Keepmoat Homes

Ground Investigation Report

for

Crabtree Lane, Openshaw

April 2026

REPORT NO: 25KMH022/GI

- *Desk Studies and Site Walkovers*
- *Intrusive Contaminated Land Investigations*
- *Geotechnical Appraisals and Ground Investigations*
- *Landfill Gas Assessments and Remedial Design*
- *Remediation Design and Implementation*
- *Remediation Project Management and Supervision*
- *Site Abnormal Assessments (Foundations and Contaminated Land)*

GEOTECHNICAL - CONTAMINATED LAND - FLOOD RISK

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CONTENTS

1 EXECUTIVE SUMMARY 5

2 SITE DESCRIPTION 9

2.1 Introduction
2.2 Site Location

3 ENVIRONMENTAL SETTING AND DATA 10

3.1 Previously Undertaken Reports

4 E3P SITE INVESTIGATION SUMMARY 11

5 PREVIOUS BETTS GEO SITE INVESTIGATION SUMMARY 13

6 SUMMARY OF ENVIRONMENTAL SENSITIVITY 14

6.1 Sources
6.2 Pathways and Receptors

7 INITIAL CONCEPTUAL SITE MODEL 16

7.1 Source-Pathway-Receptor Linkages
7.2 Summary

8 FIELDWORK 19

8.1 Fieldwork Objectives
8.2 Fieldwork Scope

9 GROUND CONDITIONS 20

9.1 General
9.2 Visual and Olfactory Contamination
9.3 Obstructions
9.4 Groundwater – Fieldwork
9.5 Groundwater – Post Fieldwork Work Monitoring

10 LABORATORY TESTING 22

10.1 General
10.2 Scheduled Chemical Testing: Soils

11 CONTAMINATION ASSESSMENT 23

11.1 General
11.2 Soils Contamination Summary - PFAS
11.3 Waters Contamination Summary - PFAS
11.4 Waters Contamination Summary – Other Determinants

12 ENVIRONMENTAL RISK ASSESSMENT 28

12.1 General
12.2 Assessment of Contamination Analytical Results

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13 REVISED CONCEPTUAL SITE MODEL 30
13.1 General
13.2 Final Conceptual Site Model
14 OUTLINE STRATEGY FOR RISK REDUCTION / REMEDIATION STRATEGY 32
14.1 General
14.2 Construction/Maintenance Workers
14.3 Site-End Users
14.4 Controlled Waters
14.5 Ground Gas Protection Measures
14.6 Piped Drinking Water Supplies
14.7 Off-Site Disposal of Surplus Soil
15 GEOTECHNICAL ASSESSMENT 35
15.1 Introduction
15.2 Site Preparation and Excavation
15.3 Control of Groundwater/Surface Water
15.4 Foundations
15.5 Ground Floor Construction
15.6 Soakaways
15.7 Heave / Shrinkage Potential
15.8 Highway
15.9 Protection of Buried Concrete
16 REFERENCES 38

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1 EXECUTIVE SUMMARY

Note – *The following summary is not exhaustive and is to be used for guidance purposes only. The full report should be consulted for full details.*

1. Site Location

The site is located north of Openshaw, between Openshaw and Clayton. The site has an approximate address of B&S Massey, Crabtree Ln, Manchester M11 1BR.

2. Previous SI

E3P

Trial pitting, window sampling and cable percussive boreholes have been undertaken across the site with ground conditions proven to comprise variable MADE GROUND ranging between 0.60mbgl – 4.50mbgl, drift deposits of firm to stiff CLAY overlying a fine to medium SAND. In the deeper cable percussive boreholes a deeper horizon of gravelly CLAY was recorded at depths of between 7.1-8.2mbgl and 5.5-6.0mbgl respectively. The deeper SAND horizons were recorded to become very dense from ca. 7.0mbgl.

Groundwater strikes were recorded as slow ingress in the exploration holes at depths of between 1.3 mbgl and 6.0 mbgl. Monitoring to date has not recorded significant recharge in the monitoring wells.

Assessment against a residential end-use with plant uptake identified elevated arsenic, lead, zinc and asbestos as well as elevated PAH compounds. These were widespread throughout the Made Ground but not the natural strata.

Lead was recorded in two of the leachate samples in excess of the EQS value. E3P undertook an assessment using the Pb screening tool. The assessment confirmed that as the RCR value was below 1, E3P does not consider lead to pose an unacceptable level of risk to waters.

E3P stated that “The groundwater beneath the site is likely at depth and based on the site setting is not considered a highly sensitive receptor being a secondary B aquifer and with no groundwater abstraction within the drift. A groundwater abstraction is identified ca. 650 m to the west but this is for evaporative cooling and is likely abstracting from the Chester Formation Sandstone and not the Manchester Marl which underlies the subject site.

Ashton Canal is located at the northern boundary. However, this is not considered to be a sensitivity receptor as it is a lined artificial channel. The canal will be ca. 2.0 m deep and groundwater monitoring has confirmed that groundwater is greater than is at the south of the site; significantly below the base of the canal (3.68 m bgl – WS104). This would indicate a gradient away from the canal and provides evidence that the canal is not in continuity with groundwater.”

