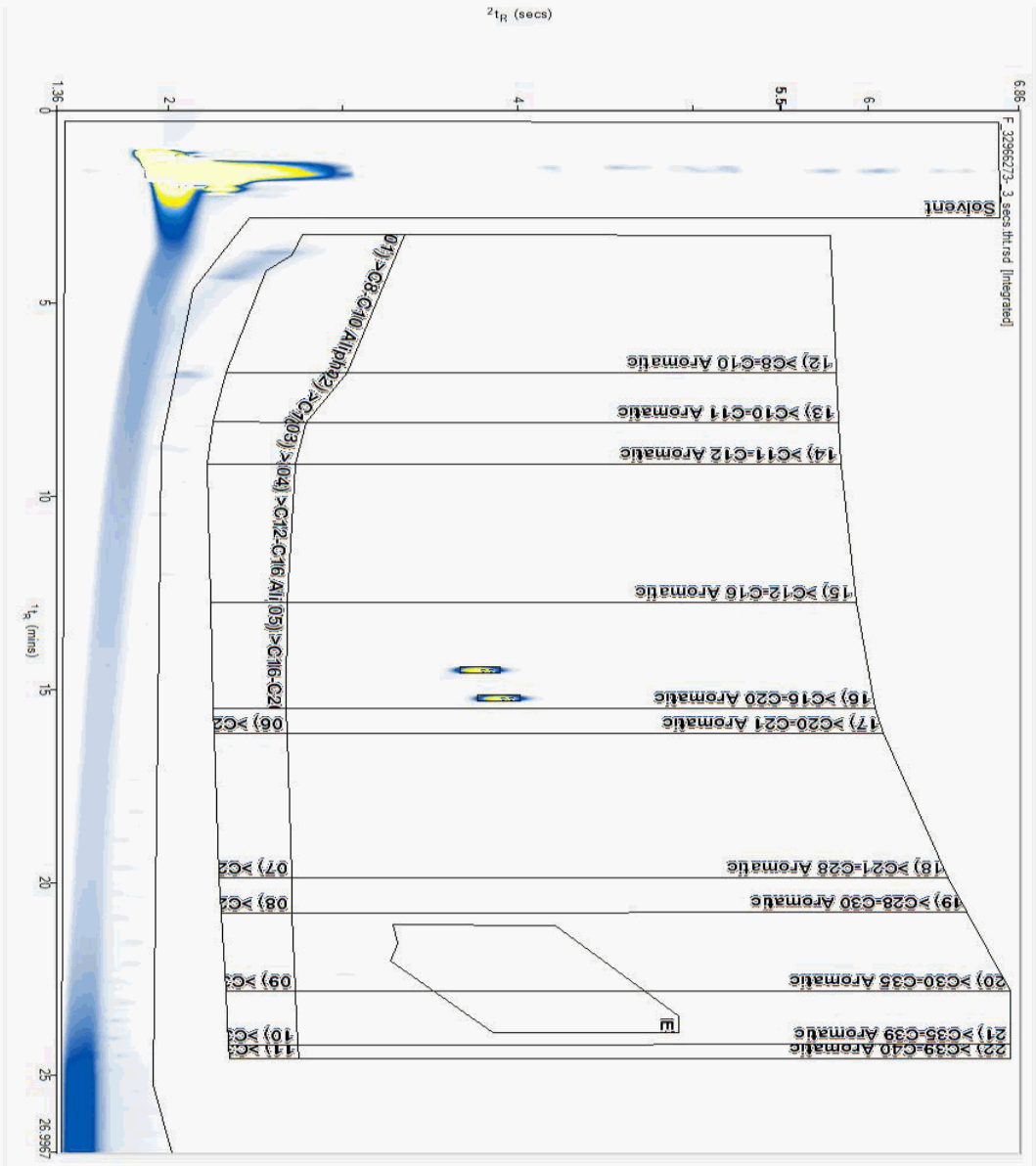
CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32966273 **Depth :** 0.00 - 0.00
Sample ID : BH201

ChromSpace LIMS export
Current batch
Sample Identity: F_32966273-_3_secs.tht
Date Acquired : 02/03/26 07:16:05
Units : ppm
Dilution : 0
CF :
Multiplier :



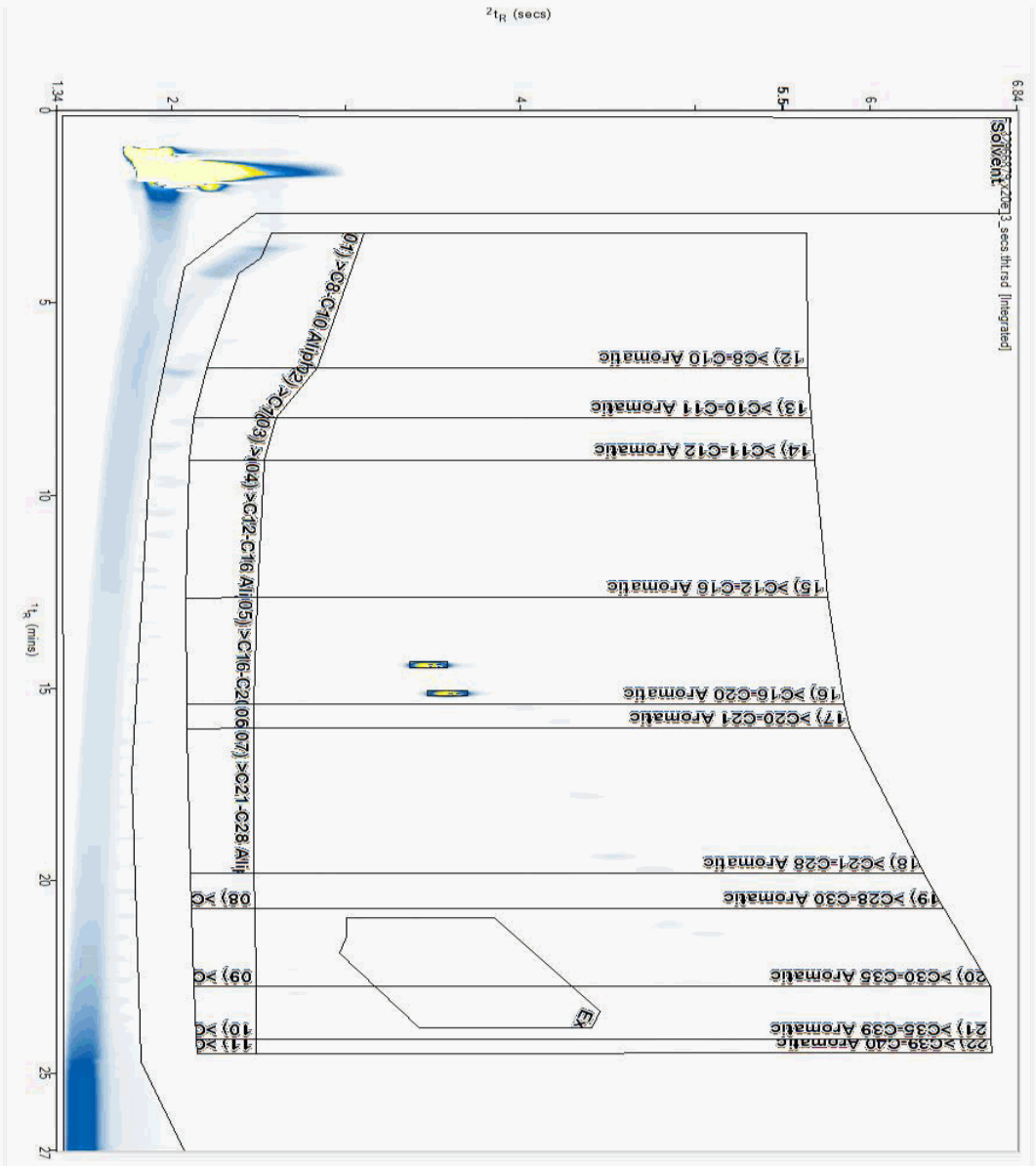
CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32966879 **Depth :** 0.00 - 0.00
Sample ID : BH2

```
   ChromSpace LIMS export
  Current batch
Sample Identity:  F_32966879-x20e_3_secs.tht
Date Acquired   :  03/03/26 03:54:08
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

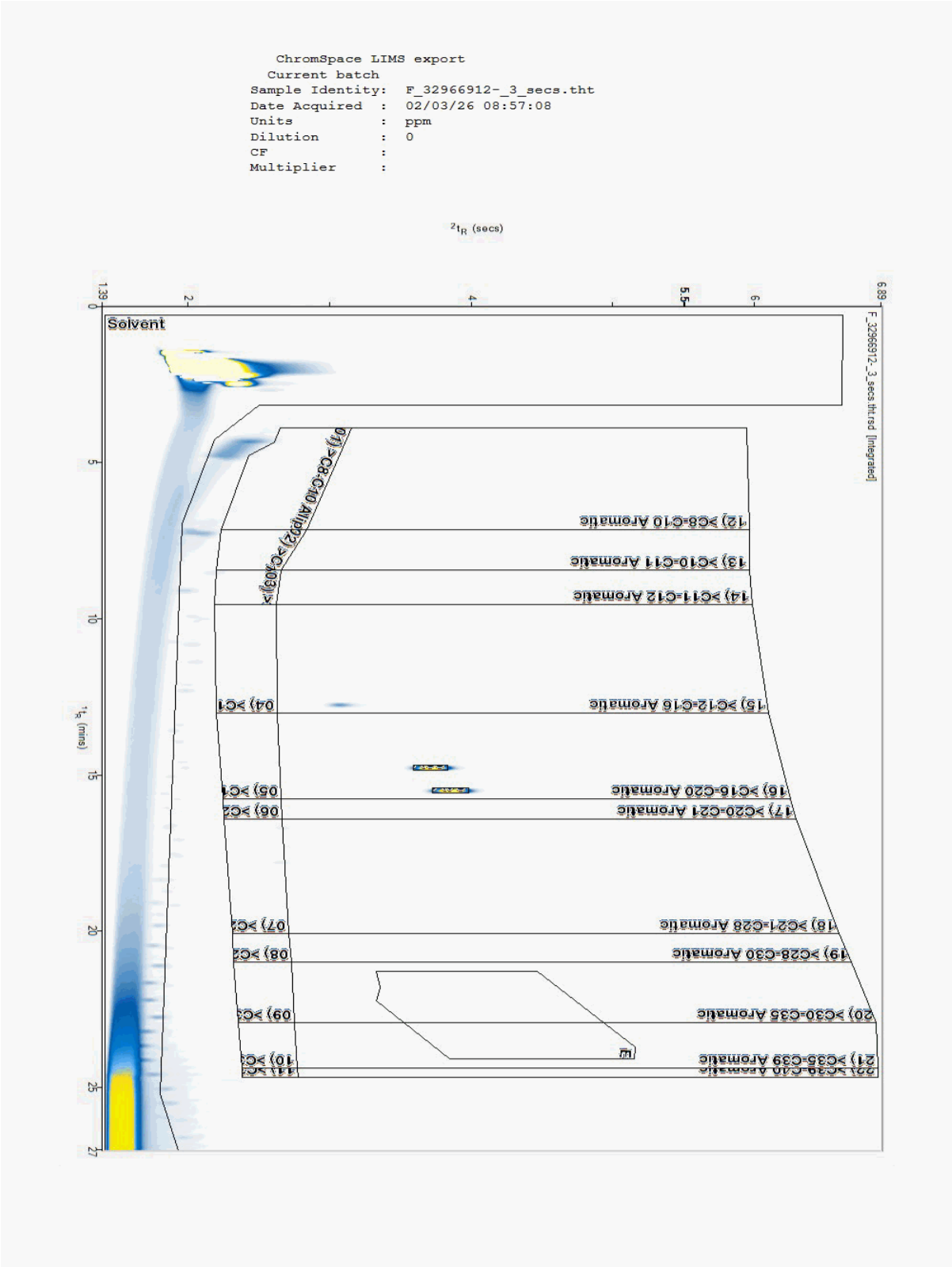


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32966912 **Depth :** 0.00 - 0.00
Sample ID : BH202

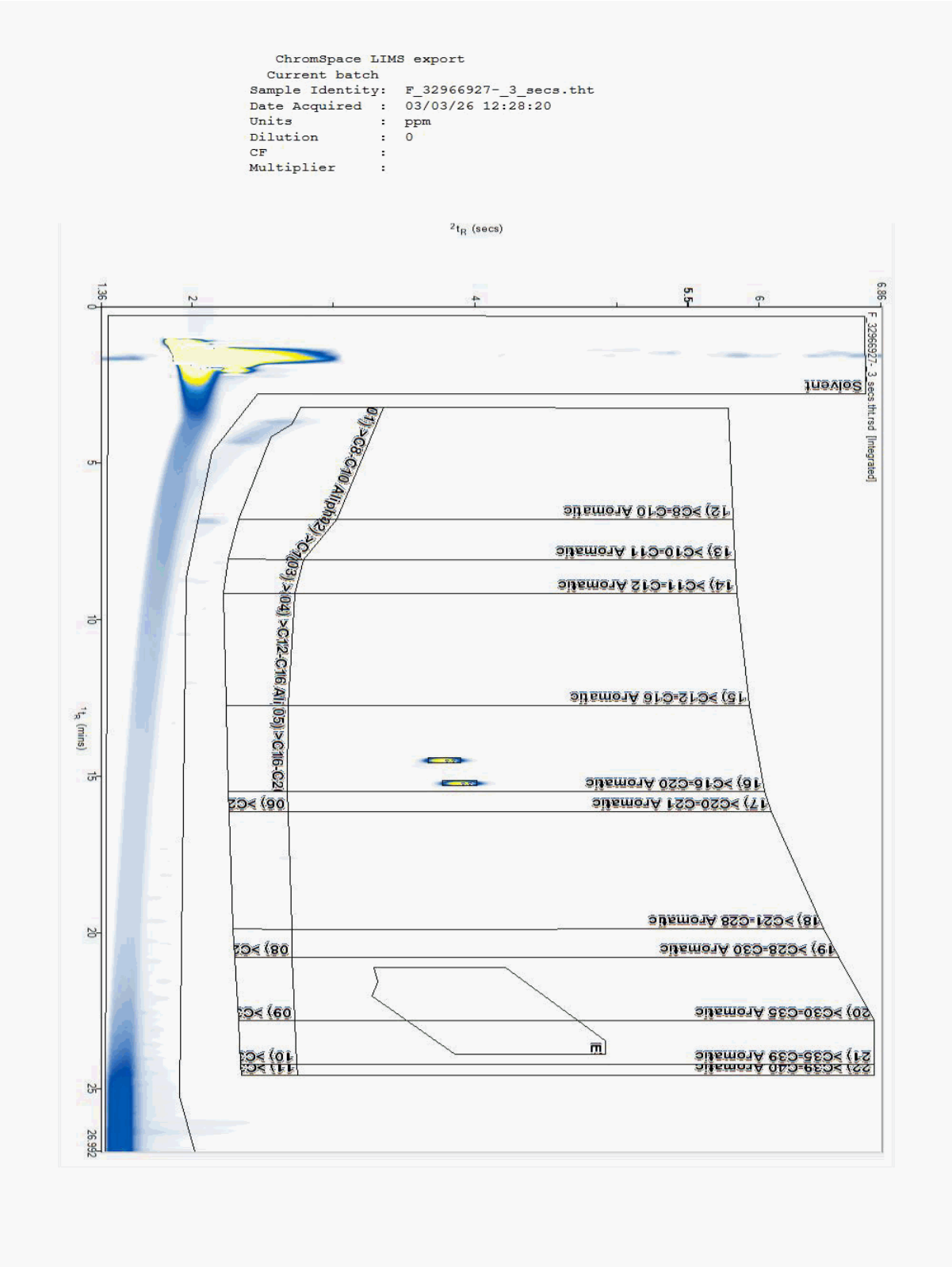


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32966927 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

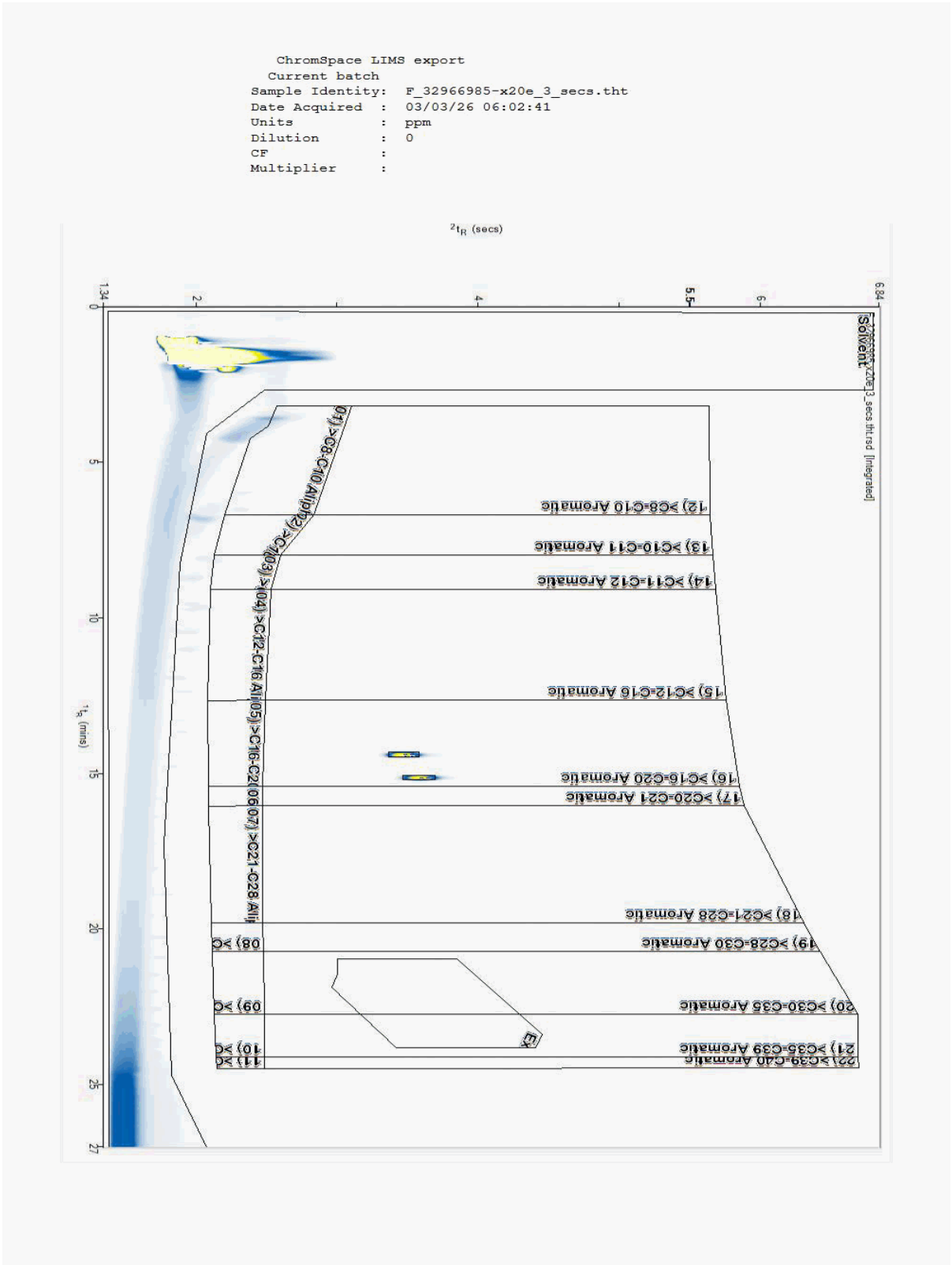


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32966985 **Depth :** 0.00 - 0.00
Sample ID : BH1

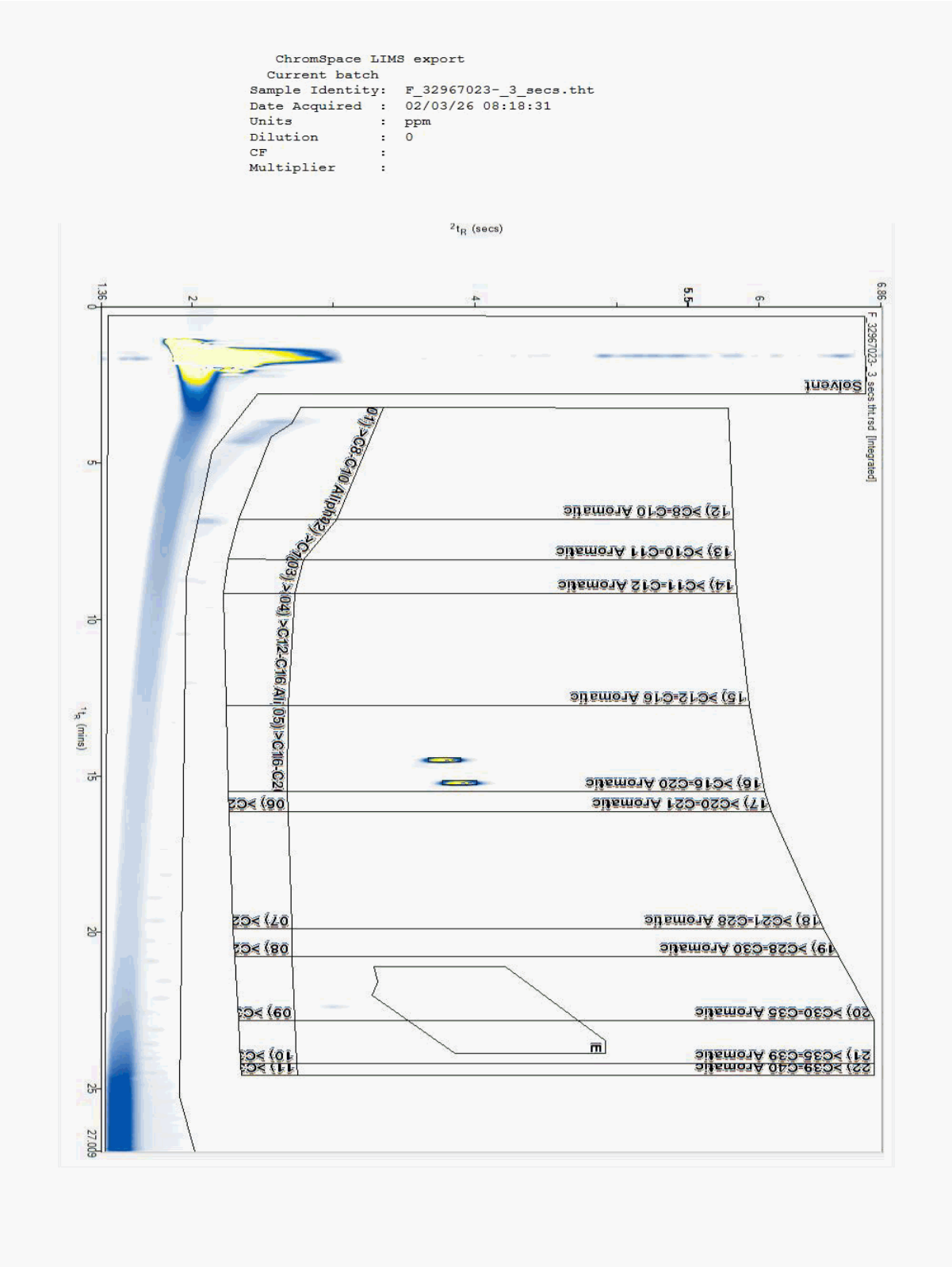


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 32967023 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)

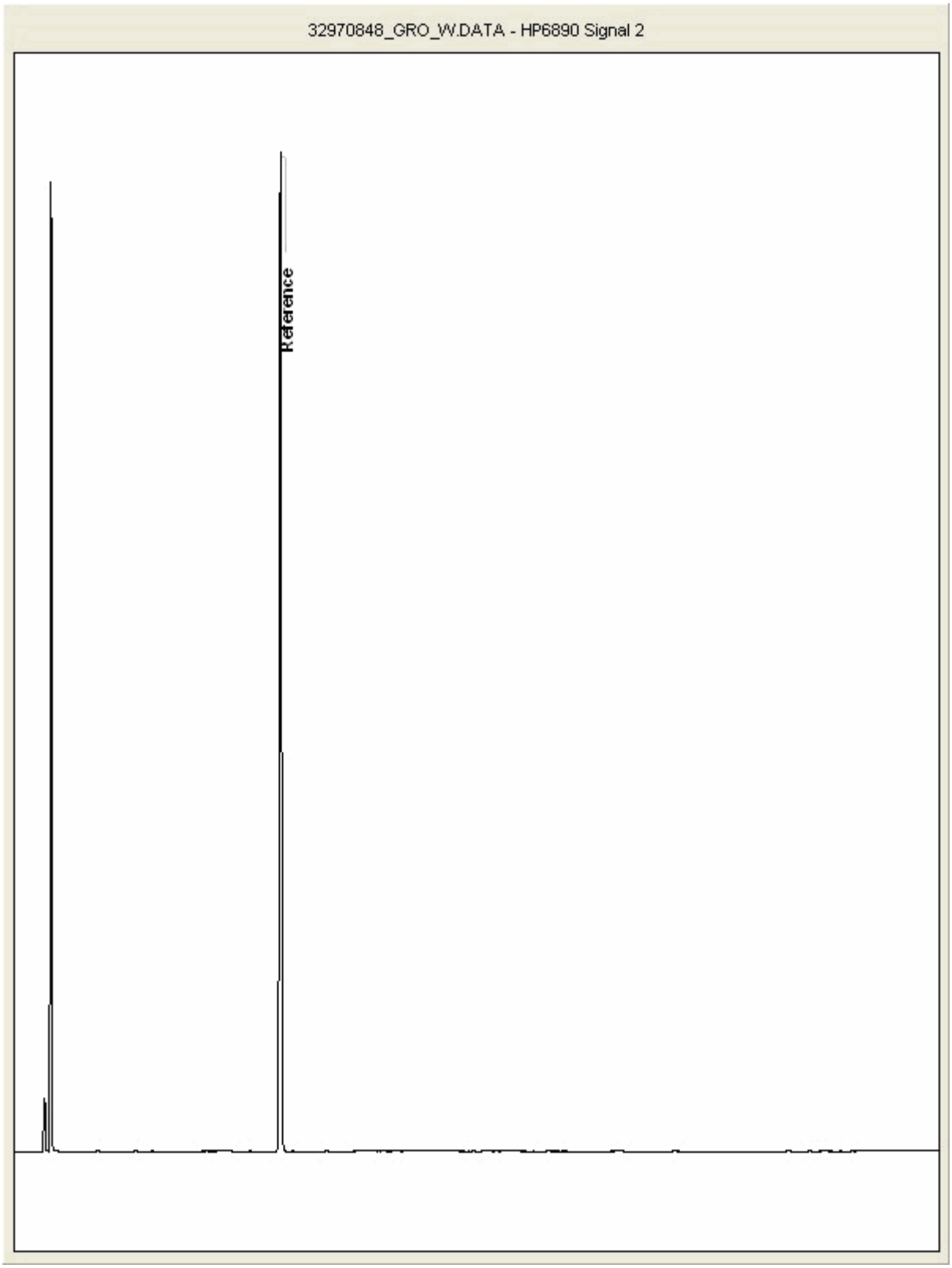


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32970848 **Depth :** 0.00 - 0.00
Sample ID : BH202

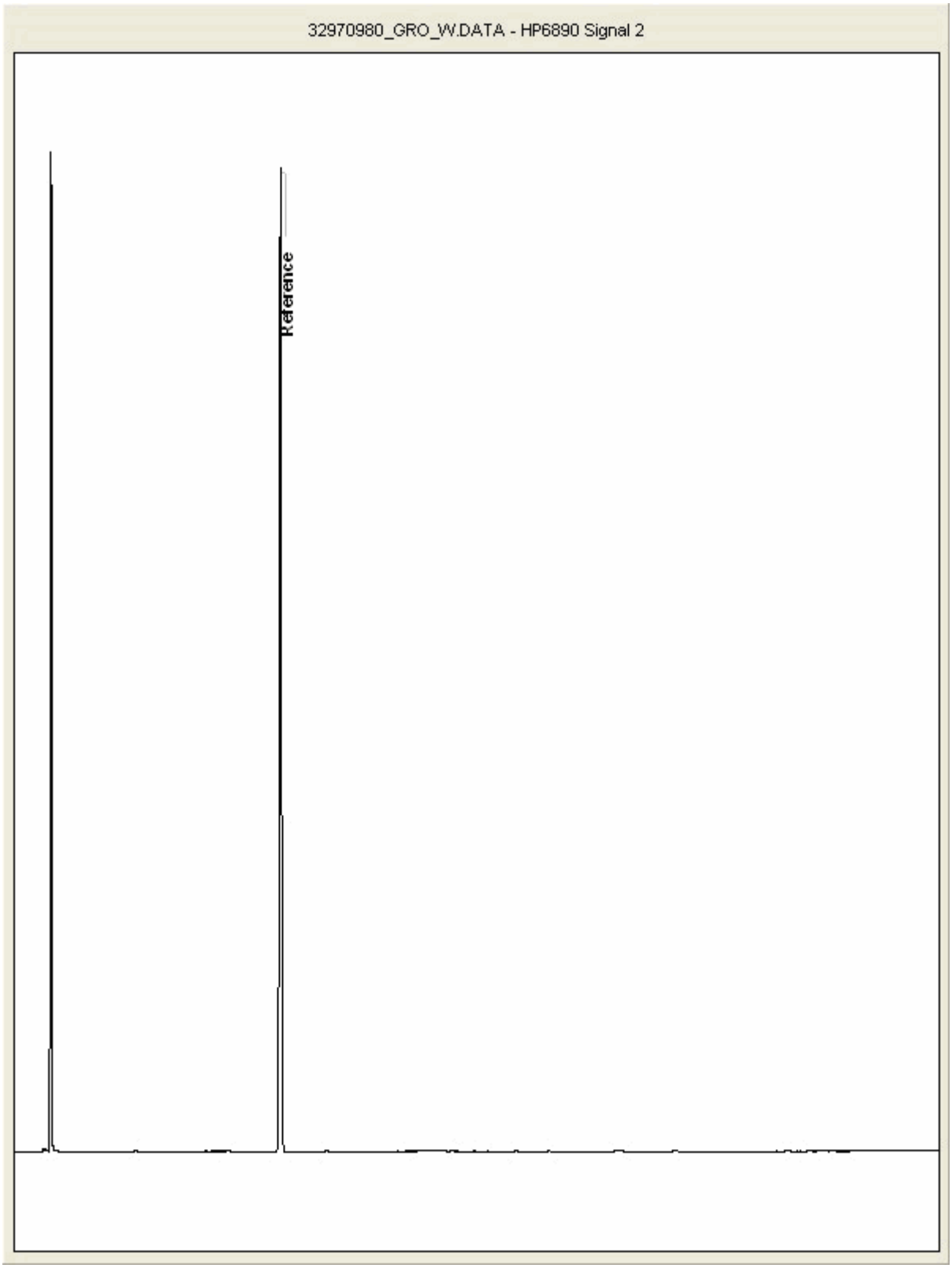


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32970980 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

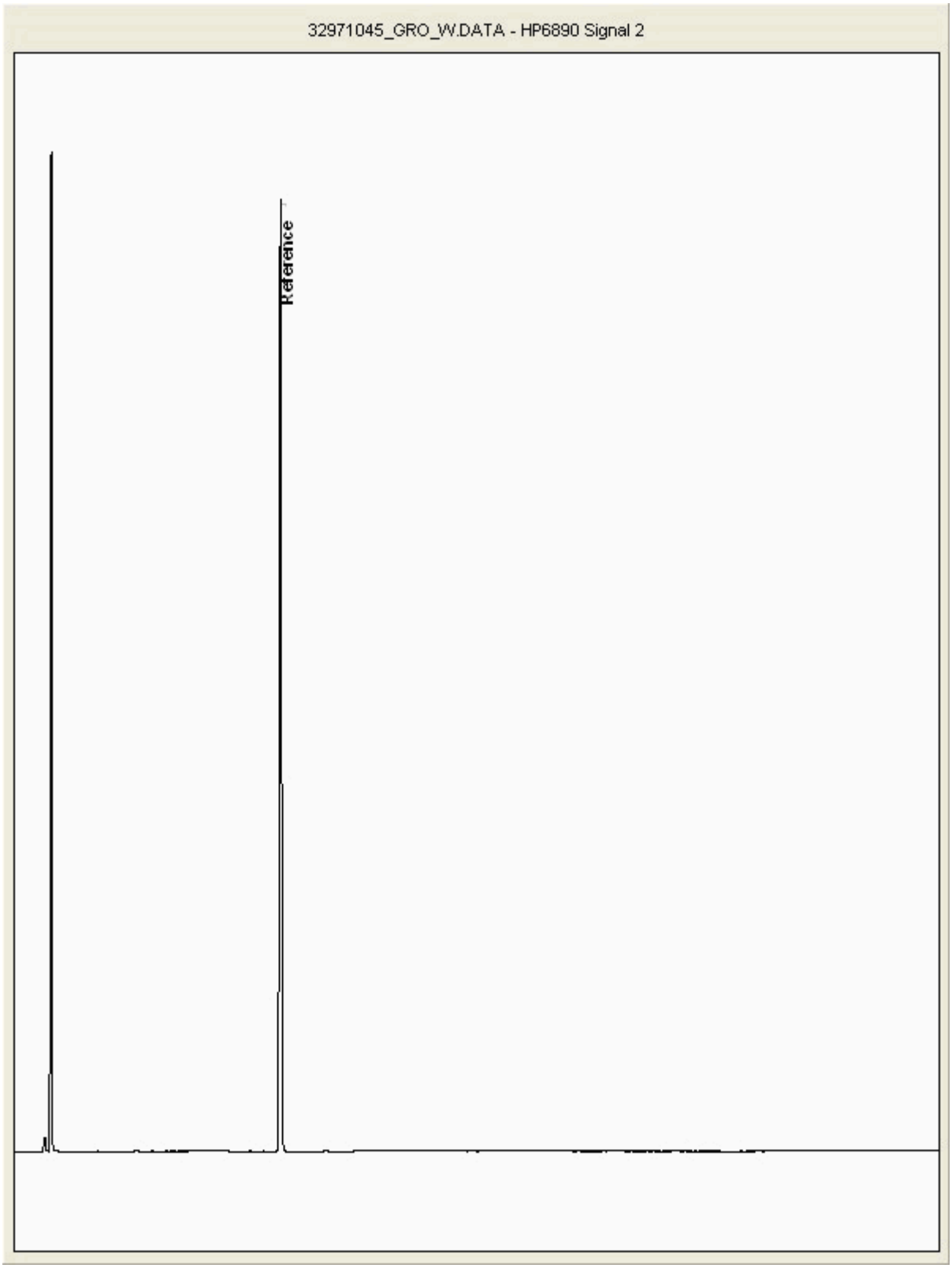


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32971045 **Depth :** 0.00 - 0.00
Sample ID : BH201

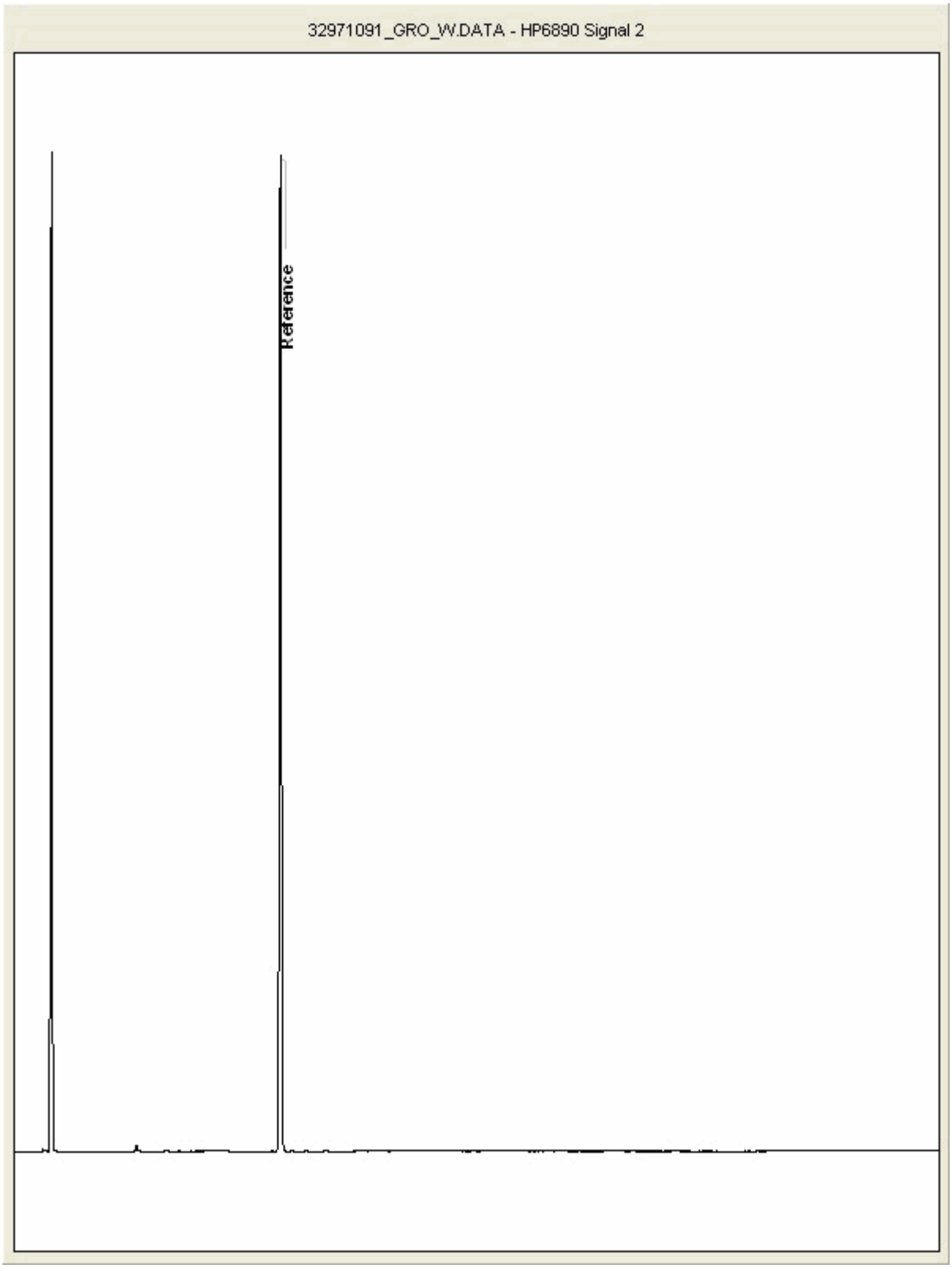


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32971091 **Depth :** 0.00 - 0.00
Sample ID : BH1

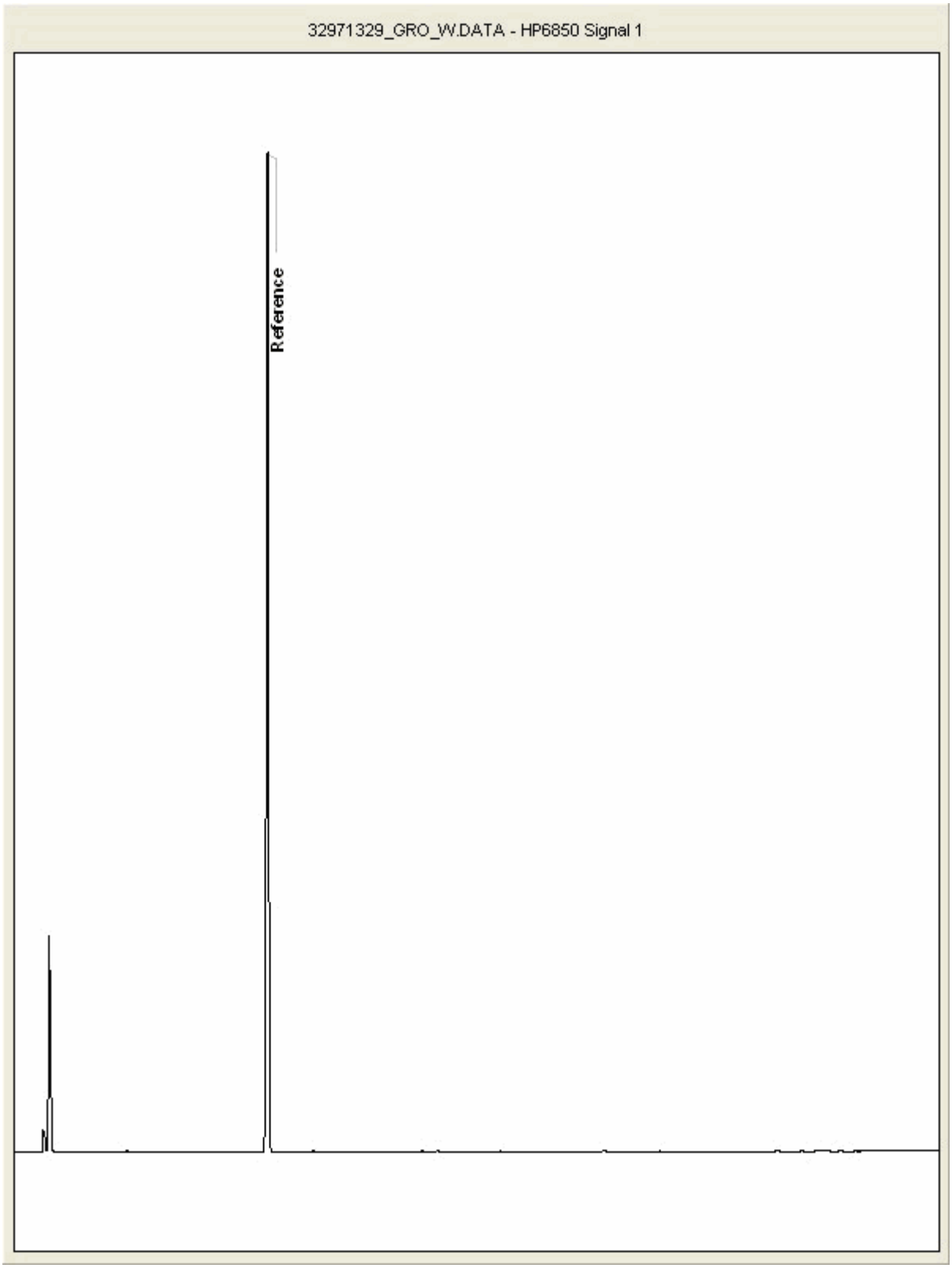


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32971329 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)

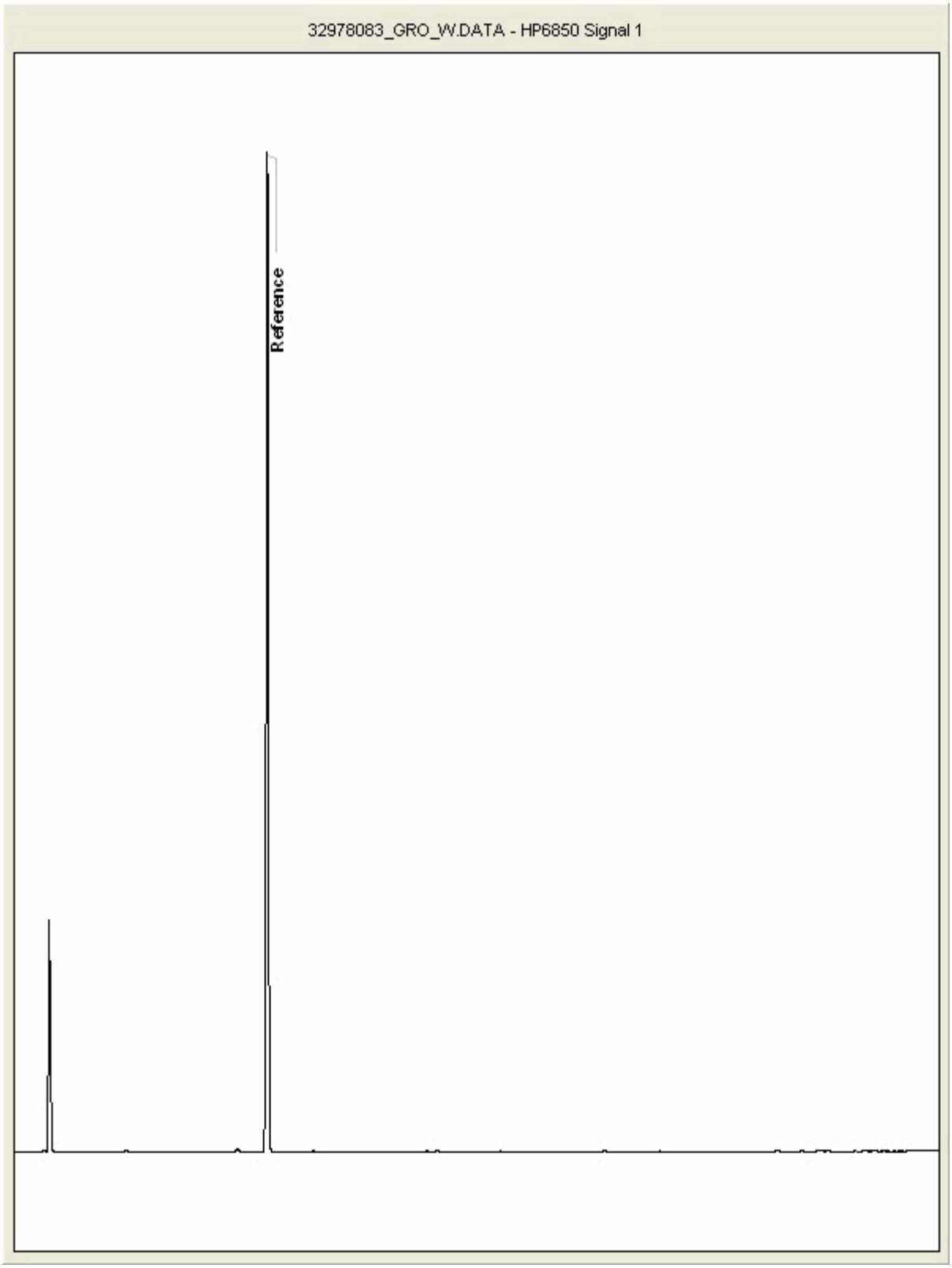


CERTIFICATE OF ANALYSIS

SDG: 260224-46 **Report Number:** 793766 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 32978083 **Depth :** 0.00 - 0.00
Sample ID : BH2



Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	09 April 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260326-82
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	797805
Order Number:	GWPR6817

We received 6 samples on Thursday March 26, 2026 and 6 of these samples were scheduled for analysis which was completed on Thursday April 09, 2026. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
33145849	BH1		0.00 - 0.00	25/03/2026
33145859	BH2		0.00 - 0.00	25/03/2026
33145869	BH201		0.00 - 0.00	25/03/2026
33145878	BH202		0.00 - 0.00	25/03/2026
33145903	BH203 (d)		0.00 - 0.00	25/03/2026
33145887	BH203 (s)		0.00 - 0.00	25/03/2026

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
			33145849	BH1		0.00 - 0.00	0.5l glass bottle (ALE227)	GW
							500ml Plastic (ALE208)	GW
							H2SO4 (ALE244)	GW
							HNO3 Filtered (ALE204)	GW
							NaOH (ALE245)	GW
							Vial (ALE297)	GW
			33145859	BH2		0.00 - 0.00	0.5l glass bottle (ALE227)	GW
							500ml Plastic (ALE208)	GW
							H2SO4 (ALE244)	GW
							HNO3 Filtered (ALE204)	GW
							NaOH (ALE245)	GW
							Vial (ALE297)	GW
			33145869	BH201		0.00 - 0.00	0.5l glass bottle (ALE227)	GW
							500ml Plastic (ALE208)	GW
							H2SO4 (ALE244)	GW
							HNO3 Filtered (ALE204)	GW
							NaOH (ALE245)	GW
							Vial (ALE297)	GW
			33145878	BH202		0.00 - 0.00	0.5l glass bottle (ALE227)	GW
							500ml Plastic (ALE208)	GW
							H2SO4 (ALE244)	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 6		X				
							X	
							X	
							X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6						
					X			
							X	
							X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6						
				X				
							X	
EPH and CWG by FID	All	NDPs: 0 Tests: 6		X				
							X	
							X	
							X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						
					X			
							X	
							X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6		X				
							X	
							X	
							X	
Mercury Dissolved	All	NDPs: 0 Tests: 6						
				X				
							X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6	X					
							X	
							X	
							X	
pH Value	All	NDPs: 0 Tests: 6		X				
							X	
							X	
							X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6						
					X			
							X	
							X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6		X				
							X	
							X	
							X	
TPH CWG (W)	All	NDPs: 0 Tests: 6	X					
							X	
							X	
							X	
VOC MS (W)	All	NDPs: 0 Tests: 6						
							X	
							X	
							X	

33145887	BH203 (s)		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						
				H2SO4 (ALE244)	GW										X			
				500ml Plastic (ALE208)	GW	X			X		X			X		X		
				0.5l glass bottle (ALE227)	GW								X				X	
33145903	BH203 (d)		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						
				H2SO4 (ALE244)	GW										X			
				500ml Plastic (ALE208)	GW	X					X			X		X		
				0.5l glass bottle (ALE227)	GW				X				X				X	
33145878	BH202		0.00 - 0.00	Vial (ALE297)	GW					X								X
				NaOH (ALE245)	GW		X											
				HNO3 Filtered (ALE204)	GW			X				X						

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
Arsenic (diss.filt)	<0.5 µg/l	TM152		1.32 #	0.947 #	<0.5 #	2.6 #	24 #	57.9 #
Boron (diss.filt)	<10 µg/l	TM152		310 #	182 #	288 #	458 #	275 #	170 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		0.121 #	0.213 #	<0.08 #	0.0948 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		3.78 #	2.18 #	2.86 #	2.23 #	0.366 #	0.768 #
Lead (diss.filt)	<0.2 µg/l	TM152		0.242 #	0.727 #	0.529 #	0.314 #	0.437 #	0.432 #
Nickel (diss.filt)	<0.4 µg/l	TM152		20.9 #	5.33 #	23.4 #	22.2 #	2.14 #	2.96 #
Selenium (diss.filt)	<1 µg/l	TM152		3.65 #	3.33 #	2.4 #	1.56 #	<1 #	<1 #
Vanadium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		17 #	215 #	11.7 #	13.7 #	8.37 #	21.1 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	0.0109 #
Sulphate	<2000 µg/l	TM184		97900 #	30000 #	72900 #	86400 #	47500 #	44500 #
Cyanide, Total	<50 µg/l	TM227		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Chromium, Hexavalent	<30 µg/l	TM241		<30 #	<30 #	<30 #	<30 #	<30 #	<30 #
pH	<1 pH Units	TM256		7.08 #	7.23 #	7.18 #	7.12 #	7.28 #	7.3 #
Phenol	<2 µg/l	TM259		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Cresols	<6 µg/l	TM259		<6 #	<6 #	<6 #	<6 #	<6 #	<6 #
Xylenols	<8 µg/l	TM259		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
Phenols, Total Detected monohydric	<16 µg/l	TM259		<16 #	<16 #	<16 #	<16 #	<16 #	<16 #

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		<0.05 #	0.27 #	<0.01 #	<0.01 #	<0.01 #	<0.2 #
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.025 #	0.183 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.025 #	3.37 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Fluoranthene (aq)	<0.005 µg/l	TM178		0.0276 #	31.4 #	0.0055 #	0.00895 #	0.00628 #	0.38 #
Anthracene (aq)	<0.005 µg/l	TM178		<0.025 #	1.73 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Phenanthrene (aq)	<0.005 µg/l	TM178		<0.025 #	4.06 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Fluorene (aq)	<0.005 µg/l	TM178		<0.025 #	0.383 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Chrysene (aq)	<0.005 µg/l	TM178		<0.025 #	28 #	<0.005 #	0.0066 #	<0.005 #	0.259 #
Pyrene (aq)	<0.005 µg/l	TM178		0.0336 #	31.3 #	0.00736 #	0.00989 #	0.00694 #	0.42 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		<0.025 #	22.1 #	<0.005 #	<0.005 #	<0.005 #	0.107 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		0.0396 #	71.8 #	0.00746 #	0.0139 #	0.00975 #	0.572 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		<0.025 #	23.8 #	<0.005 #	<0.005 #	<0.005 #	0.185 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		0.0247 #	48 #	0.0059 #	0.0115 #	0.00662 #	0.425 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		<0.025 #	6.29 #	<0.005 #	<0.005 #	<0.005 #	<0.1 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		<0.025 #	39.8 #	<0.005 #	<0.005 #	<0.005 #	0.274 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		<0.025 #	35.9 #	0.00538 #	0.00942 #	0.00506 #	0.339 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		<0.41 #	348 #	<0.082 #	<0.082 #	<0.082 #	2.96 #

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4◆§@	Sample deviation (see appendix)

Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
AGS Reference						

Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<8	<200	<4	<2	<2	<8
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<8	<200	<4	<2	<2	<8
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
4-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<8	<200	<4	<2	<2	<8
Azobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Acenaphthylene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Acenaphthene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Anthracene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<16 #	<400 #	<8 #	<4 #	<4 #	<16 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Carbazole (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Chrysene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Dibenzofuran (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<40 #	<1000 #	<20 #	<10 #	<10 #	<40 #
Fluoranthene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Fluorene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<8	<200	<4	<2	<2	<8
Phenol (aq)	<1 µg/l	TM176		<8	<200	<4	<2	<2	<8
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Hexachloroethane (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Nitrobenzene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Naphthalene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Isophorone (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<8	<200	<4	<2	<2	<8
Phenanthrene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #
Pyrene (aq)	<1 µg/l	TM176		<8 #	<200 #	<4 #	<2 #	<2 #	<8 #

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		93	97	91	96	89	91
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (EH_2D_AL)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (EH_2D_AL)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EH_2D_AL)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<10	<100	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<10	182	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EH_2D_AR_#1)	<10 µg/l	TM439		<10	182	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439		<10	182	<10	<10	<10	<10

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
Dibromofluoromethane**	%	TM208		105	105	105	103	101	102
Toluene-d8**	%	TM208		98.6	97.8	98.7	97.2	96.7	97.4
4-Bromofluorobenzene**	%	TM208		97.8	97.6	98.4	98.1	97.8	97.7
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		1.06 #	<1 #	<1 #	1.54 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		5.95 #	<1 #	3.93 #	5.55 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	1.2 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		1.34 #	<1 #	2.59 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		8.2 #	14.5 #	16.1 #	4.16 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	1.03 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
			Sampled Time	00:00	00:00	00:00	00:00	00:00	00:00
			Date Received	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
			SDG Ref	260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
			Lab Sample No.(s)	33145849	33145859	33145869	33145878	33145903	33145887
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Sum of detected Xylenes	<2 µg/l	TM208		<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208		<5	<5	<5	<5	<5	<5

Table of Results - Appendix

Method No	Description
TM152	Analysis of Aqueous Samples by ICP-MS
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Test Completion Dates

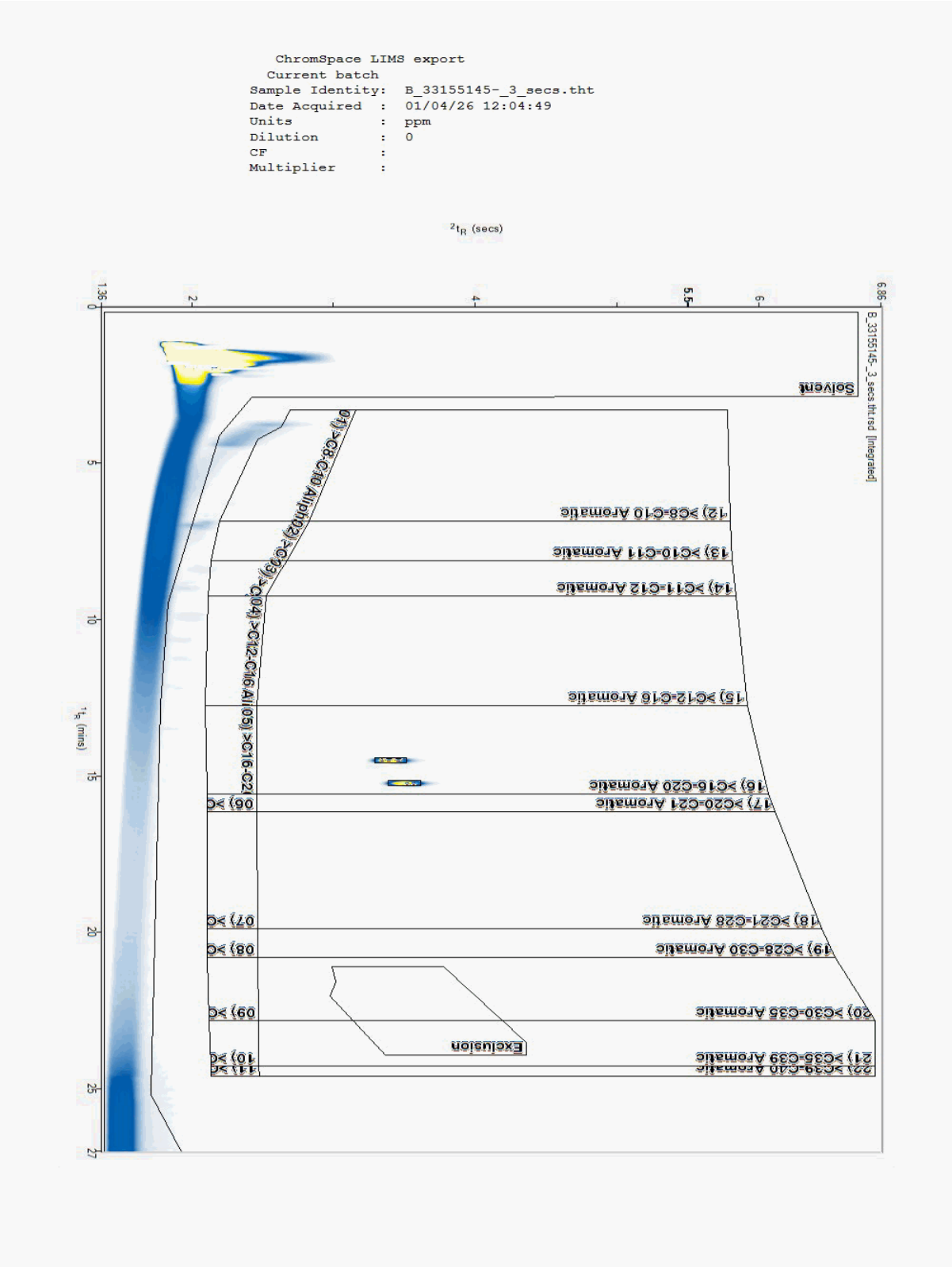
Lab Sample No(s)	33145849	33145859	33145869	33145878	33145903	33145887
Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
AGS Ref.						
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	31-Mar-2026	31-Mar-2026	31-Mar-2026	30-Mar-2026	31-Mar-2026	31-Mar-2026
Cyanide Comp/Free/Total/Thiocyanate	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	02-Apr-2026	01-Apr-2026
Dissolved Metals by ICP-MS	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
EPH and CWG by FID	07-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026
GRO by GC-FID (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	31-Mar-2026	31-Mar-2026	31-Mar-2026
Hexavalent Chromium (w)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
Mercury Dissolved	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026
PAH Spec MS - Aqueous (W)	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026
pH Value	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026
Phenols by HPLC (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
SVOC MS (W) - Aqueous	08-Apr-2026	09-Apr-2026	08-Apr-2026	08-Apr-2026	08-Apr-2026	08-Apr-2026
TPH CWG (W)	07-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026
VOC MS (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026

CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

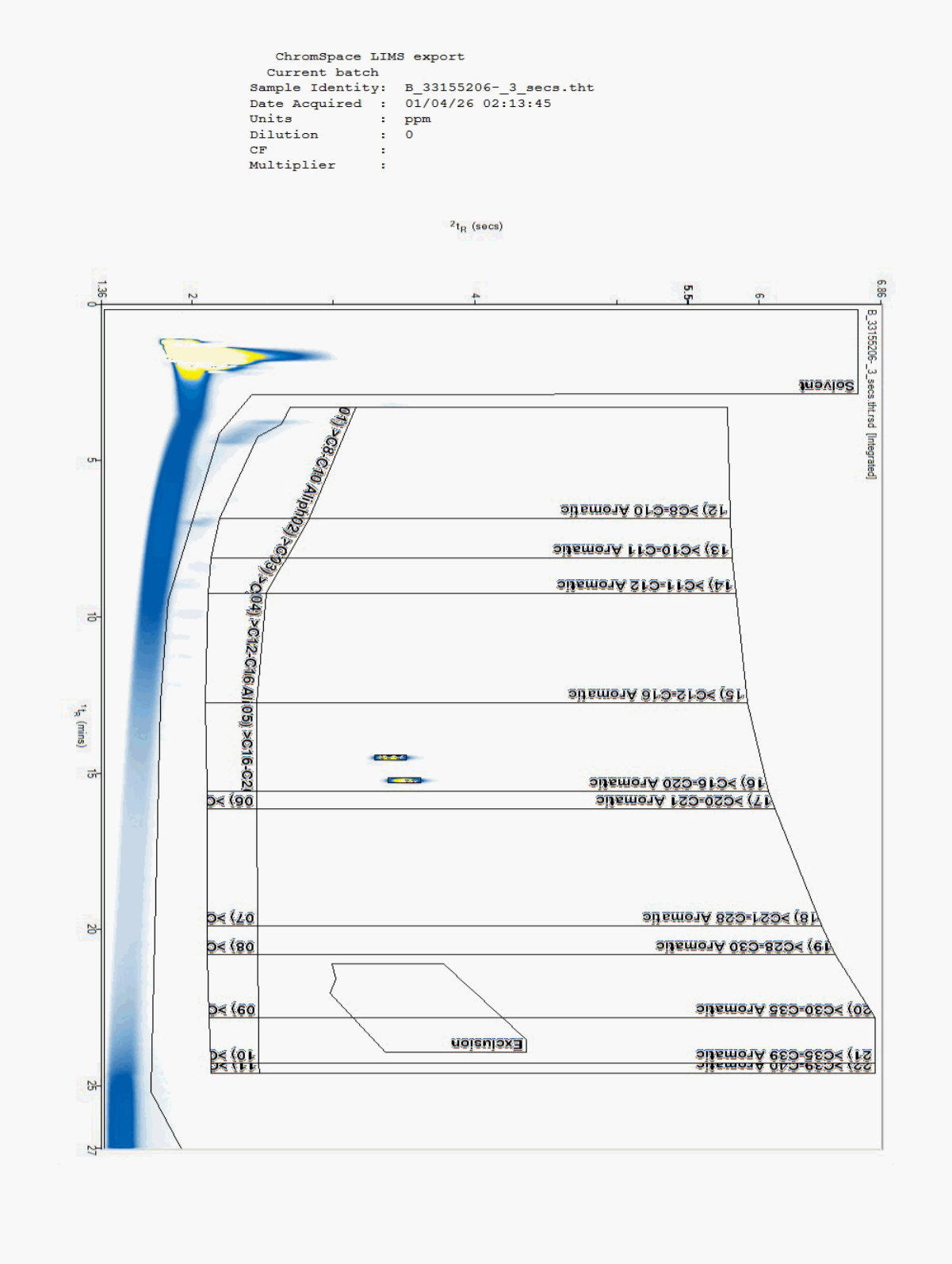
Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33155145 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)



Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33155206 **Depth :** 0.00 - 0.00
Sample ID : BH201

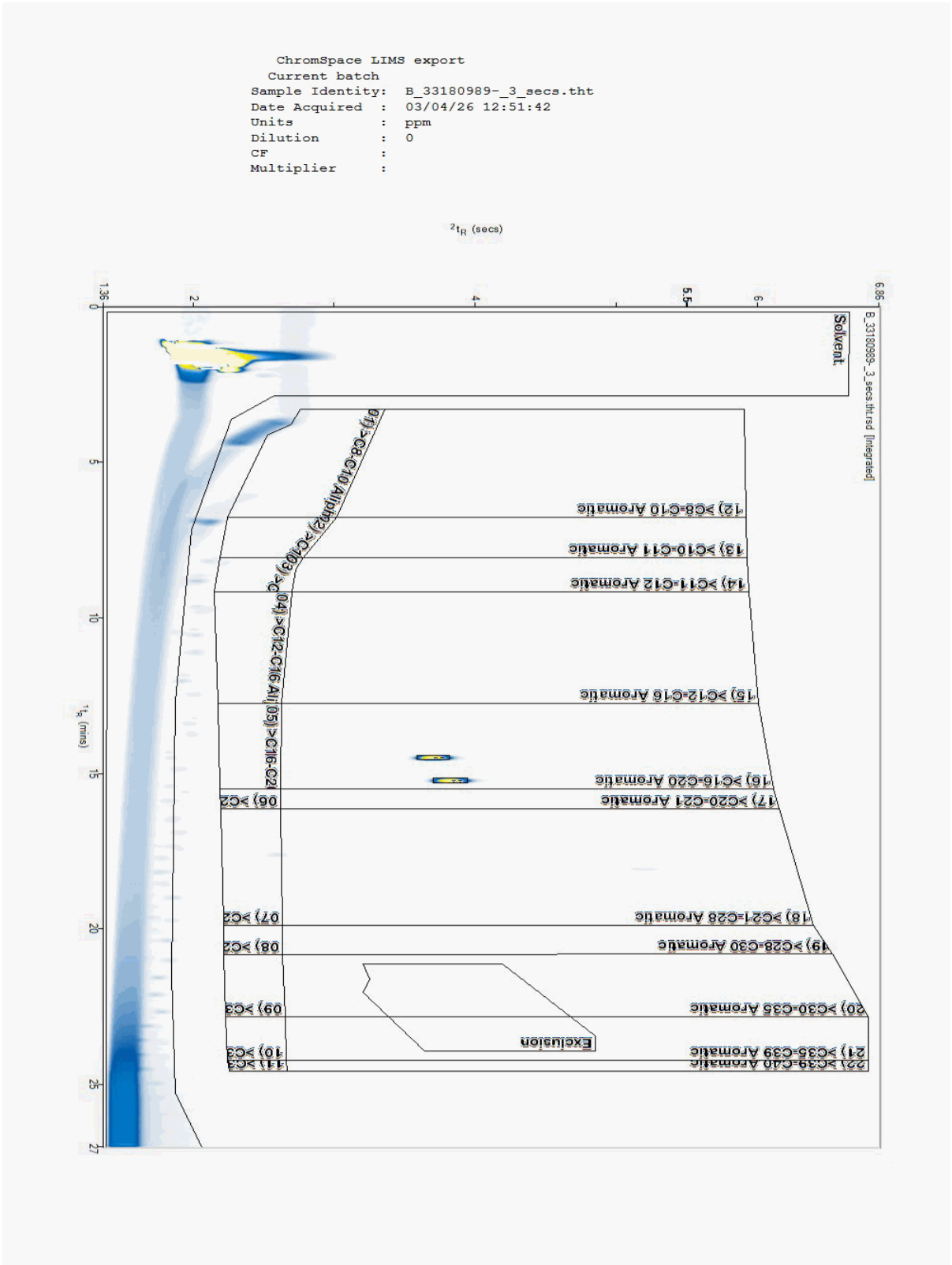


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33180989 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

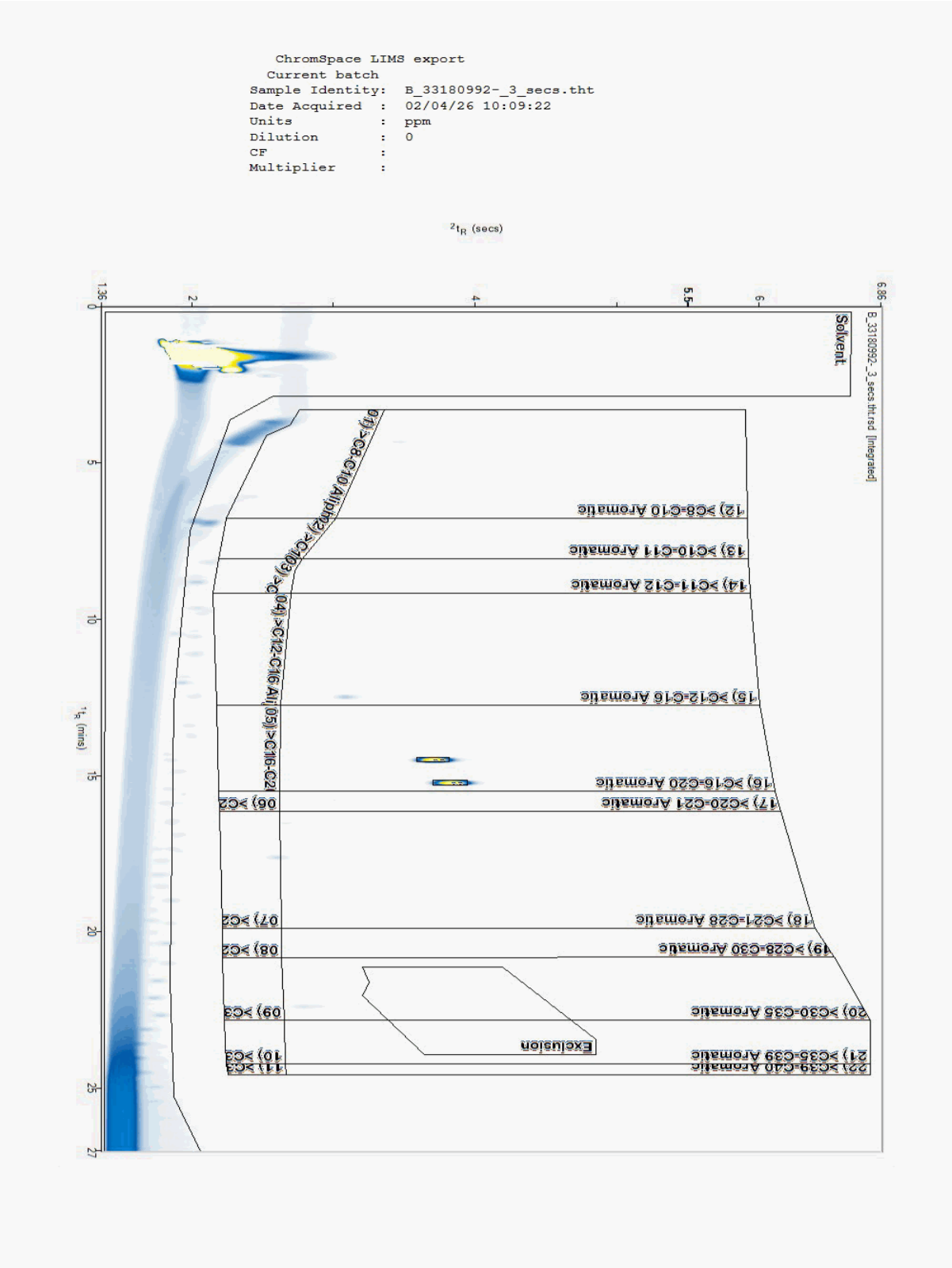


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33180992 **Depth :** 0.00 - 0.00
Sample ID : BH202

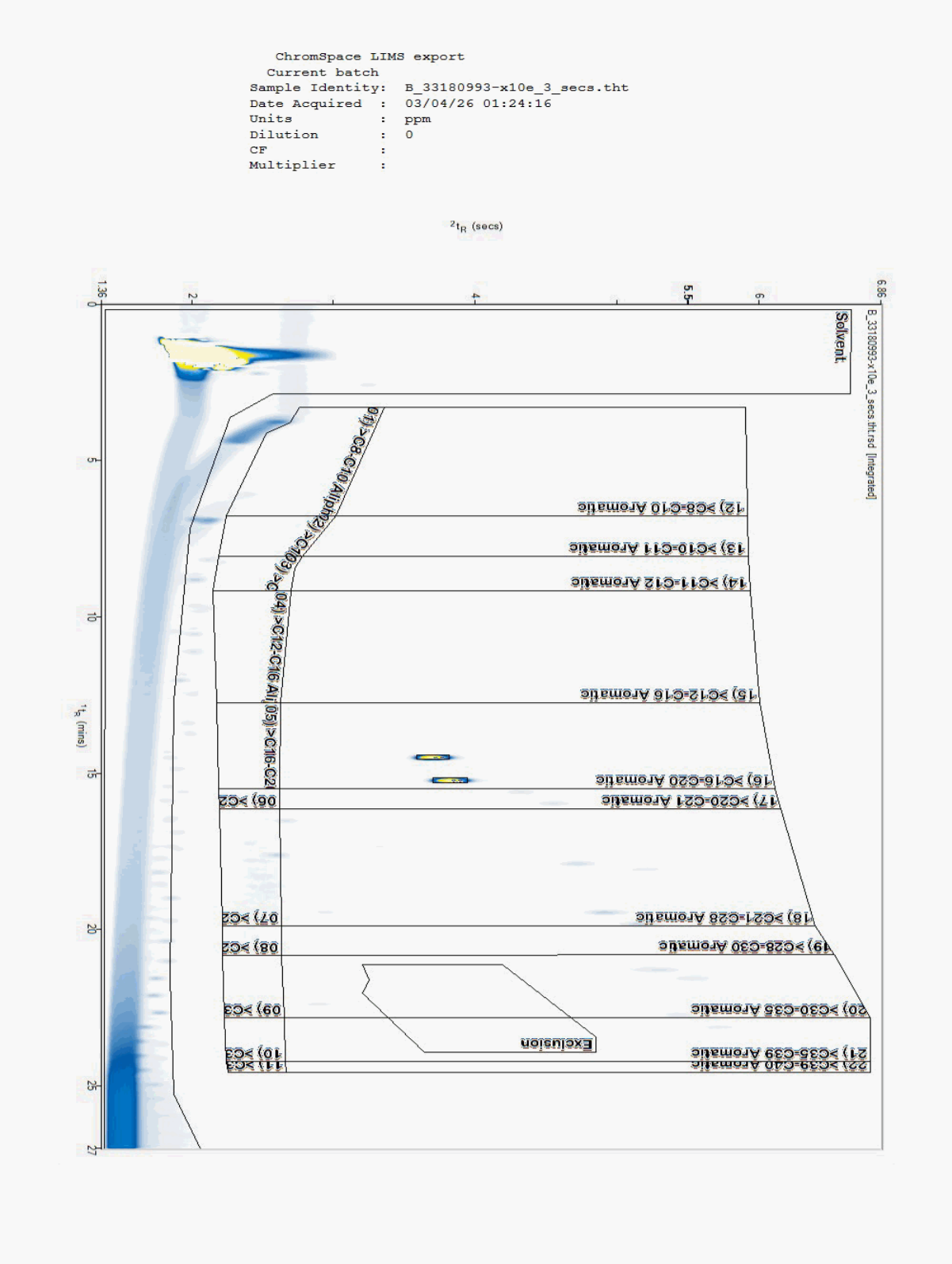


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33180993 **Depth :** 0.00 - 0.00
Sample ID : BH2

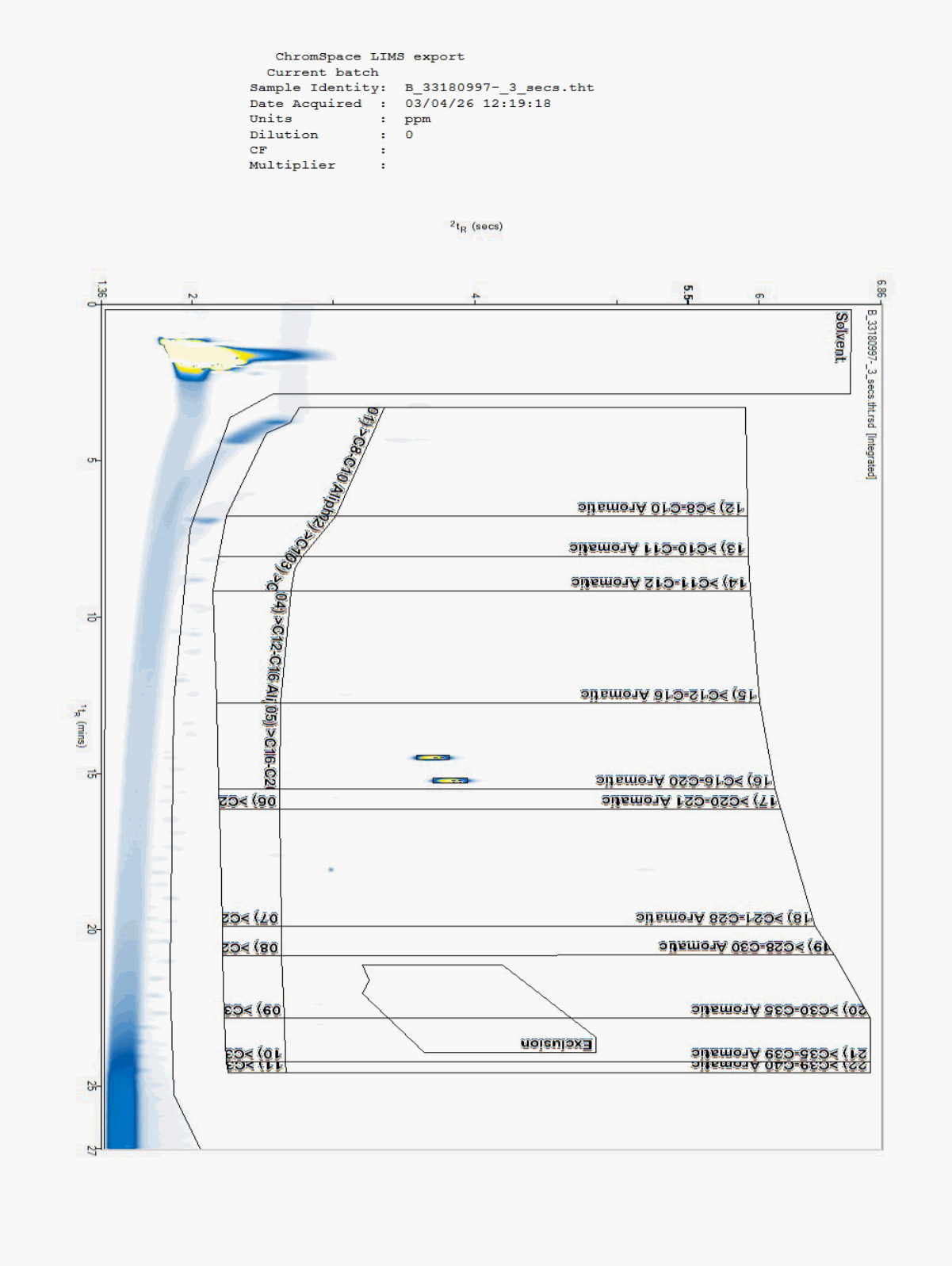


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID **Sample No :** 33180997 **Depth :** 0.00 - 0.00
Sample ID : BH1

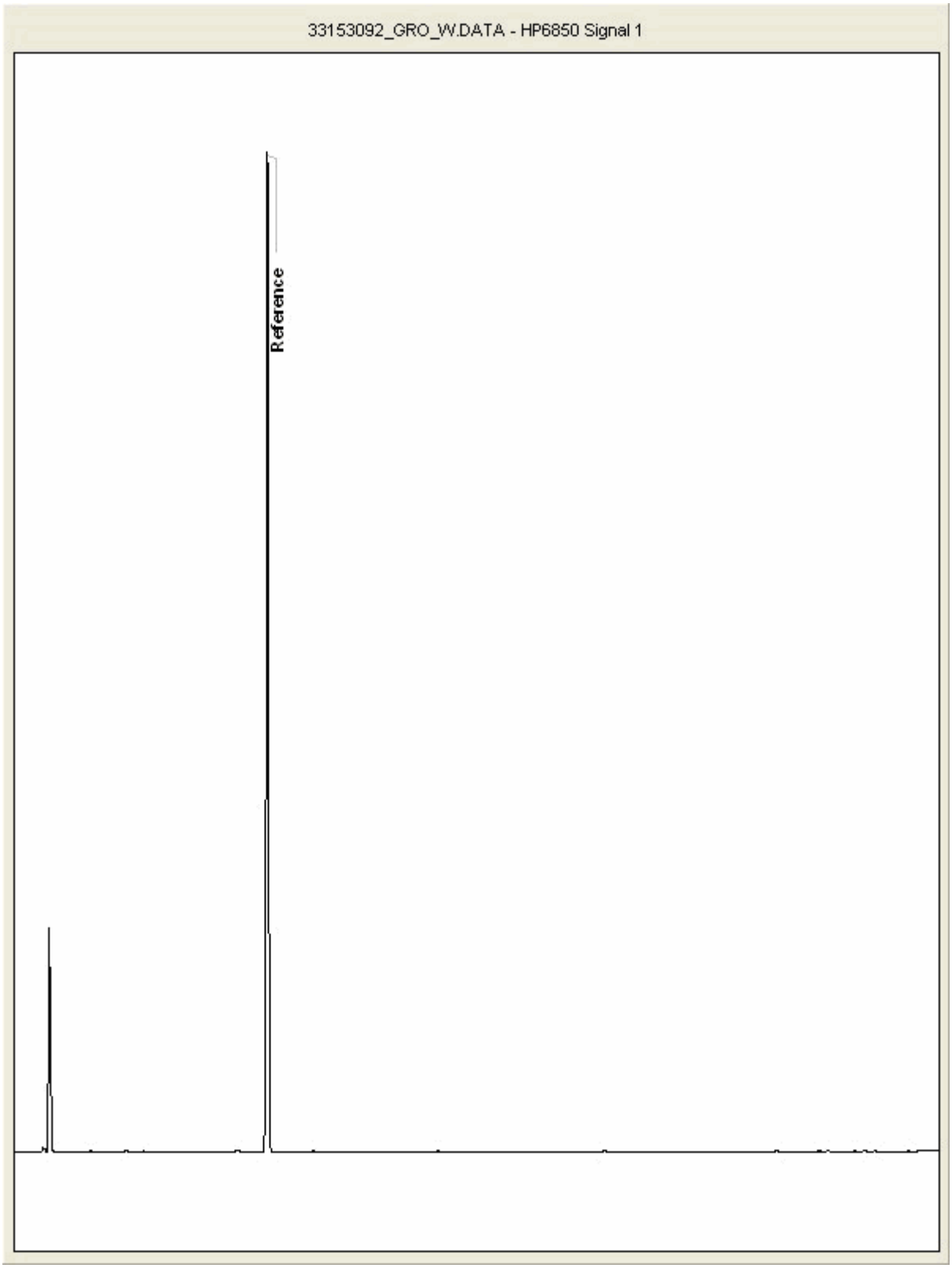


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33153092 **Depth :** 0.00 - 0.00
Sample ID : BH201

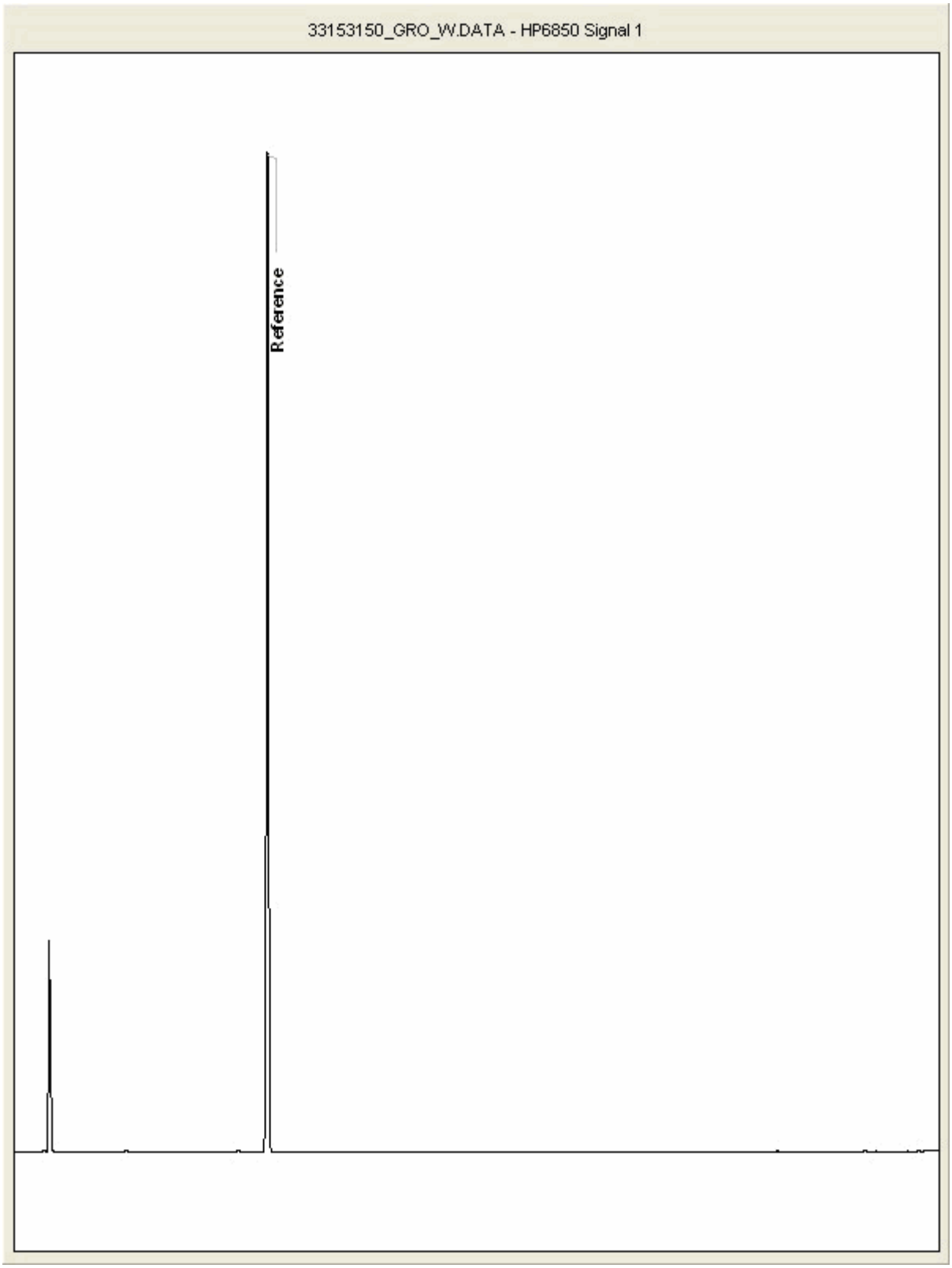


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33153150 **Depth :** 0.00 - 0.00
Sample ID : BH2

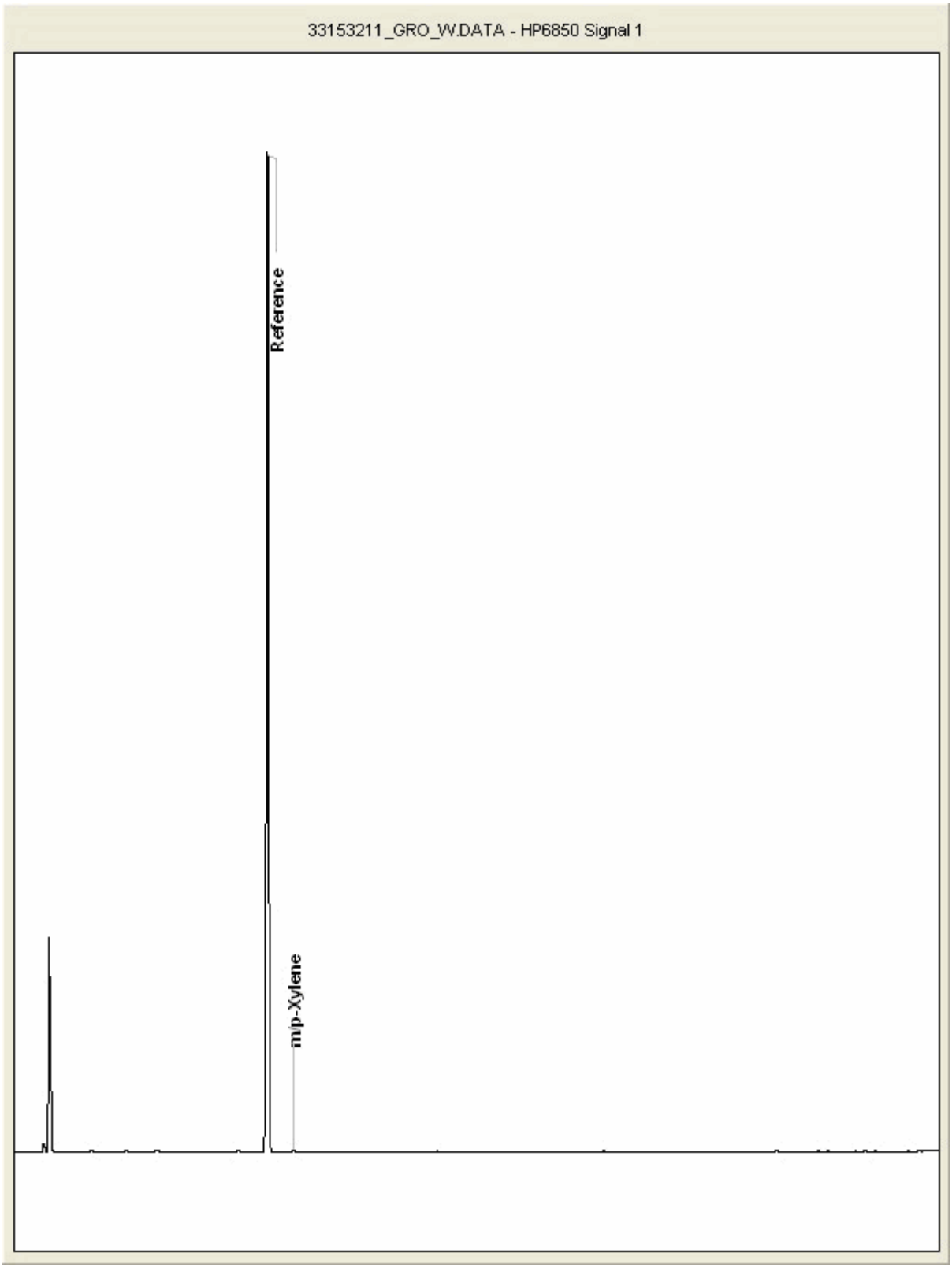


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33153211 **Depth :** 0.00 - 0.00
Sample ID : BH1

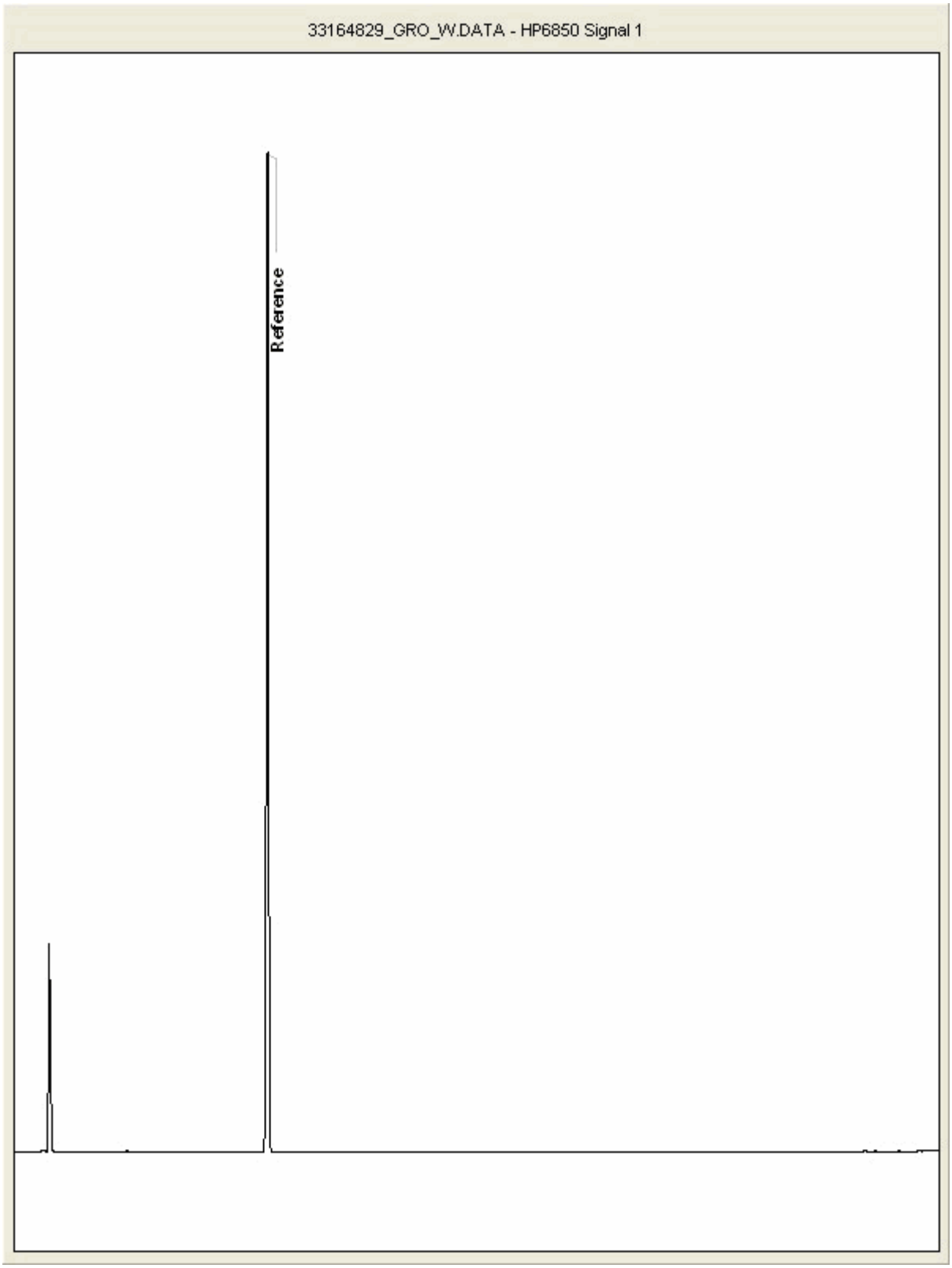


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33164829 **Depth :** 0.00 - 0.00
Sample ID : BH203 (s)

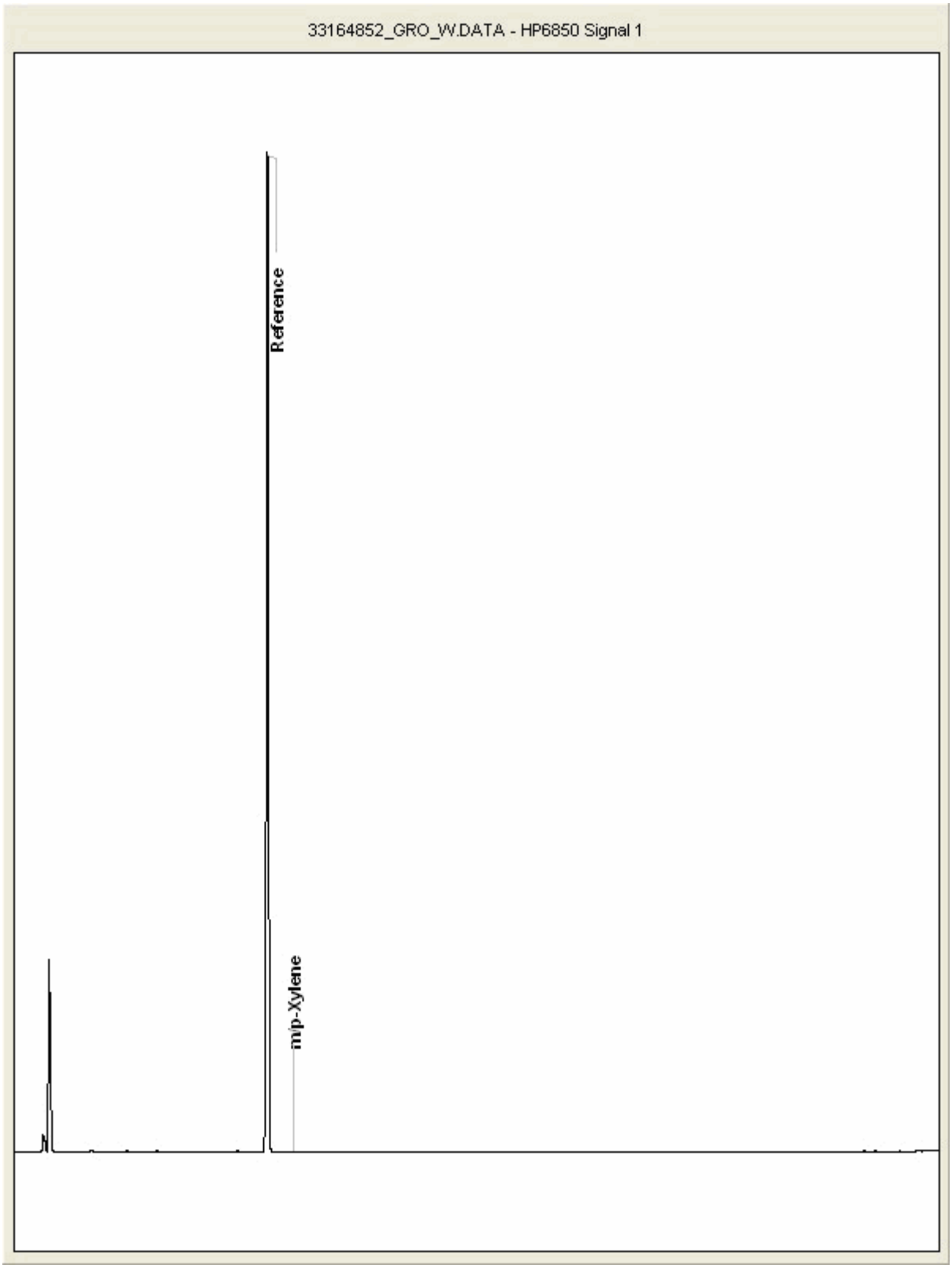


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33164852 **Depth :** 0.00 - 0.00
Sample ID : BH202

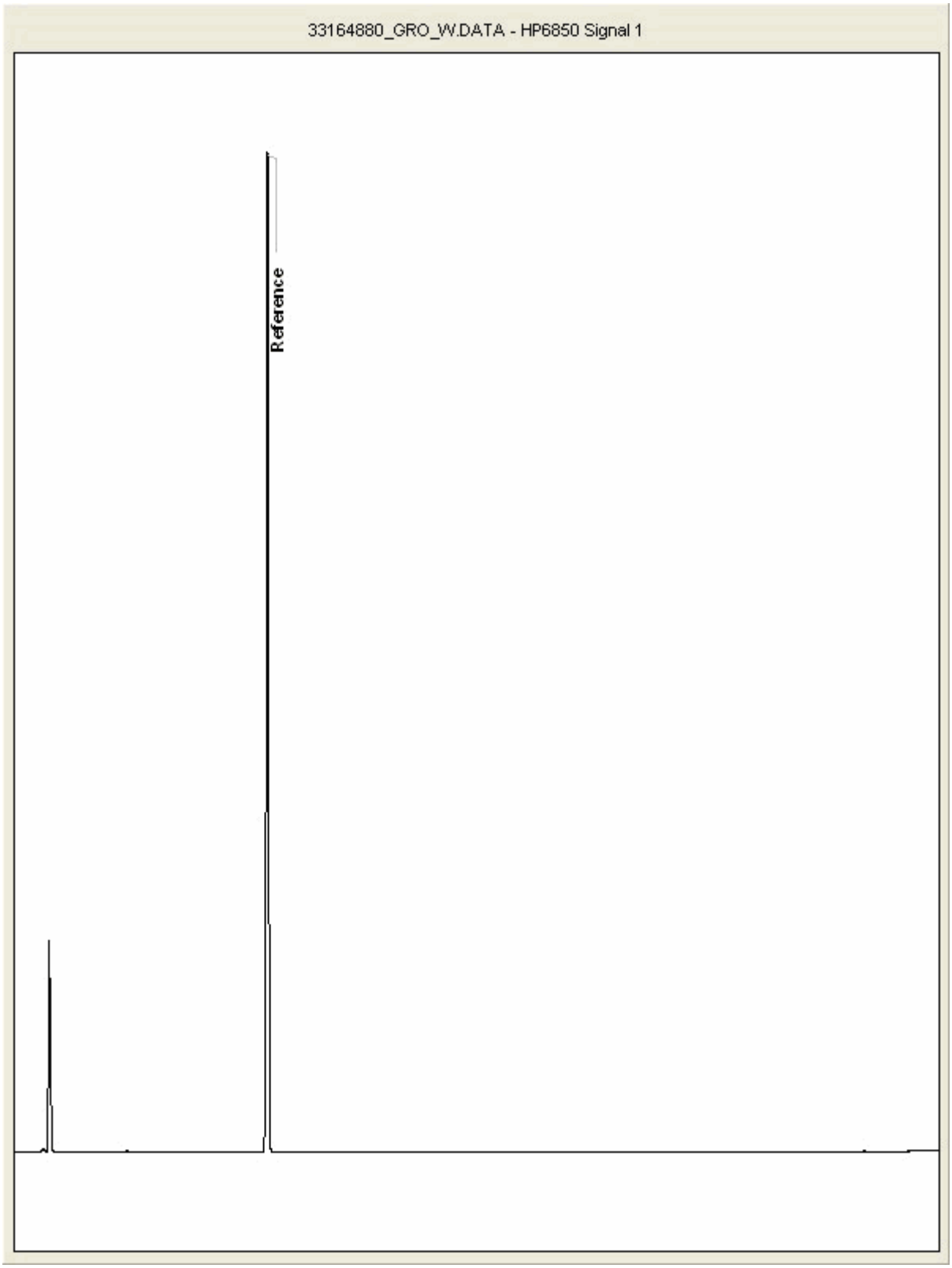


CERTIFICATE OF ANALYSIS

SDG: 260326-82 **Report Number:** 797805 **Superseded Report:**
Client Ref.: GWPR6817 **Location:** 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 33164880 **Depth :** 0.00 - 0.00
Sample ID : BH203 (d)



Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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Analytical Report Number : 26-051974

Project / Site name:	220 Elgar Road South Reading RG2 0BW	**Samples received on:**	21/09/2026
Your job number:	GWPR7110	**Samples instructed on/ Analysis started on:**	21/09/2026
Your order number:	GWPR7110	**Analysis completed by:**	29/09/2026
Report Issue Number:	1	**Report issued on:**	29/09/2026
Samples Analysed:	12 soil samples		

Gabriela Slupik

Signed:

Gabriela Slupik
Junior Reporting Specialist
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

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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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055806	1055807	1055808	1055809	1055810
Sample Reference				WS303	WS303	WS304	WS304	WS305
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)				5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	26	17	21	18
Total mass of sample received	kg	0.1	NONE	1.4	1.1	1.2	1.1	1.2
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	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
VOCs								
Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	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
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055806	1055807	1055808	1055809	1055810
Sample Reference				WS303	WS303	WS304	WS304	WS305
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)				5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	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
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055806	1055807	1055808	1055809	1055810
Sample Reference				WS303	WS303	WS304	WS304	WS305
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)				5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	0.8	< 0.3	< 0.3	< 0.3

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055811	1055812	1055813	1055814	1055815
Sample Reference				WS305	WS306	WS306	WS302	WS302
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)				4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	25	15	23	19	23
Total mass of sample received	kg	0.1	NONE	1.1	1.4	1.2	1	1.1
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	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
VOCs								
Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	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
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055811	1055812	1055813	1055814	1055815
Sample Reference				WS305	WS306	WS306	WS302	WS302
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)				4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	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
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055811	1055812	1055813	1055814	1055815
Sample Reference				WS305	WS306	WS306	WS302	WS302
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)				4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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

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Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055816	1055817
Sample Reference				WS301	WS301
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				4.00-4.50	4.50-5.00
Date Sampled				18/09/2026	18/09/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	27
Total mass of sample received	kg	0.1	NONE	1.1	1
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80
VOCs					
Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055816	1055817
Sample Reference				WS301	WS301
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				4.00-4.50	4.50-5.00
Date Sampled				18/09/2026	18/09/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0

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Analytical Report Number: 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW
Your Order No: GWPR7110

Lab Sample Number				1055816	1055817
Sample Reference				WS301	WS301
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				4.00-4.50	4.50-5.00
Date Sampled				18/09/2026	18/09/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
SVOCs					
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3

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

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Analytical Report Number : 26-051974
Project / Site name: 220 Elgar Road South Reading RG2 0BW

* 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 *
1055806	WS303	None Supplied	5.00-5.50	Brown sandy clay with gravel
1055807	WS303	None Supplied	5.50-6.00	Beige clay and sand with gravel and chalk
1055808	WS304	None Supplied	4.60-4.90	Brown sandy clay with gravel
1055809	WS304	None Supplied	4.90-5.30	Beige clay and sand with gravel and chalk
1055810	WS305	None Supplied	4.30-4.50	Brown sandy clay with gravel
1055811	WS305	None Supplied	4.60-6.00	Beige clay and sand with concrete and chalk
1055812	WS306	None Supplied	4.70-4.90	Brown clay and sand with gravel
1055813	WS306	None Supplied	4.90-5.10	Beige clay and sand with gravel and chalk
1055814	WS302	None Supplied	4.00-4.70	Brown clay and loam with gravel and vegetation
1055815	WS302	None Supplied	4.90-6.00	Beige clay and sand with gravel and chalk
1055816	WS301	None Supplied	4.00-4.50	Brown clay and sand with gravel
1055817	WS301	None Supplied	4.50-5.00	Beige clay and sand with gravel and chalk

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Analytical Report Number : 26-051974
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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
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	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
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
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.