Betts Geo

Trial pitting and window sampling has been undertaken across the site with ground conditions proven to comprise of various types of MADE GROUND to depths of greater than 3.00mbgl. A ‘pulpy’ type material was observed in WS102 from 3.80mbgl – 4.00mbgl with the base not proven.

MADE GROUND was noted overlying the NATURAL STRATA of firm to stiff light brown sandy silty CLAY in WS101, TP1 from 1.20mbgl and TP209 from 1.90mbgl.

No groundwater was encountered during the fieldwork.

Elevated concentrations of various metals, asbestos, PAHs and SVOCs have been observed in the chemical samples of the made ground in a number of locations across the site, in addition to the surficial, visual and olfactory contamination observed during the site works.

Natural strata did not return any elevated results for contaminants tested for likely showing that the cohesive clay is confining any potential leaching/migration to the made ground, All determinants for Metals, TPHs and PAHs fell below the residential home grown produce guidance levels within natural strata. No significant mobile contamination has been observed. The risk of contamination to the adjacent canal to the north of the site is deemed low due to the anticipated cohesive superficial geology surrounding the clay preventing any significant contamination migration. A road/access track is also present between the canal

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and the site, increasing its distance from site.

3. Summary of Environmental Data

Possible Contamination Sources

- Current Land Use – On Site – **Yes**
- Historical Land Use – On Site – **Yes**
- Adjacent Land Use – Within 250m – **Unlikely**

Pathways and Receptors

- Aquifer – Below Site – **Unlikely**
- Site End Users – **Possible (localised)**
- Construction Workers – **Unlikely**
- Canal – Immediately N – **Possible**

It is important to note that the majority of site has already been suitably assessed for its contamination and ground gas potential by various phases of GI, and the relevant remedial measures have been recommended (please refer to sections above and Betts Geo report ref: 21CHE276/GI).

Betts Geo believe there is still a Moderate risk of contamination to the deeper ground conditions as such further GI was undertaken to confirm.

4. Scope of Investigation

The fieldwork was carried out in November 2025 and the works comprised of the following;

- Three (3 No) cable percussive boreholes (BH01 – BH03) to depths of between 17.00mbgl – 20.00mbgl and installed with groundwater monitoring wells.

- Five PFAS samples of soils (PFAS A – PFAS E). These were analysed for PFAS (49 compounds) + TOP Assay Suite.

Two of the cable percussive boreholes were in the Betts Geo area (BH02 & BH03) and one of these in the E3P area (BH01) (See plan in Section 3.1 above showing Betts Geo/E3P area). BH01 was destroyed after the first visit and therefore replaced by a further borehole for water monitoring – BH01A.

The exploratory hole positions were selected and set out by Betts Geo Environmental Ltd (BGE) as shown on the Exploratory Hole Location Plan in Appendix B.

Services are present onsite. Prior to any intrusive works, each location was checked for services using a cable avoidance tool (CAT) and review of statutory service plans.

Water Sampling

Groundwater samples were taken from BH2 – BH3 on the 04/12/2025 and BH01 on the 15/01/2026 and PFAS samples taken from BH1 – BH3 on the 15/01/2026 and BH3 on the 16/02/26.

A further round of water sampling/PFAS sampling was also taken from both the onsite BH's and the adjacent canal on the 30/03/2026.

5. Ground Conditions Encountered

The ground condition of these holes comprised of MADE GROUND to a typical depth of 1.90mbgl, (however 7.50mbgl in BH03), Glacial till (CLAY) between depths of 1.00mbgl – 20.00mbgl, silty clayey fine to coarse SAND between 5.00mbgl – 18.00mbgl with possible weathered MUDSTONE being encountered between 15.00mbgl – 17.00mbgl in BH01 and 18.00mbgl – 20.00mbgl in BH02.

BH01 was destroyed after the first visit and therefore replaced by a further borehole for water monitoring – BH01A. BH01A encountered MADE GROUND to 2.00mbgl, firm CLAY between 2.00mbgl – 2.80mbgl and medium dense grey SAND & SAND

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& GRAVEL to 8.00mbgl.

6. Contamination Encountered

PFAS - Soils

All of the PFAS results within the soils came back lower than the interim C4SL guidance values above.

PFAS – Waters

It is important to note that none of the PFOS levels have come back elevated when compared against the DWI guidance value of 100ng/l.

Based on the results of the water sampling, it can be seen that minor levels of PFOS are present in the canal, however they don't appear to be coming from site, based on the upstream and midstream levels being similar, and the downstream levels being ever so slightly higher.
The PFOS levels identified in the upstream and midstream samples are below the EQS value of 4.4ng/l, however the downstream sample is slightly above this level at 5.65ng/l.

7. Remedial Actions

Soils

No further soil analysis was undertaken other than the 5 PFAS samples.

Since the issue of the original Betts Geo SI report, BSH have undertaken a Remediation Strategy & Enabling Works Report for the site which stated that the site would undergo a full turnover down to 3m or natural to remove the vast majority of contamination previously encountered.