Where coal tar is reported as "indicative/not indicative", PAH source attribution has been assessed using the ratio of parent PAHs to alkylated PAHs to indicate a likely pyrogenic (coal tar–related) or petrogenic (bitumen-related) origin. This assessment is independent of total residue and/or benzo(a)pyrene concentrations and is provided for indicative purposes only; it represents a single line of evidence and does not, in isolation, constitute confirmation or classification as hazardous under WM3 guidance.

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

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APPENDIX G:
Soil Assessment Criteria

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Ground and Water Limited

Soil Guideline Values and Generic Assessment Criteria

The Contaminated Land Regime reflects the UK Government's stated objectives of achieving sustainable development through the 'suitable for use approach'. At preliminary risk assessment stage, risks are evaluated qualitatively. As the site investigation progresses to a generic or detailed quantitative risk assessment, data is collected and assessment criteria are utilised to evaluate whether the contaminants represent an unacceptable risk to the identified receptors.

1. Contaminated Land Exposure Assessment Model (CLEA)

Current United Kingdom risk assessment practice is based on the Contaminated Land Exposure Assessment Model (CLEA).

The CLEA Guidance comprises the following documents:

1) EA Science Report SC050021/SR2: Human health toxicological assessment of contaminants in soil.
2) EA Science Report SC050021/SR3: Updated technical background to the CLEA model.
3) EA CLEA Bulletin (2009).
4) CLEA software version 1.07 (2015)
5) Toxicological reports and SGV technical notes.

The CLEA guidance and tools:

- Do not cover other types of risk to humans, such as fire, suffocation or explosion, or short-term and acute exposures;
- Do not cover risks to the environment, such as groundwater, ecosystems or buildings;
- Do not provide a definitive test for telling when human health risks are significant; and
- Are not a legal requirement in assessing land contamination risks. They are not part of the legal regime for Part 2A of the Environmental Protection Act 1990.

The CLEA guidance derives soil concentrations of contaminants above which (in the opinion of the EA) there may be a concern that warrants further investigation. It does not provide a definitive test for establishing that the risk is significant.

1.1. Land-use Scenarios

The CLEA model uses a range of standard land-use scenarios to develop conceptual exposure models outlined in the following sections.

1.1.1. Residential (with home grown produce) (RwHP)

Generic scenario assumes a typical two-storey house built on a ground bearing slab with a private garden having a lawn, flowerbeds and a small fruit and vegetable patch.

- Critical receptor is a young female child (zero to six years old)
- Exposure duration is six years.
- Exposure pathways include direct soil and indoor dust ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and indoor dust and inhalation of indoor and outdoor dust and vapours.
- Building type is a two-storey small-terraced house.

A sub-set of this land-use is residential apartments with communal landscaped gardens where the consumption of home grown vegetables will not occur. (Residential without homegrown produce (RwoHP)).

1.1.2. Allotments

Provision of open space (about 250sq.m) commonly made available to tenants by the local authority to grow fruit and vegetable for their own consumption. Typically, there are a number of plots to a site which may have a total area of up to 1 hectare. The tenants are assumed to be adults and that young children make occasional accompanied visits.

Although some allotment holders may choose to keep animals including rabbits, hens, and ducks, potential exposure to contaminated meat and eggs is not considered.

- Critical receptor is a young female child (zero to six years old)
- Exposure duration is six years.
- Exposure pathways include direct soil ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and inhalation of outdoor dust and vapours.
- There is no building.

1.1.3. Commercial/Industrial

The generic scenario assumes a typical commercial or light industrial property comprising a three-storey building at which employees spend most time indoors and are involved in office-based or relatively light physical work.

- Critical receptor is a working female adult (aged 16 to 65 years old).
- Exposure duration is a working lifetime of 49 years.
- Exposure pathways include direct soil and indoor dust ingestion, skin contact with soils and dusts and inhalation of dust and vapours.
- Building type is a three-storey office (pre 1970).

2. LQM/CIEH Suitable 4 Use Levels (S4UL)

For derivation of these S4UL reference must be made to:

Nathanial, P., McCaffrey, C., Gillet, A., Ogden, R., Nathanial, J., *The LQM/CIEH S4UL's for Human Health Risk Assessment*. **Land Quality Press**. 2015

2.1. S4UL Background

The Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH) S4UL for a given land use is the concentration of the contaminant in soil at which the predicted daily exposure,

as calculated by the CLEA software, equals the Health Criteria Value. The S4ULs have been derived for substances based on various generic land use and soil organic matter contents.

The final output for each contaminant represents a synthesis of new toxicological (and fate and transport) reviews published since the preparation of the 2nd edition LQM/CIEH GAC's (Nathanial et al., 2009).

In the derivation of LQM/CIEH S4UL's the principles of 'minimal' or 'tolerable' risk enshrined in SR2, which has not been withdrawn, has been maintained.

2.2. S4UL Land-use

S4UL's have been derived for the basic CLEA land-uses, as described in section 1.2, and for two new land uses:

- Public Open Spaces near Residential Housing (POSresi).
- Public Park (POSpark).

2.2.1. Public Open Spaces near Residential Housing (POSresi)

Includes the predominantly grassed areas adjacent to high density housing, the central green area on many 1930's – 1970's housing estates, and smaller areas commonly incorporated in newer developments as informal grassed areas or more formal landscaped areas with a mixture of open space and covered soils with planting. It is assumed that the close proximity to the place of residence will allow tracking back of soil to occur.

2.2.2. Public Park (POSpark)

An area of open space, usually owned and maintained by the local authority, provided for recreational uses including family visists and picnics, children's play area, informal sporting activities (not a dedicated sports pitch), and dog walking. It is assumed that tracking back of soils into places of residence will be negligible.

The following LQM/CIEH S4Uls (Copyright Land Quality Management Limited) have been reproduced with permission, to the publication number S4UL3072.

3. Category 4 Screening Levels (C4SLs)

In the case of Lead, no SGV or GAC has been published to date. This is likely to be due to the toxicity review that is currently being undertaken by the Environment Agency. In the absence of updated toxicity information the SGV derived using CLEA 1.07 methodology and related toxicity will be used.

The overall objective of the C4SLs research project was to assist the provision of technical guidance in support of Defra's revised Statutory Guidance (SG) for Part 2A of the Environmental Protection Act 1990 (Part 2A) (Defra, 2012a). Specifically, the project aimed to deliver:

- A methodology for deriving C4SLs for four generic land-uses comprising residential, commercial, allotments and public open space; and
- A demonstration of the methodology, via the derivation of C4SLs for six substances – arsenic, benzene, benzo(a)pyrene, cadmium, chromium (VI) and lead.

To help achieve a more targeted approach to identifying and managing contaminated land in relation to the risk (or possibility) of harm to human health, the revised SG presented a new four category

system for considering land under Part 2A, ranging from Category 4, where there is no risk that land poses a significant possibility of significant harm (SPOSH), or the level of risk is low, to Category 1, where the risk that land poses a significant possibility of significant harm (SPOSH) is unacceptably high. More specific guidance on what type of land should be considered as Category 4 (Human Health) is provided in Paragraphs 4.21 and 4.22 of the revised SG, as follows:

> *"4.21 The local authority should consider that the following types of land should be placed into Category 4: Human Health:*
> *(a) Land where no relevant contaminant linkage has been established.*
> *(b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of this Guidance.*
> *(c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of this Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of this Guidance.*
> *(d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).*
>
> *4.22 The local authority may consider that land other than the types described in paragraph 4.21 should be placed into Category 4: Human Health if following a detailed quantitative risk assessment it is satisfied that the level of risk posed is sufficiently low."*

The C4SLs are intended as "relevant technical tools" (in relation to Paragraph 4.21(c)) to help local authorities and others when deciding to stop further assessment of a site, on the grounds that it falls within Category 4 (Human Health).

The Impact Assessment (IA), which accompanied the revised SG (Defra, 2012b) provides further information on the nature and potential role of the C4SLs. Paragraph 47(h) of the IA states that:

> *"The new statutory guidance will bring about a situation where the current SGVs/GACs are replaced with more pragmatic (but still strongly precautionary) Category 4 screening levels (C4SLs) which will provide a higher simple test for deciding that land is suitable for use and definitely not contaminated land."*

A key distinction between the Soil Guideline Values (SGVs) and the C4SLs is the level of risk that they describe. As described by the Environment Agency (2009a):

> *"SGVs are guidelines on the level of long-term human exposure to individual chemicals in soil that, unless stated otherwise, are tolerable or pose a minimal risk to human health."*

The implication of Paragraph 47(h) of the IA is that minimal risk is well within Category 4 and that the C4SLs should describe a higher level of risk which, whilst not minimal, can still be considered low enough to allow a judgement to be made that land containing substances at, or below, the C4SLs would typically fall within Category 4. This reflects Paragraph 4.20 of the revised SG, which states:

> *"4.20 The local authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low. For the purposes of this Guidance, such land is referred to as a "Category 4: Human Health" case. The authority may decide that the land is a Category 4: Human Health case as soon as it considers it has evidence to this effect, and this may happen at any stage during risk assessment including the early stages."*

C4SLs, therefore, should not be viewed as "SPOSH levels" and they should not be used as a legal trigger for the determination of land under Part 2A.

The generic screening values referred to before usually take the form of risk-based Soil Guideline Values (SGVs) or other Generic Assessment Criteria (GACs) that are most typically derived using the Environment Agency's Contaminated Land Exposure Assessment (CLEA) model, as described in the Environment Agency's SR2, SR3 and SR7 reports (EA, 2009b & c; EA, 2008). It is anticipated that C4SLs will be used in a similar manner; as generic screening criteria that can be used within a GQRA, albeit describing a higher level of risk than the SGVs.

The suggested approach to the development of C4SLs consists of the retention and use of the CLEA framework, modified according to considerations of the underlying science within the context of Defra's policy objectives relating to the revised SG. Within this context, it is suggested that the development of C4SLs may be achieved in one of three ways, namely:

- By modifying the toxicological parameters used within CLEA (while maintaining current exposure parameters);
- By modifying the exposure parameters embedded within CLEA (while maintaining current toxicological "minimal risk" interpretations); and
- By modifying both toxicological and exposure parameters.

There is also a suggested check on "other considerations" (e.g., background levels, epidemiological data, sources of uncertainty) within the approach, applicable to all three options.

It is suggested that a new term is defined for the toxicological guidance values associated with the derivation of C4SLs – a Low Level of Toxicological Concern (LLTC). A LLTC should represent an intake of low concern that remains suitably protective of health, and definitely does not approach an intake level that could be defined as SPOSH.

4. CL:AIRE Generic Assessment Criteria (GAC)

For derivation of the CL:AIRE Generic Assessment Criteria (GAC) reference should be made to the following report:

> CL:AIRE, *The Soil Generic Assessment Criteria for Human Health Risk Assessment.* **Contaminated Land: Applications in the Real Environment**. 2009.

Within this report, Contaminated Land: Applications in Real Environments (CL:AIRE) provided Generic Assessment Criteria (GAC) in accordance with the CLEA software and the principles outlined previously for a further 35 contaminants sometimes encountered on land affected by contamination.

5. SoBRA Acute GAC

The Society of Brownfield Risk Assessment (SoBRA) identified that most human health risk assessments focus on the chronic risks arising from long-term exposure to specific substances. As chronic risks often occur at lower doses than acute risks, they are often the key drivers, however, in some instances the acute dose may also be an important consideration within risk assessments.

The methodology for deriving the acute GAC were related to two distinct receptor groups:

- Members of the public, where the 'critical' receptor for this group will typically be a female child, which is consistent with CLEA residential and Public Open Space/allotments land-uses;
- Workers involved with excavations. The critical receptor for this group is assumed to be a female working adult, without the use of PPE.

The acute GACs relate to short term exposure of high concentrations of a substance that lead to acute effects. They are not considered to be average exposures across a specific / defined area. As a result, the GACs should be normally be compared with the maximum likely concentration that the individual may be exposed to, and not the average concentration within a specific area.

The SoBRA acute GAC will primarily be used for contaminants that do not currently have any GAC, most notably Cyanide.

6. Detailed Quantitative Risk Assessments (DQRA)

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses, then a DQRA may be undertaken to develop site specific values for relevant soil contaminants.

- Establishing the plausibility that generic exposure pathways exist in practice by measurement and observation.
- Developing more accurate parameters using site data.

7. Phytotoxicity

CLEA guidance only addresses human health toxicity; assessment of plant toxicity (phytotoxicity) is based on threshold trigger values obtained from the following source:

- BS3882:2015 – *Specification for Topsoil*

The trigger values are relevant only to those contaminants, where present in excess, have the potential to inhibit plant growth, or kill plants (Cu, Ni and Zn). The criteria have been based on a wide range of planting that are common within a multi-purpose topsoil.

8. Statistical Tests

DEFRA R&D Publication CLR 7 (DOE 1994) addressed the statistical treatment of test results and their comparison to Soil Guideline Values.

Consideration must be given to the appropriate area of land to be considered termed the critical averaging area.

For a communal open space or commercial land-use, the critical averaging area will depend on the proposed layout. For a residential use with private gardens the averaging area is the individual plot.

It may be appropriate to compare the upper 95th percentile concentration with the Soil Guideline Value, subject to applying a statistical test to establish that the range of concentrations are reasonably consistent and belonging to the same underlying distribution of data.

CL:AIRE published guidance in 2020, *Guidance in comparing soil contamination data with a critical concentration,* superseding the CL:AIRE/CIEH 2008 report of the same name. The guidance provides ways to assist land contamination stakeholders to apply statistical methods to their data to enable decisions under the legislative framework; either planning system or Part 2A of the Environmental Protection Act 1990.

The use of the statistical tests should only be applied if the following statements are valid for the datasets:

- Averaging areas, as well as the smallest area of concern have been identified on the basis of the CSM, including the desk study and/or the site walkover;
- The sample locations were chosen using a simple random, stratified random or stratified systematic (square, herringbone or triangular grid) sampling pattern, rather than being targeted to locations suspected of being contaminated;
- The sample locations are relatively evenly spread across the area and are not clustered, to avoid giving undue weight to some parts of the site over others in the calculated statistics;
- The analyses do not suggest a hotspot or outlier of contamination that should be treated as a separate zone. This has been established by a histogram and/or a names statistical test;
- The sample locations are all taken from one population (i.e. the same material);
- Where an averaging zone encompasses several averaging areas, analyses do not show a spatial trend or other spatial pattern across that zone; and
- The number of samples has been shown to be sufficient for a statistical analysis.

Any included statistical spreadsheet is based on an in-house method of statistical analysis, in line with those outlined within the CL:AIRE guidance (2020).

Treatment of Hot-Spots

- A statistical test is applied to establish whether the data is a part of a single set, or whether data outliers are present.
- Provided that the data is based on random sampling and no distinct contamination source was present at the sampling location, the hot-spot(s) may be excluded and the mean of the remaining data assessed.

9. Ground and Water Limited Soil Assessment Criteria

The Soil Assessment Criteria used in the preparation of the Generic Quantitative Risk Assessment are tabulated in the following pages, where the source of each has been outlined in the previous sections.

9.1. Inorganics

SoBRA – Acute Generic Assessment Criteria						
Determinand	**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Cyanide	24	24	24	1400	24	24

9.2. Metals

C4SL Low Level of Toxicological Concern						
Determinand	**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Lead	< 200	< 310	< 80	< 2300	< 630	< 1300

LQM/CIEH Suitable 4 Use Levels – Metals and Semi-metals						
Determinand	**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Arsenic	37	40	43	640	79	170
Beryllium	1.7	1.7	35	12	2.2	63
Boron	290	11000	45	240000	21000	46000
Cadmium	11	85	1.9	190	120	532
Chromium (III)	910	910	18000	8600	1500	33000
Chromium (VI)	6	6	1.8	33	7.7	220
Copper	2400	7100	520	68000	12000	44000
Elemental Mercury	1.2	1.2	21	58	16	30
Inorganic Mercury	40	56	19	1100	120	240
Methylmercury	11	15	6	320	40	68
Nickel	130	180	53	980	230	800
Selenium	250	430	88	12000	1100	1800
Vanadium	410	1200	91	9000	2000	5000
Zinc	3700	40000	620	730000	81000	170000

Phytotoxicity (Harmful to Plants) Threshold Trigger Values			
Determinand	**Soil pH < 6.0 (mg/kg)**	**Soil pH 6.0 – 7.0 (mg/kg)**	**Soil pH > 7.0 (mg/kg)**
Copper	100	135	200
Nickel	60	75	110
Zinc	200	200	300
Notes: BS3882:2015 – *Specification for Topsoil*. Based on a wide range of common plants that will be exposed to multi-purpose topsoil. Toxicity of contaminant may also be impacted by pH of soils. Site observation of plant vitality may give additional guidance.			

CL:AIRE Soil Generic Assessment Criteria				
Determinand	**Residential (mg/kg)**	**Residential without plant uptake (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**
Antimony	ND	550	ND	7500
Barium	ND	1300	ND	22000
Molybdenum	ND	670	ND	17000
ND – Not derived				

9.3. Total Petroleum Hydrocarbons (TPHs)

9.3.1. BTEX Compounds

LQM/CIEH Suitable 4 Use Levels – BTEX Compounds							
Determinand	**Soil Organic Matter**	**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Benzene	1.0% SOM	0.087	0.38	0.017	27	72	90
	2.5% SOM	0.170	0.70	0.034	47	72	100
	6.0% SOM	0.370	1.40	0.075	90	73	110
Toluene	1.0% SOM	130	880	22	56000	56000	87000
	2.5% SOM	290	1900	51	110000	56000	95000
	6.0% SOM	660	3900	120	180000	56000	100000
Ethylbenzene	1.0% SOM	47	83	16	5700	24000	17000
	2.5% SOM	110	190	39	13000	24000	22000
	6.0% SOM	260	440	91	27000	25000	27000
o-Xylene	1.0% SOM	60	88	28	6600	41000	17000
	2.5% SOM	140	210	67	15000	42000	24000
	6.0% SOM	330	480	160	33000	43000	33000
m-Xylene	1.0% SOM	59	82	31	6200	41000	17000
	2.5% SOM	140	190	74	14000	42000	24000
	6.0% SOM	320	450	170	31000	43000	33000
p-Xylene	1.0% SOM	56	79	29	5900	41000	17000
	2.5% SOM	130	180	69	14000	42000	23000
	6.0% SOM	310	430	160	30000	43000	31000
SOM = Soil Organic Matter Content (%)							

9.3.2. Total Petroleum Hydrocarbons – Aliphatic

LQM/CIEH Suitable 4 Use Levels For TPH							
Aliphatic		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
EC 5-6	1.0% SOM	42	42	730	3,200 (304) [sol]	570,000 (304) [sol]	95,000 (304) [sol]
	2.5% SOM	78	78	1,700	5,900 (558) [sol]	590,000	130,000 (558) [sol]
	6.0% SOM	160	160	3,900	12,000 (1150) [sol]	600,000 (1150)[sol]	180,000 (1150) [sol]
EC >6-8	1.0% SOM	100	100	2,300	7,800 (144) [sol]	600,000	150,000 (144) [sol]
	2.5% SOM	230	230	5,600	17,000 (322) [sol]	610,000	220,000 (322) [sol]
	6.0% SOM	530	530	13,000	40,000 (736) [sol]	620,000	320,000 (736) [sol]
EC >8-10	1.0% SOM	27	27	320	2,000 (78) [sol]	13,000	14,000 (78) [sol]
	2.5% SOM	65	65	770	4,800 (118) [vap]	13,000	18,000 (118) [vap]
	6.0% SOM	150	150	1,700	11,000 (451) [vap]	13,000	21,000 (451) [vap]
EC >10-12	1.0% SOM	130 (48) [vap]	130 (48) [vap]	2,200	9,700 (48) [sol]	13,000	21,000 (48) [sol]
	2.5% SOM	330 (118) [vap]	330 (118) [vap]	4,400	23,000 (118) [vap]	13,000	23,000 (118) [vap]
	6.0% SOM	760 (283) [vap]	760 (283) [vap]	7,300	47,000 (283) [vap]	13,000	24,000 (283) [vap]
EC >12-16	1.0% SOM	1,100 (24) [sol]	1,100 (24) [sol]	11,000	59,000 (24) [sol]	13,000	25,000 (24) [sol]
	2.5% SOM	2,400 (59) [sol]	2,400 (59) [sol]	13,000	82,000 (59) [sol]	13,000	25,000 (59) [sol]
	6.0% SOM	4,300 (142) [sol]	4,400 (142) [sol]	13,000	90,000 (142) [sol]	13,000	26,000 (142) [sol]
EC >16-35	1.0% SOM	65,000 (8.48) [sol]	65,000 (8.48) [sol]	260,000	1,600,000	250,000	450,000
	2.5% SOM	92,000 (21) [sol]	92,000 (21) [sol]	270,000	1,700,000	250,000	480,000
	6.0% SOM	110,000	110,000	270,000	1,800,000	250,000	490,000
EC >35-44	1.0% SOM	65,000 (8.48) [sol]	65,000 (8.48) [sol]	260,000	1,600,000	250,000	450,000
	2.5% SOM	92,000 (21) [sol]	92,000 (21) [sol]	270,000	1,700,000	250,000	480,000
	6.0% SOM	110,000	110,000	270,000	1,800,000	250,000	490,000

SOM = Soil Organic Matter Content (%)

[vap] – GAC presented exceeds the vapour saturation limit, which is presented in brackets.

[sol] – GAC presented exceeds the soil saturation limit, which is presented in brackets.

9.3.3. Total Petroleum Hydrocarbons – Aromatic

LQM/CIEH Suitable 4 Use Levels For TPH							
Aromatic		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
EC 5-7 (Benzene)	1.0% SOM	70	370	13	26,000 (1220) [sol]	56,000	76,000 (1220 [sol]
	2.5% SOM	140	690	27	46,000 (2260) [sol]	56,000	84,000 (2260) [sol]
	6.0% SOM	300	1,400	57	86,000 (4710) [sol]	56,000	92,000 (4710) [sol]
EC >7-8 (Toluene)	1.0% SOM	130	860	22	56,000 (869) [vap]	56,000	87,000 (869) [sol]
	2.5% SOM	290	1,800	51	110,000 (1920) [sol]	56,000	95,000 (1920) [sol]
	6.0% SOM	660	3,900	120	180,000 (4360) [vap]	56,000	100,000 (4360) [vap]
EC >8-10	1.0% SOM	34	47	8.6	3,500 (613) [vap]	5,000	7,200 (613) [vap]
	2.5% SOM	83	110	21	8,100 (1500) [vap]	5,000	8,500 (1500) [vap]
	6.0% SOM	190	270	51	17,000 (3850) [vap]	5,000	9,300 (3580) [vap]
EC >10-12	1.0% SOM	74	250	13	16,000 (364) [sol]	5,000	9,200 (364) [sol]
	2.5% SOM	180	590	31	28,000 (899) [sol]	5,000	9,700 (889) [sol]
	6.0% SOM	380	1,200	74	34,000 (2150) [sol]	5,000	10,000
EC >12-16	1.0% SOM	140	1,800	23	36,000 (169) [sol]	5,100	10,000
	2.5% SOM	330	2,300 (419) [sol]	57	37,000	5,100	10,000
	6.0% SOM	660	2,500	130	38,000	5,000	10,000
EC >16-21	1.0% SOM	260	1,900	46	28,000	3,800	7,600
	2.5% SOM	540	1,900	110	28,000	3,800	7,700
	6.0% SOM	930	1,900	260	28,000	3,800	7,800
EC >21-35	1.0% SOM	1,100	1,900	370	28,000	3,800	7,800
	2.5% SOM	1,500	1,900	820	28,000	3,800	7,800
	6.0% SOM	1,700	1,900	1,600	28,000	3,800	7,900
EC >35-44	1.0% SOM	1,100	1,900	370	28,000	3,800	7,800
	2.5% SOM	1,500	1,900	820	28,000	3,800	7,800
	6.0% SOM	1,700	1,900	1,600	28,000	3,800	7,900
EC >44-70	1.0% SOM	1,600	1,900	1,200	28,000	3,800	7,800
	2.5% SOM	1,800	1,900	2,100	28,000	3,800	7,800
	6.0% SOM	1,900	1,900	3,000	28,000	3,800	7,900

SOM = Soil Organic Matter Content (%)

[vap] – GAC presented exceeds the vapour saturation limit, which is presented in brackets.

[sol] – GAC presented exceeds the soil saturation limit, which is presented in brackets.

9.4. Polycyclic Aromatic Hydrocarbons (PAHs)

LQM/CIEH Suitable 4 Use Levels For Polycyclic Aromatic Hydrocarbons (PAHs)							
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Acenapthene	1.0% SOM	210	3,000 (57.0) [sol]	34	84,000(57.0) [sol]	15,000	29,000
	2.5% SOM	510	4,700(141) [sol]	85	97,000(141) [sol]	15,000	30,000
	6.0% SOM	1100	6,000(336) [sol]	200	100,000	15,000	30,000
Acenapthylene	1.0% SOM	170	2,900(86.1) [sol]	28	83,000(86.1) [sol]	15,000	29,000
	2.5% SOM	420	4,600(212) [sol]	69	97,000(212) [sol]	15,000	30,000
	6.0% SOM	920	6,000(506) [sol]	160	100,000	15,000	30,000
Anthracene	1.0% SOM	2,400	31,000(1.17) [vap]	380	520,000	74,000	150,000
	2.5% SOM	5,400	35,000	950	540,000	74,000	150,000
	6.0% SOM	11,000	37,000	2,200	540,000	74,000	150,000
Benzo(a)anthracene	1.0% SOM	7.20	11	2.90	170	29	49
	2.5% SOM	11	14	6.50	170	29	56
	6.0% SOM	13	15	13	180	29	62
Benzo(a)pyrene	1.0% SOM	2.20	3.20	0.97	35	5.70	11
	2.5% SOM	2.70	3.20	2.00	35	5.70	12
	6.0% SOM	3.00	3.20	3.50	36	5.70	13
Benzo(b)flouranthene	1.0% SOM	2.60	3.90	0.99	44	7.10	13
	2.5% SOM	3.30	4.00	2.10	44	7.20	15
	6.0% SOM	3.70	4.00	3.90	45	7.20	16
Benzo(ghi)perylene	1.0% SOM	320	360	290	3,900	640	1,400
	2.5% SOM	340	360	470	4,000	640	1,500
	6.0% SOM	350	360	640	4,000	640	1,600
Benzo(k)flouranthene	1.0% SOM	77	110	37	1,200	190	370
	2.5% SOM	93	110	75	1,200	190	410
	6.0% SOM	100	110	130	1,200	190	440
Chrysene	1.0% SOM	15	30	4.10	350	57	93
	2.5% SOM	22	31	9.40	350	57	110
	6.0% SOM	27	32	19	350	57	120
Dibenzo(ah)anthracene	1.0% SOM	0.24	0.31	0.14	3.50	0.57	1.10
	2.5% SOM	0.28	0.32	0.27	3.50	0.57	1.30
	6.0% SOM	0.30	0.32	0.43	3.60	0.58	1.40
Flouranthene	1.0% SOM	280	1,500	52	23,000	3,100	6,300
	2.5% SOM	560	1,600	130	23,000	3,100	6,300
	6.0% SOM	890	1,600	290	23,000	3,100	6,300
Flourene	1.0% SOM	170	2,800 (30.9) [sol]	27	63,000(30.9) [sol]	9,900	20,000
	2.5% SOM	400	3,800(76.5) [sol]	67	68,000	9,900	20,000
	6.0% SOM	860	4,500(183) [sol]	160	71,000	9,900	20,000
Indeno(123-cd)pyrene	1.0% SOM	27	45	9.50	500	82	150
	2.5% SOM	36	46	21	510	82	170
	6.0% SOM	41	46	39	510	82	180
Napthalene	1.0% SOM	15	36	65	1,600	11,000	800
	2.5% SOM	36	36	130	3,700	15,000	1,200
	6.0% SOM	85	85	200	8,400	17,000	1,900
Phenanthrene	1.0% SOM	95	1,300(183) [sol]	15	22,000	3,100	6,200
	2.5% SOM	220	1,500	38	22,000	3,100	6,200
	6.0% SOM	440	1,500	90	23,000	3,100	6,300
Pyrene	1.0% SOM	620	3,700	110	54,000	7,400	15,000
	2.5% SOM	1200	3,800	270	54,000	7,400	15,000
	6.0% SOM	2000	3,800	620	54,000	7,400	15,000
Coal Tar (Benzo(a)pyrene used as marker compound)	1.0% SOM	0.79	1.2	0.32	15	2.20	4.40
	2.5% SOM	0.98	1.2	0.67	15	2.20	4.70
	6.0% SOM	1.10	1.2	1.20	15	2.20	4.80

SOM = Soil Organic Matter Content (%)

[vap] – GAC presented exceeds the vapour saturation limit, which is presented in brackets.

[sol] – GAC presented exceeds the soil saturation limit, which is presented in brackets.

9.5. Volatile and Semi-volatile Organic Compounds

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Chloroalkanes & alkenes							
1,2 Dichloroethane	1.0% SOM	0.0071	0.0092	0.0046	0.67	29	21
	2.5% SOM	0.011	0.013	0.0083	0.97	29	24
	6.0% SOM	0.019	0.023	0.016	1.70	29	28
1,1,2,2 Tetrachloroethane	1.0% SOM	1.60	3.90	0.41	270	1,400	1,800
	2.5% SOM	3.40	8.00	0.89	550	1,400	2,100
	6.0% SOM	7.50	17	2.00	1,100	1,400	2,300
1,1,1,2 Tetrachloroethane	1.0% SOM	1.20	1.50	0.79	110	1,400	1,500
	2.5% SOM	2.80	3.50	1.90	250	1,400	1,800
	6.0% SOM	6.40	8.20	4.40	560	1,400	2,100
Tetrachloroethene	1.0% SOM	0.18	0.18	0.65	19	1,400	810 [sol](424)
	2.5% SOM	0.39	0.40	1.50	42	1,400	1,100 [sol](951)
	6.0% SOM	0.90	0.92	3.60	95	1,400	1,500
1,1,1 Trichloroethane	1.0% SOM	8.80	9.00	48	660	140,000	57,000 [vap](1425)
	2.5% SOM	18	18	110	1,300	140,000	76,000 [vap](2915)
	6.0% SOM	39	40	240	3,000	140,000	100,000 [vap] (6392)
Tetrachloromethene	1.0% SOM	0.026	0.026	0.45	2.90	890	190
	2.5% SOM	0.056	0.056	1.00	6.30	920	270
	6.0% SOM	0.130	0.130	2.40	14	950	400
Trichloroethene	1.0% SOM	0.016	0.017	0.041	1.20	120	70
	2.5% SOM	0.034	0.036	0.091	2.60	120	91
	6.0% SOM	0.075	0.080	0.210	5.70	120	120
Trichloromethane	1.0% SOM	0.91	1.20	0.42	99	2,500	2,600
	2.5% SOM	1.70	2.10	0.83	170	2,500	2,800
	6.0% SOM	3.40	4.20	1.70	350	2,500	3,100
Vinyl Chloride	1.0% SOM	0.00064	0.00077	0.00055	0.059	3.50	4.80
	2.5% SOM	0.00087	0.00100	0.00100	0.077	3.50	5.00
	6.0% SOM	0.00014	0.00150	0.00180	0.120	3.50	5.40
Explosives							
2,4,6 Trinitrotoluene	1.0% SOM	1.60	65	0.24	1,000	130	260
	2.5% SOM	3.70	66	0.58	1,000	130	270
	6.0% SOM	8.10	66	1.40	1,000	130	270
RDX (Hexogen/Cyclonite/1,3,5-trinitro-1,3,5-triazacyclohexane)	1.0% SOM	120	13,000	17	210,000	26,000	49,000(18.7)[sol]
	2.5% SOM	250	13,000	38	210,000	26,000	51,000
	6.0% SOM	540	13,000	85	210,000	27,000	53,000
HMX (Octogen/1,3,5,7-tetrenitro-1,3,5,7-tetrazacyclo-octane)	1.0% SOM	5.70	67,00	0.86	110,000	13,000	23,000(0.35)[vap]
	2.5% SOM	13	67,00	1.90	110,000	13,000	23,000(0.39)[vap]
	6.0% SOM	26	67,00	3.90	110,000	13,000	24,000(0.48)[vap]
Atrazine	1.0% SOM	3.30	610	0.50	9,300	1,200	2,300
	2.5% SOM	7.60	620	1.20	9,400	1,200	2,400
	6.0% SOM	17.40	620	2.70	9,400	1,200	2,400

[vap] – GAC presented exceeds the vapour saturation limit, which is presented in brackets.
[sol] – GAC presented exceeds the soil saturation limit, which is presented in brackets.

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Pesticides							
Aldrin	1.0% SOM	5.70	7.30	3.20	170	18	30
	2.5% SOM	6.60	7.40	6.10	170	18	31
	6.0% SOM	7.10	7.50	9.60	170	18	31
Dieldrin	1.0% SOM	0.97	7.00	0.17	170	18	30
	2.5% SOM	2.00	7.30	0.41	170	18	30
	6.0% SOM	3.50	7.40	0.96	170	18	31
Dichlorvos	1.0% SOM	0.032	6.40	0.0049	140	16	26
	2.5% SOM	0.066	6.50	0.0100	140	16	26
	6.0% SOM	0.140	6.60	0.0220	140	16	27
Alpha - Endosulfan	1.0% SOM	7.40	160(0.003)[vap]	1.20	5,600(0.003)[vap]	1,200	2,400
	2.5% SOM	18	280(0.007)[vap]	2.90	7,400(0.007)[vap]	1,200	2,400
	6.0% SOM	41	410(0.016)[vap]	6.80	8,400(0.016)[vap]	1,200	2,400
Beta - Endosulfan	1.0% SOM	7.00	190(0.00007)[vap]	1.10	6,300(0.00007)[vap]	1,200	2,400
	2.5% SOM	17	320(0.0002)[vap]	2.70	7,800(0.0002)[vap]	1,200	2,400
	6.0% SOM	39	440(0.0004)[vap]	6.40	8700	1,200	2,500
Alpha - Hexachlorocyclohexanes	1.0% SOM	0.23	6.90	0.035	170	24	47
	2.5% SOM	0.55	9.20	0.087	180	24	48
	6.0% SOM	1.20	11	0.210	180	24	48
Beta - Hexachlorocyclohexanes	1.0% SOM	0.085	3.70	0.013	65	8.10	15
	2.5% SOM	0.200	3.80	0.032	65	8.10	15
	6.0% SOM	0.460	3.80	0.077	65	8.10	16
Gamma - Hexachlorocyclohexanes	1.0% SOM	0.06	2.90	0.0092	67	8.2	14
	2.5% SOM	0.14	3.30	0.0230	69	8.2	15
	6.0% SOM	0.33	3.50	0.0540	70	8.2	15
Chlorobenzenes							
Chlorobenzene	1.0% SOM	0.46	0.46	5.90	56	11,000	1,300(675)[sol]
	2.5% SOM	1.00	1.00	14	130	13,000	2,000(1520)[sol]
	6.0% SOM	2.40	2.40	32	290	14,000	2,900
1,2-Dichlorobenzene	1.0% SOM	23	24	94	2,000 (571) [sol]	90,000	24,000(571)[sol]
	2.5% SOM	55	57	230	4,800 (1370) [sol]	95,000	36,000(1370)[sol]
	6.0% SOM	130	130	540	11,000 (3240) [sol]	98,000	51,000(3240)[sol]
1,3-Dichlorobenzene	1.0% SOM	0.40	0.44	0.25	30	300	390
	2.5% SOM	1.00	1.10	0.60	73	300	440
	6.0% SOM	2.30	2.50	1.50	170	300	470
1,4-Dichlorobenzene	1.0% SOM	61	61	15	4,400 (224)[vap]	17,000[g]	36,000 (224)[vap]
	2.5% SOM	150	150	37	10,000 (540)[vap]	17,000[g]	36,000 (540)[vap]
	6.0% SOM	350	350	88[g]	25,000 (1280)[vap]	17,000[g]	36,000 (1280)[vap]
1,2,3,-Trichlorobenzene	1.0% SOM	1.50	1.50	4.70	102	1,800	770(134)[vap]
	2.5% SOM	3.60	3.70	12	250	1,800	1,100(330)[vap]
	6.0% SOM	8.60	8.80	28	590	1,800	1,600(789)[vap]
1,2,4,-Trichlorobenzene	1.0% SOM	2.60	2.60	55	220	15,000	1,700(318)[vap]
	2.5% SOM	6.40	6.40	140	530	17,000	2,600(786)[vap]
	6.0% SOM	15	15	320	1,300	19,000	4,000(1880)[vap]
1,3,5,-Trichlorobenzene	1.0% SOM	0.33	0.33	4.70	23	1,700	380(36.7)[vap]
	2.5% SOM	0.81	0.81	12	55	1,700	590(90.8)[vap]
	6.0% SOM	1.90	1.90	140	130	1,800	860(217)[vap]

[vap] – GAC presented exceeds the vapour saturation limit, which is presented in brackets.
[sol] – GAC presented exceeds the soil saturation limit, which is presented in brackets.

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**	**POSresi (mg/kg)**	**POSpark (mg/kg)**
Chlorobenzenes (cont.)							
1,2,3,4,- Tetrachlorobenzene	1.0% SOM	15	24	4.40	1,700(122)^{vap}	830	1,500(122)^{vap}
	2.5% SOM	36	56	11	3,080(304)^{vap}	830	1,600
	6.0% SOM	78	120	26	4,400(728)^{vap}	830	1,600
1,2,3,5,- Tetrachlobenzene	1.0% SOM	0.66	0.75	0.38	49(39.4)^{vap}	78	110(39)^{vap}
	2.5% SOM	1.60	1.90	0.90	120(98.1)^{vap}	79	120
	6.0% SOM	3.70	4.30	2.20	240(235)^{vap}	79	130
1,2,4, 5,- Tetrachlobenzene	1.0% SOM	0.33	0.73	0.06	42(19.7)^{sol}	13	25
	2.5% SOM	0.77	1.70	0.16	72(49.1)^{sol}	13	26
	6.0% SOM	1.60	3.50	0.37	96	13	26
Pentachlrobenzene	1.0% SOM	5.80	19	1.20	640(43.0)^{sol}	100	190
	2.5% SOM	12	30	3.10	770(107)^{sol}	100	190
	6.0% SOM	22	38	7.00	830	100	190
Hexachlorobenzene	1.0% SOM	1.80(0.20)^{vap}	4.10 (0.20)^{vap}	0.47	110(0.20)^{vap}	16	30
	2.5% SOM	3.30(0.50)^{vap}	5.70 (0.50)^{vap}	1.10	120	16	30
	6.0% SOM	4.90	6.70 (1.2)^{vap}	2.50	120	16	30
Phenols & Chlorophenols							
BTEX	1.0% SOM	280	750	66	760^{dir}(31,000)	760^{dir}(11,000)	760^{dir}(8,600)
	2.5% SOM	550	1,300	140	1,500^{dir}(35,000)	1,500^{dir}(11,000)	1,500^{dir}(9,700)
	6.0% SOM	1100	2,300	280	3,200^{dir}(37,000)	3,200^{dir}(11,000)	3,200^{dir}(11,000)
Chlorophenols (4 Congeners)	1.0% SOM	0.87	94	0.13	3,500	620	1,100
	2.5% SOM	2.00	150	0.30	4,000	620	1,100
	6.0% SOM	4.50	210	0.70	4,300	620	1,100
Pentachlorophenols	1.0% SOM	0.22	27(16.4)^{vap}	0.03	400	60	110
	2.5% SOM	0.52	29	0.08	400	60	120
	6.0% SOM	1.20	31	0.19	400	60	120
Others							
Carbon Disulphide	1.0% SOM	0.14	0.14	4.80	11	11,000	1,300
	2.5% SOM	0.29	0.29	10	22	11,000	1,900
	6.0% SOM	0.62	0.62	23	47	12,000	2,700
Hexachloro-1,3-Butadiene	1.0% SOM	0.29	0.32	0.25	31	25	48
	2.5% SOM	0.70	0.78	0.61	68	25	50
	6.0% SOM	1.60	1.80	1.40	120	25	51

^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets.