Following this turnover, it was recommended that a 600mm capping system with basal break layer/no dig membrane was installed within garden and landscaped areas across the site.

These proposed remedial measures supersede any recommendations within the previous Betts Geo SI report referenced in Section 3.1 above.

Groundwater, Surface Water and Aquifer Risk

"The underlying aquifer and groundwater are largely protected by cohesive clay strata. No significant mobile contamination has been observed."
Deeper groundwater testing has not identified any significant contamination. The perched waters are deemed to be a low risk to groundwater receptors given their low sensitivity and the remedial proposals for the site.

Risk to Canal

"As previously discussed, the risk of contamination to the adjacent canal to the north of the site is deemed low due to the anticipated cohesive superficial geology surrounding the clay preventing any significant contamination migration. A road/access track is also present between the canal and the site, increasing its distance from site.
Protection measures may be required during the construction works to prevent any water ingress during the earthworks and sediment runoff will need to be controlled.
If any unofficial connections are discovered to the canal during the construction works, they will be blocked up to prevent any water from the site draining to the canal."
PFAS testing undertaken within the canal has identified minor levels of PFOS present in the canal, however they don't appear to be coming from site, based on the upstream and midstream levels being similar, and the downstream levels being ever so slightly higher.
The PFOS levels identified in the upstream and midstream samples are below the EQS value of 4.4ng/l, however the downstream sample is slightly above this level at 5.65ng/l.

8. Off-Site Disposal of Surplus Soil

If in the event of surplus soil on site, it is recommended that the results of the contamination testing (including the history of the site) be presented to the proposed landfills, to obtain their acceptance of the information to date and to determine the actual WAC limits used by them.

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Segregation of made ground and natural should be possible given the chemical analysis and very different visual identification.

9. Specialist Ground Gas Measures

No further ground gas risk assessment was undertaken as part of these additional works therefore the original ground gas recommendations as per the report in Section 3.1 still stand.

10. Foundations

Due to the variability of the ground, a detailed foundation zoning plan should be undertaken once final layouts / levels are known taking in to account the varying ground conditions.

For low-rise properties, strip / trench foundations may be suitable where competent ground is found <2.00mbgl, based on the below;

Firm CLAY strata with an allowable bearing pressure (ABP) of 100kN/m2. Stiff CLAY strata with an allowable bearing pressure of 125kN/m2

However, due to the prevalence and depth of made ground, previous infrastructure and contamination (arisings), it would be prudent to allow for a piled foundation solution across the site.

A detailed foundation zoning plan is advised when proposed levels and full layouts are known.

Possibility of culverts and air ducts from the Clayton Brook and former use cannot be discounted.

Foundations post turn over and engineering to 95% to go to vibro ground improvement and or piled - subject to detailed design / liaison with specialist piling / ground improvement contractor.

11. Highway

According to the criteria of Highways Agency HD 25/95 Volume 7 Section 2 Part 2 HD 25/94, a CBR value of 3% on the made ground is anticipated, however in-situ CBR's should be undertaken during construction to confirm.

12. Heave / Shrinkage Potential

LOW plasticity is evident across the materials tested. Foundation design for tree heave protection could be designed accordingly following discussion with the NHBC.

13. Ground Floor Construction

Suspended floor construction e.g. either in-situ RC slabs or block and beam flooring is recommended as per NHBC guidance.

14. Control of Groundwater

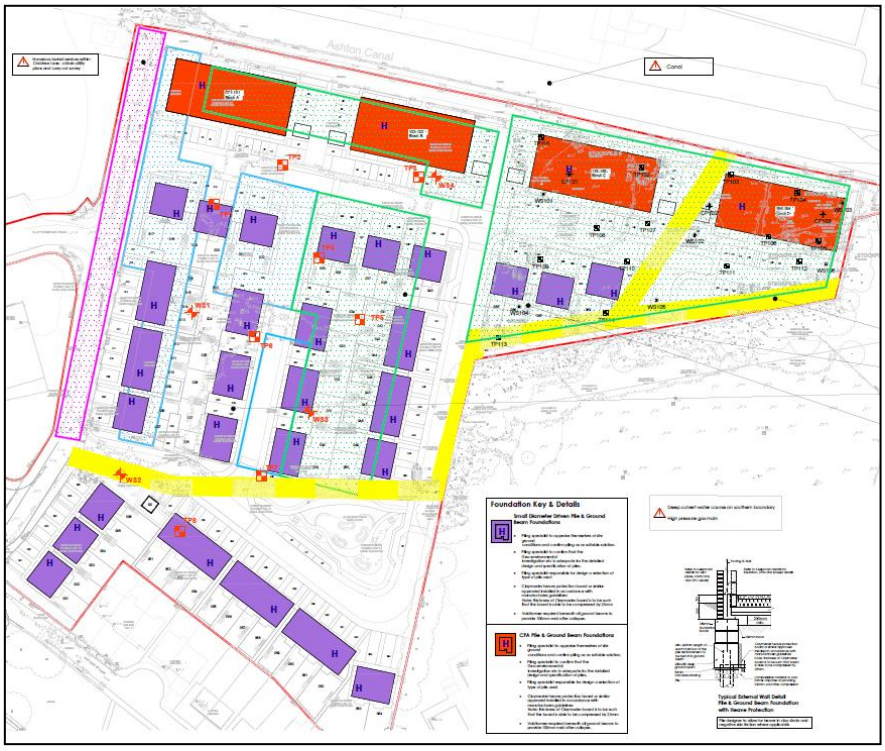
Shallow perched groundwater has been observed during previous phases of investigation. The provision of pumping/shuttering will be necessary during excavation of foundation trenches, especially during wet weather, close to surface water features and to deeper excavations for sewers etc. It is good practice to have such equipment on standby in case of seasonal / abnormal weather conditions.

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2 SITE DESCRIPTION

2.1 Introduction

This investigation was carried out on the instruction of Keepmoat Homes. The purpose of the work was to review a previous desk study and ground investigations and undertake additional deeper ground investigation works to assess deeper ground conditions and install deeper monitoring wells for groundwater sampling purposes for the proposed construction of residential dwellings and associated gardens, public open spaces, new road and associated infrastructure. A proposed site layout can be seen below;



Extract from Dwg; Foundation Zoning Plan & Typical Foundation Details, Ref; KMH031 BET00XXDRS1000 P1, Dated; Sep 2025

2.2 Site Location

The site is located north of Openshaw, between Openshaw and Clayton. The site has an approximate address of B&S Massey, Crabtree Ln, Manchester M11 1BR.. See Site Location Plan in Appendix A.

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3 ENVIRONMENTAL SETTING AND DATA

3.1 Previously Undertaken Reports

Keepmoat Homes provided Betts Geo with several previously undertaken reports for the site. These report has been reviewed by Betts Geo and are as follows;

- Phase I and II Geoenvironmental Site Assessment for Crabtree Lane, Manchester for Connell Developments by E3P – April 2024 – Report ref: 17-548-R1
- Ground Investigation Report for Pre Demolition, Crabtree Lane, Openshaw for MCI Development by Betts Geo – November 2022 - Report Ref: 21CHE276/GI
- Piling Impact on Groundwater – Crabtree Lane, Openshaw – Draft Decision Notice for 142609 for Keepmoat Homes – Letter report no: 25KMH022/PRA/JS/L1 dated 17th March 2026.

For ease, each area that the above reports cover are shown on the extract below.



Whilst Betts Geo Environmental Ltd cannot be held liable for the third party, client furnished, results/data, it is suggested that it is reasonable to assume that the data provided in these reports have been undertaken with suitable care and due diligence by suitably experience consultants. As such the data is regarded as being of an appropriate standard to utilise within this report.

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4 E3P SITE INVESTIGATION SUMMARY

The site area comprised a level plateau with mounds of material and stockpiled rubbish present with a small area of raised slab in the north. The site is predominantly covered in concrete and asphalt hardstanding, although there are areas of broken gravel surfacing. All former buildings have been demolished and no structures are on site.

A historic landfill is recorded to the south of site operating between 31/12/1942 – 31/12/1992 and receiving inert, industrial permitting regulations waste. The landfill appears to have encroached into the southern sector of the site.

As per the Betts Geo area, it is documented that the site sits outside of a Source Protection Zone according to the Environment Agency. The bedrock deposits of the Manchester Marls are classed as a Secondary B Aquifer. There are no portable abstractions within 500m of site. The closest groundwater abstraction is located over 680m W of the site.

The nearest surface water course is the Ashton Canal approx. 5m N of the site at a higher elevation.

Trial pitting, window sampling and cable percussive boreholes have been undertaken across the site with ground conditions proven to comprise variable MADE GROUND ranging between 0.60mbgl – 4.50mbgl, drift deposits of firm to stiff CLAY overlying a fine to medium SAND. In the deeper cable percussive boreholes a deeper horizon of gravelly CLAY was recorded at depths of between 7.1-8.2mbgl and 5.5-6.0mbgl respectively. The deeper SAND horizons were recorded to become very dense from ca. 7.0mbgl.

Groundwater strikes were recorded as slow ingress in the exploration holes at depths of between 1.3 mbgl and 6.0 mbgl. Monitoring to date has not recorded significant recharge in the monitoring wells.

Assessment against a residential end-use with plant uptake identified elevated arsenic, lead, zinc and asbestos as well as elevated PAH compounds. These were widespread throughout the Made Ground but not the natural strata.

Lead was recorded in two of the leachate samples in excess of the EQS value. E3P undertook an assessment using the Pb screening tool. The assessment confirmed that as the RCR value was below 1, E3P does not consider lead to pose an unacceptable level of risk to waters.