^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

CL:AIRE General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds					
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**
1,1,2 Trichloroethane	1.0% SOM	0.60	0.88	0.28	94
	2.5% SOM	1.20	1.8	0.61	190
	6.0% SOM	2.70	3.9	1.40	400
1,1-Dichloroethane	1.0% SOM	2.40	2.50	9.20	280
	2.5% SOM	3.90	4.10	17	450
	6.0% SOM	7.40	7.70	35	850
1,1-Dichloroethene	1.0% SOM	0.23	0.23	2.80	26
	2.5% SOM	0.40	0.41	5.60	46
	6.0% SOM	0.82	0.82	12	92
1,2,4-Trimethylbenzene	1.0% SOM	0.35	0.41	0.38	42
	2.5% SOM	0.85	0.99	0.93	99
	6.0% SOM	2.00	2.30	2.20	220
1,2-Dichloropropane	1.0% SOM	0.024	0.024	0.62	3.3
	2.5% SOM	0.042	0.042	1.20	5.9
	6.0% SOM	0.084	0.085	2.60	12
2,4-Dimethylphenol	1.0% SOM	19	210	3.10	16000*
	2.5% SOM	43	410	7.20	24000*
	6.0% SOM	97	730	17	30000*
2,4-Dinitrotoluene	1.0% SOM	1.50	170*	0.22	3700*
	2.5% SOM	3.20	170	0.49	3700*
	6.0% SOM	7.20	170	1.10	3800*
2,6-Dinitrotoluene	1.0% SOM	0.78	78	0.12	1900*
	2.5% SOM	1.70	84	0.27	1900*
	6.0% SOM	3.90	87	0.61	1900*
2-Chloronapthalene	1.0% SOM	3.70	3.80	40	390*
	2.5% SOM	9.20	9.30	98	960*
	6.0% SOM	22	22	230	2200*
Biphenyl	1.0% SOM	66*	220*	14	18000*
	2.5% SOM	160	500*	35	33000*
	6.0% SOM	360	980*	83	48000*
Bis (2-ethylhexyl) phthalate	1.0% SOM	280*	2700*	47*	85000*
	2.5% SOM	610*	2800*	120*	86000*
	6.0% SOM	1100*	2800*	280*	86000*
Bromobenzene	1.0% SOM	0.87	0.91	3.2	97
	2.5% SOM	2.0	2.1	7.6	220
	6.0% SOM	4.7	4.9	18	520
Bromodichloromethane	1.0% SOM	0.016	0.019	0.016	2.1
	2.5% SOM	0.030	0.034	0.032	3.7
	6.0% SOM	0.061	0.070	0.068	7.6
Bromoform	1.0% SOM	2.8	5.2	0.95	760
	2.5% SOM	5.9	11	2.1	1500
	6.0% SOM	13	23	4.6	3100
Butyl benzyl phthalate	1.0% SOM	1400*	42000*	220*	940000*
	2.5% SOM	3300*	44000*	550*	940000*
	6.0% SOM	7200*	44000*	1300*	950000*

*soil concentration above saturation limit

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

CL:AIRE General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds					
Determinands		**RwHP (mg/kg)**	**RwoHP (mg/kg)**	**Allotment (mg/kg)**	**Commercial (mg/kg)**
Chloroethane	1.0% SOM	8.3	8.4	110	960
	2.5% SOM	11	11	200	1300
	6.0% SOM	18	18	380	2100
Chloromethane	1.0% SOM	0.0083	0.0085	0.066	1.0
	2.5% SOM	0.0098	0.0099	0.13	1.2
	6.0% SOM	0.013	0.013	0.23	1.6
***Cis* 1,2 Dichloroethene**	1.0% SOM	0.11	0.12	0.26	14
	2.5% SOM	0.19	0.20	0.50	24
	6.0% SOM	0.37	0.39	1.0	47
Dichloromethane	1.0% SOM	0.58	2.10	0.10	270
	2.5% SOM	0.98	2.80	0.19	360
	6.0% SOM	1.70	4.50	0.34	560
Diethyl Phthalate	1.0% SOM	120*	1800*	19*	150000*
	2.5% SOM	260*	3500*	41*	220000*
	6.0% SOM	570*	6300*	94*	290000*
Di-*n*-butyl phthalate	1.0% SOM	13*	450*	2.00	15000*
	2.5% SOM	31*	450*	5.00	15000*
	6.0% SOM	67*	450*	12	15000*
Di-*n*-octyl phthalate	1.0% SOM	2300*	3400*	940*	89000*
	2.5% SOM	2800*	3400*	2100*	89000*
	6.0% SOM	3100*	3400*	3900*	89000*
Hexachloroethane	1.0% SOM	0.20	0.22	0.27	22*
	2.5% SOM	0.48	0.54	0.67	53*
	6.0% SOM	1.10	1.30	1.60	120*
Isopropylbenzene	1.0% SOM	11	12	32	1400*
	2.5% SOM	27	28	79	3300*
	6.0% SOM	64	67	190	7700*
Methyl *tert*-butyl ether (MTBE)	1.0% SOM	49	73	23	7900
	2.5% SOM	84	120	44	13000
	6.0% SOM	160	220	90	24000
Propylbenzene	1.0% SOM	34	40	34	4100*
	2.5% SOM	82	97	83	9700*
	6.0% SOM	190	230	200	21000*
Styrene	1.0% SOM	8.10	35	1.60	3300*
	2.5% SOM	19	78	3.70	6500*
	6.0% SOM	43	170	8.70	11000*
Total Cresols (2-, 3-, and 4-methylphenol)	1.0% SOM	80	3700	12	160000
	2.5% SOM	180	5400	27	180000*
	6.0% SOM	400	6900	63	180000*
***Trans* 1,2 Dichloroethene**	1.0% SOM	0.19	0.19	0.93	22
	2.5% SOM	0.34	0.35	1.90	40
	6.0% SOM	0.70	0.71	0.24	81
Tributyl tin oxide	1.0% SOM	0.25	1.40	0.042	130*
	2.5% SOM	0.59	3.10	0.100	180*
	6.0% SOM	1.30	5.70	0.240	200*

*soil concentration above saturation limit

C4SL Low Level of Toxicological Concern							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
1,2-Dichloroethane (Ethylene Dichloride)	1.0% SOM	0.11	0.16	0.054	12	300	300
	2.5% SOM	0.18	0.24	0.10	17	310	330
	6.0% SOM	0.31	0.41	0.19	29	310	380
Cis-1,2-Dichloroethene	1.0% SOM	0.46	0.50	0.89	38	3,800	2,000
	2.5% SOM	0.78	0.84	1.7	64	3,800	2,400
	6.0% SOM	1.5	1.6	3.6	120	3,900	3,100
Tetrachloroethene (PCE)	1.0% SOM	0.31	0.32	2	24	3,200	1,400
	2.5% SOM	0.70	0.71	4.8	55	3,300	1,900
	6.0% SOM	1.60	1.60	11	130	3,400	2,500
Trans-1,2-Dichloroethene	1.0% SOM	0.90	0.93	3.70	69	13,000	5,600
	2.5% SOM	1.60	1.70	7.50	120	13,000	7,000
	6.0% SOM	3.30	3.40	16	260	13,000	9,100
Trichloroethene (TCE)	1.0% SOM	0.0093	0.0097	0.032	0.73	76	41
	2.5% SOM	0.020	0.020	0.072	1.5	78	54
	6.0% SOM	0.043	0.045	0.16	3.4	79	69
Vinyl Chloride (Chloroethene)	1.0% SOM	0.0064	0.015	0.0017	1.1	7.8	18
	2.5% SOM	0.010	0.019	0.0031	1.4	7.8	19
	6.0% SOM	0.017	0.029	0.0058	2.2	7.8	19

9.6. Per- and Polyfluoroalkyl Substances (PFAS)

Interim C4SLs for PFOA, PFNA, PFHxS and PFOS						
Determinand	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
PFOA	0.076	0.041	0.0014	0.60	0.079	0.17
PFOS	0.013	0.041	0.0027	0.60	0.079	0.17
PFHxS	0.0081	0.041	0.0015	0.60	0.079	0.17
PFNA	0.0073	0.041	0.0013	0.60	0.079	0.17

9.7. Asbestos

No asbestos or asbestos containing materials (ACM's) are considered acceptable on-site from a human health perspective. Therefore the GAC for asbestos & ACM's within any imported material should be none detected (ND).

Ground and Water Limited

Waters Guideline Values and Generic Assessment Criteria

Land contamination can harm a number of receptors, most notably: human health; drinking water; groundwater; surface water; soils; ecosystems; and buildings/structures. The UK Government's stated objectives of LCRM are to enhance the health and wellbeing of all, whilst adding the economic, ecological and amenity value of the area through dealing with land contamination.

The risk assessment is an iterative process. At preliminary risk assessment stage, risks are evaluated qualitatively. As the site investigation progresses to a generic or detailed quantitative risk assessment, data is collected and assessment criteria are utilised to evaluate whether the contaminants represent an unacceptable risk to the identified receptors.

Based on the identified receptor, there are numerous assessment criteria that can be used, which have been outlined in the subsequent sections.

1. Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015

1.1. Background

Within England and Wales, an appropriate agency must classify the ecological and chemical status of a body of surface water. The agency must also classify the chemical and quantitative status of a body of groundwater. The appropriate agency must review and update the classifications at least every 6 years as and when new data is collected through monitoring programmes. In addition to the classification and as part of the WFD, pollution of surface waters must be controlled by limiting the discharge of priority substances and other substances into surface water.

1.2. Surface Water

In order to aid with the classification, a series of environmental quality standards (EQS) for specific pollutants have been generated. The EQS refer to the dissolved fraction of metals within a water sample, therefore the sample collected must pass through a 0.45µm filter at the time of sampling. A number of metals have a bioavailable threshold and therefore a site specific meta bioavailability assessment should be undertaken.

Where the calculated mean value of a measurement is less than the limit of quantification and the limit of quantification is above the EQS, the result must not be used for determining a failed classification.

For the majority of substances, two values will be included for review; AA and MAC. The Annual Average (AA) is the arithmetic mean of the concentrations measured at different times during the year for each representative point within the water body. When using the Max Allowable Concentration (MAC) values, a statistical analysis may be undertaken to ensure an acceptable level of confidence for determining compliance with the MAC.

1.3. Groundwater

The appropriate agency must apply the threshold values for groundwater (in Table 1, Schedule 5) and, if any value is exceeded, undertake an appropriate investigation to determine whether or not the

applicable conditions for good groundwater chemical status are met. The criteria outlined are designed to be averaged across an aquifer rather than a site specific investigations.

2. The Water Supply (Water Quality) Regulations 2016

The water supply regulations apply in relation to the supply of water to premises for domestic purposes (including for cooking, drinking, food preparation and washing) or for food production purposes, both of which include the intended use for human consumption.

The point of compliance for the water supply is principally the consumers' taps, however, where stated the compliance point is the reservoir or treatment works.

3. World Health Organisation, Petroleum Products in Drinking Water, 2008

The World Health Organisation produced a background document for the development of WHO Guidelines for Drinking-water Quality, specifically relating to petroleum products (WHO/SDE/WSH/05.08/123). Petroleum products are used widely in a range of industrial applications, with the largest quantities used for gasoline, diesel and heating oil.

The difference in chemical and physical properties of each hydrocarbon means that they will behave differently within the environment, where their persistence is dictated by their volatilisation, biodegradation and dissolution within water. As a result of these, the heavier hydrocarbons typically have more persistence. Exposure to human health from petroleum hydrocarbons within drinking water can occur from a short to long-term, however the incident that leads to high concentrations within the drinking water will typically occur in the short term.

Petroleum products are a complicated mix of hundreds of compounds and therefore assessment can be difficult. The TPH-CWG method, developed in the USA, groups the TPH into a series of fractions based on the number of carbon atoms, coupled with the overall structure of the compound. This process enables the TPHs to be split into two distinct groups, aliphatics and aromatics.

4. SoBRA GAC_{gwvap}

Prior to the development of the SoBRA GAC_{gwvap}, there were no formally published UK GAC for the assessment of vapour risk arising from volatile contaminants in groundwater in the UK. The SoBRA groundwater vapour GAC (GAC_{gwvap}) is intended as a conservative screening tool that assessors may choose to use to help assess the long-term (chronic) risks to human health from inhalation of vapours arising from groundwater. They are intended for comparison with measured groundwater concentrations and represent the estimated concentration in groundwater below which the long-term risks to human health from vapour migration and inhalation can be considered low/tolerable, i.e. unlikely to be of concern (for the land use scenarios considered). When used as part of a Generic Quantitative Risk Assessment (GQRA) (which includes consideration of uncertainties) comparison of the GAC_{gwvap} with measured concentrations in groundwater can be used to screen out contaminants as being unlikely to represent an unacceptable risk to humans living or working above the groundwater plume.

The GAC have been derived for two land use scenarios for which the vapour intrusion pathway is likely to require assessment: residential and commercial. Generic assumptions have been made for each land use. These include assumptions about the depth to groundwater, soil type in the unsaturated zone, building dimension and foundation type, and receptor behaviour. The parameter values have been chosen to ensure that the GAC are precautionary for the vast majority of commercial and

residential properties in the UK. However, there may be particular situations where the GAC are not protective, for example where non aqueous phase liquid (NAPL) is present or preferential pathways exist.

5. Detailed Quantitative Risk Assessments (DQRA)

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses, then a DQRA may be undertaken to develop site specific values for relevant groundwater contaminants. As part of the EA Remedial Targets Methodology (RTM), a level 3 risk assessment will consider the effect of attenuation between the site and a downgradient receptor or compliance point. For a level 4 risk assessment the appropriateness of assessing dilution in a receiving watercourse or a pumping abstraction borehole will need to be considered.

The RTM also recommends that sensitivity/uncertainty analysis is incorporated into each stage of the assessment.

6. Ground and Water Limited Waters Assessment Criteria

The Waters Assessment Criteria used in the preparation of the Generic Quantitative Risk Assessment are tabulated in the following pages, where the source of each has been outlined in the previous sections.

6.1. Inorganics

Specific Pollutants				
Determinand	**Long Term Fresh water (µg/l)**	**Short Term Fresh water (µg/l)**	**Long Term Salt water (µg/l)**	**Short Term Salt water (µg/l)**
Cyanide	1	5	1	5
Phenol	7.7	46	7.7	46

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**
Cyanide	50
pH	6.5 – 9.5

6.2. Metals

Specific Pollutants				
Determinand	**Long Term Fresh water (µg/l)**	**Short Term Fresh water (µg/l)**	**Long Term Salt water (µg/l)**	**Short Term Salt water (µg/l)**
Arsenic	50	-	25	-
Chromium (III)	4.7	32	-	-
Chromium (VI)	3.4	-	0.6	32
Copper	1*	-	3.76	34
Iron	1000	-	1000	-
Manganese	123*	-	-	-
Zinc	10.9*	-	6.8	-

*Site specific bioavailability calculation should be undertaken.

EQS for Priority Substances and other substances

Determinand		AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Cadmium	<40mg/l CaCO3 40 – <50mg/l 50 – <100mg/l 100 – <200mg/l >200mg/l	<0.08 0.08 0.09 0.15 0.25	<0.45 0.45 0.6 0.9 1.5	0.2	-
Lead		1.2	14	1.3	14
Mercury		-	0.07	-	0.07
Nickel		4	34	8.6	34

Threshold Values for Groundwater			
Determinand	Groundwater Impact on Surface Water (µg/l)	Drinking water Protected Area (µg/l)	General Quality of Groundwater Body (µg/l)
Aluminum	-	150	150
Arsenic	25.8 – 106	7.5	7.5
Boron	-	750	-
Cadmium	0.054 – 0.53	3.75	-
Copper	0.516 – 2.12	1500	1500
Lead	0.619 – 2.54	7.5	7.5
Mercury	0.026 – 0.106	0.75	-
Nickel	2.06 – 8.48	15	15
Selenium	-	7.5	-
Zinc	5.62 – 23.1	-	-

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Arsenic	10
Boron	1
Cadmium	5
Chromium	50
Copper	2
Lead	10
Mercury	1
Nickel	20

6.3. Total Petroleum Hydrocarbons (TPHs)

6.3.1. BTEX Compounds

Specific Pollutants				
Determinand	Long Term Fresh water (µg/l)	Short Term Fresh water (µg/l)	Long Term Salt water (µg/l)	Short Term Salt water (µg/l)
Toluene	74	380	74	370

EQS for Priority Substances and other substances				
Determinand	AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Benzene	10	50	8	50

Threshold Values for Groundwater			
Determinand	**Groundwater Impact on Surface Water (µg/l)**	**Drinking water Protected Area (µg/l)**	**General Quality of Groundwater Body (µg/l)**
Benzene	5.16 – 21.2	0.75	0.75
Toluene	38.2 – 157	-	-
Xylene (o+p+m)	15.5 – 63.6	-	-

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**
Benzene	1

6.3.2. Total Petroleum Hydrocarbons – Aliphatic

World Health Organisation	
Determinand	**Drinking Water Standard (µg/l)**
>C5 – C6	15,000
>C6 – C8	
>C8 – C10	300
>C10 – C12	
>C12 – C16	
>C16 – C21	Not Derived
>C21 – C35	Not Derived

6.3.3. Total Petroleum Hydrocarbons – Aromatic

World Health Organisation	
Determinand	**Drinking Water Standard (µg/l)**
>EC5 – EC7	10
>EC7 – EC8	700
>EC8 – EC10	300
>EC10 – EC12	90
>EC12 – EC16	
>EC16 – EC21	90
>EC21 – EC35	

6.4. Polycyclic Aromatic Hydrocarbons (PAHs)

EQS for Priority Substances and other substances				
Determinand	**AA-EQS Inland surface water (µg/l)**	**MAC-EQS Inland surface water (µg/l)**	**AA-EQS Other Surface waters (µg/l)**	**MAC-EQS Other Surface waters (µg/l)**
Anthracene	0.1	0.1	0.1	0.1
Fluoranthene	0.0063	0.12	0.0063	0.12
Naphthalene	2	130	2	130
Benzo(a)pyrene	0.00017	0.27	0.00017	0.027
Benzo(b)fluoranthene	*	0.017	*	0.017
Benzo(k)fluoranthene	*	0.017	*	0.017
Benzo(ghi)perylene	*	0.0082	*	0.00082

Indeno(123-cd)pyrene	*	-	*	-

*For the group of priority substances of polyaromatic hydrocarbons, the AA-EQS in water refer to the concentration of benzo(a)pyrene. Benzo(a)pyrene can be considered as a marker for the other PAHs, hence only benzo(a)pyrene must be monitored for comparison with the corresponding AA-EQS.

Threshold Values for Groundwater			
Determinand	**Groundwater Impact on Surface Water (µg/l)**	**Drinking water Protected Area (µg/l)**	**General Quality of Groundwater Body (µg/l)**
Anthracene	0.052 – 0.193	-	-
Benzo(a)pyrene	0.000089 – 0.000328	0.0075	-
Benzo(b)fluoranthene	0.016 – 0.058	0.075	-
Fluoranthene	0.0033 – 0.0122	-	0.075
Naphthalene	1.03 – 4.24	-	0.075

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**
Benzo(a)pyrene	0.010
Benzo(b) fluoranthene	0.10
Benzo(k)fluoranthene	
Benzo(ghi)perylene	
Indeno(1,2,3-cd)pyrene	

6.5. Pesticides

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**
Aldrin	0.03
Dieldrin	0.03
Heptachlor	0.03
Heptachlor epoxide	0.03
Other Pesticides	0.10
Total Pesticides*	0.50
*The sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.	

6.6. Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

EQS for Priority Substances and other substances				
Determinand	**AA-EQS Inland surface water (µg/l)**	**MAC-EQS Inland surface water (µg/l)**	**AA-EQS Other Surface waters (µg/l)**	**MAC-EQS Other Surface waters (µg/l)**
Perfluorooctane sulfonic acid (PFOS)	0.00065	36	0.00013	7.2

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**

Any PFAS compound	0.1

6.7. Volatile and Semi-volatile Organic Compounds

Drinking Water Standards	
Determinand	**Maximum allowable Concentration at compliance point (µg/l)**
1,2-Dichloroethane	3
Sum of Tetrachloroethene and Trichloroethene	10
Sum of Trihalomethanes: – chloroform – bromoform – dibromochloromethane – bromodichloromethane	100
Vinyl Chloride	0.50

SoBRA GAC_{gwvap} for Petroleum Hydrocarbons			
Determinand	**GAC_{gwvap} (µg/l)[1,2]**		**Aqueous Solubility (µg/l)**
	Residential	**Commercial**	
1,2,4-Trimethylbenzene	24	2,200	559,000
Benzene[3]	210	20,000	1,780,000
Ethylbenzene[3]	10,000	*960,000 (sol)*	180,000
Isopropylbenzene	850	*86,000 (sol)*	56,000
Propylbenzene	2,700	*240,000 (sol)*	54,100
Styrene	8,800	*810,000 (sol)*	290,000
Toluene[3]	230,000	*21,000,000 (sol)*	590,000
TPH Aliphatic EC5-EC6[3]	1,900	*190,000 (sol)*	35,900
TPH Aliphatic >EC6-EC8[3]	1,500	*150,000 (sol)*	5,370
TPH Aliphatic >EC8-EC10[3]	57	*5,700 (sol)*	427
TPH Aliphatic >EC10-EC12[3]	37	*3,600 (sol)*	34
TPH Aromatic >EC5-EC7[3]	210,000	*20,000,000 (sol)*	1,780,000
TPH Aromatic >EC7-EC8[3]	220,000	*21,000,000 (sol)*	590,000
TPH Aromatic >EC8-EC10[3]	1,900	*190,000 (sol)*	64,600
TPH Aromatic >EC10-EC12[3]	6,800	*660,000 (sol)*	24,500
TPH Aromatic >EC12-EC16[3]	39,000	*3,700,000 (sol)*	5,750
m-Xylene[3,5]	9,500	*940,000 (sol)*	200,000
o-Xylene[3,5]	12,000	*1,100,000 (sol)*	173,000
p-Xylene[2,]	9,900	*980,000 (sol)*	200,000

Notes
1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.
3. The GAC for these petroleum hydrocarbon contaminants have been calculated using a sub-surface soil to indoor air correction factor of 10 in line with the physical-chemical data sources.
4. The GAC for TPH fractions do not account for genotoxic mutagenic effects. Concentrations of TPH Aromatic >EC5-EC7 should therefore also be compared with the GAC for benzene to ensure that such effects are also assessed.
5. The Health Criteria Value used for each xylene isomer was for total xylene. If site specific additivity assessments are not completed, as a conservative measure the sum of isomer concentrations should be compared to the lowest xylene GAC (as is the case for soil GAC).

SoBRA GAC_{gwvap} for Polycyclic Aromatic Hydrocarbons			
Determinand	**GAC_{gwvap} (µg/l) [1,2]**		**Aqueous Solubility (µg/l)**
	Residential	**Commercial**	
Acenaphthene	*170,000 (sol)*	*15,000,000 (sol)*	4,110

Acenaphthylene	*220,000 (sol)*	*20,000,000 (sol)*	7,950
Fluorene	*210,000 (sol)*	*18,000,000 (sol)*	1,860
Naphthalene	220	*23,000 (sol)*	19,000

Notes
1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.

SoBRA GAC_{gwvap} for Pesticides			
Determinand	**GAC_{gwvap} (µg/l) [1,2]**		**Aqueous Solubility (µg/l)**
	Residential	**Commercial**	
Aldrin	*47 (sol)*	*3,700 (sol)*	20
***alpha*-Endosulfan**	*7,400 (sol)*	*590,000 (sol)*	530
***beta*-Endosulfan**	*7,500 (sol)*	*600,000 (sol)*	280

Notes
1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.

SoBRA GAC_{gwvap} for Halogenated Organics			
Determinand	**GAC_{gwvap} (µg/l) [1,2]**		**Aqueous Solubility (µg/l)**
	Residential	**Commercial**	
1,1,1,2-Tetrachloroethane	240	22,000	1,110,000
1,1,1-Trichloroethane	3,000	290,000	1,300,000
1,1,2,2-Tetrachloroethane	1,600	150,000	2,930,000
1,1,2-Trichloroethane	520	49,000	4,491,000
1,1-Dichloroethane	2,700	260,000	3,666,000
1,1-Dichloroethene	160	16,000	3,100,000
1,2,3,4-Tetrachlorobenzene	240	*31,000 (sol)*	7,800
1,2,3,5-Tetrachlorobenzene	7.0	600	3,500
1,2,3-Trichlorobenzene	35	3,100	21,000
1,2,4,5-Tetrachlorobenzene	8.1	*700 (sol)*	600
1,2,4-Trichlorobenzene	68	7,200	41,400
1,2-Dichlorobenzene	2,000	*220,000 (sol)*	133,000
1,2-Dichloroethane	8.9	850	8,680,000
1,2-Dichloropropane	22	2,600	2,050,000
1,3,5-Trichlorobenzene	7.4	660	6,000
1,3-Dichlorobenzene	31	2,800	103,000
1,4-Dichlorobenzene	5,000	*460,000 (sol)*	51,200
Bromobenzene	220	20,000	388,040
Bromodichloromethane	17	1,600	3,000,000
Bromoform (Tribromomethane)	3,100	400,000	3,000,000
Chlorobenzene	98	15,000	387,000
Chloroethane	10,000	1,000,000	5,742,000
Chloroethene (Vinyl Chloride)	0.62	63	2,760,000
Chloromethane	14	1,400	5,350,000
cis-1,2-Dichloroethene	130	13,000	7,550,000
Dichloromethane	3,300	370,000	20,080,000
Hexachlorobenzene	*16 (sol)*	*1,400 (sol)*	10
Hexachlorobutadiene	1.7	230	4,800
Hexachloroethane	8.5	740	49,900
Pentachlorobenzene	140	*12,000 (sol)*	500
Tetrachloroethene	34	4,600	225,000

Tetrachloromethane (Carbon Tetrachloride)	5.3	770	846,000
trans-1,2-Dichloroethene	160	16,000	5,250,000
Trichloroethene	5.7	530	1,370,000
Trichloromethane (Chloroform)	790	85,000	8,950,000

Notes
1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.

SoBRA GAC_{gwvap} for Others (organic and inorganic)			
Determinand	**GAC_{gwvap} (µg/l) [1,2]**		**Aqueous Solubility (µg/l)**
	Residential	**Commercial**	
2-Chloronaphthalene	160	*14,000 (sol)*	11,700
Biphenyl (Lemonene)	*15,000 (sol)*	*1,300,000 (sol)*	4,060
Carbon disulphide	56	5,600	2,100,000
Mercury, elemental	1.1	*95 (sol)*	56
Methyl tertiary butyl ether (MTBE)	83,000	7,800,000	48,000,000

Notes
1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.

7. Climate Change

Review of the publication by SoBRA referenced: Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, August 2022, addresses the consideration of climate change as part of groundwater risk assessments. Following the development of a preliminary Conceptual Site Model (CSM), climate change should be included by re-evaluating the potential Source-Pathway-Receptor (SPR) linkage assessment to account for the potential effects of climate change based on projections for the region of the site. It is recommended where practicable to use at least two contrasting future climate change scenarios, incorporating information for the periods of 2020s, 2050s and 2080s dependent on the relevant timeframe to the specific assessment. A qualitative assessment of the impact of climate change on the SPRs and resultant impacts on the contaminants linkages within the CSM. Quantitative data can be used to re-address the generic quantitative risk assessment for medium to long term climate change effects. For short-term extreme weather events the of "what if" scenarios should be considered. Consideration also needs to be given to the shortcomings of available simulation models in the UK where they are not equipped to model temporal changes to parameter values and where mitigation measures may be appropriate to address this.

APPENDIX H: Asbestos Risk Assessment

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Asbestos Risk Assessment (CIRIA733)

Site information	Trial Hole				BH1					
	Depth (m bgl)				0.2					
Asbestos Type Considerations	Abestos type		Chrysotile			Amosite			Crocidolite	
	Kasbestos		1.3			1.7			2.0	
	Soil Concentration (Quantification Result in %)					0.001				
Soil Type Considerations	Soil Type	Sand	Sandy Clay	Clay	Sand	Sandy Clay	Clay	Sand	Sandy Clay	Clay
	Ksoil	2.9	1.7	0.93	2.9	1.7	0.93	2.9	1.7	0.93
	Enter the relevant from the above		1.7			2.9				
Constants	Koverall		1.6			1.6			1.6	
	Dust Concentration (mg/m3)		0.1			0.1			0.1	
	Dry Conditions Exposure (hrs)		750			750			750	
	Occupation hours in a year		1920			1920			1920	
Calculation Results	fibre/ml per mg/m3					0.0031				
	fibre/ml					0.00031				
	fibre/ml.hr					0.231				
	fibre/ml.year					0.000120				
Mesothelioma Accumulated Risk	Age (exposure commences)		0			0			0	
	Risk persists for (Years)		60			60			60	
	Cummulative Age Adjustment Factor		16.8			16.8			16.8	
	fibre/ml.year (cumulative)					0.00202				
Lung Cancer Accumulated Risk	Risk persists for (Years)		60			60			60	
	fibre/ml.year (cumulative)					0.00144				

BACKGROUND

This asbestos risk assessment has been undertaken in accordance with the guidance within CIRIA733.

The fibre concentration within the airborne soil dust (in fibres/ml per mg/m3) was calculated based on the results of Addison et al 1988.

The airborne concentration of soil dust (0.1mg/m3) was based on ambient urban dust levels and ART modelling.

The dry conditions exposure (750hrs) was based upon regional meteorological data suggesting 150hrs of dry conditions per year, when applied over a 5-year segment this equates to 750hours.

The occupational hours per year (1920hrs) is based on a 40-hour working week and 48 working weeks in a year.

A worst-case exposure scenario has been considered for residents, groundworkers or generally end-users. This was based on the risk persisting for a period of 60 years, accumulated in 5-year increments. As the risk of mesothelioma is age dependent, this considered the exposure commencing at age 0 with the relevant age adjustment factor applied for each 5-year increment.

Based on the above considerations, the following equations have been used:

((Kasbestostype x Ksoil) ÷ Koverall) x Soil Concentration = fibre/ml per mg/m3

Fibre/ml per mg/m3 x Dust Concentration = fibre/ml

(f/ml x Dry Conditions Exposure (hrs)) = fibre/ml.hr

Fibre/ml.hr ÷ occupational hours per year = fibre/ml.year

Mesothelioma: fibre/ml.year x 16.8 (cumulative age adjustment factor for 60 years)

Lung Cancer: fibre/ml.year x 12 (60 years in 5-year increments)

APPENDIX I: Ground-Gas Monitoring Results

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Job No:	6540	**Date:**		**16/05/2025**		**Ground Gas Serial No.:**	1
Site name:		**Time:**		**to**		**Last Calibration:**	
Operator:	Oli	**Visit No:**	1	**of**		**PID Analyser Serial No.:**	1
						Last Calibration:	

Monitoring Point	GAS CONCENTRATIONS								VOLATILES			FLOW DATA			WELL AND WATER DATA		Additional Remarks
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon monoxide (ppm)	Hydrogen sulphide (ppm)	Oxygen (%v/v)		PID Compensation Factor	PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Water level (m bgl)	Depth of well (m bgl)	
	Peak	Steady	Peak	Steady	Peak	Peak	Min	Steady				Peak	Steady				
Ambient air	0.00	0.00	0.10	0.10	0	0	20.10	20.10	1.00	0.0	/	n/a	n/a	n/a	n/a	n/a	
Bh2	0.00	0.00	0.30	0.30	0	0	20.00	20.00	1.0	0.0		0.0	0.0	0.00	3.20	9.40	
Bh1	0.00	0.00	0.50	0.50	0	0	19.40	19.40	1.0	0.0		0.0	0.0	0.00	3.50	9.10	
Max	**0.00**	**0.00**	**0.50**	**0.50**	**0**	**0**	**20.10**	**20.10**		**0.0**	**0**	**0.00**	**0.00**	**0.00**	**3.5**		
Min	**0.00**	**0.00**	**0.10**	**0.10**	**0**	**0**	**19.40**	**19.40**		**0.0**	**0**	**0.00**	**0.00**	**0.00**	**3.2**		

SITE INFORMATION:

State of ground:		Dry		Wet		Snow		Frozen	X Hardstanding
Wind:		Calm	X	Moderate		Strong			
Cloud cover:		None	X	Cloudy		Overcast			
Preciptation:	X	None		Moderate		Heavy			

METEOROLOGICAL INFORMATION:

Official Barometric Pressure (mbar): | 3hr Before | 1001.0 End of Monitoring | (taken from wow.metoffice.gov.uk station STATION NAME)

Official Pressure Tendency:

(Change in atmospheric pressure for the preceding 3 hours of monitoring)

- Falling (decreasing change >1.6 mbar)
- Steady (change of 0.1 - 1.5 mbar)
- Rising (increasing change >1.6 mbar)

Job No:	6540	**Date:**		**22.05.25**		**Ground Gas Serial No.:**	1
Site name:	220 Elgar Road South	**Time:**	**10:00**	**to**	**10:30**	**Last Calibration:**	
Operator:	OD	**Visit No:**	2	**of**	**2**	**PID Analyser Serial No.:**	1
						Last Calibration:	

	GAS CONCENTRATIONS								VOLATILES			FLOW DATA			WELL AND WATER DATA		
Monitoring Point	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon monoxide (ppm)	Hydrogen sulphide (ppm)	Oxygen (%v/v)		PID Compensation Factor	PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Water level (m bgl)	Depth of well (m bgl)	Additional Remarks
	Peak	Steady	Peak	Steady	Peak	Peak	Min	Steady				Peak	Steady				
Ambient air	0.00	0.00	0.10	0.10	0	0	20.10	20.10	1.00	0.0	/	n/a	n/a	n/a	n/a	n/a	
Bh2	0.00	0.00	0.30	0.30	0	0	20.00	20.00	1.0	0.0		0.0	0.0	0.00	3.10	9.40	
Bh1	0.00	0.00	0.40	0.41	0	0	19.40	19.40	1.0	0.0		0.0	0.0	0.00	3.20	9.10	
Max	**0.00**	**0.00**	**0.40**	**0.41**	**0**	**0**	**20.10**	**20.10**		**0.0**	**0**	**0.00**	**0.00**	**0.00**	**3.2**		
Min	**0.00**	**0.00**	**0.10**	**0.10**	**0**	**0**	**19.40**	**19.40**		**0.0**	**0**	**0.00**	**0.00**	**0.00**	**3.1**		

SITE INFORMATION:

State of ground:		Dry		Wet		Snow		Frozen	X	Hardstanding
Wind:		Calm	X	Moderate		Strong				
Cloud cover:		None	X	Cloudy		Overcast				
Preciptation:	X	None		Moderate		Heavy				

METEOROLOGICAL INFORMATION:

Official Barometric Pressure (mbar): | | 3hr Before | 998.0 | End of Monitoring | (taken from wow.metoffice.gov.uk station STATION NAME)

Official Pressure Tendency:

(Change in atmospheric pressure for the preceding 3 hours of monitoring)

	Falling (decreasing change >1.6 mbar)
	Steady (change of 0.1 - 1.5 mbar)
	Rising (increasing change >1.6 mbar)

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Understanding the hazards and risks at your site

GGS3988 Elgar Road South, Reading

Ref: GGS3988DP01
Issue: Final
Date: May 2025

QMS ISO 45001 : 2018 REGISTERED Cert No. 14121529

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Document Control Page

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	Name		Position	Signature	Date
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GGS3988 Elgar Road South, Reading

FOREWORD

This report has been prepared based on information made available to Ground-Gas Solutions, trading as GGS, at the time of the reporting using all reasonable skill, care and diligence and within the limitations of the scope of works agreed with, and resources provided by, the client.

GGS has relied on information provided by others and has prepared this report on the basis of this information being accurate.

The report and recommendations therein are provided based on information available to GGS at the time of preparing the report and completed to recognised UK guidance and legislation. GGS will not accept any liability for inaccurate or incomplete information provided to GGS or any liability arising from the future change of any such guidance or legislation.

GGS is not obliged and disclaims any obligation to carry out further works or update the report for events occurring after such works have been carried out, and / or report issued in final form. This also applies to transfer of the report to other parties.

This report must be issued as final and be signed by the author and approved by a company director or senior management before the report may be relied upon by the client and subject to full payment for our services being made.

Any third parties using or relying on the information, comments, conclusions and recommendations do so at their own risk. Should any third party wish to use or rely upon the content of the report, written approval must be sought from a GGS Director; a charge may be levied against such approval.

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For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

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Appendices

Appendix A

Site Location & Monitoring Location Plan

Appendix B

Site Photographs

Appendix C

Periodic Monitoring Data

Appendix D

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Calibration Certificates

Appendix F

Gas Sentinel® Overview & Deployment information

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

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1 Introduction

GGS Limited has been commissioned by Ground & Water Ltd to undertake continuous ground gas monitoring at Elgar Road South, Reading (subsequently referred to as 'the site' throughout this report), and provide a GGS DataPack® report containing the following information:

- Periodic monitoring records.
- Continuous monitoring data and graphs.
- Atmospheric pressure trend analysis.
- Instrument calibration certificates.

1.1 Scope of works

The scope of works is set out below:

- A site visit by a GGS specialist on the 9th April 2025 to; periodically monitor 2 No. monitoring well locations and deploy continuous ground gas monitoring instruments at 2 No. monitoring well locations.
- A site visit by GGS specialists on 7th May 2025 to collect continuous ground gas monitoring instruments from 2 No. monitoring well locations.
- Provision of a GGS DataPack® report.

2 Site Characteristics

2.1 Site Description

Table 2.1 below details the site description. A site and monitoring location plan is presented in Appendix A, whilst selected site photographs are presented in Appendix B.

Table 2.1 Site description

Description	Details
Address	220 Elgar Road South, Reading, RG2 0BW.
National grid Reference (approximate centre of site)	SU 71530 72132
Overview	The site comprises a car park to the rear of former DVSA Reading Driving Test Centre. GGS understands the site requires continuous ground gas monitoring to update and revise the gas conceptual site model.
North of the site	The site is bound to the north by Park View and residential housing.
South of the site	The site is bound to the south by residential housing.
East of the site	The site is bound to the east by Elgar Road South and some industrial units.
West of the site	A portion of greenspace lies to the West along with Waterloo Meadows Basketball Court and the River Kennet.

Figure 1 below presents selected GGS site photographs. Additional site photographs are presented in Appendix B.

Figure 1 Selected GGS site photographs (April 2025). Image top left: View of car park area of site. Image top right: Rear of building on site. Image bottom left: Entrance lane to site. Image bottom right: GGS headworks and instrumentation secured in situ.

3 Methodology

3.1 Periodic monitoring of well locations

GGS undertook periodic ground gas monitoring of 2 No. monitoring well locations, prior to the deployment of the continuous monitoring instrument. Concentrations of standard ground gases (methane, carbon dioxide, oxygen, carbon monoxide, and hydrogen sulphide), and flow rates, were recorded until steady state conditions were observed, or up to a maximum of 10 minutes.

GGS also recorded depth to groundwater and depth to base of the monitoring well using a geotechnical dip meter. Monitoring data was recorded on individual proforma records, along with all pertinent observations.

A summary of the periodic monitoring records is presented in Section 4.1, whilst the full periodic monitoring records are presented in Appendix C.

3.2 Continuous ground gas monitoring

3.2.1 Definition

When the frequency of sampling matches, or is greater than, the frequency of a parameter change, the data collected can be termed ‘continuous’. A continuous data set will therefore capture the full range of variation in the parameter being recorded.

3.2.2 Benefits of continuous data

The collection of time series data of permanent gases and other environmental parameters provides a wealth of information significantly assisting the assessor to identify the dominant processes of gas generation and migration. This leads to a more detailed understanding of the ground-gas regime and allows for an accurate and truly site-specific risk assessment to be completed.

3.2.3 Methodology

GGS deployed continuous ground gas monitoring instruments within 2 No. monitoring well locations for a 4-week period during April and May 2025. The instruments were configured to record standard ground gases (methane, carbon dioxide, oxygen, carbon monoxide and hydrogen sulphide), along with atmospheric pressure, atmospheric temperature, and borehole flow, at a 60-minute monitoring frequency.

Figure 2 below presents selected site photographs of the continuous monitoring instruments deployed and secured on site, whilst Table 3.1 details the continuous monitoring schedule.

Figure 2 Selected GGS site photograph of a Gas Sentinel® continuous ground gas monitoring instrument deployed and secured on site.

Table 3.1 Continuous monitoring schedule

Location ID	Instrument Serial No.	Dates monitored
BH1	Gas Sentinel® 03000067	09/04/2025 – 07/05/2025
BH2	Gas Sentinel® 03000060	09/04/2025 – 07/05/2025

Continuous monitoring graphs are presented in Section 4.2 and the raw data is presented in Appendix D. Calibration certificates for the instruments used are presented in Appendix E, whilst Gas Sentinel® overview & deployment information is presented in Appendix F.

4 Results

4.1 Summary of periodic monitoring of well locations

Table 4.1 below presents a summary of the periodic monitoring completed by GGS. The full periodic monitoring records are presented in Appendix C.

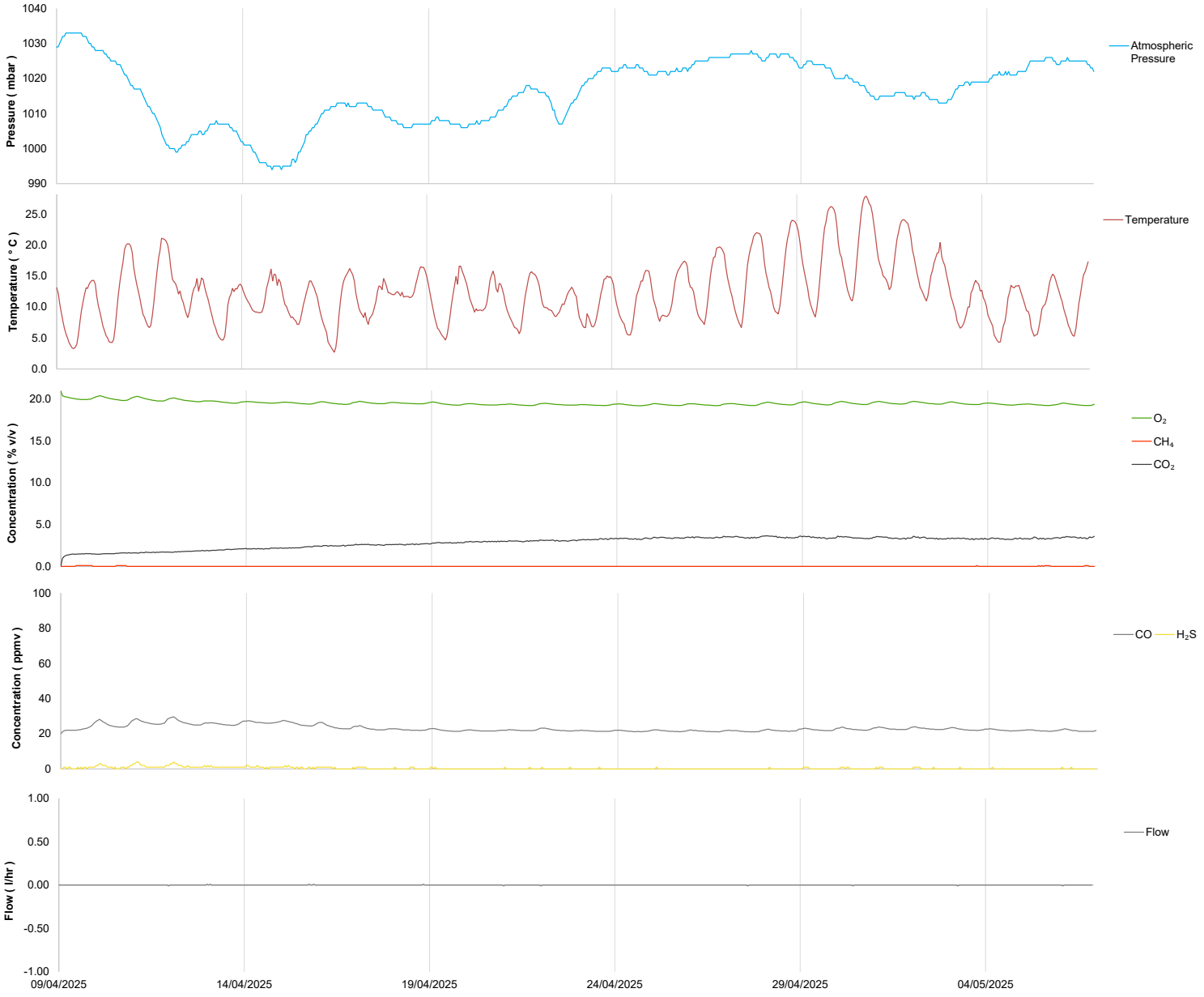
Table 4.1 Periodic gas monitoring results

Monitoring Location	Date	Max. Steady Positive Flow Rate (l/hr)	Max. CH_4 (% v/v)	Max. CO_2 (% v/v)	Min O_2 (% v/v)	Max. CO (ppmv)	Max. H_2S (ppmv)	Standing water level (m bgl)
BH1	09/04/2025	<0.1	0.1	4.3	10.3	3	<1	3.49
BH2	09/04/2025	<0.1	0.2	0.4	20.1	4	<1	1.74

4.2 Continuous monitoring results

GGS DataPack® analysis involves converting raw data files from instruments into spread sheets. The data is then plotted as time series data graphs, showing ground-gas concentrations, gas flow, atmospheric pressure and atmospheric temperature against time. The graphs also contain a minimum and maximum values table.

The time series graphs are presented on the following pages, whilst the raw time series data is presented in Appendix D.



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Title:
BH1 Time Series Graphs

Project Reference:
GGS3988

Project Name:
Elgar Road South, Reading

Client:
Ground & Water Ltd

Minimum / Maximum Table		
Parameter	**Minimum**	**Maximum**
CH_4 (% v/v)	0.0	0.1
CO_2 (% v/v)	0.1	3.7
O_2 (% v/v)	19.2	20.9
Carbon Monoxide (ppmv)	20	30
Hydrogen Sulphide (ppmv)	0	4
Temperature (° C)	2.7	27.9
Atmospheric Pressure (mbar)	994	1033
Flow (l/hr)	-0.01	0.01

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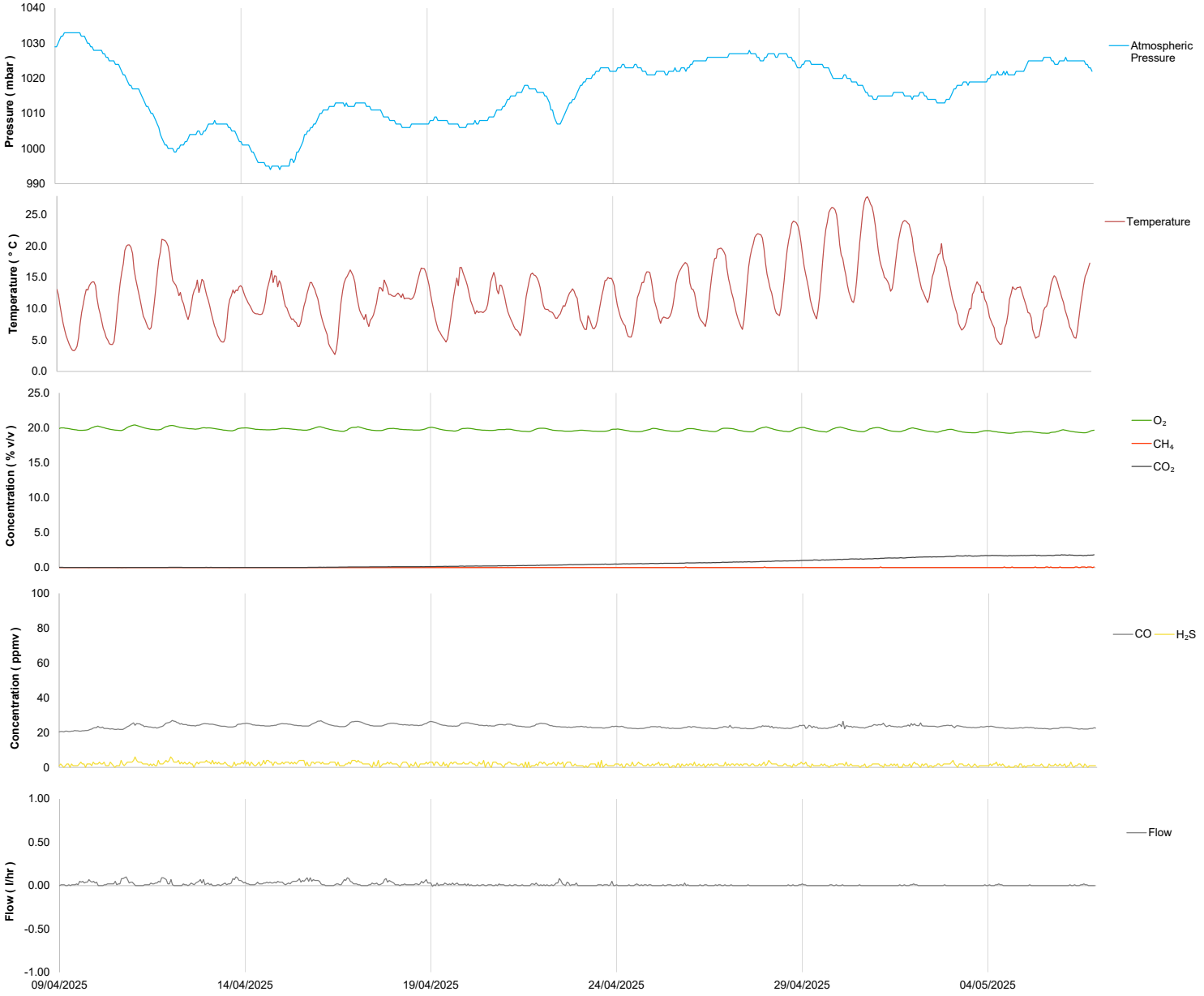

Experts in Continuous Monitoring

Title:
BH2 Time Series Graphs

Project Reference:
GGS3988

Project Name:
Elgar Road South, Reading

Client:
Ground & Water Ltd

Minimum / Maximum Table		
Parameter	**Minimum**	**Maximum**
CH_4 (% v/v)	0.0	0.1
CO_2 (% v/v)	0.0	1.8
O_2 (% v/v)	19.2	20.4
Carbon Monoxide (ppmv)	20	27
Hydrogen Sulphide (ppmv)	0	6
Temperature (° C)	2.7	27.9
Atmospheric Pressure (mbar)	994	1033
Flow (l/hr)	-0.01	0.10

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4.3 Atmospheric Pressure Analysis

Atmospheric pressure is often a dominant ground-gas driver and as such, monitoring should include measurements during falling and rising pressure events. Specifically, it is the rate of a pressure fall and the duration of the fall that are the two factors considered most important.