E3P stated that "*The groundwater beneath the site is likely at depth and based on the site setting is not considered a highly sensitive receptor being a secondary B aquifer and with no groundwater abstraction within the drift. A groundwater abstraction is identified ca. 650 m to the west but this is for evaporative cooling and is likely abstracting from the Chester Formation Sandstone and not the Manchester Marl which underlies the subject site.*

Ashton Canal is located at the northern boundary. However, this is not considered to be a sensitivity receptor as it is a lined artificial channel. The canal will be ca. 2.0 m deep and groundwater monitoring has

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confirmed that groundwater is greater than is at the south of the site; significantly below the base of the canal (3.68 m bgl – WS104). This would indicate a gradient away from the canal and provides evidence that the canal is not in continuity with groundwater."

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5 PREVIOUS BETTS GEO SITE INVESTIGATION SUMMARY

The site used to comprise three main structures in the west with the remaining areas being largely hardstanding which was generally heavily vegetated with self-seeded trees and bushes. The buildings were largely empty however, some machinery remained at the time of the walkover, as did a significant amount of waste. Asbestos was noted at the surface across the site but was focussed on the southern end of the western building. Also, within this building was a large 'oil' spill.'

It is documented that the site sits outside of a Source Protection Zone according to the Environment Agency. The bedrock deposits of the Manchester Marls are classed as a Secondary B Aquifer. There are no portable abstractions within 500m of site. The closest groundwater abstraction is located over 680m W of the site. The nearest surface water course is the Ashton Canal approx. 5m N of the site at a higher elevation.

Trial pitting and window sampling has been undertaken across the site with ground conditions proven to comprise of various types of MADE GROUND to depths of greater than 3.00mbgl. A 'pulpy' type material was observed in WS102 from 3.80mbgl – 4.00mbgl with the base not proven.

MADE GROUND was noted overlying the NATURAL STRATA of firm to stiff light brown sandy silty CLAY in WS101, TP1 from 1.20mbgl and TP209 from 1.90mbgl.

No groundwater was encountered during the fieldwork.

Elevated concentrations of various metals, asbestos, PAHs and SVOCs have been observed in the chemical samples of the made ground in a number of locations across the site, in addition to the surficial, visual and olfactory contamination observed during the site works.

Natural strata did not return any elevated results for contaminants tested for likely showing that the cohesive clay is confining any potential leaching/migration to the made ground, All determinants for Metals, TPHs and PAHs fell below the residential home grown produce guidance levels within natural strata. No significant mobile contamination has been observed. The risk of contamination to the adjacent canal to the north of the site is deemed low due to the anticipated cohesive superficial geology surrounding the clay preventing any significant contamination migration. A road/access track is also present between the canal and the site, increasing its distance from site.

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6 SUMMARY OF ENVIRONMENTAL SENSITIVITY

The following section is a review of the environmentally sensitivity of the site as discussed in Sections 2 - 5. Significant potential risks are discussed in the following subsections and will then be evaluated as part of the Site Conceptual Model in Section 7.

Sources are defined as where pollution comes from, pathways are a route in which the pollution travels and receptors are anything affected by a pollutant. Further details on Source-Pathway-Receptor methodology can be found in Appendix F.

The table below focuses on significant site specific sources, pathways and receptors. More 'generic' pathways and receptors (such as site end uses) will be covered as part of the full Site Conceptual Model in Section 13.

6.1 Sources

Source	Distance/ Direction	Details	Significant Risk
Current Land Use	On Site	The site is currently disused however previous GI has encountered contamination in the form of heavy metals, TPH's, PAH's and asbestos. Additional GI is needed in targeted areas to further assess the site in terms of possible contamination.	**Yes**
Historical Land Use	On Site	Significant industrial usage from former forge/furnace. previous GI has encountered contamination in the form of heavy metals, TPH's, PAH's and asbestos. Risk of further heavy metals, TPH's, PAH's, VOC/SVOC, asbestos and PFAS.	**Yes**
Adjacent Land Use	Adjacent to Site Boundary	The land surrounding the site has been mixed residential and industrial/commercial. Significant industry has been limited therefore main risk of on the site itself where previous GI identified some significant contamination. Anticipated cohesive superficial geology surrounds the site limiting any migration onto site.	**Unlikely**

6.2 Pathways and Receptors

Source	Distance/ Direction	Details	Significant Risk
Aquifer	Underlying Site	Bedrock deposits are classed as low to moderate permeability aquifer, however, they are overlain by cohesive deposits of glacial till. Further deeper ground investigation required to confirm risk. Site is not within a Groundwater Protection Zone.	**Unlikely**
Site End Users	On-Site	Contamination is present on site from historical site use. Site end use is residential therefore the end users are sensitive. Relevant mitigation measures to be put in place to protect site end users.	**Possible (Localised)**
Construction Workers	On-Site	Risk assessments / PPE used for construction / contaminated material handing techniques / appropriate welfare provision/toolbox talks/enforcement of personal hygiene practices.	**Unlikely**

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Canal	Immediately N	Canal located along northern site boundary however is anticipated to be clay lined. No risk anticipated to canal in previous GI however water sampling to be undertaken to confirm.	**Possible**

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7 INITIAL CONCEPTUAL SITE MODEL

For details on how the conceptual model is evaluated please refer to Appendix F

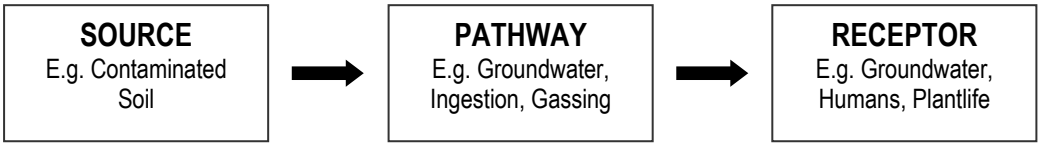
This section of the report aims to identify land which could potentially be affected by contamination, such that it could affect the value or re-use of the land, or such that mitigation would be required for certain proposed end uses of the land.