To capture potential 'worst case' conditions with respect to falling atmospheric pressure, monitoring should include both short and longer duration falling pressure events at a rate of 1.15 millibars per hour and above[1]. This is calculated as an average fall over an 8-hour reference period. The rate of change in atmospheric pressure over an 8-hour reference period is presented in Figure 4 on the following pages.

For weather forecasting in the UK, The Meteorological Office[2] records falling pressure tendency over a 3-hour period, whereby every hour the change in atmospheric pressure over the proceeding 3 hours is noted as being:

- Stable <0.1 millibars
- Falling (or rising) slowly >0.1 millibars
- Falling (or rising) >1.6 millibars
- Falling (or rising) rapidly >3.6 millibars
- Falling (or rising) very rapidly >6 millibars

Similarly, The British Coal Technical Department[3] considered a sharp fall in pressure to be between 4 and 8 millibars over a 3-hour period. GGS has used the time series data to reference a 3-hour tendency throughout the continuous monitoring period using the Met Office criteria listed above. A time series graph of the 3-hour pressure tendency is also presented in Figure 4 on the following pages, which provides time reference/occurrences to atmospheric pressure falling, falling rapidly and/or falling very rapidly.

[1] CL:AIRE Technical Bulletin 17, August 2018. Ground Gas Monitoring and 'Worst-Case' Conditions
[2] https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/library-and-archive/library/publications/factsheets/factsheet_8-shipping-forecast.pdf
[3] British Coal Technical Department. 1990. Hazardous Gases Underground: Notes for Guidance NG/9. British Coal Technical Department.

The standard mean sea level pressure (MSLP) in the UK is defined as 1013.25 millibars[4], which provides a common value to compare atmospheric pressure across different locations and elevations. Atmospheric pressure above or below MSLP can therefore be considered either higher or lower than the average pressure for that geographical location. Typical meteorological convention is to segment atmospheric pressure into five distinct categories as follows:

- Very high >1035 millibars
- High >1020 <1035 millibars
- Normal >1005 <1020 millibars
- Low >990 <1005 millibars
- Very low <990 millibars

Table 4.2 on the following page provides a summary of the atmospheric pressure regime, including the percentage time in which pressure was below average and below average and falling.

With consideration to The Met Office pressure change criteria, the percentage distribution of the 3-hour atmospheric pressure tendency during the continuous monitoring period is presented in Figure 3 below. Although rising pressure will have a similar distribution to falling pressure, this is listed together. The percentage distribution of atmospheric pressure in terms of very low to very high pressure, is also included in Figure 3 below.

For the purpose of atmospheric pressure analysis, GGS has obtained historical weather data which is based on reanalysis datasets. A combination of weather station, aricraft, buoy, radar and satellite observations are used to creat a comprehensive record of past weather conditions. These datasets are able to provide detailed historical weather data for locations which may not have a local weather station and for locations that may have gaps in observational weather data. All the assessed atmospheric pressure data is relative to sea level pressure.

[4] https://www.metoffice.gov.uk/weather/learn-about/weather/how-weather-works/high-and-low-pressure

Table 4.2 Atmospheric pressure regime

Atmospheric Pressure Analysis 09/04/2025 – 07/05/2025	
Range in atmospheric pressure (mbar)	994.2 – 1032.9 (38.7 millibars)
Maximum average rate of fall over an 8-hour reference period	1.075 mbar/hour (12/04/2025 08:00 1009.8 mb to 12/04/2025 16:00 1001.2mb)
Maximum change in pressure over a 3-hour period (pressure tendency)	3.8 millibars (23/04/2025 01:00 1011.4mb to 23/04/2025 04:00 1007.6mb)
Most significant atmospheric pressure fall greater than 8 hours	33 millibars over 64 hours (0.52 mbar/hour) (1032.6 mb 10/04/2025 09:00 – 999.6 mb 13/04/2025 00:00).
% time low or very low pressure and falling	12.2%
Average pressure during the monitoring period (millibars)	1015.98

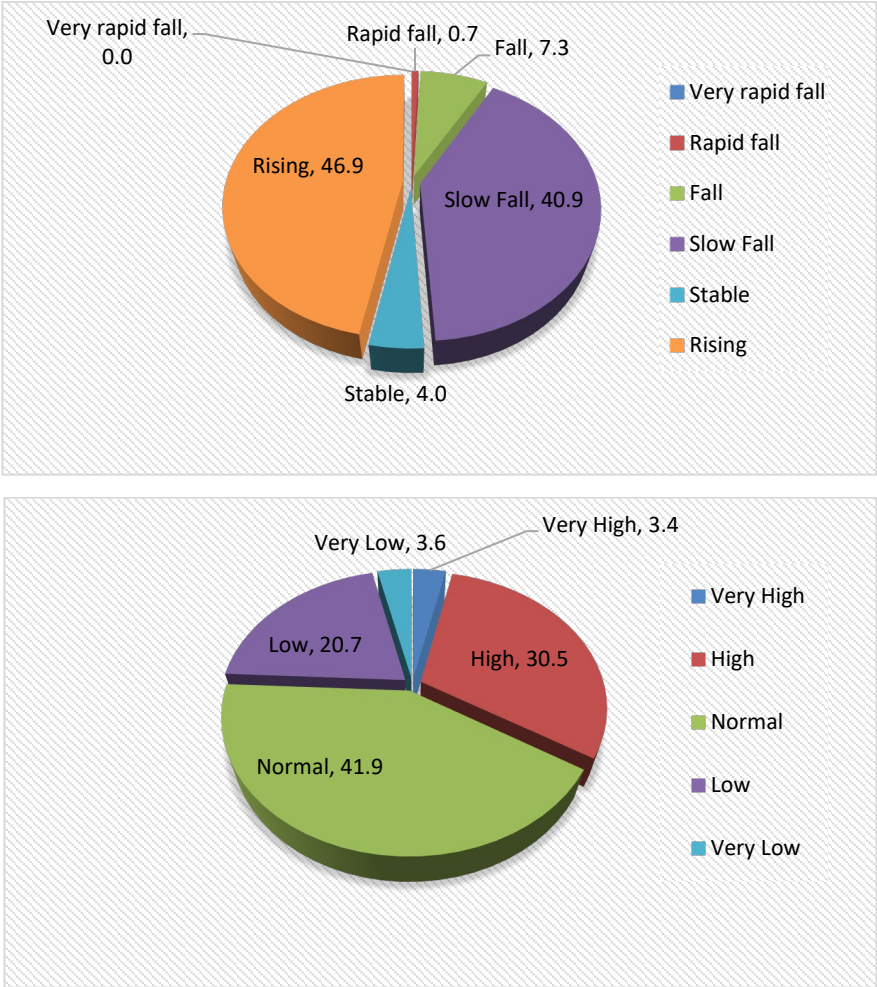


Figure 3 % distribution of 3-hour pressure tendency (top) and low, normal and high pressure (bottom)

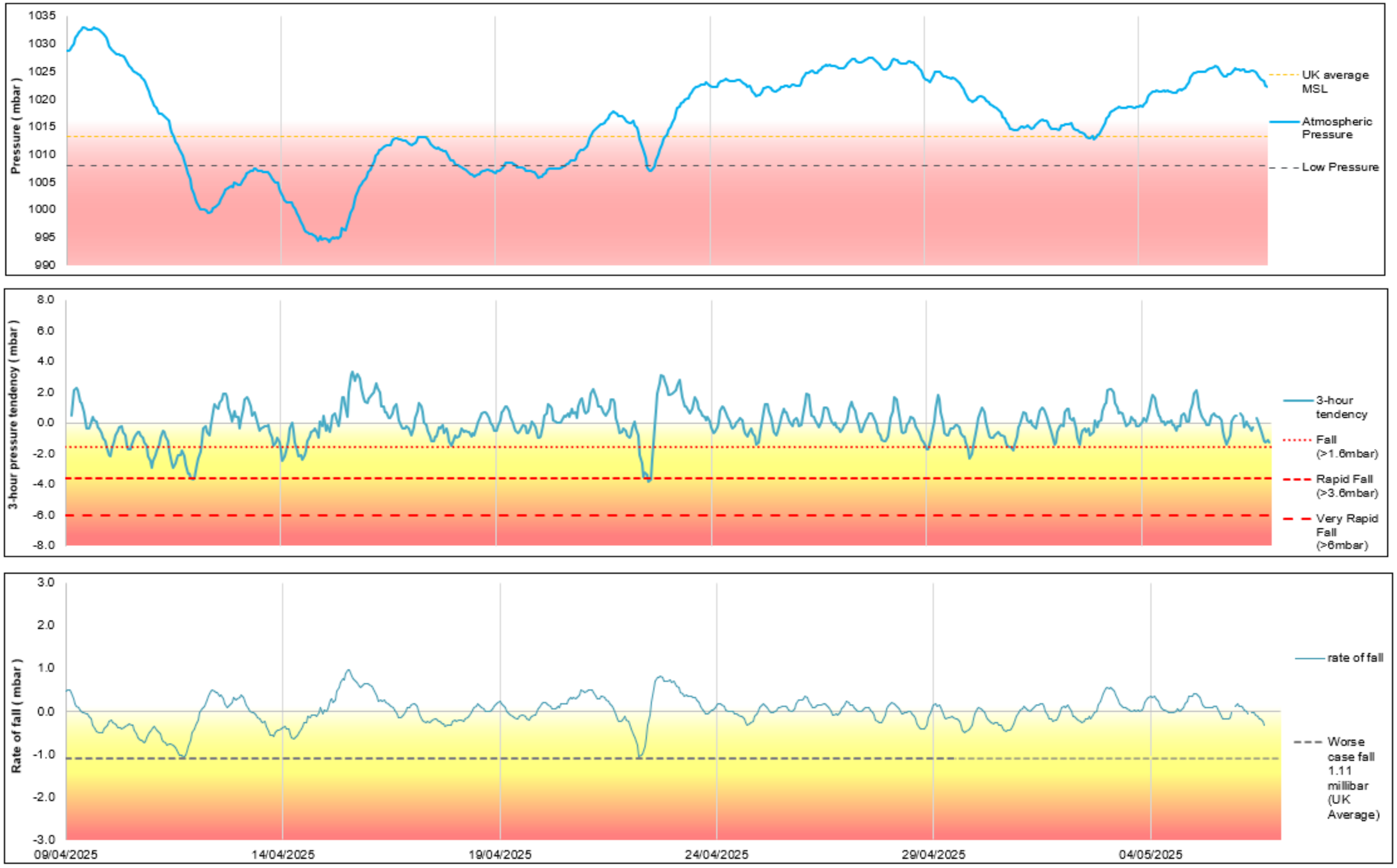


Figure 4 Time series atmospheric pressure presented with reference to standard UK mean sea level pressure (top), 3-hour pressure tendency (middle) and a maximum rate of fall averaged over an 8-hour reference period (bottom)

5 Instrumentation specifications

GGS instrumentation is maintained in accordance with the manufacturer recommendations and is serviced and calibrated annually. Note that for some instrumentation, cross sensitivity to other gases and significant environmental changes, such as temperature, pressure and humidity, should be taken into consideration when considering all site monitoring data.

The current calibration certificates for all equipment used on site are included in Appendix E.

5.1 GasData GFM400 series

The GasData GFM 400 series gas analyser with flow meter measures borehole flow rates, bulk gas concentrations (methane, carbon dioxide and oxygen), trace gas concentrations (carbon monoxide and hydrogen sulphide) barometric and differential pressure.

The specification range of the GFM 400 series is as follows:

Table 5.1 GFM 400 series specification

Feature	Method / Type	Range	Resolution
Methane	Infrared	0 - 100%v/v	0.1%
Lower Detection Limit (LEL)	Infrared	0 - 100%v/v	0.1%
Carbon Dioxide	Infrared	0 - 100%v/v	0.1%
Oxygen	Electrochemical	0 - 25%v/v	0.1%
Hydrogen Sulphide	Electrochemical	0 - 5000ppm	1ppm
Carbon Monoxide	Electrochemical	0 - 2000ppm	1ppm
Atmospheric Pressure	Absolute Pressure Sensor	800 - 1200mb	1mb
Differential Pressure	Thermal Dissipation	±1250Pa	0.1Pa
Temperature	Bi-metal	-10°C to +100°C	1°C
Flow	Thermal Dissipation	-60 – 100 l/hr	0.1l/hr

5.2 Gas Sentinel® instrumentation

Instrument specification and overview information sheets are presented in Appendix F.

6 ISO Accreditation and Professional Insurances

GGS are accredited to the following international standards:

- ISO 9001:2015 (Quality Management System);
- ISO 14001:2015 (Environmental Management System), and;
- ISO 45001: 2018 (Occupational Health and Safety Management System).

7 Limitations

GGS has prepared this factual report for the use of the Client and those parties whom a warranty agreement has been executed, or with whom an assignment has been agreed.

GGS accepts no responsibility for the consequences of this document being used for any purpose or project other than for which it was commissioned or for the consequences arising from this document's use by any third party with whom an agreement has not been executed.

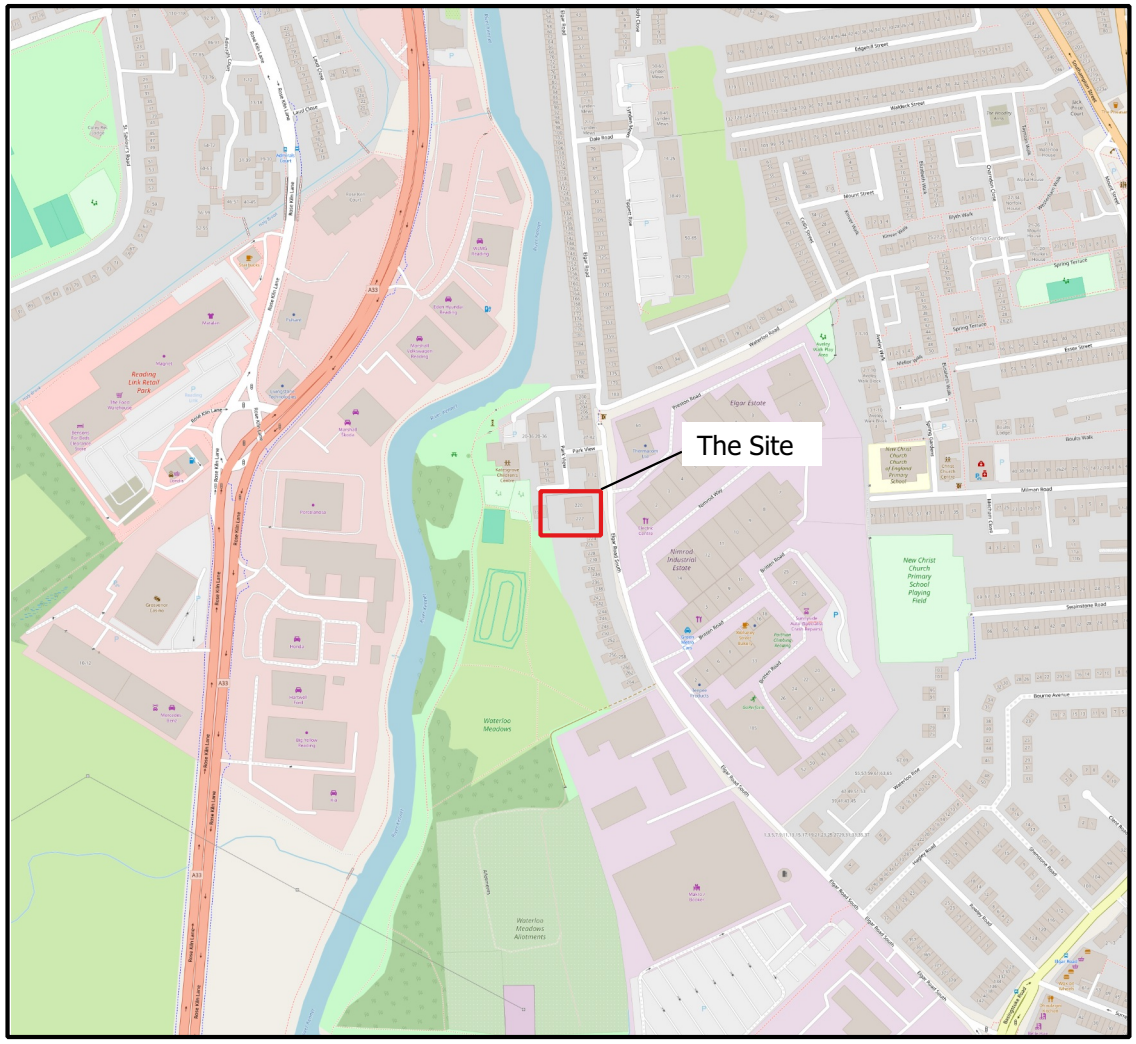
GGS accept no responsibility for the interpretation of this factual data. A reviewer of the data provided must take into account other available information and the context in which this data was collected. For example, site setting, conceptual site model, environmental conditions, gases present (that are not monitored as part of this contract, but may interfere with the sensors used), building design and construction practices during the monitoring period.

GGS accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Appendix A

Site Location & Monitoring Location Plan

1:100,000



1:10,000

	Rev.	Date	Dwn	Description	App'd
TITLE: Site Location Plan	0	21/05/25	EC	FINAL	HH
PROJECT: GGS3988 Elgar Road South, Reading					
DRAWING REF: GGS3988_SLP_01					

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Note:
- All locations are approximate.
- Map & satellite imagery ©OpenStreetMap

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Ground gas solutions Ltd.
Pythia House (Unit 10),
Bamford Business Park,
Hibbert Street, Stockport
SK4 1PL

Title:
Monitoring Location Plan

Project:
GGS3988 Elgar Road South, Reading

Drawing No:
GGS3988_12.05.25

Key:

Continuous monitoring location

Note:
- All locations are approximate.
- Imagery Google© 2025.

Rev.	Date	Dwn.	Description	App'd
0	12/05/25	MT	FINAL	HH

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Experts in
Continuous Monitoring
Ground Gas Solutions (GGS) Ltd.
Pythia House (Unit 10), Bamford Business Park
Hibbert Street, Stockport, SK4 1PL

GGS DataPack® Plus
GGS3988 Elgar Road South, Reading

Appendix B

Site Photographs

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

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GGS DataPack®
GGS3988 Elgar Road South, Reading

1. General site photograph.

2. Flush headworks in place before GGS modifications.

3. Standpipe before GGS modifications.

4. Instrument installed within headworks.

5. Headworks secured.

6. General site photograph.

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GGS DataPack® Plus
GGS3988 Elgar Road South, Reading

Appendix C

Periodic Monitoring Data

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

Experts in Continuous Monitoring

Experts in Continuous Monitoring

PROJECT DETAILS		
Project ID	GGS3988	
Site	Elgar Road South, Reading	
Date	09/04/2025	
Weather Conditions (from Met office app)	**Temperature (°C)**	16
	Wind (km/h)	11.0
	Precipitation	None
	Cloud cover	None
	Atmospheric Pressure trend	Rising
Overall Site Ground Conditions	Flat asphalt car park of former driving test centre. Easy access to monitoring well locations.	
Site Notes/H&S Notes	N/A	

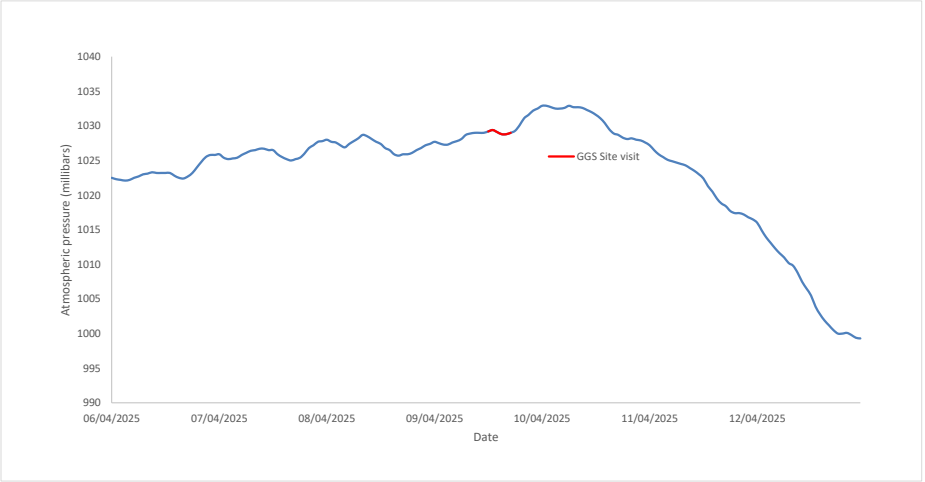

Figure 1. GGS site visit in relation to atmospheric pressure regime

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Experts in Continuous Monitoring

Site Name	Elgar Road South, Reading
Project ID	GGS3988
GGS Staff	PG
Monitoring Date	09/04/2025
Monitoring Start Time	13:46

Borehole Details	
Borehole ID	BH1
W3W	friday.crops.juices
Area surrounding borehole	Dry
Headworks Type	Ground Level
Rubber bung and valve in place?	Yes
Valve is clear and clean?	Yes
Standpipe Condition	Correct

Notes

BS8576 Visual Checks	
Concrete Cover	Present
Bentonite Seal	Pellet Form
Gravel Fill	Not Visible

Borehole Measurements	
Groundwater Level (mbgl)	3.49
Depth to base (mbgl)	5.4

Pressure Readings	Start	End
Atmospheric Pressure (mb)	1029	1029

EQUIPMENT	
Model	Serial Number
GA 5000	G504460
Dip Tape	N/A

Time	Gas Flow	Gas Readings					
(seconds)	Litres/hour	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	BAL	CO (ppmv)	H_2S (ppmv)
Fresh Air	<0.1	0.1	0.1	20.2	79.6	<1	<1
Initial	<0.1	0.1	2.7	16.7	80.5	1	<1
30	<0.1	0.1	2.7	13.8	83.4	1	<1
60	<0.1	0.1	2.8	13.6	83.5	3	<1
120	<0.1	0.1	2.9	13.2	83.8	3	<1
180		0.1	3.1	12.8	84.0	3	<1
240		0.1	3.4	12.2	84.3	2	<1
300		0.1	3.6	11.7	84.6	2	<1
360		0.1	3.8	11.3	84.8	1	<1
420		0.1	4.0	10.9	85.0	1	<1
480		0.1	4.1	10.6	85.2	1	<1
540		0.1	4.2	10.4	85.3	1	<1
600		0.1	4.3	10.3	85.3	<1	<1
Fresh Air	<0.1	0.1.	0.1	20.2	79.7	<1	<1

STEADY STATE FINAL RESULTS							
Reult	Flow (l/hr)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	BAL	CO (ppmv)	H_2S (ppmv)
Steady state time (s)	30	30	N/A	N/A	N/A	60	30
Steady state value	<0.1	0.1	N/A	N/A	N/A	3	<1
Peak Value (O_2 Low)	<0.1	0.1	4.3	10.3	85.3	3	<1

KEY: <0.1= Below instrument limit of detection, NM = Not Measured, N/A = Not Applicable, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, ltr/hr = litres per hour, mbgl = metres below ground level, OS = off scale of instrument

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Experts in Continuous Monitoring

Site Name	Elgar Road South, Reading
Project ID	GGS3988
GGS Staff	PG
Monitoring Date	09/04/2025
Monitoring Start Time	13:28

Borehole Details	
Borehole ID	BH2
W3W	tides.margin.walks
Area surrounding borehole	Dry
Headworks Type	Ground Level
Rubber bung and valve in place?	Yes
Valve is clear and clean?	Yes
Standpipe Condition	Correct

Notes
Brown silt at base.

BS8576 Visual Checks	
Concrete Cover	Present
Bentonite Seal	Pellet Form
Gravel Fill	Not Visible

Borehole Measurements	
Groundwater Level (mbgl)	1.74
Depth to base (mbgl)	3.64

Pressure Readings	Start	End
Atmospheric Pressure (mb)	1029	1029

EQUIPMENT	
Model	Serial Number
GA 5000	G504460
Dip Tape	N/A

Time	Gas Flow	Gas Readings					
(seconds)	Litres/hour	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	BAL	CO (ppmv)	H_2S (ppmv)
Fresh Air	<0.1	0.2	0.1	20.6	79.1	<1	<1
Initial	<0.1	0.2	0.4	20.4	79.0	4	<1
30	<0.1	0.2	0.2	20.2	79.4	2	<1
60	<0.1	0.2	0.3	20.2	79.3	2	<1
120	<0.1	0.2	0.2	20.2	79.4	2	<1
180		0.2	0.2	20.2	79.4	1	<1
240		0.2	0.2	20.2	79.4	1	<1
300		0.1	0.2	20.2	79.5	<1	<1
360		0.1	0.1	20.1	79.7	<1	<1
420		0.1	0.1	20.1	79.7	<1	<1
480		0.1	0.1	20.1	79.7	<1	<1
540							
600							
Fresh Air	<0.1	0.1.	0.1	20.2	79.7	<1	<1

STEADY STATE FINAL RESULTS							
Reult	Flow (l/hr)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	BAL	CO (ppmv)	H_2S (ppmv)
Steady state time (s)	30	30	120	30	120	60	30
Steady state value	<0.1	0.2	0.2	20.2	79.4	30	<1
Peak Value (O_2 Low)	<0.1	0.2	0.4	20.1	79.7	2	<1

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GGS3988 Elgar Road South, Reading

Appendix D

Time Series Data

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

Experts in Continuous Monitoring

Time Series Data

Project Ref:	GGS3988
Project Name:	Elgar Road South, Reading
Borehole ref:	BH1
Instrument Name and ID:	03000067
Start Date:	09/04/2025 17:00
End Date:	07/05/2025 14:00
Days of monitoring:	28
nitoring Frequency (hh:mm:ss):	01:00:00
Total samples taken:	670

Summary Table

	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
Minimum	0.0	0.1	19.2	20	0	-0.01	**Minimum**	994	-1.1	2.7
Maximum	0.1	3.7	20.9	30	4	0.01	**Maximum**	1033	1.0	27.9
Range	0.1	3.6	1.7	10	4	0.02	**Range**	39	2.1	25.2

Date and Time	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	CO ppm/v	H_2S ppm/v	Flow Ltr/hr		Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Temperature °C
09/04/2025 17:00	0.0	0.1	20.9	20	0	0.00		1029	NM	13.1
09/04/2025 18:00	0.0	1.0	20.4	21	0	0.00		1029	NM	12.2
09/04/2025 19:00	0.0	1.2	20.3	22	1	0.00		1030	NM	10.5
09/04/2025 20:00	0.0	1.3	20.2	22	1	0.00		1031	NM	9.1
09/04/2025 21:00	0.0	1.4	20.2	22	0	0.00		1032	NM	7.7
09/04/2025 22:00	0.0	1.4	20.2	22	1	0.00		1032	NM	6.6
09/04/2025 23:00	0.0	1.4	20.1	22	1	0.00		1033	NM	5.7
10/04/2025 00:00	0.0	1.5	20.1	22	0	0.00		1033	NM	5.0
10/04/2025 01:00	0.0	1.5	20.0	22	0	0.00		1033	-1.1	4.3
10/04/2025 02:00	0.0	1.4	20.0	22	0	0.00		1033	0.5	3.8
10/04/2025 03:00	0.1	1.5	20.0	22	0	0.00		1033	0.4	3.4
10/04/2025 04:00	0.1	1.5	20.0	22	1	0.00		1033	0.3	3.3
10/04/2025 05:00	0.1	1.5	19.9	22	0	0.00		1033	0.1	3.5
10/04/2025 06:00	0.1	1.5	19.9	22	1	0.00		1033	0.1	4.0
10/04/2025 07:00	0.1	1.5	19.9	23	0	0.00		1033	0.0	5.4
10/04/2025 08:00	0.1	1.5	19.9	23	1	0.00		1033	0.0	7.5
10/04/2025 09:00	0.1	1.5	19.9	23	1	0.00		1033	0.0	9.4
10/04/2025 10:00	0.1	1.5	19.9	23	0	0.00		1032	-0.1	10.7
10/04/2025 11:00	0.1	1.5	19.9	24	1	0.00		1032	-0.1	12.0
10/04/2025 12:00	0.1	1.5	20.0	24	1	0.00		1032	-0.1	13.1
10/04/2025 13:00	0.1	1.5	20.0	25	1	0.00		1031	-0.3	13.0
10/04/2025 14:00	0.0	1.5	20.1	26	1	0.00		1030	-0.4	13.7
10/04/2025 15:00	0.0	1.5	20.2	26	1	0.00		1030	-0.4	14.1
10/04/2025 16:00	0.0	1.5	20.3	27	2	0.00		1029	-0.5	14.3
10/04/2025 17:00	0.0	1.5	20.3	28	2	0.00		1029	-0.5	14.3
10/04/2025 18:00	0.0	1.5	20.4	28	3	0.00		1028	-0.5	13.7
10/04/2025 19:00	0.0	1.5	20.3	28	3	0.00		1028	-0.5	11.7
10/04/2025 20:00	0.0	1.5	20.3	27	2	0.00		1028	-0.5	10.2
10/04/2025 21:00	0.0	1.5	20.2	26	2	0.00		1028	-0.4	9.2
10/04/2025 22:00	0.0	1.5	20.2	26	2	0.00		1028	-0.3	8.1
10/04/2025 23:00	0.0	1.5	20.1	25	1	0.00		1028	-0.3	6.9
11/04/2025 00:00	0.0	1.5	20.1	25	1	0.00		1027	-0.3	6.2
11/04/2025 01:00	0.0	1.5	20.0	25	1	0.00		1027	-0.3	5.4
11/04/2025 02:00	0.0	1.5	20.0	24	1	0.00		1026	-0.3	5.0
11/04/2025 03:00	0.0	1.5	20.0	24	0	0.00		1026	-0.3	4.4
11/04/2025 04:00	0.0	1.5	19.9	24	1	0.00		1025	-0.4	4.3
11/04/2025 05:00	0.1	1.6	19.9	24	0	0.00		1025	-0.4	4.3
11/04/2025 06:00	0.1	1.6	19.9	24	0	0.00		1025	-0.4	4.8
11/04/2025 07:00	0.1	1.6	19.8	24	0	0.00		1025	-0.4	6.8
11/04/2025 08:00	0.1	1.6	19.8	24	1	0.00		1024	-0.4	9.6
11/04/2025 09:00	0.1	1.6	19.8	24	1	0.00		1024	-0.4	12.0
11/04/2025 10:00	0.1	1.6	19.8	24	1	0.00		1024	-0.3	14.1
11/04/2025 11:00	0.1	1.6	19.8	24	0	0.00		1023	-0.4	15.8
11/04/2025 12:00	0.0	1.6	19.8	24	1	0.00		1022	-0.4	17.2
11/04/2025 13:00	0.0	1.6	19.9	25	1	0.00		1021	-0.5	19.3
11/04/2025 14:00	0.0	1.6	20.0	26	2	0.00		1021	-0.5	20.0
11/04/2025 15:00	0.0	1.6	20.1	27	2	0.00		1020	-0.6	20.2
11/04/2025 16:00	0.0	1.6	20.2	28	3	0.00		1019	-0.6	20.2
11/04/2025 17:00	0.0	1.6	20.2	28	3	0.00		1018	-0.8	19.8
11/04/2025 18:00	0.0	1.6	20.3	29	4	0.00		1018	-0.8	18.8
11/04/2025 19:00	0.0	1.6	20.3	28	4	0.00		1017	-0.8	16.3
11/04/2025 20:00	0.0	1.6	20.2	28	3	0.00		1017	-0.6	14.8
11/04/2025 21:00	0.0	1.7	20.2	27	2	0.00		1017	-0.5	13.6
11/04/2025 22:00	0.0	1.7	20.1	27	2	0.00		1017	-0.5	12.5
11/04/2025 23:00	0.0	1.6	20.0	27	2	0.00		1017	-0.4	11.3
12/04/2025 00:00	0.0	1.7	20.0	26	1	0.00		1016	-0.4	10.0

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
12/04/2025 01:00	0.0	1.7	20.0	26	1	0.00		1015	-0.4	8.8
12/04/2025 02:00	0.0	1.7	19.9	26	1	0.00		1014	-0.5	8.3
12/04/2025 03:00	0.0	1.6	19.9	26	1	0.00		1013	-0.5	7.6
12/04/2025 04:00	0.0	1.7	19.8	26	1	0.00		1012	-0.6	7.0
12/04/2025 05:00	0.0	1.7	19.8	26	1	0.00		1012	-0.6	6.7
12/04/2025 06:00	0.0	1.7	19.8	25	1	0.00		1011	-0.8	7.0
12/04/2025 07:00	0.0	1.7	19.8	25	1	0.00		1010	-0.9	8.6
12/04/2025 08:00	0.0	1.7	19.7	25	1	0.00		1010	-0.8	10.8
12/04/2025 09:00	0.0	1.7	19.7	25	1	0.00		1009	-0.8	13.2
12/04/2025 10:00	0.0	1.7	19.7	26	1	0.00		1008	-0.8	15.6
12/04/2025 11:00	0.0	1.7	19.7	26	1	0.00		1007	-0.8	17.8
12/04/2025 12:00	0.0	1.7	19.8	26	1	0.00		1006	-0.8	19.1
12/04/2025 13:00	0.0	1.7	19.8	27	2	0.00		1004	-1.0	21.1
12/04/2025 14:00	0.0	1.7	19.9	28	2	0.00		1003	-1.0	21.0
12/04/2025 15:00	0.0	1.7	20.0	29	2	0.00		1002	-1.0	20.9
12/04/2025 16:00	0.0	1.7	20.0	29	3	-0.01		1001	-1.1	20.6
12/04/2025 17:00	0.0	1.7	20.1	29	3	0.00		1001	-1.0	20.0
12/04/2025 18:00	0.0	1.7	20.1	30	4	0.00		1000	-1.0	18.6
12/04/2025 19:00	0.0	1.7	20.1	29	3	0.00		1000	-0.9	16.3
12/04/2025 20:00	0.0	1.7	20.0	28	3	0.00		1000	-0.8	14.5
12/04/2025 21:00	0.0	1.8	20.0	28	2	0.00		1000	-0.5	14.1
12/04/2025 22:00	0.0	1.7	19.9	27	2	0.00		999	-0.5	13.8
12/04/2025 23:00	0.0	1.8	19.9	27	2	0.00		999	-0.4	13.1
13/04/2025 00:00	0.0	1.8	19.9	26	1	0.00		1000	-0.1	12.1
13/04/2025 01:00	0.0	1.8	19.8	26	1	0.00		1000	-0.1	12.6
13/04/2025 02:00	0.0	1.8	19.8	26	1	0.00		1001	0.1	11.4
13/04/2025 03:00	0.0	1.8	19.8	26	2	0.00		1001	0.1	10.8
13/04/2025 04:00	0.0	1.8	19.8	26	1	0.00		1001	0.1	9.8
13/04/2025 05:00	0.0	1.8	19.7	25	1	0.00		1002	0.3	8.9
13/04/2025 06:00	0.0	1.8	19.7	25	1	0.00		1002	0.4	8.3
13/04/2025 07:00	0.0	1.8	19.7	25	1	0.00		1003	0.5	9.2
13/04/2025 08:00	0.0	1.9	19.7	25	1	0.00		1004	0.5	10.6
13/04/2025 09:00	0.0	1.9	19.7	25	1	0.00		1004	0.5	12.1
13/04/2025 10:00	0.0	1.9	19.7	25	1	0.00		1004	0.4	13.0
13/04/2025 11:00	0.0	1.9	19.7	25	1	0.00		1004	0.4	13.4
13/04/2025 12:00	0.0	1.9	19.7	25	1	0.00		1004	0.4	14.6
13/04/2025 13:00	0.0	1.9	19.7	26	1	0.00		1005	0.4	12.6
13/04/2025 14:00	0.0	1.9	19.7	26	2	0.00		1005	0.4	13.6
13/04/2025 15:00	0.0	1.9	19.8	26	1	0.00		1004	0.1	14.7
13/04/2025 16:00	0.0	1.9	19.7	26	2	0.00		1004	0.0	14.4
13/04/2025 17:00	0.0	1.9	19.7	26	1	0.01		1005	0.1	13.2
13/04/2025 18:00	0.0	1.9	19.8	26	2	0.00		1005	0.1	12.2
13/04/2025 19:00	0.0	1.9	19.7	26	1	0.01		1006	0.3	11.4
13/04/2025 20:00	0.0	1.9	19.7	26	1	0.00		1007	0.4	10.4
13/04/2025 21:00	0.0	1.9	19.7	26	1	0.00		1007	0.3	9.3
13/04/2025 22:00	0.0	1.9	19.7	26	1	0.00		1007	0.3	8.3
13/04/2025 23:00	0.0	2.0	19.7	26	1	0.00		1007	0.4	7.3
14/04/2025 00:00	0.0	2.0	19.6	26	1	0.00		1008	0.5	6.7
14/04/2025 01:00	0.0	2.0	19.6	25	1	0.00		1007	0.3	5.8
14/04/2025 02:00	0.0	2.0	19.6	25	1	0.00		1007	0.3	5.3
14/04/2025 03:00	0.0	2.0	19.6	25	1	0.00		1007	0.1	4.9
14/04/2025 04:00	0.0	2.0	19.6	25	1	0.00		1007	0.0	4.7
14/04/2025 05:00	0.0	2.0	19.5	25	1	0.00		1007	0.0	4.7
14/04/2025 06:00	0.0	2.0	19.5	25	1	0.00		1007	0.0	5.3
14/04/2025 07:00	0.0	2.0	19.5	25	1	0.00		1007	0.0	7.6
14/04/2025 08:00	0.0	2.0	19.5	25	1	0.00		1007	-0.1	10.3
14/04/2025 09:00	0.0	2.0	19.5	25	1	0.00		1006	-0.1	11.5
14/04/2025 10:00	0.0	2.1	19.5	25	1	0.00		1006	-0.1	12.1
14/04/2025 11:00	0.0	2.1	19.5	25	1	0.00		1005	-0.3	13.0
14/04/2025 12:00	0.0	2.1	19.5	26	1	0.00		1005	-0.3	12.5
14/04/2025 13:00	0.0	2.1	19.6	26	1	0.00		1005	-0.3	13.0
14/04/2025 14:00	0.0	2.1	19.6	27	1	0.00		1004	-0.4	12.9
14/04/2025 15:00	0.0	2.1	19.6	27	1	0.00		1003	-0.5	13.5
14/04/2025 16:00	0.0	2.1	19.7	27	1	0.00		1002	-0.6	13.7
14/04/2025 17:00	0.0	2.2	19.7	27	2	0.00		1002	-0.5	13.4
14/04/2025 18:00	0.0	2.1	19.7	27	2	0.00		1001	-0.6	12.6
14/04/2025 19:00	0.0	2.1	19.7	27	1	0.00		1001	-0.5	11.9
14/04/2025 20:00	0.0	2.1	19.7	27	1	0.00		1001	-0.5	11.4
14/04/2025 21:00	0.0	2.1	19.6	27	1	0.00		1001	-0.5	10.9
14/04/2025 22:00	0.0	2.1	19.6	27	1	0.00		1001	-0.4	10.5
14/04/2025 23:00	0.0	2.1	19.6	26	1	0.00		1000	-0.4	10.0
15/04/2025 00:00	0.0	2.1	19.6	26	2	0.00		999	-0.4	9.5
15/04/2025 01:00	0.0	2.1	19.6	26	1	0.00		999	-0.4	9.3
15/04/2025 02:00	0.0	2.1	19.6	26	1	0.00		998	-0.4	9.2
15/04/2025 03:00	0.0	2.1	19.5	26	1	0.00		997	-0.5	9.2
15/04/2025 04:00	0.0	2.1	19.5	26	1	0.00		996	-0.6	9.1
15/04/2025 05:00	0.0	2.1	19.5	26	0	0.00		996	-0.6	9.1
15/04/2025 06:00	0.0	2.1	19.5	26	1	0.00		996	-0.6	9.2
15/04/2025 07:00	0.0	2.1	19.5	26	0	0.00		996	-0.5	9.9
15/04/2025 08:00	0.0	2.1	19.5	26	1	0.00		996	-0.4	11.1
15/04/2025 09:00	0.0	2.2	19.5	26	1	0.00		995	-0.5	12.9

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
15/04/2025 10:00	0.0	2.2	19.5	26	1	0.00		995	-0.4	13.9
15/04/2025 11:00	0.0	2.2	19.5	26	1	0.00		995	-0.3	14.9
15/04/2025 12:00	0.0	2.2	19.5	26	1	0.00		994	-0.3	16.1
15/04/2025 13:00	0.0	2.2	19.5	27	1	0.00		995	-0.1	14.2
15/04/2025 14:00	0.0	2.2	19.5	27	1	0.00		995	-0.1	15.3
15/04/2025 15:00	0.0	2.2	19.6	27	1	0.00		995	-0.1	15.2
15/04/2025 16:00	0.0	2.2	19.6	27	1	0.00		995	-0.1	13.5
15/04/2025 17:00	0.0	2.2	19.6	28	1	0.00		995	0.0	14.5
15/04/2025 18:00	0.0	2.2	19.6	27	2	0.00		994	-0.1	14.0
15/04/2025 19:00	0.0	2.2	19.6	27	1	0.00		995	0.0	12.8
15/04/2025 20:00	0.0	2.2	19.6	27	2	0.00		995	0.1	11.5
15/04/2025 21:00	0.0	2.2	19.6	27	1	0.00		995	0.0	10.4
15/04/2025 22:00	0.0	2.2	19.6	27	1	0.00		995	0.0	10.1
15/04/2025 23:00	0.0	2.2	19.5	26	1	0.00		995	0.0	9.4
16/04/2025 00:00	0.0	2.2	19.5	26	0	0.00		995	0.0	8.8
16/04/2025 01:00	0.0	2.2	19.5	26	1	0.00		997	0.3	8.3
16/04/2025 02:00	0.0	2.2	19.5	26	1	0.00		997	0.4	8.4
16/04/2025 03:00	0.0	2.2	19.5	25	0	0.00		996	0.1	8.0
16/04/2025 04:00	0.0	2.2	19.4	25	1	0.00		997	0.3	7.8
16/04/2025 05:00	0.0	2.3	19.4	25	1	0.00		999	0.5	7.2
16/04/2025 06:00	0.0	2.3	19.4	25	0	0.00		999	0.5	7.2
16/04/2025 07:00	0.0	2.3	19.4	25	0	0.00		1000	0.6	7.9
16/04/2025 08:00	0.0	2.3	19.4	25	0	0.00		1001	0.8	9.1
16/04/2025 09:00	0.0	2.4	19.4	24	1	0.00		1002	0.6	10.4
16/04/2025 10:00	0.0	2.4	19.4	24	1	0.00		1004	0.9	11.3
16/04/2025 11:00	0.0	2.3	19.4	24	0	0.01		1004	1.0	12.4
16/04/2025 12:00	0.0	2.4	19.4	25	1	0.00		1005	1.0	13.3
16/04/2025 13:00	0.0	2.4	19.5	25	0	0.00		1005	0.8	14.2
16/04/2025 14:00	0.0	2.4	19.5	26	1	0.01		1006	0.9	14.2
16/04/2025 15:00	0.0	2.4	19.6	26	1	0.00		1006	0.8	13.6
16/04/2025 16:00	0.0	2.4	19.6	26	1	0.00		1007	0.8	13.1
16/04/2025 17:00	0.0	2.4	19.6	26	1	0.00		1007	0.6	12.3
16/04/2025 18:00	0.0	2.4	19.7	26	1	0.00		1008	0.5	11.6
16/04/2025 19:00	0.0	2.5	19.6	26	1	0.00		1009	0.6	10.3
16/04/2025 20:00	0.0	2.5	19.6	25	1	0.00		1010	0.6	9.1
16/04/2025 21:00	0.0	2.5	19.6	25	1	0.00		1010	0.6	8.1
16/04/2025 22:00	0.0	2.4	19.5	25	1	0.00		1011	0.6	7.3
16/04/2025 23:00	0.0	2.5	19.5	24	1	0.00		1011	0.6	6.6
17/04/2025 00:00	0.0	2.5	19.5	24	1	0.00		1011	0.5	5.9
17/04/2025 01:00	0.0	2.5	19.5	24	0	0.00		1011	0.5	4.4
17/04/2025 02:00	0.0	2.4	19.4	23	1	0.00		1012	0.5	3.9
17/04/2025 03:00	0.0	2.5	19.4	23	0	0.00		1012	0.4	3.5
17/04/2025 04:00	0.0	2.4	19.4	23	0	0.00		1012	0.3	3.1
17/04/2025 05:00	0.0	2.5	19.4	23	0	0.00		1012	0.3	2.7
17/04/2025 06:00	0.0	2.5	19.4	23	0	0.00		1013	0.3	3.5
17/04/2025 07:00	0.0	2.5	19.4	23	0	0.00		1013	0.3	5.4
17/04/2025 08:00	0.0	2.5	19.3	23	0	0.00		1013	0.3	8.5
17/04/2025 09:00	0.0	2.4	19.3	23	0	0.00		1013	0.3	11.0
17/04/2025 10:00	0.0	2.5	19.3	23	0	0.00		1013	0.1	12.8
17/04/2025 11:00	0.0	2.5	19.4	23	0	0.00		1013	0.1	14.1
17/04/2025 12:00	0.0	2.5	19.4	23	0	0.00		1012	0.0	14.8
17/04/2025 13:00	0.0	2.5	19.5	23	0	0.00		1013	0.1	15.2
17/04/2025 14:00	0.0	2.5	19.5	24	1	0.00		1012	-0.1	15.7
17/04/2025 15:00	0.0	2.6	19.6	24	0	0.00		1012	-0.1	16.2
17/04/2025 16:00	0.0	2.7	19.6	24	1	0.00		1012	-0.1	15.7
17/04/2025 17:00	0.0	2.6	19.6	24	1	0.00		1012	-0.1	15.2
17/04/2025 18:00	0.0	2.6	19.7	25	1	0.00		1012	-0.1	14.2
17/04/2025 19:00	0.0	2.6	19.7	24	1	0.00		1013	0.0	12.3
17/04/2025 20:00	0.0	2.6	19.7	24	1	0.00		1013	0.1	11.0
17/04/2025 21:00	0.0	2.6	19.6	24	1	0.00		1013	0.0	9.8
17/04/2025 22:00	0.0	2.6	19.6	23	1	0.00		1013	0.1	9.2
17/04/2025 23:00	0.0	2.6	19.6	23	0	0.00		1013	0.1	8.8
18/04/2025 00:00	0.0	2.7	19.5	23	0	0.00		1013	0.1	8.3
18/04/2025 01:00	0.0	2.6	19.5	23	0	0.00		1013	0.1	9.1
18/04/2025 02:00	0.0	2.6	19.5	23	0	0.00		1012	0.0	7.9
18/04/2025 03:00	0.0	2.6	19.5	23	0	0.00		1012	-0.1	7.2
18/04/2025 04:00	0.0	2.6	19.5	22	0	0.00		1012	-0.1	8.2
18/04/2025 05:00	0.0	2.5	19.4	22	0	0.00		1011	-0.3	8.5
18/04/2025 06:00	0.0	2.6	19.4	22	0	0.00		1011	-0.3	9.0
18/04/2025 07:00	0.0	2.6	19.4	22	0	0.00		1011	-0.3	9.9
18/04/2025 08:00	0.0	2.5	19.4	22	0	0.00		1011	-0.3	10.9
18/04/2025 09:00	0.0	2.6	19.4	22	0	0.00		1011	-0.3	12.5
18/04/2025 10:00	0.0	2.5	19.4	22	0	0.00		1011	-0.1	13.4
18/04/2025 11:00	0.0	2.6	19.4	22	0	0.00		1011	-0.1	13.3
18/04/2025 12:00	0.0	2.6	19.5	23	0	0.00		1010	-0.3	12.8
18/04/2025 13:00	0.0	2.6	19.5	23	0	0.00		1009	-0.3	14.6
18/04/2025 14:00	0.0	2.6	19.5	23	0	0.00		1009	-0.3	14.0
18/04/2025 15:00	0.0	2.6	19.6	23	0	0.00		1009	-0.3	13.3
18/04/2025 16:00	0.0	2.6	19.6	23	0	0.00		1009	-0.3	12.3
18/04/2025 17:00	0.0	2.6	19.6	23	1	0.00		1008	-0.4	12.3
18/04/2025 18:00	0.0	2.6	19.5	23	0	0.00		1008	-0.4	12.1

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
18/04/2025 19:00	0.0	2.6	19.5	23	0	0.00		1008	-0.4	12.0
18/04/2025 20:00	0.0	2.7	19.5	23	0	0.00		1008	-0.3	12.0
18/04/2025 21:00	0.0	2.6	19.5	22	0	0.00		1007	-0.3	12.3
18/04/2025 22:00	0.0	2.6	19.5	22	0	0.00		1007	-0.3	12.5
18/04/2025 23:00	0.0	2.6	19.5	22	0	0.00		1007	-0.3	12.2
19/04/2025 00:00	0.0	2.6	19.5	22	0	0.00		1007	-0.3	11.8
19/04/2025 01:00	0.0	2.7	19.5	22	0	0.00		1006	-0.3	12.4
19/04/2025 02:00	0.0	2.6	19.5	22	0	0.00		1006	-0.3	11.6
19/04/2025 03:00	0.0	2.6	19.4	22	1	0.00		1006	-0.3	11.7
19/04/2025 04:00	0.0	2.7	19.4	22	1	0.00		1006	-0.3	11.7
19/04/2025 05:00	0.0	2.7	19.4	22	1	0.00		1006	-0.1	11.7
19/04/2025 06:00	0.0	2.6	19.4	22	0	0.00		1006	-0.1	11.5
19/04/2025 07:00	0.0	2.7	19.4	22	0	0.00		1007	0.0	11.6
19/04/2025 08:00	0.0	2.6	19.4	22	0	0.00		1007	0.0	11.9
19/04/2025 09:00	0.0	2.6	19.4	22	0	0.00		1007	0.1	12.6
19/04/2025 10:00	0.0	2.7	19.4	22	0	0.00		1007	0.1	13.8
19/04/2025 11:00	0.0	2.7	19.4	22	0	0.00		1007	0.1	14.8
19/04/2025 12:00	0.0	2.7	19.4	22	0	0.00		1007	0.1	15.8
19/04/2025 13:00	0.0	2.7	19.5	22	0	0.01		1007	0.1	16.5
19/04/2025 14:00	0.0	2.7	19.5	22	0	0.00		1007	0.1	16.4
19/04/2025 15:00	0.0	2.7	19.5	23	0	0.00		1007	0.0	16.4
19/04/2025 16:00	0.0	2.7	19.6	23	1	0.00		1007	0.0	15.8
19/04/2025 17:00	0.0	2.7	19.6	23	1	0.00		1007	0.0	14.9
19/04/2025 18:00	0.0	2.8	19.6	23	0	0.00		1007	0.0	13.8
19/04/2025 19:00	0.0	2.8	19.6	23	1	0.00		1008	0.1	12.4
19/04/2025 20:00	0.0	2.8	19.6	23	0	0.00		1008	0.1	11.0
19/04/2025 21:00	0.0	2.8	19.5	22	0	0.00		1008	0.1	9.8
19/04/2025 22:00	0.0	2.9	19.5	22	0	0.00		1009	0.3	8.5
19/04/2025 23:00	0.0	2.8	19.4	22	0	0.00		1009	0.3	7.5
20/04/2025 00:00	0.0	2.8	19.4	22	0	0.00		1008	0.1	6.6
20/04/2025 01:00	0.0	2.8	19.4	22	0	0.00		1008	0.1	6.3
20/04/2025 02:00	0.0	2.8	19.4	22	0	0.00		1008	0.1	5.8
20/04/2025 03:00	0.0	2.8	19.3	22	0	0.00		1008	0.0	5.4
20/04/2025 04:00	0.0	2.8	19.3	22	0	0.00		1008	0.0	5.1
20/04/2025 05:00	0.0	2.9	19.3	22	0	0.00		1008	0.0	4.7
20/04/2025 06:00	0.0	2.8	19.3	21	0	0.00		1008	-0.1	5.2
20/04/2025 07:00	0.0	2.8	19.3	21	0	0.00		1007	-0.3	6.7
20/04/2025 08:00	0.0	2.8	19.3	21	0	0.00		1007	-0.1	8.4
20/04/2025 09:00	0.0	2.8	19.2	21	0	0.00		1007	-0.1	10.3
20/04/2025 10:00	0.0	2.9	19.2	21	0	0.00		1007	-0.1	12.0
20/04/2025 11:00	0.0	2.8	19.2	21	0	0.00		1007	-0.1	13.5
20/04/2025 12:00	0.0	2.9	19.3	22	0	0.00		1007	-0.1	14.9
20/04/2025 13:00	0.0	2.8	19.3	22	0	0.00		1007	-0.1	13.7
20/04/2025 14:00	0.0	2.8	19.4	22	0	0.00		1006	-0.3	16.6
20/04/2025 15:00	0.0	2.9	19.4	22	0	0.00		1006	-0.1	16.6
20/04/2025 16:00	0.0	2.9	19.4	22	0	0.00		1006	-0.1	15.8
20/04/2025 17:00	0.0	2.9	19.4	22	0	0.00		1006	-0.1	15.1
20/04/2025 18:00	0.0	3.0	19.4	22	0	0.00		1006	-0.1	14.4
20/04/2025 19:00	0.0	2.9	19.4	22	0	0.00		1007	0.0	13.6
20/04/2025 20:00	0.0	2.9	19.4	22	0	0.00		1007	0.0	12.4
20/04/2025 21:00	0.0	3.0	19.4	22	0	0.00		1007	0.0	11.3
20/04/2025 22:00	0.0	3.0	19.4	22	0	0.00		1007	0.1	10.6
20/04/2025 23:00	0.0	3.0	19.3	22	0	0.00		1007	0.1	9.9
21/04/2025 00:00	0.0	2.9	19.3	22	0	0.00		1008	0.3	9.2
21/04/2025 01:00	0.0	2.9	19.3	22	0	0.00		1007	0.1	9.7
21/04/2025 02:00	0.0	2.9	19.3	22	0	0.00		1007	0.1	9.4
21/04/2025 03:00	0.0	3.0	19.3	22	0	0.00		1008	0.1	9.5
21/04/2025 04:00	0.0	3.0	19.3	22	0	0.00		1008	0.1	9.5
21/04/2025 05:00	0.0	2.9	19.3	22	0	0.00		1008	0.1	9.4
21/04/2025 06:00	0.0	3.0	19.3	22	0	0.00		1008	0.1	9.6
21/04/2025 07:00	0.0	2.9	19.3	22	0	0.00		1008	0.1	9.9
21/04/2025 08:00	0.0	3.0	19.3	22	0	0.00		1008	0.0	10.7
21/04/2025 09:00	0.0	3.0	19.3	22	0	0.00		1009	0.3	12.4
21/04/2025 10:00	0.0	3.0	19.3	22	0	0.00		1009	0.3	14.3
21/04/2025 11:00	0.0	2.9	19.3	22	0	0.00		1009	0.1	15.1
21/04/2025 12:00	0.0	3.0	19.3	22	0	0.00		1009	0.1	15.8
21/04/2025 13:00	0.0	2.9	19.3	22	0	0.00		1010	0.3	14.9
21/04/2025 14:00	0.0	3.0	19.3	22	0	0.00		1011	0.4	13.0
21/04/2025 15:00	0.0	3.0	19.3	22	0	0.00		1011	0.4	12.4
21/04/2025 16:00	0.0	3.0	19.3	22	1	0.00		1011	0.4	13.8
21/04/2025 17:00	0.0	3.0	19.3	22	0	-0.01		1011	0.3	13.7
21/04/2025 18:00	0.0	3.0	19.4	22	0	0.00		1012	0.4	12.9
21/04/2025 19:00	0.0	3.1	19.4	22	0	0.00		1012	0.4	11.9
21/04/2025 20:00	0.0	3.0	19.4	22	0	0.00		1013	0.5	10.6
21/04/2025 21:00	0.0	3.0	19.4	22	0	0.00		1014	0.5	9.6
21/04/2025 22:00	0.0	3.0	19.3	22	0	0.00		1014	0.4	8.9
21/04/2025 23:00	0.0	3.0	19.3	22	0	0.00		1015	0.5	8.3