Potential contamination sources and environmentally sensitive receptors have been discussed in Section 6. Potentially significant risks are evaluated as part of the subsequent sub-sections.

7.1 Source-Pathway-Receptor Linkages

The risk assessment uses a 'Source-Pathway-Receptor' methodology for assessing whether a source of contamination could potentially lead to harmful consequences. This means that there needs to be a pollutant linkage from source to receptor for harm to be caused, this linkage consisting of: a source of pollution; a pathway for the pollutant to move along; a receptor that is affected by the pollutant.

The current potential risks to site arising from various source-pathway-receptor linkages are assessed below. A risk may be considered significant if all three of the stages are present and therefore providing a pollution linkage. The various sources, pathways and receptors are considered separately. The assessment is based on the future use, which is understood to be of residential with garden areas & POS.



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Type of Contamination	Potential Sources	Potential Pathway	Potential Receptors	Pollution Linkage	Comment	Estimated Level of Risk
Ground Gas	Current Land Use – Onsite Historical Land Use - Onsite Adjacent Land Uses	Inhalation of Vapours	Construction/ Maintenance Workers	**Potentially Active**	Previous investigation identified ground gas and recommended the requirement for ground gas protection to new properties to CS2 level, also including hydrocarbon resistance. No further ground gas monitoring required. PPE to protect construction workers.	**Moderate**
		Vapours Penetrating Unprotected Buildings	Future Site Users	**Potentially Active**	Previous investigation identified ground gas and recommended the requirement for ground gas protection to new properties to CS2 level, also including hydrocarbon resistance. No further ground gas monitoring required as part of this report.	**Low – Moderate (Localised)**
Near Surface Contaminants Within Soils	Current Land Use – Onsite Historical Land Use - Onsite Adjacent Land Uses	Ingestion, Inhalation, Dermal Contact	Current Site Users	**Potentially Active**	Previous GI encountered significant contamination across site. Current site use is vacant lowering any risk.	**Low**
			Construction/ Maintenance Workers	**Potentially Active**	Previous GI encountered significant contamination across site. PPE to protect.	**Low - Moderate**
			Future Site Users	**Potentially Active**	Previous GI encountered significant contamination across site and recommended remedial measures. No further risk assessment required in relation to shallow ground conditions. Further GI required in relation to deeper ground conditions.	**Moderate**
			Adjacent Land Users	**Potentially Active**	Previous GI encountered significant contamination across site and recommended remedial measures which prevents any migration pathways to adjacent site users. Further GI required in relation to deeper ground conditions.	**Low - Moderate**
		Direct Contact	Structures	**Potentially Active**	Previous GI has confirmed pH & sulphate levels across site. Further GI required in relation to deeper ground conditions.	**Low - Moderate**
		Absorption in Root Zone	Plants	**Potentially Active**	Previous GI encountered significant contamination across site and recommended remedial measures. No further risk assessment required in relation to shallow ground conditions.	**Low – Moderate**
Mobile Contaminants, Leachables e.g. from Pollution Sources on Site/Off Site	Current Land Use – Onsite Historical Land Use - Onsite Adjacent Land Uses	Leaching into Groundwater	Groundwater	**Potentially Active**	Further GI required in relation to deeper ground conditions.	**Moderate**
		Offsite Migration in Groundwater	Abstractions	**Potentially Active**	No portable ground abstractions within 500m of site.	**Low**
			Controlled Waters	**Potentially Active**	Canal located along northern site boundary however is anticipated to be clay lined. No risk anticipated to canal in previous GI however water sampling to be undertaken to confirm.	**Low**
Organic and Inorganic Contaminants Within Soils / Groundwater	Current Land Use – Onsite Historical Land Use - Onsite Adjacent Land Uses	Potable Water Supply Pipes	Utilities Workers	**Potentially Active**	Previous GI identified elevated TPH's in the made ground across site. Requirement for relevant pipeline assessment anticipated.	**Moderate**

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7.2 Summary

It is important to note that the majority of site has already been suitably assessed for its contamination and ground gas potential by various phases of GI, and the relevant remedial measures have been recommended (please refer to sections above and Betts Geo report ref: 21CHE276/GI).

Betts Geo believe there is still a **Moderate** risk of contamination to the deeper ground conditions as such further GI was undertaken to confirm.