22/04/2025 00:00	0.0	3.1	19.3	22	0	0.00		1015	0.5	7.8
22/04/2025 01:00	0.0	3.0	19.3	22	0	0.00		1015	0.5	7.2
22/04/2025 02:00	0.0	3.0	19.3	22	0	0.00		1015	0.4	6.7
22/04/2025 03:00	0.0	3.0	19.2	22	0	0.00		1016	0.5	6.6

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
22/04/2025 04:00	0.0	2.9	19.2	22	0	0.00		1016	0.4	6.3
22/04/2025 05:00	0.0	3.0	19.2	22	0	0.00		1016	0.3	5.7
22/04/2025 06:00	0.0	3.0	19.2	22	0	0.00		1016	0.3	6.3
22/04/2025 07:00	0.0	3.1	19.2	22	0	0.00		1017	0.3	8.2
22/04/2025 08:00	0.0	3.0	19.2	22	1	0.00		1018	0.4	10.2
22/04/2025 09:00	0.0	3.1	19.2	22	0	0.00		1018	0.4	12.0
22/04/2025 10:00	0.0	3.0	19.2	22	0	0.00		1018	0.4	13.3
22/04/2025 11:00	0.0	3.1	19.2	22	0	0.00		1017	0.1	14.6
22/04/2025 12:00	0.0	3.1	19.2	22	0	0.00		1017	0.1	15.5
22/04/2025 13:00	0.0	3.1	19.3	22	0	0.00		1017	0.1	15.7
22/04/2025 14:00	0.0	3.0	19.4	23	0	0.00		1017	0.1	15.4
22/04/2025 15:00	0.0	3.2	19.4	23	0	0.00		1017	0.0	15.3
22/04/2025 16:00	0.0	3.1	19.4	23	1	0.00		1016	-0.3	14.9
22/04/2025 17:00	0.0	3.1	19.4	23	0	-0.01		1016	-0.3	14.3
22/04/2025 18:00	0.0	3.1	19.5	23	0	0.00		1016	-0.3	13.4
22/04/2025 19:00	0.0	3.1	19.5	23	0	0.00		1016	-0.1	11.9
22/04/2025 20:00	0.0	3.1	19.4	23	0	0.00		1016	-0.1	10.6
22/04/2025 21:00	0.0	3.1	19.4	23	0	0.00		1015	-0.3	10.0
22/04/2025 22:00	0.0	3.1	19.4	22	0	0.00		1015	-0.3	9.9
22/04/2025 23:00	0.0	3.2	19.4	22	0	0.00		1014	-0.4	9.9
23/04/2025 00:00	0.0	3.1	19.4	22	0	0.00		1013	-0.4	9.6
23/04/2025 01:00	0.0	3.0	19.3	22	0	0.00		1011	-0.6	9.5
23/04/2025 02:00	0.0	3.1	19.3	22	0	0.00		1011	-0.6	9.4
23/04/2025 03:00	0.0	3.1	19.3	22	0	0.00		1009	-0.9	9.0
23/04/2025 04:00	0.0	3.0	19.3	22	0	0.00		1008	-1.0	8.5
23/04/2025 05:00	0.0	3.1	19.3	22	0	0.00		1007	-1.0	8.5
23/04/2025 06:00	0.0	3.1	19.3	22	0	0.00		1007	-1.0	8.9
23/04/2025 07:00	0.0	3.1	19.3	22	0	0.00		1007	-0.9	9.2
23/04/2025 08:00	0.0	3.1	19.3	22	0	0.00		1008	-0.6	9.9
23/04/2025 09:00	0.0	3.0	19.2	22	0	0.00		1009	-0.3	10.5
23/04/2025 10:00	0.0	3.0	19.2	22	1	0.00		1010	-0.1	10.4
23/04/2025 11:00	0.0	3.1	19.2	22	0	0.00		1011	0.3	11.1
23/04/2025 12:00	0.0	3.1	19.2	22	0	0.00		1012	0.5	11.9
23/04/2025 13:00	0.0	3.1	19.2	22	0	0.00		1013	0.8	12.5
23/04/2025 14:00	0.0	3.1	19.3	22	0	0.00		1013	0.8	12.8
23/04/2025 15:00	0.0	3.1	19.3	22	0	0.00		1014	0.9	13.2
23/04/2025 16:00	0.0	3.2	19.3	22	0	0.00		1014	0.8	12.8
23/04/2025 17:00	0.0	3.2	19.3	22	0	0.00		1015	0.8	12.1
23/04/2025 18:00	0.0	3.2	19.3	22	0	0.00		1016	0.8	11.7
23/04/2025 19:00	0.0	3.2	19.3	22	0	0.00		1017	0.8	9.9
23/04/2025 20:00	0.0	3.2	19.3	22	0	0.00		1018	0.8	8.3
23/04/2025 21:00	0.0	3.2	19.3	22	0	0.00		1018	0.6	7.8
23/04/2025 22:00	0.0	3.2	19.3	22	0	0.00		1019	0.8	7.1
23/04/2025 23:00	0.0	3.2	19.3	22	0	0.00		1019	0.6	6.7
24/04/2025 00:00	0.0	3.2	19.3	22	0	0.00		1020	0.8	6.7
24/04/2025 01:00	0.0	3.2	19.2	22	0	0.00		1020	0.6	8.9
24/04/2025 02:00	0.0	3.2	19.2	21	0	0.00		1020	0.5	8.4
24/04/2025 03:00	0.0	3.2	19.2	21	0	0.00		1020	0.4	7.6
24/04/2025 04:00	0.0	3.2	19.2	21	0	0.00		1021	0.4	6.9
24/04/2025 05:00	0.0	3.2	19.2	21	1	0.00		1021	0.4	6.8
24/04/2025 06:00	0.0	3.3	19.2	21	0	0.00		1022	0.4	7.2
24/04/2025 07:00	0.0	3.3	19.2	21	0	0.00		1022	0.4	8.1
24/04/2025 08:00	0.0	3.2	19.2	21	0	0.00		1022	0.3	9.4
24/04/2025 09:00	0.0	3.3	19.2	21	0	0.00		1023	0.4	10.8
24/04/2025 10:00	0.0	3.3	19.2	21	0	0.00		1023	0.4	12.2
24/04/2025 11:00	0.0	3.2	19.2	21	0	0.00		1023	0.4	13.2
24/04/2025 12:00	0.0	3.3	19.2	21	0	0.00		1023	0.3	14.5
24/04/2025 13:00	0.0	3.4	19.3	22	0	0.00		1023	0.3	14.6
24/04/2025 14:00	0.0	3.3	19.3	22	0	0.00		1023	0.1	15.0
24/04/2025 15:00	0.0	3.3	19.4	22	0	0.00		1022	0.0	14.8
24/04/2025 16:00	0.0	3.4	19.4	22	0	0.00		1022	0.0	14.9
24/04/2025 17:00	0.0	3.3	19.4	22	0	0.00		1022	-0.1	14.5
24/04/2025 18:00	0.0	3.3	19.4	22	0	0.00		1022	-0.1	13.7
24/04/2025 19:00	0.0	3.4	19.4	22	0	0.00		1022	-0.1	12.0
24/04/2025 20:00	0.0	3.4	19.4	22	0	0.00		1023	0.0	10.6
24/04/2025 21:00	0.0	3.3	19.4	22	0	0.00		1023	0.0	9.6
24/04/2025 22:00	0.0	3.4	19.3	22	0	0.00		1023	0.0	8.7
24/04/2025 23:00	0.0	3.4	19.3	22	0	0.00		1024	0.3	8.1
25/04/2025 00:00	0.0	3.4	19.3	21	0	0.00		1024	0.3	7.6
25/04/2025 01:00	0.0	3.2	19.3	21	0	0.00		1023	0.1	7.3
25/04/2025 02:00	0.0	3.3	19.2	21	0	0.00		1023	0.1	6.3
25/04/2025 03:00	0.0	3.3	19.2	21	0	0.00		1023	0.1	5.6
25/04/2025 04:00	0.0	3.3	19.2	21	0	0.00		1023	0.0	5.5
25/04/2025 05:00	0.0	3.3	19.2	21	0	0.00		1023	0.0	5.5
25/04/2025 06:00	0.0	3.2	19.2	21	0	0.00		1023	0.0	6.3
25/04/2025 07:00	0.0	3.3	19.2	21	0	0.00		1024	0.0	7.9
25/04/2025 08:00	0.0	3.2	19.2	21	0	0.00		1024	0.0	10.0
25/04/2025 09:00	0.0	3.2	19.2	21	0	0.00		1023	0.0	11.8
25/04/2025 10:00	0.0	3.3	19.2	21	0	0.00		1023	0.0	12.5
25/04/2025 11:00	0.0	3.4	19.2	21	0	0.00		1023	0.0	13.3
25/04/2025 12:00	0.0	3.4	19.2	21	0	0.00		1022	-0.1	14.2

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
25/04/2025 13:00	0.0	3.3	19.3	22	0	0.00		1022	-0.1	14.2
25/04/2025 14:00	0.0	3.3	19.3	22	0	0.00		1022	-0.1	15.3
25/04/2025 15:00	0.0	3.3	19.3	22	0	0.00		1021	-0.4	15.9
25/04/2025 16:00	0.0	3.4	19.4	22	0	0.00		1021	-0.4	15.9
25/04/2025 17:00	0.0	3.5	19.4	22	0	0.00		1021	-0.3	15.8
25/04/2025 18:00	0.0	3.5	19.4	22	1	0.00		1021	-0.3	14.6
25/04/2025 19:00	0.0	3.4	19.4	22	0	0.00		1021	-0.3	12.9
25/04/2025 20:00	0.0	3.4	19.4	22	0	0.00		1021	-0.1	11.3
25/04/2025 21:00	0.0	3.5	19.4	22	0	0.00		1022	0.0	10.4
25/04/2025 22:00	0.0	3.5	19.3	22	0	0.00		1022	0.0	9.6
25/04/2025 23:00	0.0	3.5	19.3	22	0	0.00		1022	0.1	8.4
26/04/2025 00:00	0.0	3.4	19.3	22	0	0.00		1022	0.1	7.7
26/04/2025 01:00	0.0	3.4	19.3	22	0	0.00		1022	0.1	8.4
26/04/2025 02:00	0.0	3.4	19.3	21	0	0.00		1022	0.1	8.7
26/04/2025 03:00	0.0	3.4	19.2	21	0	0.00		1021	0.0	8.6
26/04/2025 04:00	0.0	3.3	19.2	21	0	0.00		1021	0.0	8.5
26/04/2025 05:00	0.0	3.3	19.2	21	0	0.00		1022	0.0	8.5
26/04/2025 06:00	0.0	3.4	19.2	21	0	0.00		1022	0.0	8.8
26/04/2025 07:00	0.0	3.4	19.2	21	0	0.00		1022	0.0	9.4
26/04/2025 08:00	0.0	3.4	19.2	21	0	0.00		1022	0.0	10.5
26/04/2025 09:00	0.0	3.4	19.2	21	0	0.00		1023	0.1	12.2
26/04/2025 10:00	0.0	3.3	19.2	21	0	0.00		1022	0.0	14.1
26/04/2025 11:00	0.0	3.4	19.2	21	0	0.00		1022	0.1	15.2
26/04/2025 12:00	0.0	3.4	19.3	21	0	0.00		1022	0.1	15.9
26/04/2025 13:00	0.0	3.4	19.3	22	0	0.00		1023	0.1	16.3
26/04/2025 14:00	0.0	3.5	19.4	22	0	0.00		1023	0.1	16.8
26/04/2025 15:00	0.0	3.5	19.4	22	0	0.00		1023	0.1	17.1
26/04/2025 16:00	0.0	3.4	19.4	22	0	0.00		1022	0.0	17.4
26/04/2025 17:00	0.0	3.5	19.4	22	0	0.00		1023	0.0	17.2
26/04/2025 18:00	0.0	3.5	19.4	22	0	0.00		1023	0.1	16.6
26/04/2025 19:00	0.0	3.4	19.4	22	0	0.00		1024	0.3	14.1
26/04/2025 20:00	0.0	3.5	19.4	22	0	0.00		1024	0.3	13.2
26/04/2025 21:00	0.0	3.5	19.4	22	0	0.00		1025	0.3	13.1
26/04/2025 22:00	0.0	3.5	19.3	22	0	0.00		1025	0.3	12.5
26/04/2025 23:00	0.0	3.4	19.3	22	0	0.00		1025	0.3	11.1
27/04/2025 00:00	0.0	3.4	19.3	22	0	0.00		1025	0.4	9.7
27/04/2025 01:00	0.0	3.4	19.3	21	0	0.00		1025	0.3	8.7
27/04/2025 02:00	0.0	3.4	19.3	21	0	0.00		1025	0.3	8.2
27/04/2025 03:00	0.0	3.4	19.3	21	0	0.00		1025	0.1	7.9
27/04/2025 04:00	0.0	3.4	19.2	21	0	0.00		1025	0.1	7.6
27/04/2025 05:00	0.0	3.4	19.2	21	0	0.00		1025	0.0	7.2
27/04/2025 06:00	0.0	3.4	19.2	21	0	0.00		1026	0.1	8.4
27/04/2025 07:00	0.0	3.4	19.2	21	0	0.00		1026	0.1	10.4
27/04/2025 08:00	0.0	3.4	19.2	21	0	0.00		1026	0.1	12.8
27/04/2025 09:00	0.0	3.5	19.2	21	0	0.00		1026	0.1	15.0
27/04/2025 10:00	0.0	3.5	19.2	21	0	0.00		1026	0.1	16.7
27/04/2025 11:00	0.0	3.4	19.2	21	0	0.00		1026	0.1	18.0
27/04/2025 12:00	0.0	3.4	19.2	21	0	0.00		1026	0.1	18.1
27/04/2025 13:00	0.0	3.5	19.3	22	0	0.00		1026	0.1	19.5
27/04/2025 14:00	0.0	3.6	19.4	22	0	0.00		1026	0.0	19.6
27/04/2025 15:00	0.0	3.5	19.4	22	0	0.00		1026	0.0	19.7
27/04/2025 16:00	0.0	3.5	19.4	22	0	0.00		1026	0.0	19.5
27/04/2025 17:00	0.0	3.6	19.4	22	0	0.00		1026	0.0	19.1
27/04/2025 18:00	0.0	3.5	19.4	22	0	0.00		1026	0.0	18.5
27/04/2025 19:00	0.0	3.5	19.4	22	0	0.00		1026	0.0	16.4
27/04/2025 20:00	0.0	3.5	19.4	22	0	0.00		1027	0.1	14.8
27/04/2025 21:00	0.0	3.5	19.4	22	0	0.00		1027	0.1	13.7
27/04/2025 22:00	0.0	3.6	19.4	22	0	0.00		1027	0.1	12.6
27/04/2025 23:00	0.0	3.6	19.4	22	0	0.00		1027	0.1	11.7
28/04/2025 00:00	0.0	3.5	19.3	21	0	0.00		1027	0.1	10.5
28/04/2025 01:00	0.0	3.5	19.3	21	0	0.00		1027	0.1	9.4
28/04/2025 02:00	0.0	3.5	19.3	21	0	0.00		1027	0.1	8.5
28/04/2025 03:00	0.0	3.4	19.3	21	0	0.00		1027	0.1	7.8
28/04/2025 04:00	0.0	3.4	19.3	21	0	0.00		1027	0.0	7.2
28/04/2025 05:00	0.0	3.4	19.2	21	0	0.00		1027	0.0	6.7
28/04/2025 06:00	0.0	3.5	19.2	21	0	0.00		1027	0.0	8.2
28/04/2025 07:00	0.0	3.3	19.2	21	0	-0.01		1027	0.0	10.9
28/04/2025 08:00	0.0	3.5	19.2	21	0	0.00		1027	0.0	14.0
28/04/2025 09:00	0.0	3.4	19.2	21	0	0.00		1028	0.1	16.7
28/04/2025 10:00	0.0	3.5	19.2	21	0	0.00		1027	0.0	18.3
28/04/2025 11:00	0.0	3.4	19.2	21	0	0.00		1027	0.0	19.5
28/04/2025 12:00	0.0	3.5	19.3	21	0	0.00		1027	0.0	20.3
28/04/2025 13:00	0.0	3.5	19.3	22	0	0.00		1027	0.0	21.4
28/04/2025 14:00	0.0	3.6	19.4	22	0	0.00		1026	-0.1	21.8
28/04/2025 15:00	0.0	3.6	19.5	22	0	0.00		1026	-0.1	22.0
28/04/2025 16:00	0.0	3.6	19.5	22	0	0.00		1025	-0.3	21.9
28/04/2025 17:00	0.0	3.6	19.5	22	0	0.00		1025	-0.4	21.8
28/04/2025 18:00	0.0	3.7	19.6	23	0	0.00		1025	-0.3	21.3
28/04/2025 19:00	0.0	3.6	19.6	22	1	0.00		1026	-0.1	19.6
28/04/2025 20:00	0.0	3.6	19.6	22	0	0.00		1026	-0.1	17.2
28/04/2025 21:00	0.0	3.6	19.5	22	0	0.00		1027	0.0	15.5

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
28/04/2025 22:00	0.0	3.6	19.5	22	0	0.00		1027	0.1	14.4
28/04/2025 23:00	0.0	3.6	19.5	22	0	0.00		1027	0.1	13.2
29/04/2025 00:00	0.0	3.6	19.4	22	0	0.00		1027	0.3	12.5
29/04/2025 01:00	0.0	3.5	19.4	22	0	0.00		1027	0.3	11.2
29/04/2025 02:00	0.0	3.5	19.4	22	0	0.00		1026	0.1	10.0
29/04/2025 03:00	0.0	3.5	19.4	22	0	0.00		1026	0.0	9.3
29/04/2025 04:00	0.0	3.4	19.3	22	0	0.00		1027	0.1	9.1
29/04/2025 05:00	0.0	3.4	19.3	22	0	0.00		1027	0.0	8.9
29/04/2025 06:00	0.0	3.4	19.3	22	0	0.00		1027	0.0	10.1
29/04/2025 07:00	0.0	3.5	19.3	21	0	0.00		1027	0.0	12.2
29/04/2025 08:00	0.0	3.4	19.3	21	0	0.00		1027	0.0	14.5
29/04/2025 09:00	0.0	3.5	19.3	22	0	0.00		1027	0.0	17.1
29/04/2025 10:00	0.0	3.4	19.3	22	0	0.00		1026	0.0	19.4
29/04/2025 11:00	0.0	3.4	19.3	22	0	0.00		1026	0.0	21.0
29/04/2025 12:00	0.0	3.4	19.3	22	0	0.00		1026	-0.1	22.1
29/04/2025 13:00	0.0	3.5	19.4	22	0	0.00		1025	-0.3	23.6
29/04/2025 14:00	0.0	3.4	19.5	23	0	0.00		1025	-0.3	24.0
29/04/2025 15:00	0.0	3.6	19.5	23	0	0.00		1024	-0.4	23.9
29/04/2025 16:00	0.0	3.6	19.6	23	0	0.00		1023	-0.5	23.7
29/04/2025 17:00	0.0	3.5	19.6	23	1	0.00		1023	-0.5	23.2
29/04/2025 18:00	0.0	3.6	19.6	23	1	0.00		1023	-0.4	22.2
29/04/2025 19:00	0.0	3.6	19.6	23	1	0.00		1024	-0.3	20.5
29/04/2025 20:00	0.0	3.6	19.6	23	1	0.00		1024	-0.3	18.5
29/04/2025 21:00	0.0	3.6	19.6	23	0	0.00		1025	0.0	16.8
29/04/2025 22:00	0.0	3.5	19.5	22	0	0.00		1025	0.0	15.5
29/04/2025 23:00	0.0	3.4	19.5	22	0	0.00		1025	0.1	14.3
30/04/2025 00:00	0.0	3.5	19.5	22	0	0.00		1025	0.3	13.1
30/04/2025 01:00	0.0	3.4	19.4	22	0	0.00		1024	0.1	11.4
30/04/2025 02:00	0.0	3.5	19.4	22	0	0.00		1024	0.1	10.4
30/04/2025 03:00	0.0	3.4	19.4	22	0	0.00		1024	0.0	9.6
30/04/2025 04:00	0.0	3.5	19.4	22	0	0.00		1024	0.0	8.9
30/04/2025 05:00	0.0	3.4	19.3	22	0	0.00		1024	-0.1	8.4
30/04/2025 06:00	0.0	3.4	19.3	22	0	0.00		1024	-0.1	9.8
30/04/2025 07:00	0.0	3.4	19.3	22	0	0.00		1024	-0.1	11.9
30/04/2025 08:00	0.0	3.3	19.3	22	0	0.00		1024	-0.1	14.6
30/04/2025 09:00	0.0	3.3	19.3	22	0	0.00		1023	-0.1	17.6
30/04/2025 10:00	0.0	3.4	19.3	22	0	0.00		1023	-0.1	20.6
30/04/2025 11:00	0.0	3.4	19.3	22	0	0.00		1023	-0.1	22.7
30/04/2025 12:00	0.0	3.4	19.3	22	0	NM		1023	-0.1	23.8
30/04/2025 13:00	0.0	3.4	19.4	22	0	NM		1022	-0.3	25.4
30/04/2025 14:00	0.0	3.4	19.5	23	0	NM		1021	-0.4	25.9
30/04/2025 15:00	0.0	3.4	19.6	23	0	NM		1020	-0.5	26.2
30/04/2025 16:00	0.0	3.6	19.6	23	0	NM		1020	-0.5	26.1
30/04/2025 17:00	0.0	3.5	19.6	24	1	NM		1020	-0.4	25.8
30/04/2025 18:00	0.0	3.6	19.7	24	1	NM		1020	-0.4	25.0
30/04/2025 19:00	0.0	3.5	19.7	24	1	NM		1020	-0.4	23.0
30/04/2025 20:00	0.0	3.5	19.6	23	0	NM		1020	-0.4	20.2
30/04/2025 21:00	0.0	3.6	19.6	23	1	NM		1020	-0.3	18.6
30/04/2025 22:00	0.0	3.5	19.6	23	1	NM		1021	0.0	18.0
30/04/2025 23:00	0.0	3.5	19.5	23	0	NM		1021	0.1	16.5
01/05/2025 00:00	0.0	3.5	19.5	23	0	NM		1020	0.0	15.4
01/05/2025 01:00	0.0	3.5	19.5	22	0	NM		1020	0.0	13.8
01/05/2025 02:00	0.0	3.4	19.4	22	0	NM		1020	0.0	12.7
01/05/2025 03:00	0.0	3.4	19.4	22	0	NM		1019	-0.1	11.9
01/05/2025 04:00	0.0	3.4	19.4	22	0	NM		1019	-0.1	11.2
01/05/2025 05:00	0.0	3.4	19.4	22	0	NM		1019	-0.1	11.0
01/05/2025 06:00	0.0	3.4	19.4	22	0	NM		1019	-0.3	12.2
01/05/2025 07:00	0.0	3.4	19.3	22	0	NM		1018	-0.4	14.6
01/05/2025 08:00	0.0	3.4	19.3	22	0	NM		1018	-0.3	17.6
01/05/2025 09:00	0.0	3.3	19.3	22	0	NM		1018	-0.3	20.6
01/05/2025 10:00	0.0	3.3	19.3	22	0	NM		1018	-0.3	23.1
01/05/2025 11:00	0.0	3.3	19.3	22	0	NM		1017	-0.3	25.5
01/05/2025 12:00	0.0	3.3	19.4	22	0	NM		1016	-0.4	27.0
01/05/2025 13:00	0.0	3.4	19.5	23	0	NM		1016	-0.4	27.7
01/05/2025 14:00	0.0	3.4	19.5	23	0	NM		1015	-0.5	27.9
01/05/2025 15:00	0.0	3.5	19.6	23	0	NM		1015	-0.4	27.4
01/05/2025 16:00	0.0	3.5	19.6	23	1	NM		1015	-0.4	26.7
01/05/2025 17:00	0.0	3.6	19.6	24	0	NM		1014	-0.5	26.3
01/05/2025 18:00	0.0	3.6	19.7	24	1	NM		1014	-0.5	25.1
01/05/2025 19:00	0.0	3.5	19.7	24	1	NM		1014	-0.4	23.4
01/05/2025 20:00	0.0	3.5	19.6	24	1	NM		1015	-0.1	21.5
01/05/2025 21:00	0.0	3.5	19.6	23	0	NM		1015	-0.1	19.3
01/05/2025 22:00	0.0	3.5	19.6	23	0	NM		1015	0.0	17.7
01/05/2025 23:00	0.0	3.5	19.6	23	0	NM		1015	0.0	16.8
02/05/2025 00:00	0.0	3.5	19.5	23	0	NM		1015	0.0	16.0
02/05/2025 01:00	0.0	3.4	19.5	23	0	NM		1015	0.1	15.0
02/05/2025 02:00	0.0	3.4	19.5	23	0	NM		1015	0.1	14.8
02/05/2025 03:00	0.0	3.3	19.4	23	0	NM		1015	0.1	14.4
02/05/2025 04:00	0.0	3.3	19.4	23	0	NM		1015	0.0	13.8
02/05/2025 05:00	0.0	3.4	19.4	22	0	NM		1015	0.0	12.8
02/05/2025 06:00	0.0	3.4	19.4	22	0	NM		1016	0.1	13.2

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
02/05/2025 07:00	0.0	3.3	19.4	22	0	NM		1016	0.1	14.7
02/05/2025 08:00	0.0	3.3	19.4	22	0	NM		1016	0.1	16.9
02/05/2025 09:00	0.0	3.3	19.4	22	0	NM		1016	0.1	19.1
02/05/2025 10:00	0.0	3.3	19.4	22	0	NM		1016	0.1	20.9
02/05/2025 11:00	0.0	3.4	19.4	22	0	NM		1016	0.1	22.1
02/05/2025 12:00	0.0	3.2	19.4	23	0	NM		1016	0.1	23.3
02/05/2025 13:00	0.0	3.4	19.5	23	0	NM		1015	0.0	23.9
02/05/2025 14:00	0.0	3.4	19.6	23	0	NM		1015	-0.1	24.1
02/05/2025 15:00	0.0	3.4	19.6	24	0	NM		1015	-0.1	24.0
02/05/2025 16:00	0.0	3.4	19.7	24	1	NM		1015	-0.1	23.7
02/05/2025 17:00	0.0	3.6	19.7	24	1	NM		1015	-0.1	23.5
02/05/2025 18:00	0.0	3.5	19.7	24	1	NM		1014	-0.3	22.5
02/05/2025 19:00	0.0	3.5	19.7	23	1	NM		1015	-0.1	21.3
02/05/2025 20:00	0.0	3.5	19.6	23	1	NM		1015	-0.1	19.2
02/05/2025 21:00	0.0	3.4	19.6	23	0	NM		1015	0.0	18.1
02/05/2025 22:00	0.0	3.5	19.6	23	0	NM		1015	0.0	16.8
02/05/2025 23:00	0.0	3.5	19.6	23	0	NM		1016	0.1	15.4
03/05/2025 00:00	0.0	3.5	19.5	23	0	NM		1016	0.1	14.3
03/05/2025 01:00	0.0	3.4	19.5	23	0	NM		1016	0.1	13.2
03/05/2025 02:00	0.0	3.3	19.5	23	0	NM		1015	0.1	12.7
03/05/2025 03:00	0.0	3.4	19.4	23	0	NM		1015	0.0	12.1
03/05/2025 04:00	0.0	3.3	19.4	23	0	NM		1014	-0.1	11.5
03/05/2025 05:00	0.0	3.4	19.4	23	1	NM		1014	-0.1	11.0
03/05/2025 06:00	0.0	3.4	19.4	22	0	NM		1014	-0.1	11.8
03/05/2025 07:00	0.0	3.3	19.4	22	0	NM		1014	-0.3	13.4
03/05/2025 08:00	0.0	3.4	19.4	22	0	NM		1014	-0.3	15.1
03/05/2025 09:00	0.0	3.2	19.4	22	0	NM		1014	-0.3	15.9
03/05/2025 10:00	0.0	3.3	19.4	22	0	NM		1013	-0.3	17.1
03/05/2025 11:00	0.0	3.3	19.4	22	0	NM		1013	-0.3	17.9
03/05/2025 12:00	0.0	3.3	19.4	23	0	NM		1013	-0.1	18.7
03/05/2025 13:00	0.0	3.3	19.5	23	0	NM		1013	-0.1	18.8
03/05/2025 14:00	0.0	3.3	19.5	23	0	NM		1013	-0.1	20.4
03/05/2025 15:00	0.0	3.4	19.6	23	0	NM		1013	-0.1	18.1
03/05/2025 16:00	0.0	3.3	19.6	23	0	NM		1014	0.0	17.3
03/05/2025 17:00	0.0	3.3	19.6	24	0	NM		1014	0.0	16.7
03/05/2025 18:00	0.0	3.4	19.6	23	0	NM		1014	0.1	15.3
03/05/2025 19:00	0.0	3.3	19.6	23	0	NM		1015	0.3	14.2
03/05/2025 20:00	0.0	3.3	19.6	23	0	NM		1016	0.4	13.0
03/05/2025 21:00	0.0	3.3	19.5	23	0	NM		1017	0.5	11.7
03/05/2025 22:00	0.0	3.4	19.5	23	1	NM		1017	0.5	10.9
03/05/2025 23:00	0.0	3.3	19.5	23	0	NM		1018	0.6	10.0
04/05/2025 00:00	0.0	3.3	19.4	22	0	NM		1018	0.5	9.2
04/05/2025 01:00	0.0	3.4	19.4	22	0	NM		1018	0.5	7.7
04/05/2025 02:00	0.0	3.4	19.4	22	0	NM		1018	0.5	7.1
04/05/2025 03:00	0.0	3.3	19.4	22	0	NM		1019	0.5	6.6
04/05/2025 04:00	0.0	3.3	19.4	22	0	NM		1019	0.4	6.8
04/05/2025 05:00	0.0	3.3	19.3	22	0	NM		1019	0.3	7.2
04/05/2025 06:00	0.0	3.2	19.3	22	0	NM		1018	0.1	7.9
04/05/2025 07:00	0.0	3.3	19.3	22	0	NM		1019	0.1	8.9
04/05/2025 08:00	0.0	3.2	19.3	22	0	NM		1019	0.1	10.0
04/05/2025 09:00	0.0	3.3	19.3	22	0	NM		1019	0.1	10.0
04/05/2025 10:00	0.1	3.3	19.3	22	0	NM		1019	0.1	12.3
04/05/2025 11:00	0.0	3.3	19.3	22	0	NM		1019	0.0	12.8
04/05/2025 12:00	0.0	3.3	19.3	22	0	NM		1019	0.0	13.7
04/05/2025 13:00	0.0	3.4	19.4	22	0	NM		1019	0.0	14.3
04/05/2025 14:00	0.0	3.2	19.4	23	0	NM		1019	0.1	13.9
04/05/2025 15:00	0.0	3.4	19.5	23	0	NM		1019	0.0	13.7
04/05/2025 16:00	0.0	3.3	19.5	23	0	NM		1019	0.0	12.6
04/05/2025 17:00	0.0	3.3	19.5	23	0	NM		1019	0.0	12.7
04/05/2025 18:00	0.0	3.3	19.5	23	0	NM		1019	0.0	11.5
04/05/2025 19:00	0.0	3.4	19.5	23	1	NM		1020	0.1	11.0
04/05/2025 20:00	0.0	3.4	19.5	23	0	NM		1020	0.1	10.1
04/05/2025 21:00	0.0	3.4	19.4	22	0	NM		1021	0.3	8.7
04/05/2025 22:00	0.0	3.3	19.4	22	0	NM		1021	0.3	8.1
04/05/2025 23:00	0.0	3.4	19.4	22	0	NM		1021	0.3	7.5
05/05/2025 00:00	0.0	3.4	19.4	22	0	NM		1021	0.3	7.0
05/05/2025 01:00	0.0	3.3	19.4	22	0	NM		1022	0.4	5.5
05/05/2025 02:00	0.0	3.3	19.3	22	0	NM		1021	0.3	5.0
05/05/2025 03:00	0.0	3.3	19.3	22	0	NM		1021	0.1	4.6
05/05/2025 04:00	0.0	3.2	19.3	22	0	NM		1021	0.1	4.3
05/05/2025 05:00	0.0	3.2	19.3	22	0	NM		1022	0.1	4.4
05/05/2025 06:00	0.0	3.3	19.3	22	0	NM		1021	0.0	5.7
05/05/2025 07:00	0.0	3.2	19.3	22	0	NM		1022	0.1	7.0
05/05/2025 08:00	0.0	3.2	19.2	22	0	NM		1021	0.0	7.7
05/05/2025 09:00	0.0	3.2	19.2	22	0	NM		1021	-0.1	9.2
05/05/2025 10:00	0.0	3.3	19.3	22	0	NM		1021	0.0	11.5
05/05/2025 11:00	0.0	3.4	19.3	22	0	NM		1021	0.0	12.4
05/05/2025 12:00	0.0	3.3	19.3	22	0	NM		1021	0.0	13.5
05/05/2025 13:00	0.0	3.3	19.3	22	0	NM		1022	0.0	13.2
05/05/2025 14:00	0.0	3.4	19.3	22	0	NM		1022	0.1	13.1
05/05/2025 15:00	0.0	3.3	19.3	22	0	NM		1022	0.0	13.4

Date and Time	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	CO ppm/v	H_2S ppm/v	Flow Ltr/hr		Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Temperature °C
05/05/2025 16:00	0.0	3.3	19.4	22	0	NM		1022	0.1	13.4
05/05/2025 17:00	0.0	3.3	19.4	22	0	NM		1022	0.1	13.5
05/05/2025 18:00	0.0	3.3	19.4	22	0	NM		1022	0.1	12.7
05/05/2025 19:00	0.0	3.3	19.4	22	0	NM		1023	0.3	11.9
05/05/2025 20:00	0.0	3.3	19.4	22	0	NM		1024	0.4	11.1
05/05/2025 21:00	0.0	3.3	19.4	22	0	NM		1025	0.4	10.3
05/05/2025 22:00	0.0	3.4	19.3	22	0	NM		1025	0.4	9.4
05/05/2025 23:00	0.0	3.5	19.3	22	0	NM		1025	0.4	9.3
06/05/2025 00:00	0.0	3.5	19.3	22	0	NM		1025	0.4	8.6
06/05/2025 01:00	0.0	3.4	19.3	22	0	NM		1025	0.4	6.7
06/05/2025 02:00	0.1	3.3	19.3	22	0	NM		1025	0.4	5.9
06/05/2025 03:00	0.0	3.4	19.3	22	0	NM		1025	0.3	5.3
06/05/2025 04:00	0.1	3.3	19.2	22	0	NM		1025	0.1	5.5
06/05/2025 05:00	0.0	3.4	19.2	22	0	NM		1025	0.0	5.6
06/05/2025 06:00	0.1	3.2	19.2	22	0	NM		1025	0.0	6.7
06/05/2025 07:00	0.1	3.3	19.2	21	0	NM		1026	0.1	8.1
06/05/2025 08:00	0.1	3.3	19.2	21	0	NM		1026	0.1	9.7
06/05/2025 09:00	0.1	3.3	19.2	21	0	NM		1026	0.1	10.2
06/05/2025 10:00	0.0	3.3	19.2	22	0	NM		1026	0.1	10.4
06/05/2025 11:00	0.0	3.3	19.3	22	0	NM		1026	0.1	11.2
06/05/2025 12:00	0.0	3.4	19.3	22	0	NM		1025	0.0	12.5
06/05/2025 13:00	0.0	3.4	19.3	22	0	NM		1025	0.0	14.0
06/05/2025 14:00	0.0	3.4	19.3	22	0	NM		1024	-0.1	14.8
06/05/2025 15:00	0.0	3.4	19.4	22	0	NM		1024	-0.3	15.3
06/05/2025 16:00	0.0	3.4	19.4	22	1	NM		1024	-0.3	15.0
06/05/2025 17:00	0.0	3.5	19.5	23	0	NM		1025	-0.1	14.3
06/05/2025 18:00	0.0	3.5	19.5	23	0	NM		1025	-0.1	13.4
06/05/2025 19:00	0.0	3.5	19.5	23	0	NM		1025	-0.1	12.6
06/05/2025 20:00	0.0	3.6	19.4	22	0	NM		1025	0.0	11.7
06/05/2025 21:00	0.0	3.5	19.4	22	0	NM		1026	0.1	11.0
06/05/2025 22:00	0.0	3.5	19.4	22	1	NM		1025	0.1	9.8
06/05/2025 23:00	0.0	3.5	19.4	22	0	NM		1025	0.1	9.0
07/05/2025 00:00	0.0	3.5	19.3	22	0	NM		1025	0.1	8.2
07/05/2025 01:00	0.0	3.5	19.3	22	0	NM		1025	0.0	7.1
07/05/2025 02:00	0.0	3.5	19.3	22	0	NM		1025	0.0	6.6
07/05/2025 03:00	0.0	3.4	19.3	21	0	NM		1025	0.0	5.9
07/05/2025 04:00	0.0	3.4	19.3	21	0	NM		1025	0.0	5.4
07/05/2025 05:00	0.0	3.5	19.2	21	0	NM		1025	-0.1	5.3
07/05/2025 06:00	0.0	3.4	19.2	21	0	NM		1025	0.0	6.5
07/05/2025 07:00	0.0	3.4	19.2	21	0	NM		1025	0.0	8.6
07/05/2025 08:00	0.1	3.4	19.2	21	0	NM		1025	0.0	10.6
07/05/2025 09:00	0.1	3.3	19.2	21	0	NM		1025	0.0	12.1
07/05/2025 10:00	0.1	3.3	19.2	21	0	NM		1024	-0.1	13.8
07/05/2025 11:00	0.0	3.5	19.2	21	0	NM		1024	-0.1	15.2
07/05/2025 12:00	0.0	3.4	19.2	21	0	NM		1023	-0.3	15.7
07/05/2025 13:00	0.0	3.5	19.3	22	0	NM		1023	-0.3	16.5
07/05/2025 14:00	0.0	3.6	19.3	22	0	NM		1022	-0.4	17.3

Time Series Data

Project Ref:	GGS3988
Project Name:	Elgar Road South, Reading
Borehole ref:	BH2
Instrument Name and ID:	03000060
Start Date:	09/04/2025 17:00
End Date:	07/05/2025 14:00
Days of monitoring:	28
nitoring Frequency (hh:mm:ss):	01:00:00
Total samples taken:	670

Summary Table

	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
Minimum	0.0	0.0	19.2	20	0	-0.01	**Minimum**	994	-1.1	2.7
Maximum	0.1	1.8	20.4	27	6	0.10	**Maximum**	1033	1.0	27.9
Range	0.1	1.8	1.2	7	6	0.11	**Range**	39	2.1	25.2

Date and Time	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	CO ppm/v	H_2S ppm/v	Flow Ltr/hr		Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Temperature °C
09/04/2025 17:00	0.00	0.04	19.9	20	1	0.00		1029	NM	13.1
09/04/2025 18:00	0.00	0.03	20.0	21	2	0.01		1029	NM	12.2
09/04/2025 19:00	0.00	0.03	20.0	21	1	0.01		1030	NM	10.5
09/04/2025 20:00	0.00	0.03	20.0	20	0	0.01		1031	NM	9.1
09/04/2025 21:00	0.00	0.02	20.0	21	1	0.00		1032	NM	7.7
09/04/2025 22:00	0.00	0.03	19.9	21	2	0.00		1032	NM	6.6
09/04/2025 23:00	0.00	0.02	19.9	21	2	0.01		1033	NM	5.7
10/04/2025 00:00	0.00	0.02	19.9	21	0	0.00		1033	NM	5.0
10/04/2025 01:00	0.00	0.02	19.8	21	2	0.01		1033	0.5	4.3
10/04/2025 02:00	0.00	0.02	19.8	21	1	0.01		1033	0.5	3.8
10/04/2025 03:00	0.00	0.02	19.7	21	1	0.01		1033	0.4	3.4
10/04/2025 04:00	0.00	0.02	19.7	21	1	0.02		1033	0.3	3.3
10/04/2025 05:00	0.00	0.02	19.7	21	1	0.01		1033	0.1	3.5
10/04/2025 06:00	0.00	0.02	19.7	21	2	0.05		1033	0.1	4.0
10/04/2025 07:00	0.00	0.02	19.7	21	3	0.04		1033	0.0	5.4
10/04/2025 08:00	0.00	0.01	19.7	21	2	0.05		1033	0.0	7.5
10/04/2025 09:00	0.00	0.01	19.7	21	2	0.03		1033	0.0	9.4
10/04/2025 10:00	0.00	0.02	19.7	21	0	0.04		1032	-0.1	10.7
10/04/2025 11:00	0.00	0.01	19.7	21	2	0.04		1032	-0.1	12.0
10/04/2025 12:00	0.00	0.01	19.8	21	2	0.07		1032	-0.1	13.1
10/04/2025 13:00	0.00	0.02	19.9	22	2	0.05		1031	-0.3	13.0
10/04/2025 14:00	0.00	0.02	20.0	22	1	0.04		1030	-0.4	13.7
10/04/2025 15:00	0.00	0.02	20.1	23	3	0.05		1030	-0.4	14.1
10/04/2025 16:00	0.00	0.02	20.2	23	2	0.03		1029	-0.5	14.3
10/04/2025 17:00	0.00	0.02	20.2	23	2	0.04		1029	-0.5	14.3
10/04/2025 18:00	0.00	0.02	20.3	24	2	0.00		1028	-0.5	13.7
10/04/2025 19:00	0.00	0.02	20.2	23	3	0.00		1028	-0.5	11.7
10/04/2025 20:00	0.00	0.02	20.1	23	2	0.00		1028	-0.5	10.2
10/04/2025 21:00	0.00	0.02	20.1	23	2	0.00		1028	-0.4	9.2
10/04/2025 22:00	0.00	0.02	20.0	22	3	0.01		1028	-0.3	8.1
10/04/2025 23:00	0.00	0.02	20.0	22	1	0.01		1028	-0.3	6.9
11/04/2025 00:00	0.00	0.02	19.9	22	1	0.02		1027	-0.3	6.2
11/04/2025 01:00	0.00	0.02	19.8	22	1	0.02		1027	-0.3	5.4
11/04/2025 02:00	0.00	0.02	19.8	22	3	0.02		1026	-0.3	5.0
11/04/2025 03:00	0.00	0.02	19.8	22	2	0.02		1026	-0.3	4.4
11/04/2025 04:00	0.00	0.02	19.7	22	1	0.02		1025	-0.4	4.3
11/04/2025 05:00	0.00	0.01	19.7	22	0	0.05		1025	-0.4	4.3
11/04/2025 06:00	0.00	0.01	19.7	22	1	0.01		1025	-0.4	4.8
11/04/2025 07:00	0.00	0.01	19.7	22	1	0.02		1025	-0.4	6.8
11/04/2025 08:00	0.00	0.01	19.6	22	1	0.02		1024	-0.4	9.6
11/04/2025 09:00	0.00	0.01	19.6	22	4	0.08		1024	-0.4	12.0
11/04/2025 10:00	0.00	0.01	19.7	22	2	0.08		1024	-0.3	14.1
11/04/2025 11:00	0.00	0.01	19.8	22	1	0.09		1023	-0.4	15.8
11/04/2025 12:00	0.00	0.01	19.9	23	2	0.10		1022	-0.4	17.2
11/04/2025 13:00	0.00	0.02	20.1	23	3	0.07		1021	-0.5	19.3
11/04/2025 14:00	0.00	0.02	20.2	24	3	0.03		1021	-0.5	20.0
11/04/2025 15:00	0.00	0.02	20.3	24	3	0.04		1020	-0.6	20.2
11/04/2025 16:00	0.00	0.03	20.3	25	3	0.04		1019	-0.6	20.2
11/04/2025 17:00	0.00	0.03	20.4	26	4	0.02		1018	-0.8	19.8
11/04/2025 18:00	0.00	0.03	20.4	24	6	0.00		1018	-0.8	18.8
11/04/2025 19:00	0.00	0.02	20.4	25	4	0.00		1017	-0.8	16.3
11/04/2025 20:00	0.00	0.03	20.3	25	3	0.00		1017	-0.6	14.8
11/04/2025 21:00	0.00	0.03	20.2	25	3	0.00		1017	-0.5	13.6
11/04/2025 22:00	0.00	0.03	20.1	24	3	0.00		1017	-0.5	12.5
11/04/2025 23:00	0.00	0.03	20.1	24	2	0.00		1017	-0.4	11.3
12/04/2025 00:00	0.00	0.02	20.0	23	2	0.01		1016	-0.4	10.0

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
12/04/2025 01:00	0.00	0.02	20.0	24	2	0.01		1015	-0.4	8.8
12/04/2025 02:00	0.00	0.02	19.9	23	2	0.01		1014	-0.5	8.3
12/04/2025 03:00	0.00	0.02	19.9	23	1	0.01		1013	-0.5	7.6
12/04/2025 04:00	0.00	0.02	19.8	23	2	0.03		1012	-0.6	7.0
12/04/2025 05:00	0.00	0.02	19.8	23	1	0.02		1012	-0.6	6.7
12/04/2025 06:00	0.00	0.02	19.8	23	2	0.02		1011	-0.8	7.0
12/04/2025 07:00	0.00	0.02	19.7	23	1	0.03		1010	-0.9	8.6
12/04/2025 08:00	0.00	0.02	19.7	23	1	0.03		1010	-0.8	10.8
12/04/2025 09:00	0.00	0.02	19.7	23	4	0.05		1009	-0.8	13.2
12/04/2025 10:00	0.00	0.02	19.8	23	2	0.04		1008	-0.8	15.6
12/04/2025 11:00	0.00	0.02	19.8	23	2	0.09		1007	-0.8	17.8
12/04/2025 12:00	0.00	0.02	20.0	24	2	0.09		1006	-0.8	19.1
12/04/2025 13:00	0.00	0.02	20.1	25	3	0.08		1004	-1.0	21.1
12/04/2025 14:00	0.00	0.03	20.2	25	4	0.07		1003	-1.0	21.0
12/04/2025 15:00	0.00	0.02	20.2	26	3	0.02		1002	-1.0	20.9
12/04/2025 16:00	0.00	0.03	20.3	26	4	0.02		1001	-1.1	20.6
12/04/2025 17:00	0.00	0.03	20.3	26	6	0.07		1001	-1.0	20.0
12/04/2025 18:00	0.00	0.03	20.4	27	5	0.01		1000	-1.0	18.6
12/04/2025 19:00	0.00	0.04	20.3	27	3	0.00		1000	-0.9	16.3
12/04/2025 20:00	0.00	0.03	20.3	26	3	0.00		1000	-0.8	14.5
12/04/2025 21:00	0.00	0.03	20.2	26	3	0.00		1000	-0.5	14.1
12/04/2025 22:00	0.00	0.03	20.1	26	4	0.00		999	-0.5	13.8
12/04/2025 23:00	0.00	0.03	20.1	25	2	0.00		999	-0.4	13.1
13/04/2025 00:00	0.00	0.03	20.0	25	3	0.00		1000	-0.1	12.1
13/04/2025 01:00	0.00	0.03	20.0	25	2	0.02		1000	-0.1	12.6
13/04/2025 02:00	0.00	0.03	20.0	25	3	0.01		1001	0.1	11.4
13/04/2025 03:00	0.00	0.03	20.0	25	2	0.01		1001	0.1	10.8
13/04/2025 04:00	0.00	0.03	19.9	24	2	0.00		1001	0.1	9.8
13/04/2025 05:00	0.00	0.03	19.9	24	3	0.01		1002	0.3	8.9
13/04/2025 06:00	0.00	0.03	19.9	24	2	0.03		1002	0.4	8.3
13/04/2025 07:00	0.00	0.02	19.9	24	2	0.02		1003	0.5	9.2
13/04/2025 08:00	0.00	0.02	19.8	24	0	0.01		1004	0.5	10.6
13/04/2025 09:00	0.00	0.03	19.8	24	2	0.03		1004	0.5	12.1
13/04/2025 10:00	0.00	0.03	19.8	24	3	0.04		1004	0.4	13.0
13/04/2025 11:00	0.00	0.02	19.9	24	2	0.05		1004	0.4	13.4
13/04/2025 12:00	0.00	0.03	19.9	24	3	0.07		1004	0.4	14.6
13/04/2025 13:00	0.00	0.03	20.0	25	3	0.03		1005	0.4	12.6
13/04/2025 14:00	0.00	0.03	20.0	25	3	0.07		1005	0.4	13.6
13/04/2025 15:00	0.00	0.03	20.0	25	3	0.01		1004	0.1	14.7
13/04/2025 16:00	0.00	0.03	20.0	25	4	0.02		1004	0.0	14.4
13/04/2025 17:00	0.00	0.03	20.0	25	3	0.03		1005	0.1	13.2
13/04/2025 18:00	0.00	0.03	20.0	25	3	0.01		1005	0.1	12.2
13/04/2025 19:00	0.00	0.03	20.0	25	2	0.02		1006	0.3	11.4
13/04/2025 20:00	0.00	0.03	20.0	25	4	0.00		1007	0.4	10.4
13/04/2025 21:00	0.00	0.03	19.9	25	2	0.00		1007	0.3	9.3
13/04/2025 22:00	0.00	0.03	19.9	24	3	0.00		1007	0.3	8.3
13/04/2025 23:00	0.00	0.03	19.8	24	2	0.01		1007	0.4	7.3
14/04/2025 00:00	0.00	0.02	19.8	24	3	0.01		1008	0.5	6.7
14/04/2025 01:00	0.00	0.02	19.8	24	2	0.00		1007	0.3	5.8
14/04/2025 02:00	0.00	0.02	19.7	24	2	0.01		1007	0.3	5.3
14/04/2025 03:00	0.00	0.02	19.7	24	2	0.02		1007	0.1	4.9
14/04/2025 04:00	0.00	0.02	19.7	24	3	0.03		1007	0.0	4.7
14/04/2025 05:00	0.00	0.02	19.7	23	2	0.01		1007	0.0	4.7
14/04/2025 06:00	0.00	0.02	19.6	23	1	0.02		1007	0.0	5.3
14/04/2025 07:00	0.00	0.01	19.6	23	1	0.02		1007	0.0	7.6
14/04/2025 08:00	0.00	0.02	19.6	23	0	0.03		1007	-0.1	10.3
14/04/2025 09:00	0.00	0.02	19.6	23	1	0.08		1006	-0.1	11.5
14/04/2025 10:00	0.00	0.02	19.7	23	3	0.07		1006	-0.1	12.1
14/04/2025 11:00	0.00	0.02	19.7	24	1	0.10		1005	-0.3	13.0
14/04/2025 12:00	0.00	0.02	19.8	25	2	0.09		1005	-0.3	12.5
14/04/2025 13:00	0.00	0.02	19.9	25	2	0.06		1005	-0.3	13.0
14/04/2025 14:00	0.00	0.02	20.0	25	2	0.06		1004	-0.4	12.9
14/04/2025 15:00	0.00	0.02	20.0	25	3	0.05		1003	-0.5	13.5
14/04/2025 16:00	0.00	0.02	20.0	25	2	0.03		1002	-0.6	13.7
14/04/2025 17:00	0.00	0.02	20.0	25	4	0.04		1002	-0.5	13.4
14/04/2025 18:00	0.00	0.02	20.0	25	2	0.02		1001	-0.6	12.6
14/04/2025 19:00	0.00	0.02	20.0	25	3	0.02		1001	-0.5	11.9
14/04/2025 20:00	0.00	0.02	20.0	25	1	0.01		1001	-0.5	11.4
14/04/2025 21:00	0.00	0.02	19.9	25	3	0.01		1001	-0.5	10.9
14/04/2025 22:00	0.00	0.02	19.9	24	2	0.01		1001	-0.4	10.5
14/04/2025 23:00	0.00	0.02	19.8	24	1	0.01		1000	-0.4	10.0
15/04/2025 00:00	0.00	0.02	19.8	24	1	0.02		999	-0.4	9.5
15/04/2025 01:00	0.00	0.02	19.8	24	2	0.04		999	-0.4	9.3
15/04/2025 02:00	0.00	0.02	19.8	24	3	0.02		998	-0.4	9.2
15/04/2025 03:00	0.00	0.02	19.8	24	1	0.02		997	-0.5	9.2
15/04/2025 04:00	0.00	0.02	19.8	24	2	0.02		996	-0.6	9.1
15/04/2025 05:00	0.00	0.02	19.7	24	4	0.03		996	-0.6	9.1
15/04/2025 06:00	0.00	0.02	19.7	24	2	0.03		996	-0.6	9.2
15/04/2025 07:00	0.00	0.02	19.7	24	4	0.04		996	-0.5	9.9
15/04/2025 08:00	0.00	0.02	19.7	24	4	0.03		996	-0.4	11.1
15/04/2025 09:00	0.00	0.02	19.7	24	3	0.04		995	-0.5	12.9

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
15/04/2025 10:00	0.00	0.02	19.7	24	3	0.03		995	-0.4	13.9
15/04/2025 11:00	0.00	0.02	19.8	24	1	0.03		995	-0.3	14.9
15/04/2025 12:00	0.00	0.02	19.8	24	3	0.04		994	-0.3	16.1
15/04/2025 13:00	0.00	0.02	19.8	24	3	0.03		995	-0.1	14.2
15/04/2025 14:00	0.00	0.02	19.8	25	2	0.05		995	-0.1	15.3
15/04/2025 15:00	0.00	0.02	19.9	25	2	0.04		995	-0.1	15.2
15/04/2025 16:00	0.00	0.03	19.9	25	2	0.04		995	-0.1	13.5
15/04/2025 17:00	0.00	0.02	19.9	25	3	0.04		995	0.0	14.5
15/04/2025 18:00	0.00	0.03	19.9	25	2	0.02		994	-0.1	14.0
15/04/2025 19:00	0.00	0.03	19.9	25	3	0.01		995	0.0	12.8
15/04/2025 20:00	0.00	0.03	19.9	25	3	0.02		995	0.1	11.5
15/04/2025 21:00	0.00	0.03	19.9	25	3	0.03		995	0.0	10.4
15/04/2025 22:00	0.00	0.03	19.9	25	2	0.02		995	0.0	10.1
15/04/2025 23:00	0.00	0.03	19.8	25	3	0.04		995	0.0	9.4
16/04/2025 00:00	0.00	0.03	19.8	24	2	0.05		995	0.0	8.8
16/04/2025 01:00	0.00	0.03	19.8	24	3	0.05		997	0.3	8.3
16/04/2025 02:00	0.00	0.03	19.8	24	2	0.05		997	0.4	8.4
16/04/2025 03:00	0.00	0.03	19.7	24	3	0.06		996	0.1	8.0
16/04/2025 04:00	0.00	0.03	19.7	24	4	0.08		997	0.3	7.8
16/04/2025 05:00	0.00	0.03	19.7	24	4	0.04		999	0.5	7.2
16/04/2025 06:00	0.00	0.03	19.7	24	4	0.06		999	0.5	7.2
16/04/2025 07:00	0.00	0.03	19.7	24	4	0.05		1000	0.6	7.9
16/04/2025 08:00	0.00	0.03	19.7	24	1	0.07		1001	0.8	9.1
16/04/2025 09:00	0.00	0.03	19.7	24	3	0.09		1002	0.6	10.4
16/04/2025 10:00	0.00	0.03	19.7	24	1	0.05		1004	0.9	11.3
16/04/2025 11:00	0.00	0.03	19.8	24	1	0.09		1004	1.0	12.4
16/04/2025 12:00	0.00	0.04	19.8	25	3	0.05		1005	1.0	13.3
16/04/2025 13:00	0.00	0.04	19.9	25	3	0.07		1005	0.8	14.2
16/04/2025 14:00	0.00	0.04	20.0	26	2	0.06		1006	0.9	14.2
16/04/2025 15:00	0.00	0.04	20.1	26	3	0.06		1006	0.8	13.6
16/04/2025 16:00	0.00	0.04	20.1	27	3	0.06		1007	0.8	13.1
16/04/2025 17:00	0.00	0.05	20.2	27	3	0.05		1007	0.6	12.3
16/04/2025 18:00	0.00	0.05	20.2	27	2	0.02		1008	0.5	11.6
16/04/2025 19:00	0.00	0.05	20.1	26	3	0.01		1009	0.6	10.3
16/04/2025 20:00	0.00	0.05	20.0	26	2	0.01		1010	0.6	9.1
16/04/2025 21:00	0.00	0.05	20.0	25	2	0.00		1010	0.6	8.1
16/04/2025 22:00	0.00	0.05	19.9	25	2	0.00		1011	0.6	7.3
16/04/2025 23:00	0.00	0.05	19.8	25	2	0.00		1011	0.6	6.6
17/04/2025 00:00	0.00	0.05	19.8	24	3	0.00		1011	0.5	5.9
17/04/2025 01:00	0.00	0.06	19.7	24	3	0.00		1011	0.5	4.4
17/04/2025 02:00	0.00	0.06	19.7	24	3	0.00		1012	0.5	3.9
17/04/2025 03:00	0.00	0.06	19.7	24	3	0.01		1012	0.4	3.5
17/04/2025 04:00	0.00	0.06	19.6	24	1	0.02		1012	0.3	3.1
17/04/2025 05:00	0.00	0.06	19.6	24	3	0.02		1012	0.3	2.7
17/04/2025 06:00	0.00	0.07	19.6	23	1	0.01		1013	0.3	3.5
17/04/2025 07:00	0.00	0.07	19.5	23	1	0.01		1013	0.3	5.4
17/04/2025 08:00	0.00	0.07	19.5	23	1	0.04		1013	0.3	8.5
17/04/2025 09:00	0.00	0.08	19.5	23	1	0.07		1013	0.3	11.0
17/04/2025 10:00	0.00	0.08	19.6	24	2	0.06		1013	0.1	12.8
17/04/2025 11:00	0.00	0.07	19.7	24	2	0.09		1013	0.1	14.1
17/04/2025 12:00	0.00	0.08	19.8	25	3	0.08		1012	0.0	14.8
17/04/2025 13:00	0.00	0.08	20.0	26	2	0.05		1013	0.1	15.2
17/04/2025 14:00	0.00	0.08	20.0	26	4	0.04		1012	-0.1	15.7
17/04/2025 15:00	0.00	0.09	20.1	26	4	0.02		1012	-0.1	16.2
17/04/2025 16:00	0.00	0.09	20.1	26	4	0.02		1012	-0.1	15.7
17/04/2025 17:00	0.00	0.09	20.1	26	3	0.02		1012	-0.1	15.2
17/04/2025 18:00	0.00	0.09	20.2	26	4	0.01		1012	-0.1	14.2
17/04/2025 19:00	0.00	0.09	20.1	26	3	0.01		1013	0.0	12.3
17/04/2025 20:00	0.00	0.09	20.1	26	3	0.00		1013	0.1	11.0
17/04/2025 21:00	0.00	0.09	20.0	26	2	0.00		1013	0.0	9.8
17/04/2025 22:00	0.00	0.09	19.9	25	2	0.00		1013	0.1	9.2
17/04/2025 23:00	0.00	0.09	19.9	25	2	0.00		1013	0.1	8.8
18/04/2025 00:00	0.00	0.09	19.8	25	2	0.00		1013	0.1	8.3
18/04/2025 01:00	0.00	0.09	19.8	24	2	0.01		1013	0.1	9.1
18/04/2025 02:00	0.00	0.10	19.7	24	1	0.01		1012	0.0	7.9
18/04/2025 03:00	0.00	0.11	19.7	24	0	0.03		1012	-0.1	7.2
18/04/2025 04:00	0.00	0.10	19.7	24	3	0.02		1012	-0.1	8.2
18/04/2025 05:00	0.00	0.10	19.6	24	1	0.02		1011	-0.3	8.5
18/04/2025 06:00	0.00	0.11	19.6	24	1	0.03		1011	-0.3	9.0
18/04/2025 07:00	0.00	0.11	19.6	24	4	0.01		1011	-0.3	9.9
18/04/2025 08:00	0.00	0.11	19.6	24	0	0.01		1011	-0.3	10.9
18/04/2025 09:00	0.00	0.12	19.6	24	1	0.02		1011	-0.3	12.5
18/04/2025 10:00	0.00	0.12	19.7	24	2	0.03		1011	-0.1	13.4
18/04/2025 11:00	0.00	0.12	19.7	24	2	0.07		1011	-0.1	13.3
18/04/2025 12:00	0.00	0.11	19.8	25	2	0.08		1010	-0.3	12.8
18/04/2025 13:00	0.00	0.12	19.9	25	3	0.04		1009	-0.3	14.6
18/04/2025 14:00	0.00	0.12	19.9	25	2	0.06		1009	-0.3	14.0
18/04/2025 15:00	0.00	0.12	19.9	25	3	0.05		1009	-0.3	13.3
18/04/2025 16:00	0.00	0.12	19.9	25	2	0.04		1009	-0.3	12.3
18/04/2025 17:00	0.00	0.12	19.9	25	2	0.03		1008	-0.4	12.3
18/04/2025 18:00	0.00	0.12	19.9	25	2	0.01		1008	-0.4	12.1

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
18/04/2025 19:00	0.00	0.12	19.9	25	2	0.01		1008	-0.4	12.0
18/04/2025 20:00	0.00	0.12	19.9	25	1	0.01		1008	-0.3	12.0
18/04/2025 21:00	0.00	0.12	19.8	25	0	0.00		1007	-0.3	12.3
18/04/2025 22:00	0.00	0.13	19.8	25	2	0.01		1007	-0.3	12.5
18/04/2025 23:00	0.00	0.12	19.8	24	3	0.01		1007	-0.3	12.2
19/04/2025 00:00	0.00	0.13	19.8	25	3	0.02		1007	-0.3	11.8
19/04/2025 01:00	0.00	0.12	19.8	24	3	0.01		1006	-0.3	12.4
19/04/2025 02:00	0.00	0.13	19.7	24	2	0.01		1006	-0.3	11.6
19/04/2025 03:00	0.00	0.13	19.7	24	0	0.01		1006	-0.3	11.7
19/04/2025 04:00	0.00	0.13	19.7	24	2	0.01		1006	-0.3	11.7
19/04/2025 05:00	0.00	0.13	19.7	24	1	0.01		1006	-0.1	11.7
19/04/2025 06:00	0.00	0.13	19.7	24	1	0.01		1006	-0.1	11.5
19/04/2025 07:00	0.00	0.13	19.7	24	3	0.02		1007	0.0	11.6
19/04/2025 08:00	0.00	0.13	19.7	24	1	0.02		1007	0.0	11.9
19/04/2025 09:00	0.00	0.13	19.7	24	0	0.01		1007	0.1	12.6
19/04/2025 10:00	0.00	0.13	19.7	24	2	0.02		1007	0.1	13.8
19/04/2025 11:00	0.00	0.14	19.7	24	2	0.05		1007	0.1	14.8
19/04/2025 12:00	0.00	0.13	19.8	25	2	0.03		1007	0.1	15.8
19/04/2025 13:00	0.00	0.13	19.8	25	2	0.05		1007	0.1	16.5
19/04/2025 14:00	0.00	0.14	19.9	25	3	0.07		1007	0.1	16.4
19/04/2025 15:00	0.00	0.15	20.0	26	2	0.03		1007	0.0	16.4
19/04/2025 16:00	0.00	0.15	20.0	26	3	0.03		1007	0.0	15.8
19/04/2025 17:00	0.00	0.15	20.1	26	3	0.03		1007	0.0	14.9
19/04/2025 18:00	0.00	0.15	20.1	26	3	-0.01		1007	0.0	13.8
19/04/2025 19:00	0.00	0.15	20.0	26	1	0.01		1008	0.1	12.4
19/04/2025 20:00	0.00	0.15	20.0	26	3	0.00		1008	0.1	11.0
19/04/2025 21:00	0.00	0.16	19.9	25	3	0.03		1008	0.1	9.8
19/04/2025 22:00	0.00	0.16	19.9	25	2	0.00		1009	0.3	8.5
19/04/2025 23:00	0.00	0.17	19.8	25	1	0.01		1009	0.3	7.5
20/04/2025 00:00	0.00	0.16	19.8	24	1	0.01		1008	0.1	6.6
20/04/2025 01:00	0.00	0.17	19.7	24	3	0.01		1008	0.1	6.3
20/04/2025 02:00	0.00	0.17	19.7	24	1	0.03		1008	0.1	5.8
20/04/2025 03:00	0.00	0.17	19.7	24	2	0.02		1008	0.0	5.4
20/04/2025 04:00	0.00	0.17	19.6	24	0	0.01		1008	0.0	5.1
20/04/2025 05:00	0.00	0.18	19.6	24	2	0.02		1008	0.0	4.7
20/04/2025 06:00	0.00	0.17	19.6	24	3	0.01		1008	-0.1	5.2
20/04/2025 07:00	0.00	0.18	19.6	24	2	0.03		1007	-0.3	6.7
20/04/2025 08:00	0.00	0.17	19.6	24	3	0.01		1007	-0.1	8.4
20/04/2025 09:00	0.00	0.18	19.6	24	3	0.02		1007	-0.1	10.3
20/04/2025 10:00	0.00	0.17	19.6	24	2	0.03		1007	-0.1	12.0
20/04/2025 11:00	0.00	0.18	19.7	24	2	0.01		1007	-0.1	13.5
20/04/2025 12:00	0.00	0.21	19.8	25	2	0.01		1007	-0.1	14.9
20/04/2025 13:00	0.00	0.21	19.9	25	2	0.01		1007	-0.1	13.7
20/04/2025 14:00	0.00	0.21	19.9	25	3	0.01		1006	-0.3	16.6
20/04/2025 15:00	0.00	0.18	19.9	26	2	0.02		1006	-0.1	16.6
20/04/2025 16:00	0.00	0.21	19.9	26	2	0.00		1006	-0.1	15.8
20/04/2025 17:00	0.00	0.21	20.0	26	2	0.02		1006	-0.1	15.1
20/04/2025 18:00	0.00	0.22	19.9	25	3	0.00		1006	-0.1	14.4
20/04/2025 19:00	0.00	0.21	19.9	25	3	0.01		1007	0.0	13.6
20/04/2025 20:00	0.00	0.21	19.9	25	2	0.00		1007	0.0	12.4
20/04/2025 21:00	0.00	0.22	19.8	25	2	0.00		1007	0.0	11.3
20/04/2025 22:00	0.00	0.23	19.8	25	1	0.00		1007	0.1	10.6
20/04/2025 23:00	0.00	0.23	19.8	25	1	0.01		1007	0.1	9.9
21/04/2025 00:00	0.00	0.22	19.7	24	3	0.00		1008	0.3	9.2
21/04/2025 01:00	0.00	0.22	19.7	24	2	0.00		1007	0.1	9.7
21/04/2025 02:00	0.00	0.22	19.7	24	2	0.01		1007	0.1	9.4
21/04/2025 03:00	0.00	0.23	19.7	24	4	0.01		1008	0.1	9.5
21/04/2025 04:00	0.00	0.23	19.7	24	0	0.00		1008	0.1	9.5
21/04/2025 05:00	0.00	0.23	19.7	24	2	0.00		1008	0.1	9.4
21/04/2025 06:00	0.00	0.23	19.7	24	3	0.01		1008	0.1	9.6
21/04/2025 07:00	0.00	0.23	19.6	24	1	0.01		1008	0.1	9.9
21/04/2025 08:00	0.00	0.24	19.6	24	0	0.01		1008	0.0	10.7
21/04/2025 09:00	0.00	0.23	19.6	24	3	0.00		1009	0.3	12.4
21/04/2025 10:00	0.00	0.23	19.7	24	3	0.00		1009	0.3	14.3
21/04/2025 11:00	0.00	0.23	19.7	24	3	0.01		1009	0.1	15.1
21/04/2025 12:00	0.00	0.23	19.7	24	2	0.00		1009	0.1	15.8
21/04/2025 13:00	0.00	0.26	19.8	25	2	0.02		1010	0.3	14.9
21/04/2025 14:00	0.00	0.25	19.8	25	2	0.01		1011	0.4	13.0
21/04/2025 15:00	0.00	0.25	19.8	25	1	0.01		1011	0.4	12.4
21/04/2025 16:00	0.00	0.26	19.8	24	0	0.01		1011	0.4	13.8
21/04/2025 17:00	0.00	0.26	19.8	24	2	0.00		1011	0.3	13.7
21/04/2025 18:00	0.00	0.26	19.8	25	2	0.00		1012	0.4	12.9
21/04/2025 19:00	0.00	0.25	19.8	25	3	0.00		1012	0.4	11.9
21/04/2025 20:00	0.00	0.27	19.8	25	3	0.01		1013	0.5	10.6
21/04/2025 21:00	0.00	0.27	19.8	25	2	0.00		1014	0.5	9.6
21/04/2025 22:00	0.00	0.27	19.7	24	2	0.00		1014	0.4	8.9
21/04/2025 23:00	0.00	0.27	19.7	24	2	0.01		1015	0.5	8.3
22/04/2025 00:00	0.00	0.27	19.7	24	2	0.01		1015	0.5	7.8
22/04/2025 01:00	0.00	0.28	19.6	24	1	0.00		1015	0.5	7.2
22/04/2025 02:00	0.00	0.28	19.6	24	1	0.00		1015	0.4	6.7
22/04/2025 03:00	0.00	0.29	19.6	24	2	0.00		1016	0.5	6.6

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
22/04/2025 04:00	0.00	0.29	19.5	23	2	0.01		1016	0.4	6.3
22/04/2025 05:00	0.00	0.30	19.5	23	0	0.00		1016	0.3	5.7
22/04/2025 06:00	0.00	0.29	19.5	23	3	0.00		1016	0.3	6.3
22/04/2025 07:00	0.00	0.29	19.5	23	0	0.00		1017	0.3	8.2
22/04/2025 08:00	0.00	0.30	19.5	23	3	0.00		1018	0.4	10.2
22/04/2025 09:00	0.00	0.30	19.5	23	0	0.00		1018	0.4	12.0
22/04/2025 10:00	0.00	0.30	19.5	24	1	0.02		1018	0.4	13.3
22/04/2025 11:00	0.00	0.30	19.6	24	1	0.02		1017	0.1	14.6
22/04/2025 12:00	0.00	0.30	19.7	24	1	0.01		1017	0.1	15.5
22/04/2025 13:00	0.00	0.31	19.8	25	2	0.03		1017	0.1	15.7
22/04/2025 14:00	0.00	0.33	19.9	25	1	0.01		1017	0.1	15.4
22/04/2025 15:00	0.00	0.31	19.9	25	3	0.00		1017	0.0	15.3
22/04/2025 16:00	0.00	0.34	20.0	25	3	0.01		1016	-0.3	14.9
22/04/2025 17:00	0.00	0.33	20.0	25	2	0.00		1016	-0.3	14.3
22/04/2025 18:00	0.00	0.33	20.0	25	3	0.01		1016	-0.3	13.4
22/04/2025 19:00	0.00	0.33	19.9	25	2	0.00		1016	-0.1	11.9
22/04/2025 20:00	0.00	0.34	19.9	25	1	0.01		1016	-0.1	10.6
22/04/2025 21:00	0.00	0.35	19.8	24	2	0.00		1015	-0.3	10.0
22/04/2025 22:00	0.00	0.36	19.8	24	2	0.00		1015	-0.3	9.9
22/04/2025 23:00	0.00	0.36	19.7	24	2	0.01		1014	-0.4	9.9
23/04/2025 00:00	0.00	0.35	19.7	24	3	0.00		1013	-0.4	9.6
23/04/2025 01:00	0.00	0.36	19.7	24	2	0.01		1011	-0.6	9.5
23/04/2025 02:00	0.00	0.36	19.6	23	1	0.03		1011	-0.6	9.4
23/04/2025 03:00	0.00	0.36	19.6	23	3	0.03		1009	-0.9	9.0
23/04/2025 04:00	0.00	0.37	19.6	23	2	0.08		1008	-1.0	8.5
23/04/2025 05:00	0.00	0.37	19.6	23	2	0.06		1007	-1.0	8.5
23/04/2025 06:00	0.00	0.37	19.6	23	3	0.02		1007	-1.0	8.9
23/04/2025 07:00	0.00	0.39	19.6	23	0	0.01		1007	-0.9	9.2
23/04/2025 08:00	0.00	0.39	19.5	23	2	0.00		1008	-0.6	9.9
23/04/2025 09:00	0.00	0.39	19.5	23	3	0.04		1009	-0.3	10.5
23/04/2025 10:00	0.00	0.40	19.5	23	3	0.03		1010	-0.1	10.4
23/04/2025 11:00	0.00	0.42	19.5	23	3	0.00		1011	0.3	11.1
23/04/2025 12:00	0.00	0.42	19.5	23	1	0.01		1012	0.5	11.9
23/04/2025 13:00	0.00	0.40	19.6	23	1	0.01		1013	0.8	12.5
23/04/2025 14:00	0.00	0.42	19.6	23	2	0.01		1013	0.8	12.8
23/04/2025 15:00	0.00	0.42	19.6	23	1	0.03		1014	0.9	13.2
23/04/2025 16:00	0.00	0.42	19.6	23	1	0.00		1014	0.8	12.8
23/04/2025 17:00	0.00	0.43	19.7	23	1	0.00		1015	0.8	12.1
23/04/2025 18:00	0.00	0.42	19.7	24	1	0.00		1016	0.8	11.7
23/04/2025 19:00	0.00	0.43	19.7	23	1	0.00		1017	0.8	9.9
23/04/2025 20:00	0.00	0.43	19.7	23	0	0.00		1018	0.8	8.3
23/04/2025 21:00	0.00	0.44	19.6	23	1	0.00		1018	0.6	7.8
23/04/2025 22:00	0.00	0.44	19.6	23	0	0.00		1019	0.8	7.1
23/04/2025 23:00	0.00	0.45	19.6	23	1	0.00		1019	0.6	6.7
24/04/2025 00:00	0.00	0.45	19.6	23	2	0.00		1020	0.8	6.7
24/04/2025 01:00	0.00	0.45	19.6	23	2	0.00		1020	0.6	8.9
24/04/2025 02:00	0.00	0.47	19.5	23	2	0.00		1020	0.5	8.4
24/04/2025 03:00	0.00	0.45	19.5	23	2	0.00		1020	0.4	7.6
24/04/2025 04:00	0.00	0.47	19.5	23	0	0.00		1021	0.4	6.9
24/04/2025 05:00	0.00	0.45	19.5	23	3	0.01		1021	0.4	6.8
24/04/2025 06:00	0.00	0.47	19.5	23	0	0.01		1022	0.4	7.2
24/04/2025 07:00	0.00	0.48	19.5	23	4	0.01		1022	0.4	8.1
24/04/2025 08:00	0.00	0.49	19.5	23	0	0.00		1022	0.3	9.4
24/04/2025 09:00	0.00	0.48	19.5	23	1	0.01		1023	0.4	10.8
24/04/2025 10:00	0.00	0.51	19.5	23	2	0.01		1023	0.4	12.2
24/04/2025 11:00	0.00	0.48	19.6	23	1	0.01		1023	0.4	13.2
24/04/2025 12:00	0.00	0.47	19.6	23	1	0.00		1023	0.3	14.5
24/04/2025 13:00	0.00	0.48	19.7	23	1	0.01		1023	0.3	14.6
24/04/2025 14:00	0.00	0.50	19.8	24	1	0.05		1023	0.1	15.0
24/04/2025 15:00	0.00	0.50	19.8	23	1	0.00		1022	0.0	14.8
24/04/2025 16:00	0.00	0.51	19.8	24	2	0.00		1022	0.0	14.9
24/04/2025 17:00	0.00	0.51	19.8	24	2	0.01		1022	-0.1	14.5
24/04/2025 18:00	0.00	0.50	19.8	23	2	0.00		1022	-0.1	13.7
24/04/2025 19:00	0.00	0.51	19.8	23	1	0.00		1022	-0.1	12.0
24/04/2025 20:00	0.00	0.51	19.8	24	2	0.00		1023	0.0	10.6
24/04/2025 21:00	0.00	0.52	19.7	23	0	0.00		1023	0.0	9.6
24/04/2025 22:00	0.00	0.54	19.7	23	0	0.00		1023	0.0	8.7
24/04/2025 23:00	0.00	0.53	19.7	23	2	0.00		1024	0.3	8.1
25/04/2025 00:00	0.00	0.55	19.6	23	2	0.00		1024	0.3	7.6
25/04/2025 01:00	0.00	0.53	19.6	23	1	0.01		1023	0.1	7.3
25/04/2025 02:00	0.00	0.53	19.5	23	1	0.00		1023	0.1	6.3
25/04/2025 03:00	0.00	0.54	19.5	22	3	0.00		1023	0.1	5.6
25/04/2025 04:00	0.00	0.54	19.5	22	1	0.00		1023	0.0	5.5
25/04/2025 05:00	0.00	0.54	19.5	22	1	0.01		1023	0.0	5.5
25/04/2025 06:00	0.00	0.55	19.5	22	2	0.02		1023	0.0	6.3
25/04/2025 07:00	0.00	0.57	19.5	22	3	0.01		1024	0.0	7.9
25/04/2025 08:00	0.00	0.56	19.5	22	2	0.00		1024	0.0	10.0
25/04/2025 09:00	0.00	0.58	19.5	22	2	0.01		1023	0.0	11.8
25/04/2025 10:00	0.00	0.55	19.5	22	1	0.00		1023	0.0	12.5
25/04/2025 11:00	0.00	0.55	19.6	23	1	0.01		1023	0.0	13.3
25/04/2025 12:00	0.00	0.56	19.6	23	1	0.01		1022	-0.1	14.2

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
25/04/2025 13:00	0.00	0.56	19.7	23	2	0.00		1022	-0.1	14.2
25/04/2025 14:00	0.00	0.57	19.7	23	1	0.01		1022	-0.1	15.3
25/04/2025 15:00	0.00	0.59	19.8	23	1	0.01		1021	-0.4	15.9
25/04/2025 16:00	0.00	0.59	19.9	23	2	0.00		1021	-0.4	15.9
25/04/2025 17:00	0.00	0.59	19.9	23	1	0.00		1021	-0.3	15.8
25/04/2025 18:00	0.00	0.58	19.9	23	2	0.00		1021	-0.3	14.6
25/04/2025 19:00	0.00	0.58	19.9	23	2	0.00		1021	-0.3	12.9
25/04/2025 20:00	0.00	0.58	19.8	23	3	0.00		1021	-0.1	11.3
25/04/2025 21:00	0.00	0.60	19.8	23	1	0.00		1022	0.0	10.4
25/04/2025 22:00	0.00	0.62	19.8	23	2	0.00		1022	0.0	9.6
25/04/2025 23:00	0.00	0.59	19.7	23	1	0.01		1022	0.1	8.4
26/04/2025 00:00	0.00	0.61	19.7	23	2	0.00		1022	0.1	7.7
26/04/2025 01:00	0.00	0.61	19.6	23	2	0.00		1022	0.1	8.4
26/04/2025 02:00	0.00	0.62	19.6	23	2	0.01		1022	0.1	8.7
26/04/2025 03:00	0.00	0.62	19.6	22	0	0.01		1021	0.0	8.6
26/04/2025 04:00	0.00	0.62	19.6	22	0	0.01		1021	0.0	8.5
26/04/2025 05:00	0.00	0.61	19.5	23	1	0.00		1022	0.0	8.5
26/04/2025 06:00	0.00	0.61	19.5	22	1	0.00		1022	0.0	8.8
26/04/2025 07:00	0.00	0.61	19.5	22	0	0.00		1022	0.0	9.4
26/04/2025 08:00	0.00	0.62	19.5	22	2	0.01		1022	0.0	10.5
26/04/2025 09:00	0.00	0.62	19.5	22	2	0.00		1023	0.1	12.2
26/04/2025 10:00	0.00	0.63	19.5	22	0	0.01		1022	0.0	14.1
26/04/2025 11:00	0.00	0.63	19.6	23	2	0.01		1022	0.1	15.2
26/04/2025 12:00	0.00	0.63	19.6	23	1	0.00		1022	0.1	15.9
26/04/2025 13:00	0.00	0.64	19.7	23	1	0.03		1023	0.1	16.3
26/04/2025 14:00	0.10	0.66	19.8	23	2	0.00		1023	0.1	16.8
26/04/2025 15:00	0.00	0.68	19.9	23	1	0.01		1023	0.1	17.1
26/04/2025 16:00	0.00	0.66	19.9	23	2	0.00		1022	0.0	17.4
26/04/2025 17:00	0.00	0.66	19.9	23	2	0.00		1023	0.0	17.2
26/04/2025 18:00	0.00	0.67	19.9	23	1	0.00		1023	0.1	16.6
26/04/2025 19:00	0.00	0.67	19.9	23	3	0.00		1024	0.3	14.1
26/04/2025 20:00	0.00	0.66	19.8	23	1	0.00		1024	0.3	13.2
26/04/2025 21:00	0.00	0.68	19.8	23	1	0.00		1025	0.3	13.1
26/04/2025 22:00	0.00	0.69	19.8	23	2	0.00		1025	0.3	12.5
26/04/2025 23:00	0.00	0.70	19.7	23	1	0.01		1025	0.3	11.1
27/04/2025 00:00	0.00	0.69	19.7	23	1	0.00		1025	0.4	9.7
27/04/2025 01:00	0.00	0.69	19.6	23	2	0.00		1025	0.3	8.7
27/04/2025 02:00	0.00	0.70	19.6	23	0	0.01		1025	0.3	8.2
27/04/2025 03:00	0.00	0.69	19.6	22	1	0.01		1025	0.1	7.9
27/04/2025 04:00	0.00	0.68	19.6	23	2	0.00		1025	0.1	7.6
27/04/2025 05:00	0.00	0.71	19.5	23	1	0.00		1025	0.0	7.2
27/04/2025 06:00	0.00	0.68	19.5	22	2	0.00		1026	0.1	8.4
27/04/2025 07:00	0.00	0.70	19.5	22	1	0.00		1026	0.1	10.4
27/04/2025 08:00	0.00	0.72	19.5	22	2	0.00		1026	0.1	12.8
27/04/2025 09:00	0.00	0.70	19.5	22	2	0.01		1026	0.1	15.0
27/04/2025 10:00	0.00	0.72	19.5	22	2	0.00		1026	0.1	16.7
27/04/2025 11:00	0.00	0.72	19.6	23	1	0.01		1026	0.1	18.0
27/04/2025 12:00	0.00	0.72	19.8	23	1	0.01		1026	0.1	18.1
27/04/2025 13:00	0.00	0.73	19.9	23	1	0.00		1026	0.1	19.5
27/04/2025 14:00	0.00	0.77	19.9	23	1	0.00		1026	0.0	19.6
27/04/2025 15:00	0.00	0.76	20.0	23	3	0.01		1026	0.0	19.7
27/04/2025 16:00	0.00	0.76	20.0	23	1	0.00		1026	0.0	19.5
27/04/2025 17:00	0.00	0.75	20.0	23	2	0.00		1026	0.0	19.1
27/04/2025 18:00	0.00	0.77	19.9	24	1	0.00		1026	0.0	18.5
27/04/2025 19:00	0.00	0.77	19.9	23	2	0.01		1026	0.0	16.4
27/04/2025 20:00	0.00	0.77	19.9	23	2	0.00		1027	0.1	14.8
27/04/2025 21:00	0.00	0.80	19.9	23	1	0.00		1027	0.1	13.7
27/04/2025 22:00	0.00	0.79	19.8	23	2	0.00		1027	0.1	12.6
27/04/2025 23:00	0.00	0.80	19.7	23	2	0.00		1027	0.1	11.7
28/04/2025 00:00	0.00	0.79	19.7	23	1	0.00		1027	0.1	10.5
28/04/2025 01:00	0.00	0.81	19.6	22	2	0.00		1027	0.1	9.4
28/04/2025 02:00	0.00	0.80	19.6	22	1	0.00		1027	0.1	8.5
28/04/2025 03:00	0.00	0.79	19.6	22	2	0.00		1027	0.1	7.8
28/04/2025 04:00	0.00	0.83	19.5	23	2	0.00		1027	0.0	7.2
28/04/2025 05:00	0.00	0.81	19.5	22	2	0.00		1027	0.0	6.7
28/04/2025 06:00	0.00	0.83	19.5	22	1	0.01		1027	0.0	8.2
28/04/2025 07:00	0.00	0.84	19.4	22	1	0.00		1027	0.0	10.9
28/04/2025 08:00	0.00	0.81	19.4	22	2	0.00		1027	0.0	14.0
28/04/2025 09:00	0.00	0.81	19.4	22	2	0.00		1028	0.1	16.7
28/04/2025 10:00	0.00	0.83	19.5	23	1	0.00		1027	0.0	18.3
28/04/2025 11:00	0.00	0.83	19.6	23	1	0.00		1027	0.0	19.5
28/04/2025 12:00	0.00	0.85	19.8	23	1	0.00		1027	0.0	20.3
28/04/2025 13:00	0.00	0.85	19.8	23	2	0.00		1027	0.0	21.4
28/04/2025 14:00	0.00	0.86	19.9	23	1	0.00		1026	-0.1	21.8
28/04/2025 15:00	0.00	0.87	20.0	24	2	0.00		1026	-0.1	22.0
28/04/2025 16:00	0.00	0.88	20.1	24	3	0.00		1025	-0.3	21.9
28/04/2025 17:00	0.10	0.87	20.1	24	1	0.00		1025	-0.4	21.8
28/04/2025 18:00	0.00	0.88	20.1	24	2	0.00		1025	-0.3	21.3
28/04/2025 19:00	0.00	0.89	20.1	24	4	0.00		1026	-0.1	19.6
28/04/2025 20:00	0.00	0.89	20.0	23	3	0.00		1026	-0.1	17.2
28/04/2025 21:00	0.00	0.88	19.9	24	2	0.00		1027	0.0	15.5

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
28/04/2025 22:00	0.00	0.92	19.9	23	2	0.00		1027	0.1	14.4
28/04/2025 23:00	0.00	0.92	19.8	23	2	0.00		1027	0.1	13.2
29/04/2025 00:00	0.00	0.95	19.7	23	2	0.00		1027	0.3	12.5
29/04/2025 01:00	0.00	0.95	19.7	23	1	0.00		1027	0.3	11.2
29/04/2025 02:00	0.00	0.94	19.7	23	1	0.00		1026	0.1	10.0
29/04/2025 03:00	0.00	0.93	19.6	23	1	0.00		1026	0.0	9.3
29/04/2025 04:00	0.00	0.93	19.6	23	1	0.00		1027	0.1	9.1
29/04/2025 05:00	0.00	0.95	19.5	22	2	0.00		1027	0.0	8.9
29/04/2025 06:00	0.00	0.97	19.5	22	2	0.00		1027	0.0	10.1
29/04/2025 07:00	0.00	0.95	19.5	23	1	0.00		1027	0.0	12.2
29/04/2025 08:00	0.00	0.95	19.5	22	1	0.01		1027	0.0	14.5
29/04/2025 09:00	0.00	0.96	19.5	22	1	0.00		1027	0.0	17.1
29/04/2025 10:00	0.00	0.96	19.5	23	0	0.00		1026	0.0	19.4
29/04/2025 11:00	0.00	0.97	19.6	23	2	0.01		1026	0.0	21.0
29/04/2025 12:00	0.00	0.96	19.7	23	1	0.00		1026	-0.1	22.1
29/04/2025 13:00	0.00	0.97	19.8	23	1	0.00		1025	-0.3	23.6
29/04/2025 14:00	0.00	1.00	19.9	23	2	0.00		1025	-0.3	24.0
29/04/2025 15:00	0.00	0.97	20.0	24	2	0.01		1024	-0.4	23.9
29/04/2025 16:00	0.00	1.02	20.0	24	3	0.01		1023	-0.5	23.7
29/04/2025 17:00	0.00	1.01	20.1	24	2	0.02		1023	-0.5	23.2
29/04/2025 18:00	0.00	1.03	20.1	24	2	0.01		1023	-0.4	22.2
29/04/2025 19:00	0.00	1.03	20.0	22	3	0.01		1024	-0.3	20.5
29/04/2025 20:00	0.00	1.04	20.0	23	1	0.00		1024	-0.3	18.5
29/04/2025 21:00	0.00	1.04	19.9	24	1	0.00		1025	0.0	16.8
29/04/2025 22:00	0.00	1.05	19.8	24	0	0.00		1025	0.0	15.5
29/04/2025 23:00	0.00	1.06	19.8	23	2	0.00		1025	0.1	14.3
30/04/2025 00:00	0.00	1.06	19.7	24	1	0.00		1025	0.3	13.1
30/04/2025 01:00	0.00	1.11	19.7	23	1	0.00		1024	0.1	11.4
30/04/2025 02:00	0.00	1.08	19.6	23	1	0.00		1024	0.1	10.4
30/04/2025 03:00	0.00	1.09	19.6	22	1	0.00		1024	0.0	9.6
30/04/2025 04:00	0.00	1.06	19.5	23	1	0.00		1024	0.0	8.9
30/04/2025 05:00	0.00	1.06	19.5	22	2	0.00		1024	-0.1	8.4
30/04/2025 06:00	0.00	1.10	19.5	22	1	0.00		1024	-0.1	9.8
30/04/2025 07:00	0.00	1.10	19.5	23	2	0.00		1024	-0.1	11.9
30/04/2025 08:00	0.00	1.07	19.4	22	1	0.00		1024	-0.1	14.6
30/04/2025 09:00	0.00	1.10	19.4	22	1	0.00		1023	-0.1	17.6
30/04/2025 10:00	0.00	1.09	19.5	23	0	0.00		1023	-0.1	20.6
30/04/2025 11:00	0.00	1.11	19.6	23	1	0.01		1023	-0.1	22.7
30/04/2025 12:00	0.00	1.12	19.7	23	1	0.01		1023	-0.1	23.8
30/04/2025 13:00	0.00	1.12	19.8	23	1	0.00		1022	-0.3	25.4
30/04/2025 14:00	0.00	1.16	19.9	24	2	0.00		1021	-0.4	25.9
30/04/2025 15:00	0.00	1.13	20.0	24	1	0.01		1020	-0.5	26.2
30/04/2025 16:00	0.00	1.16	20.0	25	2	0.00		1020	-0.5	26.1
30/04/2025 17:00	0.00	1.18	20.1	25	2	0.00		1020	-0.4	25.8
30/04/2025 18:00	0.00	1.17	20.1	23	2	0.00		1020	-0.4	25.0
30/04/2025 19:00	0.00	1.14	20.1	26	2	0.01		1020	-0.4	23.0
30/04/2025 20:00	0.00	1.20	20.0	22	1	0.00		1020	-0.4	20.2
30/04/2025 21:00	0.00	1.19	19.9	24	3	0.00		1020	-0.3	18.6
30/04/2025 22:00	0.00	1.19	19.9	24	1	0.00		1021	0.0	18.0
30/04/2025 23:00	0.00	1.20	19.8	23	1	0.00		1021	0.1	16.5
01/05/2025 00:00	0.00	1.22	19.8	24	2	0.00		1020	0.0	15.4
01/05/2025 01:00	0.00	1.24	19.7	23	1	0.00		1020	0.0	13.8
01/05/2025 02:00	0.00	1.24	19.7	23	1	0.00		1020	0.0	12.7
01/05/2025 03:00	0.00	1.22	19.6	23	1	0.00		1019	-0.1	11.9
01/05/2025 04:00	0.00	1.25	19.6	23	1	0.00		1019	-0.1	11.2
01/05/2025 05:00	0.00	1.22	19.5	23	1	0.00		1019	-0.1	11.0
01/05/2025 06:00	0.00	1.21	19.5	23	0	0.01		1019	-0.3	12.2
01/05/2025 07:00	0.00	1.26	19.5	23	1	0.00		1018	-0.4	14.6
01/05/2025 08:00	0.00	1.22	19.5	23	1	0.00		1018	-0.3	17.6
01/05/2025 09:00	0.00	1.21	19.5	23	2	0.00		1018	-0.3	20.6
01/05/2025 10:00	0.00	1.25	19.5	23	0	0.00		1018	-0.3	23.1
01/05/2025 11:00	0.00	1.25	19.6	23	0	0.00		1017	-0.3	25.5
01/05/2025 12:00	0.00	1.26	19.7	24	1	0.00		1016	-0.4	27.0
01/05/2025 13:00	0.00	1.26	19.9	24	1	0.00		1016	-0.4	27.7
01/05/2025 14:00	0.00	1.25	19.9	24	2	0.00		1015	-0.5	27.9
01/05/2025 15:00	0.00	1.26	20.0	25	2	0.00		1015	-0.4	27.4
01/05/2025 16:00	0.00	1.29	20.0	24	2	0.00		1015	-0.4	26.7
01/05/2025 17:00	0.00	1.29	20.0	24	2	0.00		1014	-0.5	26.3
01/05/2025 18:00	0.00	1.28	20.1	25	2	0.00		1014	-0.5	25.1
01/05/2025 19:00	0.00	1.30	20.0	24	1	0.00		1014	-0.4	23.4
01/05/2025 20:00	0.10	1.33	20.0	25	1	0.00		1015	-0.1	21.5
01/05/2025 21:00	0.00	1.33	19.9	25	0	0.00		1015	-0.1	19.3
01/05/2025 22:00	0.00	1.33	19.8	24	2	0.00		1015	0.0	17.7
01/05/2025 23:00	0.00	1.36	19.8	23	1	0.00		1015	0.0	16.8
02/05/2025 00:00	0.00	1.37	19.7	24	1	0.00		1015	0.0	16.0
02/05/2025 01:00	0.00	1.38	19.7	24	1	0.00		1015	0.1	15.0
02/05/2025 02:00	0.00	1.38	19.6	24	2	0.00		1015	0.1	14.8
02/05/2025 03:00	0.00	1.36	19.6	24	1	0.00		1015	0.1	14.4
02/05/2025 04:00	0.00	1.37	19.5	23	2	0.00		1015	0.0	13.8
02/05/2025 05:00	0.00	1.39	19.5	23	1	0.00		1015	0.0	12.8
02/05/2025 06:00	0.00	1.37	19.5	23	2	0.00		1016	0.1	13.2

Date and Time	CH_4	CO_2	O_2	CO	H_2S	Flow		Atmospheric Pressure	Average 8-hour atmospheric pressure change	Temperature
	% v/v	% v/v	% v/v	ppm/v	ppm/v	Ltr/hr		mbar	mbar	°C
02/05/2025 07:00	0.00	1.37	19.5	23	0	0.00		1016	0.1	14.7
02/05/2025 08:00	0.00	1.39	19.5	23	0	0.01		1016	0.1	16.9
02/05/2025 09:00	0.00	1.42	19.5	23	0	0.00		1016	0.1	19.1
02/05/2025 10:00	0.00	1.38	19.6	24	2	0.00		1016	0.1	20.9
02/05/2025 11:00	0.00	1.37	19.6	24	1	0.01		1016	0.1	22.1
02/05/2025 12:00	0.00	1.38	19.7	24	1	0.00		1016	0.1	23.3
02/05/2025 13:00	0.00	1.42	19.8	24	1	0.00		1015	0.0	23.9
02/05/2025 14:00	0.00	1.43	19.9	24	2	0.00		1015	-0.1	24.1
02/05/2025 15:00	0.00	1.43	19.9	25	0	0.01		1015	-0.1	24.0
02/05/2025 16:00	0.00	1.45	20.0	24	2	0.01		1015	-0.1	23.7
02/05/2025 17:00	0.00	1.47	20.0	25	3	0.02		1015	-0.1	23.5
02/05/2025 18:00	0.00	1.44	19.9	24	2	0.01		1014	-0.3	22.5
02/05/2025 19:00	0.00	1.49	19.9	24	2	0.01		1015	-0.1	21.3
02/05/2025 20:00	0.00	1.49	19.8	24	1	0.00		1015	-0.1	19.2
02/05/2025 21:00	0.00	1.50	19.8	26	0	0.00		1015	0.0	18.1
02/05/2025 22:00	0.00	1.50	19.7	24	2	0.00		1015	0.0	16.8
02/05/2025 23:00	0.00	1.51	19.7	24	1	0.00		1016	0.1	15.4
03/05/2025 00:00	0.00	1.53	19.7	24	2	0.00		1016	0.1	14.3
03/05/2025 01:00	0.00	1.53	19.6	24	2	0.00		1016	0.1	13.2
03/05/2025 02:00	0.00	1.52	19.6	24	0	0.00		1015	0.1	12.7
03/05/2025 03:00	0.00	1.52	19.5	24	1	0.00		1015	0.0	12.1
03/05/2025 04:00	0.00	1.54	19.5	24	1	0.00		1014	-0.1	11.5
03/05/2025 05:00	0.00	1.51	19.5	24	0	0.00		1014	-0.1	11.0
03/05/2025 06:00	0.00	1.55	19.5	24	1	0.00		1014	-0.1	11.8
03/05/2025 07:00	0.00	1.54	19.4	23	1	0.00		1014	-0.3	13.4
03/05/2025 08:00	0.00	1.53	19.4	23	2	0.00		1014	-0.3	15.1
03/05/2025 09:00	0.00	1.55	19.4	23	2	0.00		1014	-0.3	15.9
03/05/2025 10:00	0.00	1.54	19.5	24	1	0.00		1013	-0.3	17.1
03/05/2025 11:00	0.00	1.54	19.5	24	1	0.00		1013	-0.3	17.9
03/05/2025 12:00	0.00	1.55	19.6	24	2	0.00		1013	-0.1	18.7
03/05/2025 13:00	0.00	1.55	19.6	24	2	0.01		1013	-0.1	18.8
03/05/2025 14:00	0.00	1.58	19.7	24	2	0.00		1013	-0.1	20.4
03/05/2025 15:00	0.00	1.59	19.7	24	2	0.00		1013	-0.1	18.1
03/05/2025 16:00	0.00	1.59	19.8	24	2	0.00		1014	0.0	17.3
03/05/2025 17:00	0.00	1.62	19.8	24	3	0.00		1014	0.0	16.7
03/05/2025 18:00	0.00	1.57	19.8	23	4	0.00		1014	0.1	15.3
03/05/2025 19:00	0.00	1.59	19.7	23	2	0.00		1015	0.3	14.2
03/05/2025 20:00	0.00	1.61	19.7	24	1	0.00		1016	0.4	13.0
03/05/2025 21:00	0.00	1.68	19.6	24	0	0.00		1017	0.5	11.7
03/05/2025 22:00	0.00	1.69	19.6	24	2	0.00		1017	0.5	10.9
03/05/2025 23:00	0.00	1.67	19.5	24	2	0.00		1018	0.6	10.0
04/05/2025 00:00	0.00	1.67	19.5	23	2	0.00		1018	0.5	9.2
04/05/2025 01:00	0.00	1.65	19.4	23	1	0.00		1018	0.5	7.7
04/05/2025 02:00	0.00	1.66	19.4	23	1	0.00		1018	0.5	7.1
04/05/2025 03:00	0.00	1.71	19.4	23	1	0.00		1019	0.5	6.6
04/05/2025 04:00	0.00	1.65	19.3	23	2	0.00		1019	0.4	6.8
04/05/2025 05:00	0.00	1.72	19.3	23	1	0.00		1019	0.3	7.2
04/05/2025 06:00	0.00	1.68	19.3	23	0	0.00		1018	0.1	7.9
04/05/2025 07:00	0.00	1.65	19.3	23	1	0.00		1019	0.1	8.9
04/05/2025 08:00	0.00	1.63	19.3	23	2	0.00		1019	0.1	10.0
04/05/2025 09:00	0.00	1.67	19.3	23	1	0.00		1019	0.1	10.0
04/05/2025 10:00	0.00	1.65	19.3	23	0	0.00		1019	0.1	12.3
04/05/2025 11:00	0.00	1.66	19.4	23	1	0.00		1019	0.0	12.8
04/05/2025 12:00	0.00	1.67	19.4	23	1	0.00		1019	0.0	13.7
04/05/2025 13:00	0.00	1.71	19.5	23	1	0.00		1019	0.0	14.3
04/05/2025 14:00	0.00	1.70	19.6	23	1	0.00		1019	0.1	13.9
04/05/2025 15:00	0.00	1.72	19.6	23	1	0.01		1019	0.0	13.7
04/05/2025 16:00	0.00	1.74	19.6	24	1	0.00		1019	0.0	12.6
04/05/2025 17:00	0.00	1.72	19.6	23	1	0.00		1019	0.0	12.7
04/05/2025 18:00	0.00	1.72	19.6	24	2	0.01		1019	0.0	11.5
04/05/2025 19:00	0.00	1.72	19.6	24	1	0.00		1020	0.1	11.0
04/05/2025 20:00	0.00	1.75	19.5	23	2	0.00		1020	0.1	10.1
04/05/2025 21:00	0.00	1.74	19.5	23	2	0.00		1021	0.3	8.7
04/05/2025 22:00	0.00	1.74	19.5	23	3	0.01		1021	0.3	8.1
04/05/2025 23:00	0.00	1.73	19.4	23	1	0.01		1021	0.3	7.5
05/05/2025 00:00	0.00	1.71	19.4	23	2	0.02		1021	0.3	7.0
05/05/2025 01:00	0.00	1.74	19.4	23	1	0.01		1022	0.4	5.5
05/05/2025 02:00	0.00	1.71	19.3	23	2	0.01		1021	0.3	5.0
05/05/2025 03:00	0.00	1.70	19.3	23	1	0.00		1021	0.1	4.6
05/05/2025 04:00	0.10	1.68	19.3	22	0	0.00		1021	0.1	4.3
05/05/2025 05:00	0.00	1.70	19.3	23	0	0.00		1022	0.1	4.4
05/05/2025 06:00	0.00	1.67	19.3	23	1	0.00		1021	0.0	5.7
05/05/2025 07:00	0.00	1.71	19.2	22	0	0.00		1022	0.1	7.0
05/05/2025 08:00	0.00	1.71	19.2	22	0	0.00		1021	0.0	7.7
05/05/2025 09:00	0.10	1.68	19.3	22	0	0.00		1021	-0.1	9.2
05/05/2025 10:00	0.00	1.71	19.3	23	1	0.00		1021	0.0	11.5
05/05/2025 11:00	0.00	1.70	19.3	23	1	0.00		1021	0.0	12.4
05/05/2025 12:00	0.00	1.72	19.4	23	0	0.00		1021	0.0	13.5
05/05/2025 13:00	0.00	1.71	19.4	23	2	0.00		1022	0.0	13.2
05/05/2025 14:00	0.00	1.72	19.4	23	2	0.00		1022	0.1	13.1
05/05/2025 15:00	0.00	1.75	19.4	23	0	0.00		1022	0.0	13.4

Date and Time	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	CO ppm/v	H_2S ppm/v	Flow Ltr/hr		Atmospheric Pressure mbar	Average 8-hour atmospheric pressure change mbar	Temperature °C
05/05/2025 16:00	0.00	1.71	19.4	23	1	0.00		1022	0.1	13.4
05/05/2025 17:00	0.00	1.75	19.4	23	0	0.00		1022	0.1	13.5
05/05/2025 18:00	0.00	1.71	19.5	23	1	0.00		1022	0.1	12.7
05/05/2025 19:00	0.00	1.74	19.5	23	1	0.00		1023	0.3	11.9
05/05/2025 20:00	0.00	1.74	19.5	23	1	0.01		1024	0.4	11.1
05/05/2025 21:00	0.00	1.76	19.5	23	1	0.00		1025	0.4	10.3
05/05/2025 22:00	0.00	1.77	19.4	23	2	0.00		1025	0.4	9.4
05/05/2025 23:00	0.00	1.77	19.4	22	1	0.00		1025	0.4	9.3
06/05/2025 00:00	0.10	1.78	19.4	23	1	0.00		1025	0.4	8.6
06/05/2025 01:00	0.00	1.70	19.3	22	1	0.00		1025	0.4	6.7
06/05/2025 02:00	0.00	1.77	19.3	22	1	0.00		1025	0.4	5.9
06/05/2025 03:00	0.00	1.74	19.3	22	2	0.00		1025	0.3	5.3
06/05/2025 04:00	0.00	1.70	19.3	22	1	0.00		1025	0.1	5.5
06/05/2025 05:00	0.00	1.72	19.3	22	0	0.00		1025	0.0	5.6
06/05/2025 06:00	0.00	1.71	19.3	22	0	0.00		1025	0.0	6.7
06/05/2025 07:00	0.10	1.72	19.2	22	0	0.00		1026	0.1	8.1
06/05/2025 08:00	0.10	1.75	19.2	22	2	0.00		1026	0.1	9.7
06/05/2025 09:00	0.00	1.75	19.3	22	1	0.00		1026	0.1	10.2
06/05/2025 10:00	0.10	1.75	19.3	22	1	0.00		1026	0.1	10.4
06/05/2025 11:00	0.00	1.71	19.4	22	1	0.00		1026	0.1	11.2
06/05/2025 12:00	0.00	1.74	19.4	22	2	0.00		1025	0.0	12.5
06/05/2025 13:00	0.00	1.78	19.4	22	1	0.00		1025	0.0	14.0
06/05/2025 14:00	0.00	1.78	19.5	22	1	0.00		1024	-0.1	14.8
06/05/2025 15:00	0.00	1.79	19.5	23	2	0.00		1024	-0.3	15.3
06/05/2025 16:00	0.10	1.77	19.6	23	1	0.00		1024	-0.3	15.0
06/05/2025 17:00	0.00	1.83	19.7	23	1	0.00		1025	-0.1	14.3
06/05/2025 18:00	0.00	1.81	19.7	23	2	0.00		1025	-0.1	13.4
06/05/2025 19:00	0.00	1.82	19.7	23	0	0.00		1025	-0.1	12.6
06/05/2025 20:00	0.00	1.78	19.7	23	1	0.00		1025	0.0	11.7
06/05/2025 21:00	0.00	1.77	19.6	23	1	0.00		1026	0.1	11.0
06/05/2025 22:00	0.00	1.82	19.6	23	3	0.01		1025	0.1	9.8
06/05/2025 23:00	0.00	1.78	19.5	23	1	0.00		1025	0.1	9.0
07/05/2025 00:00	0.00	1.78	19.5	22	0	0.00		1025	0.1	8.2
07/05/2025 01:00	0.00	1.75	19.4	22	1	0.01		1025	0.0	7.1
07/05/2025 02:00	0.10	1.75	19.4	22	1	0.00		1025	0.0	6.6
07/05/2025 03:00	0.10	1.74	19.4	22	2	0.00		1025	0.0	5.9
07/05/2025 04:00	0.00	1.75	19.4	22	2	0.00		1025	0.0	5.4
07/05/2025 05:00	0.00	1.77	19.3	22	1	0.01		1025	-0.1	5.3
07/05/2025 06:00	0.10	1.75	19.3	22	0	0.01		1025	0.0	6.5
07/05/2025 07:00	0.10	1.70	19.3	22	2	0.02		1025	0.0	8.6
07/05/2025 08:00	0.10	1.75	19.3	22	1	0.01		1025	0.0	10.6
07/05/2025 09:00	0.00	1.72	19.3	22	0	0.01		1025	0.0	12.1
07/05/2025 10:00	0.10	1.79	19.4	22	1	0.00		1024	-0.1	13.8
07/05/2025 11:00	0.10	1.77	19.5	22	1	0.00		1024	-0.1	15.2
07/05/2025 12:00	0.10	1.79	19.6	22	1	0.00		1023	-0.3	15.7
07/05/2025 13:00	0.00	1.79	19.6	23	1	0.00		1023	-0.3	16.5
07/05/2025 14:00	0.10	1.83	19.7	23	1	0.00		1022	-0.4	17.3

GGS DataPack® Plus
GGS3988 Elgar Road South, Reading

Appendix E

Calibration Certificates

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

Experts in Continuous Monitoring

CALIBRATION CERTIFICATE:

Certificate ref.	GSCAL00421
Issued By:	**VA**
Date:	09/07/2024
Staff No.	-
Instrument:	03000067

Calibration Results			
Sensor	**Lot No.**	**Ref. value**	**Indicated value**
Carbon monoxide	C24438	42	44.31
Hydrogen sulphide	C22238	124	124.40
Methane	C322626	59.04	60.09
Carbon dioxide High	C322626	40.96	38.47
Carbon dioxide Low	C322726	1.98	1.89
Carbon dioxide Low ppm	C24338	503	488.83
Isobutylene ppb	C322826	-	-
Oxygen	C24438	0	0

Comments:

Prior to calibration the sensors were allowed to stabilise in ambient air for 1 hour.