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8 FIELDWORK

8.1 Fieldwork Objectives

The objectives of the additional intrusive ground investigation will be to:

- Clarify the ground conditions encountered within the Third-Party Reports provided by the client.
- Confirm the deeper ground conditions on site through cable percussive boreholes with the installation of deeper groundwater monitoring wells.
- Provide additional contamination information for the site (deeper data).
- Provide additional data for the design of any remedial works that may be required.
- Provide additional geotechnical information to be used for the design and specification of foundations and substructure requirements.

8.2 Fieldwork Scope

The fieldwork was carried out in November 2025 and the works comprised of the following;

- Three (3 No) cable percussive boreholes (BH01 – BH03) to depths of between 17.00mbgl – 20.00mbgl and installed with groundwater monitoring wells.
- Five PFAS samples of soils (PFAS A – PFAS E). These were analysed for PFAS (49 compounds) + TOP Assay Suite.

Two of the cable percussive boreholes were in the Betts Geo area (BH02 & BH03) and one of these in the E3P area (BH01) (See plan in Section 3.1 above showing Betts Geo/E3P area). BH01 was destroyed after the first visit and therefore replaced by a further borehole for water monitoring – BH01A.

The exploratory hole positions were selected and set out by Betts Geo Environmental Ltd (BGE) as shown on the Exploratory Hole Location Plan in Appendix B.

Services are present onsite. Prior to any intrusive works, each location was checked for services using a cable avoidance tool (CAT) and review of statutory service plans.

<u>Water Sampling</u>
Groundwater samples were taken from BH2 – BH3 on the 04/12/2025 and BH01 on the 15/01/2026 and PFAS samples taken from BH1 – BH3 on the 15/01/2026 and BH3 on the 16/02/26.

A further round of water sampling/PFAS sampling was also taken from both the onsite BH's and the adjacent canal on the 30/03/2026.

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9 GROUND CONDITIONS

9.1 General

The exploratory holes were logged by a Betts Engineer in general accordance with the recommendations of BS5930:1999+A2:2010 Detailed descriptions, together with relevant comments, are given in the exploratory hole logs included in Appendix C.

The ground condition of these holes comprised of MADE GROUND to a typical depth of 1.90mbgl, (however 7.50mbgl in BH03), Glacial till (CLAY) between depths of 1.00mbgl – 20.00mbgl, silty clayey fine to coarse SAND between 5.00mbgl – 18.00mbgl with possible weathered MUDSTONE being encountered between 15.00mbgl – 17.00mbgl in BH01 and 18.00mbgl – 20.00mbgl in BH02.

BH01 was destroyed after the first visit and therefore replaced by a further borehole for water monitoring – BH01A. BH01A encountered MADE GROUND to 2.00mbgl, firm CLAY between 2.00mbgl – 2.80mbgl and medium dense grey SAND & SAND & GRAVEL to 8.00mbgl.

9.2 Visual and Olfactory Contamination

No visual and/or olfactory contamination was encountered during the additional deeper site investigation works.

9.3 Obstructions

The following obstructions were encountered during the additional fieldwork:

- BH01– refusal at 17.00mbgl on bedrock.

9.4 Groundwater – Fieldwork

The following exploratory holes encountered groundwater during the fieldwork:

Exploratory Hole	Depth (mbgl)	Strata	Remark
BH01	8.00	SAND	Rose to 5.30mbgl after 20 mins
BH01	11.50	SAND	Rose to 9.20mbgl after 20 mins
BH02	6.70	SAND	Rose to 5.20mbgl after 20 mins
BH03	10.90	SAND	Rose to 7.20mbgl after 20 mins

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9.5 Groundwater – Post Fieldwork Work Monitoring

Six of six (6/6) groundwater monitoring visits have been undertaken. The table below indicates groundwater encountered during the monitoring post fieldwork:

Exploratory Hole	Depth to Water (mbgl)	Initial Depth to Base of Well (mbgl)
BH01	Destroyed	
BH02	6.25 – 14.85	15.12 - 17.25
BH03	5.95 – 8.25	16.50 – 17.25
BH04	5.30 – 7.79	7.96 – 8.54

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10 LABORATORY TESTING

10.1 General

The main purpose of this additional work was to confirm the deeper ground conditions on site with the installation of deeper groundwater monitoring wells as well as PFAS testing in both soils and groundwaters.

10.2 Scheduled Chemical Testing: Soils

Soil was sent to a UKAS accredited laboratory and were generally analysed in accordance with ISO 17025 and/or MCERTS accreditation. The results are summarised in tabular and/or graphical form in Appendix D.

The PFAS testing comprised of the following:

TOP Assay:
Pre-oxidation analysis by LCMS QQQ
1ml Sodium Hydroxide solution
1g Persulphate oxidizer
86 degrees C for 6-18hrs depending on conversion
Adjust pH 3-6
Cleanup via SPE
Recovery standards added.
Post oxidation analysis by LCMS QQQ.

PFAS 49:
pH adjusted with Formic acid or Ammonium Hydroxide.
Labelled standards are added.
Extraction via mixed mode SPE.
Eluted with methanol/NH4 methanol.
Recovery standards added.
Analysed by LCMS QQQ.
In-house method based on US EPA 1633 Method.