The Instrument was calibrated by exposing the sensors to known values of gas concentrations.

The reference values are those generated by the certified source and indicated values are those measured by the Gas Sentinel.

Uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2

This provides a level of confidence of uncertainty of approximately 95%

Ambient conditions	
Temperature	21.45
Relative Humidity	64.2

CALIBRATION CERTIFICATE:

Certificate ref.	GSC6020250402
Issued By:	**Thomas Fairey**
Date:	02/04/2025
Staff No.	-
Instrument:	03000060

Calibration Results			
Sensor	**Lot No.**	**Ref. value**	**Indicated value**
Carbon monoxide	C24438	42	40.18
Hydrogen sulphide	C22238	124	115.52
Methane	C322626	59.33	59.96
Carbon dioxide High	C322626	40.67	41.44
Carbon dioxide Low	C322726	1.98	1.99
Carbon dioxide Low ppm	C24338	511	473.21
Isobutylene ppb	C322826	-	-
Oxygen	C24438	0	-0.06

Comments:

Prior to calibration the sensors were allowed to stabilise in ambient air for 1 hour.

The Instrument was calibrated by exposing the sensors to known values of gas concentrations.

The reference values are those generated by the certified source and indicated values are those measured by the Gas Sentinel.

Uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2

This provides a level of confidence of uncertainty of approximately 95%

Ambient conditions	
Temperature	19.6
Relative Humidity	37.0

TEST DATE AND CONDITIONS		
Date	12/11/2024	
Atmospheric Pressure	1020	mB
Ambient Temperature	21.5	°C
Environics Serial No.	5089	

GAS DATA LTD
Unit D
Earlplace Business Park
Fletchamstead Highway
Coventry
CV4 9XL
Tel 02476303311 Fax 02476307711

GFM430 Final Inspection & Calibration Check Certificate

Customer	Ground Gas Solutions Ltd
Certificate Number	125679
Order Number	340216

Serial Number	10356
Software Version	G430-00.0024/0013

Recalibration DUE Date
12/11/25

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	450	*Accept > 200 cc/min*	Pump Flow @ -200mB	250	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
	60.7	*60*	39.9	*40*	20.9	*20.9*
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	5.0	*5*	5.0	*5*	6.0	*6*
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0.0	*0*	0.0	*0*	0.0	*0*
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
Toxic Gas	Range *(ppm)*		Zero Reading		Instrument Gas Reading	
H2S	2000	*1500*	0	*Accept ±0.0*	1502	*Accept ±5.0%*
CO	2000	*1000*	0	*Accept ±0.0*	1001	*Accept ±5.0%*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Toxic Gas	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:			
H2S	*1500*	1500		0					
CO	*1000*	61		1001					

Pressure Checks						
Atmospheric Pressure [AP] *(mB)*				Static Pressure [SP] *(mB)*		
Current Atmospheric Pressure *(mB)*	Instrument Atmospheric Pressure Reading *(mB)*			Applied Pressure *(mB)*	Instrument Pressure *(mB)*	
All Ports	*Open Ports*	1020	*Accept ±2.0*	*0.0mB*	N/A	*Accept ±0.0*
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*	*+50mB*	*N/A*	*Accept ±2.0*
AP Port (Internal)	*+1200mb*	1200	*Accept ±5.0*	*-100mB*	*N/A*	*Accept ±2.0*

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-30.4	*Accept ±3.0*	-278	-285	*Accept ±50*
-3	-3.0	*Accept ±1.0*	-13	-13	*Accept ±6.0*
0	0.0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3.0	*Accept ±0.5*	14	13	*Accept ±3.0*
30	30.4	*Accept ±3.0*	301	305	*Accept ±50*
60	60.6	*Accept ±6.0*	915	921	*Accept ±130*
90	91.3	*Accept ±9.0*	1809	1870	*Accept ±250*

Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10.0	*Accept ±2.0*
0	0.0	*Accept ±1.0*
30	30.0	*Accept ±1.0*
60	60.0	*Accept ±1.0*
100	100.0	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*12/11/2024*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018.

TEST DATE AND CONDITIONS		
Date	12 . 11 . 24	
Atmospheric Pressure	1020	mB
Ambient Temperature	21.5	°C
Environics Serial No.	5089	

GAS DATA LTD
Unit D
Earlplace Business Park
Fletchamstead Highway
Coventry
CV4 9XL
UK +44 (0) 24 7630 3311

GAS DATA
LISTEN · ANALYSE · INFORM

GFM430 -1 OUTWARD INSPECTION & QUALITY CHECK SHEET

INSTRUMENT DETAILS			
SO Number	Instrument Type	Instrument Serial Number + SW Version	Job Number(s)
340216	GFM430	10356 G430-24/13	125679

Calibration Technician ..... **Date** 12.11.24

Inspection Technician ..... **Date** 13.11.24

INSTRUMENT CHECKS			Pass (P), Fail (F) or not applicable (NA)	INSTRUMENT PACKING LIST		Tick if included
Function Tests	Dust Caps Fitted		P	Instrument		✓
	Keyboard Test (All Keys)		P	Leather Case		✓
	Backlight		P	Instrument Strap		✓
	Clock Set / Running		P	AC Battery Charger (UK)		✓
	Comms Test		P	AC Battery Charger (EURO)		X
	Pump Flow Test (In & Out)		P	AC Battery Charger (US)		X
	Overall Leak Test (30mB)		n/a	AC Battery Charger (AUS)		X
	Battery Charge Test		P	Hard Carry Case		✓
	Service Date set to?		12.11.25	Gas Sample Tube – *(new issue)*		✓
Channel Test	Data Logging Enabled?		P	Flow Sample Tube – *(new issue)*		✓
	Verify CH4/LEL		P	Spares Pot		✓
	Verify CO2		P	Allen Key		X
	Verify O2		P	Temperature Probe		X
	Verify LEL		P	Vane Anemometer		X
	Verify 1st Option Gas	H2S	P	USB Cable		X
	Verify 2nd Option Gas	CO	P	USB Memory stick		X
	Verify 3rd Option Gas		N/A	SiteMan Software	Ver 4.15	X
	Verify 4th Option Gas		N/A	Internal Filter Pack	Qty	X
	Verify Atmospheric pressure		P	External Filter Pack	Qty	X
	Verify static pressure		N/A	Field Guide		X
	Verify differential pressure		P	Operation Manual (hard copy)		X
	Verify flow		P	**Extra Items:**		
	Verify temperature probe input		P	Sample Tube		
	Verify vane anemometer input		P			
DataBase Checks	Jobcard(s) completed and signed		P			
	Jobcard(s) booked off database		P			
	Calibration certificate completed		P			
	Complete & print QI record		n/a	**Comments:**		
Label Checks	No. of Calibration label fitted		GDC 13607			
	Warranty label fitted		P			
H2S Range	H2S Range from Sales Order		2000 ppm			
	H2S Range from Cal Cert		2.000 ppm			
	Over-range value correct?		P			
QA Cylinders Used	No. of High Range CH4/CO2		57487			
	No. of Low Range CH4/CO2/O2		56840			
	No. of H2S		C037292			
	No. of CO		56836			
	No. of Optional Cylinder		N/A			
	No. of Optional Cylinder		N/A			

GGS DataPack® Plus
GGS3988 Elgar Road South, Reading

Appendix F

Gas Sentinel® Instrumentation Overview & Deployment Information

For: Ground & Water Ltd
Ref No.: GGS3988DP01
Date: 21/05/2025

Experts in Continuous Monitoring

GGS Gas Sentinel® Instrumentation Overview & Deployment Information

Experts in Continuous Monitoring

Introduction

GGS Gas Sentinel® is a transportable, continuous, multi-gas analyser; with 2-way telemetry capability. It is easy to use for both short term and long term monitoring of landfill, contaminated land and existing buildings. Versatile remote data acquisition through an intuitive dashboard provides cost effective regulatory compliance. The equipment is designed to be ATEX* and IP68* rated and can operate safely in explosive atmospheres and survive flooding environments (*awaiting certification).

GGS Gas Sentinel® devices can be configured to carry an extended range of gas sensors but is normally available to monitor methane, carbon dioxide, oxygen, TVOC, hydrogen sulphide and carbon monoxide. Sensors for both full range and high resolution 0-5% methane and 0-2,000ppm carbon dioxide are available. The device also records atmospheric pressure, borehole pressure and temperature and borehole gas flow as standard.

GGS can also provide high frequency water level logging in conjunction with Gas Sentinel deployments

Gas Sentinel® Sensor Specifications, Service and Maintenance

The GGS instruments are serviced and calibrated annually. Routine maintenance including the replacement of filters and operational checks are carried out at regular intervals and prior to deployment at a site. Copies of the calibration certificates for the instruments used on site are included as standard within reporting. Details of the sensor specification are provided below:

Sensor	Method / Type	Range	Resolution & Tolerance
Methane (0-100%)	Infrared	0 - 100%v/v	0.1% v/v 2%FSD or ± 10% of reading whichever is the greatest
Methane (0-5%) High Resolution	Infrared	0-5%v/v	0.01% v/v or 2%FSD or ± 10% of reading whichever is the greatest
Carbon Dioxide (0-100%)	Infrared	0 - 100%v/v	0.1% v/v or 2%FSD or ± 10% of reading whichever is the greatest
Carbon Dioxide (0-2,000ppm) High Resolution	Infrared	0-2,000ppmv	10ppm or 2%FSD or ± 10% of reading whichever is the greatest
Oxygen	Electrochemical	0 - 25%v/v	0.1% v/v or ± 10% of reading whichever is the greatest
Hydrogen Sulphide	Electrochemical	0 - 100ppmv	1ppm ±4ppm or ± 10% of reading whichever is the greatest
Carbon Monoxide	Electrochemical	0 – 1,000ppmv	1ppm ±6ppm or ± 10% of reading whichever is the greatest
Total Volatile Organic Compounds	PID	0 – 4,000ppmv	1ppm ±10ppm or ± 10% of reading whichever is the greatest
Atmospheric Pressure	Piezoelectric	800 – 1,200mb	±1mbar
Borehole Pressure	Piezoelectric	800 – 1,200mb	±1mbar
Temperature	Internal chip	-5°C to +50°C	0.1°C ±0.5°C of reading
Humidity	Capacitive Internal chip	0-100%RH	1%RH ±1.8%RH
Gas Flow	Thermal sensor	0–60 Ltr/hr	0.1ltr/hr ±0.1ltr/hr or 10% of reading whichever is the greatest

The GGS Gas Sentinel® is powered by re-chargeable batteries that can provide 4 weeks to several months depending on how many sensors are switched on and the frequency of monitoring. Please discuss your requirements with GGS for the optimum configuration for your site.

Deployment Requirements (IMPORTANT)

The GGS Gas Sentinel® is designed for deployment with standard 50mm installation standpipes but can be used with both larger and smaller diameter standpipes. Secure headworks with sufficient clearance are required for the Gas Sentinel®. GGS recommends a 10 inch diameter flush fit. A minimum 250 mm clearance is required from the top of the 50mm standpipe to the underside of the cover. GGS recommends a minimum distance of 0.25m between the top of the standpipe and standing water level to allow gas sampling. The device is also easily fitted to either inside or to the outside of buildings. Other bespoke deployment options are available. Please contact GGS to discuss options.

Gas Sentinel® Insurance

GGS can provide insurance to cover instruments against theft from site or acts of vandalism.

APPENDIX J:
Waste Hazard Assessment

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

LID1M-3KHLY-M6RQW

Report is invalid if pages are removed.

Job name

GWPR6540

Description/Comments

Project

GWPR6540

Site

220 Elgar Road South, Reading, RG2 0BW

Classified by

Name:
Natasha Kearl
Date:
14 May 2025 10:41 GMT
Telephone:
01420 463047

Company:
Ground and Water
2 The Long Barn, Norton Farm, Selborne Road
Alton
GU34 3NB

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

220 Elgar Road South, Reading, RG2 0BW **Post Code** RG2 0BW

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of disused building to residential

Description of the specific process, sub-process and/or activity that created the waste

Waste created during foundation excavations and remediation

Description of the waste

MADE GROUND: Dark brown and black gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded, fine to coarse, brick, ash, chalk and concrete.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH1--03042025-0.20		Non Hazardous		3
2	BH1--03042025-0.80		Non Hazardous		6
3	BH2--04042025-0.50		Non Hazardous		8
4	WS3--07042025-0.20		Non Hazardous		10
5	WS1--07042025-0.20		Non Hazardous		13
6	WS4A--07042025-0.20		Non Hazardous		15

Related documents

#	Name	Description
1	25-018315_HWOL.hwol	i2 Analytical .hwol file used to populate the Job

Report

Created by: Natasha Kearl

Created date: 14 May 2025 10:41 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	18
Appendix B: Rationale for selection of metal species	19
Appendix C: Version	20

Classification of sample: BH1--03042025-0.20

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

Sample details

Sample name:
BH1--03042025-0.20
Moisture content:
11%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
2		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
3		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		monohydric phenols			P1186		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
7		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
8		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
9		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		1.7	mg/kg	23.173	35.061	mg/kg	0.00351 %	✓	
10		arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		11	mg/kg		9.79	mg/kg	0.000979 %	✓	
11		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.3	mg/kg	1.285	0.343	mg/kg	0.0000267 %	✓	
12		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	20.041	mg/kg	0.002 %	✓	
13		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.7	mg/kg		0.623	mg/kg	0.0000623 %	✓	
14		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15	mg/kg	1.579	21.086	mg/kg	0.00211 %	✓	

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	27 mg/kg	1.56	37.482 mg/kg	0.0024 %	✓	
16	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
17	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		38 mg/kg	1.785	60.375 mg/kg	0.00604 %	✓	
18	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		57 mg/kg	2.469	125.267 mg/kg	0.0125 %	✓	
19	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		0.021 mg/kg		0.0187 mg/kg	0.00000187 %	✓	
20	pH			PH		9.1 pH		9.1 pH	9.1 pH		
21	acenaphthylene		205-917-1	208-96-8		0.15 mg/kg		0.134 mg/kg	0.0000134 %	✓	
22	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	anthracene		204-371-1	120-12-7		0.36 mg/kg		0.32 mg/kg	0.000032 %	✓	
24	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.42 mg/kg		0.374 mg/kg	0.0000374 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.9 mg/kg		1.691 mg/kg	0.000169 %	✓	
26	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.16 mg/kg		0.142 mg/kg	0.0000142 %	✓	
27	benzo[ghi]perylene		205-883-8	191-24-2		14 mg/kg		12.46 mg/kg	0.00125 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		0.44 mg/kg		0.392 mg/kg	0.0000392 %	✓	
29	coronene		205-881-7	191-07-1		8.8 mg/kg		7.832 mg/kg	0.000783 %	✓	
30	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		2.6 mg/kg		2.314 mg/kg	0.000231 %	✓	
31	fluoranthene		205-912-4	206-44-0		0.73 mg/kg		0.65 mg/kg	0.000065 %	✓	
32	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
33	indeno[123-cd]pyrene		205-893-2	193-39-5		11 mg/kg		9.79 mg/kg	0.000979 %	✓	
34	naphthalene	601-052-00-2	202-049-5	91-20-3		0.05 mg/kg		0.0445 mg/kg	0.00000445 %	✓	
35	phenanthrene		201-581-5	85-01-8		0.22 mg/kg		0.196 mg/kg	0.0000196 %	✓	
36	pyrene		204-927-3	129-00-0		0.74 mg/kg		0.659 mg/kg	0.0000659 %	✓	
37	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.93 mg/kg		0.828 mg/kg	0.0000828 %	✓	
38	TPH (C6 to C40) petroleum group			TPH		840 mg/kg		747.6 mg/kg	0.0748 %	✓	
39	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		27 mg/kg	1.462	39.462 mg/kg	0.00395 %		
								Total:	0.112 %		

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Most likely worst case.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0748%)

Classification of sample: BH1--03042025-0.80

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

Sample details

Sample name:
BH1--03042025-0.80
Moisture content:
12%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
4	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		2.7 mg/kg	23.173	55.059 mg/kg	0.00551 %	✓	
5	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		7.7 mg/kg		6.776 mg/kg	0.000678 %	✓	
6	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13 mg/kg	1.126	12.88 mg/kg	0.00129 %	✓	
8	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15 mg/kg	1.579	20.849 mg/kg	0.00208 %	✓	
10	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.453 mg/kg	0.00176 %	✓	
11	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		28 mg/kg	1.785	43.987 mg/kg	0.0044 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		39 mg/kg	2.469	84.746 mg/kg	0.00847 %	✓	
14	pH			PH		8.6 pH		8.6 pH	8.6 pH		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
16		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
17		anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.1	mg/kg		0.088	mg/kg	0.0000088 %	✓	
19		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.11	mg/kg		0.0968	mg/kg	0.00000968 %	✓	
20		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.07	mg/kg		0.0616	mg/kg	0.00000616 %	✓	
21		benzo[ghi]perylene		205-883-8	191-24-2		0.09	mg/kg		0.0792	mg/kg	0.00000792 %	✓	
22		chrysene	601-048-00-0	205-923-4	218-01-9		0.12	mg/kg		0.106	mg/kg	0.0000106 %	✓	
23		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
24		fluoranthene		205-912-4	206-44-0		0.22	mg/kg		0.194	mg/kg	0.0000194 %	✓	
25		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
26		indeno[123-cd]pyrene		205-893-2	193-39-5		0.07	mg/kg		0.0616	mg/kg	0.00000616 %	✓	
27		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.15	mg/kg		0.132	mg/kg	0.0000132 %	✓	
29		pyrene		204-927-3	129-00-0		0.19	mg/kg		0.167	mg/kg	0.0000167 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.13	mg/kg		0.114	mg/kg	0.0000114 %	✓	
31		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		18	mg/kg	1.462	26.308	mg/kg	0.00263 %		
											Total:	0.0269 %		

Key

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

Classification of sample: BH2--04042025-0.50

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

Sample details

Sample name:
BH2--04042025-0.50
Moisture content:
13%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
4	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		3.2 mg/kg	23.173	64.514 mg/kg	0.00645 %	✓	
5	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		11 mg/kg		9.57 mg/kg	0.000957 %	✓	
6	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.4 mg/kg	1.285	0.447 mg/kg	0.0000348 %	✓	
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		61 mg/kg	1.126	59.751 mg/kg	0.00598 %	✓	
8	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.6 mg/kg		0.522 mg/kg	0.0000522 %	✓	
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		25 mg/kg	1.579	34.354 mg/kg	0.00344 %	✓	
10	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	82 mg/kg	1.56	111.277 mg/kg	0.00713 %	✓	
11	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		1.3 mg/kg		1.131 mg/kg	0.000113 %	✓	
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		41 mg/kg	1.785	63.678 mg/kg	0.00637 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		200 mg/kg	2.469	429.658 mg/kg	0.043 %	✓	
14	pH			PH		8.4 pH		8.4 pH	8.4 pH		

#		Determinand	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15		acenaphthylene	205-917-1	208-96-8		2.1 mg/kg		1.827 mg/kg	0.000183 %	✓	
16		acenaphthene	201-469-6	83-32-9		0.19 mg/kg		0.165 mg/kg	0.0000165 %	✓	
17		anthracene	204-371-1	120-12-7		1.7 mg/kg		1.479 mg/kg	0.000148 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		9.4 mg/kg		8.178 mg/kg	0.000818 %	✓	
19		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		12 mg/kg		10.44 mg/kg	0.00104 %	✓	
20		benzo[k]fluoranthene	205-916-6	207-08-9		6.8 mg/kg		5.916 mg/kg	0.000592 %	✓	
21		benzo[ghi]perylene	205-883-8	191-24-2		6.9 mg/kg		6.003 mg/kg	0.0006 %	✓	
22		chrysene	205-923-4	218-01-9		11 mg/kg		9.57 mg/kg	0.000957 %	✓	
23		dibenz[a,h]anthracene	200-181-8	53-70-3		1.6 mg/kg		1.392 mg/kg	0.000139 %	✓	
24		fluoranthene	205-912-4	206-44-0		16 mg/kg		13.92 mg/kg	0.00139 %	✓	
25		fluorene	201-695-5	86-73-7		0.31 mg/kg		0.27 mg/kg	0.000027 %	✓	
26		indeno[123-cd]pyrene	205-893-2	193-39-5		6.1 mg/kg		5.307 mg/kg	0.000531 %	✓	
27		naphthalene	202-049-5	91-20-3		0.33 mg/kg		0.287 mg/kg	0.0000287 %	✓	
28		phenanthrene	201-581-5	85-01-8		4.5 mg/kg		3.915 mg/kg	0.000392 %	✓	
29		pyrene	204-927-3	129-00-0		14 mg/kg		12.18 mg/kg	0.00122 %	✓	
30		benzo[b]fluoranthene	205-911-9	205-99-2		14 mg/kg		12.18 mg/kg	0.00122 %	✓	
31		chromium in chromium(III) compounds { chromium(III) oxide }	215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %		
								Total:	0.0857 %		

Key

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

Classification of sample: WS3--07042025-0.20

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

Sample details

Sample name:
WS3--07042025-0.20
Moisture content:
6.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	benzene	601-020-00-8	200-753-7	71-43-2		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
2	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
3	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
4	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
5	toluene	601-021-00-3	203-625-9	108-88-3		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
6	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
7	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
8	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
9	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.8 mg/kg	23.173	17.278 mg/kg	0.00173 %	✓	
10	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		4.5 mg/kg		4.194 mg/kg	0.000419 %	✓	
11	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
12	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	12.592 mg/kg	0.00126 %	✓	
13	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
14	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		9.3 mg/kg	1.579	13.69 mg/kg	0.00137 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21	mg/kg	1.56	30.529	mg/kg	0.00196 %	✓	
16		selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
17		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		14	mg/kg	1.785	23.293	mg/kg	0.00233 %	✓	
18		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		48	mg/kg	2.469	110.466	mg/kg	0.011 %	✓	
19		pH			PH		8.7	pH		8.7	pH	8.7 pH		
20		acenaphthylene		205-917-1	208-96-8		0.06	mg/kg		0.0559	mg/kg	0.00000559 %	✓	
21		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
22		anthracene		204-371-1	120-12-7		0.06	mg/kg		0.0559	mg/kg	0.00000559 %	✓	
23		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.4	mg/kg		0.373	mg/kg	0.0000373 %	✓	
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.48	mg/kg		0.447	mg/kg	0.0000447 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.31	mg/kg		0.289	mg/kg	0.0000289 %	✓	
26		benzo[ghi]perylene		205-883-8	191-24-2		0.4	mg/kg		0.373	mg/kg	0.0000373 %	✓	
27		chrysene	601-048-00-0	205-923-4	218-01-9		0.49	mg/kg		0.457	mg/kg	0.0000457 %	✓	
28		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.06	mg/kg		0.0559	mg/kg	0.00000559 %	✓	
29		fluoranthene		205-912-4	206-44-0		0.76	mg/kg		0.708	mg/kg	0.0000708 %	✓	
30		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		indeno[123-cd]pyrene		205-893-2	193-39-5		0.32	mg/kg		0.298	mg/kg	0.0000298 %	✓	
32		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
33		phenanthrene		201-581-5	85-01-8		0.35	mg/kg		0.326	mg/kg	0.0000326 %	✓	
34		pyrene		204-927-3	129-00-0		0.67	mg/kg		0.624	mg/kg	0.0000624 %	✓	
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.58	mg/kg		0.541	mg/kg	0.0000541 %	✓	
36		TPH (C6 to C40) petroleum group			TPH		15	mg/kg		13.98	mg/kg	0.0014 %	✓	
37		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		8	mg/kg	1.462	11.692	mg/kg	0.00117 %		
											Total:	0.0231 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Most likely worst case.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0014%)

Classification of sample: WS1--07042025-0.20

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

Sample details

Sample name:
WS1--07042025-0.20
Moisture content:
5.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 5.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
4	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.9 mg/kg	23.173	19.625 mg/kg	0.00196 %	✓	
5	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		6.1 mg/kg		5.74 mg/kg	0.000574 %	✓	
6	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	12.714 mg/kg	0.00127 %	✓	
8	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		9.2 mg/kg	1.579	13.674 mg/kg	0.00137 %	✓	
10	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	24 mg/kg	1.56	35.227 mg/kg	0.00226 %	✓	
11	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		20 mg/kg	1.785	33.597 mg/kg	0.00336 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		38 mg/kg	2.469	88.297 mg/kg	0.00883 %	✓	
14	pH			PH		10.1 pH		10.1 pH	10.1 pH		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		acenaphthylene		205-917-1	208-96-8		0.09	mg/kg		0.0847	mg/kg	0.00000847 %	✓	
16		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
17		anthracene		204-371-1	120-12-7		0.16	mg/kg		0.151	mg/kg	0.0000151 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.71	mg/kg		0.668	mg/kg	0.0000668 %	✓	
19		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.78	mg/kg		0.734	mg/kg	0.0000734 %	✓	
20		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.32	mg/kg		0.301	mg/kg	0.0000301 %	✓	
21		benzo[ghi]perylene		205-883-8	191-24-2		0.57	mg/kg		0.536	mg/kg	0.0000536 %	✓	
22		chrysene	601-048-00-0	205-923-4	218-01-9		0.82	mg/kg		0.772	mg/kg	0.0000772 %	✓	
23		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.09	mg/kg		0.0847	mg/kg	0.00000847 %	✓	
24		fluoranthene		205-912-4	206-44-0		1.6	mg/kg		1.506	mg/kg	0.000151 %	✓	
25		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
26		indeno[123-cd]pyrene		205-893-2	193-39-5		0.45	mg/kg		0.423	mg/kg	0.0000423 %	✓	
27		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
28		phenanthrene		201-581-5	85-01-8		0.83	mg/kg		0.781	mg/kg	0.0000781 %	✓	
29		pyrene		204-927-3	129-00-0		1.4	mg/kg		1.317	mg/kg	0.000132 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1	mg/kg		0.941	mg/kg	0.0000941 %	✓	
31		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		11	mg/kg	1.462	16.077	mg/kg	0.00161 %		
											Total:	0.0221 %		

Key

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

Classification of sample: WS4A--07042025-0.20

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

Sample details

Sample name:
WS4A--07042025-0.20
Moisture content:
12%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
2		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
3		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
4		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
5		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6		monohydric phenols			P1186		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
7		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
8		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
9		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		1.3	mg/kg	23.173	26.51	mg/kg	0.00265 %	✓	
10		arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		15	mg/kg		13.2	mg/kg	0.00132 %	✓	
11		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<**LOD**
12		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21	mg/kg	1.126	20.806	mg/kg	0.00208 %	✓	
13		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
14		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		29	mg/kg	1.579	40.309	mg/kg	0.00403 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	35	mg/kg	1.56	48.042	mg/kg	0.00308 %	✓	
16		selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
17		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		41	mg/kg	1.785	64.409	mg/kg	0.00644 %	✓	
18		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		94	mg/kg	2.469	204.26	mg/kg	0.0204 %	✓	
19		pH			PH		8.1	pH		8.1	pH	8.1 pH		
20		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
21		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
22		anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.27	mg/kg		0.238	mg/kg	0.0000238 %	✓	
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.38	mg/kg		0.334	mg/kg	0.0000334 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.14	mg/kg		0.123	mg/kg	0.0000123 %	✓	
26		benzo[ghi]perylene		205-883-8	191-24-2		0.28	mg/kg		0.246	mg/kg	0.0000246 %	✓	
27		chrysene	601-048-00-0	205-923-4	218-01-9		0.37	mg/kg		0.326	mg/kg	0.0000326 %	✓	
28		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.08	mg/kg		0.0704	mg/kg	0.00000704 %	✓	
29		fluoranthene		205-912-4	206-44-0		0.48	mg/kg		0.422	mg/kg	0.0000422 %	✓	
30		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		indeno[123-cd]pyrene		205-893-2	193-39-5		0.19	mg/kg		0.167	mg/kg	0.0000167 %	✓	
32		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
33		phenanthrene		201-581-5	85-01-8		0.24	mg/kg		0.211	mg/kg	0.0000211 %	✓	
34		pyrene		204-927-3	129-00-0		0.45	mg/kg		0.396	mg/kg	0.0000396 %	✓	
35		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.57	mg/kg		0.502	mg/kg	0.0000502 %	✓	
36		TPH (C6 to C40) petroleum group			TPH		66	mg/kg		58.08	mg/kg	0.00581 %	✓	
37		chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		36	mg/kg	1.462	52.616	mg/kg	0.00526 %		
											Total:	0.0514 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Most likely worst case.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00581%)

Appendix A: Classifier defined and non GB MCL determinands

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

arsenic (EC Number: 231-148-6, CAS Number: 7440-38-2)

GB MCL index number: 033-001-00-X
Description/Comments: Worst Case: IARC considers arsenic Group 1; Carcinogenic to humans
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

pH (CAS Number: PH)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

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

chromium(III) oxide (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHA's C&L inventory database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

polychlorobiphenyls; PCB (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

coronene (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Most likely worst case.

chromium in chromium(VI) compounds {chromium(VI) oxide}

Most likely worst case.

boron {boron tribromide}

Most likely worst case.

arsenic {arsenic}

Most likely worst case.

cadmium {cadmium sulfide}

Most likely worst case.

copper {dicopper oxide; copper (I) oxide}

Most likely worst case.

mercury {mercury}

Most likely worst case.

nickel {nickel dihydroxide}

Most likely worst case.

lead {lead chromate}

Most likely worst case.

selenium {selenium}

Most likely worst case.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Most likely worst case.

zinc {zinc sulphate}

Most likely worst case.

chromium in chromium(III) compounds {chromium(III) oxide}

Most likely worst case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.127.6614.12023 (07 May 2025)
HazWasteOnline Database: 2025.127.6614.12023 (07 May 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025