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11 CONTAMINATION ASSESSMENT

11.1 General

Contaminants of concern recorded at concentrations above relevant screening values are summarised below. For ease of description, the identification of contaminant sources and possible re-use of material, Topsoil, Made Ground, Natural Strata and Groundwater will be dealt with in separate sub-headings in this section of the report where required.

Our assessment is based on the following assumptions:

- The proposed site end use is of a high-risk rating (residential dwellings with proposed gardens). For analysis purposes, 'residential with home grown produce' is deemed the most appropriate end use.
- The Manchester Marls Formation beneath site is classed as a Secondary B Aquifer (Low Permeability).
- Glacial Till deposits are likely to be generally low permeability, but also may be variable due to the nature of the deposits.
- It is deemed that some statistical analysis is appropriate. Where sample data numbers are low and/or targeted, each determinant result is however reviewed further as an individual result as opposed to an average across the site.
- Site history has indicated a generally **Moderate** risk of contamination and ground gas.
- Statistical analysis of the chemical test results has been undertaken in general accordance with Environment Agency 2009 SGV Guidance and LQM S4UL 2009 using the combined assessment criterion given by CLEA (Note: all SSVs for EA derivation are for a SOM of 6% in line with Environment Agency Report SC050021/SR4 – this figure is deemed representative as an average value for sandy loam soil). LQM S4UL 2009 are used to the nearest SOM percentage deemed appropriate.
- No free product was encountered during the additional ground investigation.
- Following the withdrawal of CLR7-10 Guidance documents by the Environment Agency, statistical analysis has been undertaken in accordance with the CIEH/CL:AIRE 'Guidance on Comparing Soil Contamination Data with a Critical Concentration' (May 2008). As such, the use of the mean value test alone is not considered.

A full risk assessment is detailed within Section 13 of this report.

11.2 Soils Contamination Summary - PFAS

CL:AIRE have recently published (June 2024) interim Category 4 Screening Levels (C4SLs) for four perfluoroalkyl substances – PFOA, PFNA, PFHxS and PFOS. These levels are shown in the table below:

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Table 4.1: Interim C4SLs for PFOA, PFOS, PFHxS and PFNA.

Land-use	Interim C4SLs (mg.kg^{-1}) (see notes below)			
	PFOA	PFOS	PFHxS	PFNA
Residential with consumption of homegrown produce	0.0076	0.013	0.0081	0.0073
Residential without consumption of homegrown produce	0.041	0.041	0.041	0.041
Allotments	0.0014	0.0027	0.0015	0.0013
Commercial	0.60	0.60	0.60	0.60
Public Open Space (residential)	0.079	0.079	0.079	0.079
Public Open Space (park)	0.17	0.17	0.17	0.17

N.B. These C4SLs are to be used with a Hazard Index approach (see Section 4.2). These C4SLs are based on chronic risk only. For further discussion of acute risks and other factors that should be considered when using these C4SL see Section 4.2 below.

All of the PFAS results within the soils came back lower than the interim C4SL guidance values above.

11.3 Waters Contamination Summary - PFAS

There is only one EQS for PFAS (4.4ng/l)- a statutory standard for perfluorooctane sulphonate (PFOS) listed under The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

In the absence of EQSs for other PFAS, thresholds are needed by the Environment Agency for assessing and managing the environmental risks from PFAS in rivers, lakes, estuaries and coastal waters. Deriving thresholds for PFAS is challenging for several reasons: (i) there are many PFAS, and they are chemically diverse and (ii) sufficient reliable and relevant (eco)toxicity data are only available for a few PFAS.

As of March 2025, there are no statutory standards for PFAS in groundwater in England and Wales; instead, the Drinking Water Inspectorate (DWI) has issued updated guidance with a precautionary guideline value of 0.1 µg/l or 100ng/l or 0.1 ppb) for the sum of 48 named PFAS in drinking water. Given the aquifer is the receptor (all be it reduced risk), DWI standards are deemed most appropriate in this situation.

The PFOS results in the groundwater testing are below:

<u>15/01/2026</u>
BH01 – PFOS total – 25.9ng/l
BH01 TOP ASSAY – PFOS total – 12.8ng/l
BH02 – PFOS total – 36.4ng/l
BH02 TOP ASSAY – PFOS total – ND
BH03 – PFOS total – 36.8ng/l
BH03 TOP ASSAY – PFOS total – ND

<u>16/02/2026</u>
BH03 – PFOS total – 36.8ng/l

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BH02 TOP ASSAY – PFOS total – 44.63ng/l

30/03/2026
BH01a - PFOS total – 62.1ng/l
BH01a TOP ASSAY – PFOS total – 14.5ng/l
BH02 – PFOS total – 63.8ng/l
BH02 TOP ASSAY – PFOS total – ND
BH03 – PFOS total – 2.72ng/l
BH03 TOP ASSAY – PFOS total – ND

It is important to note that none of the PFOS levels have come back elevated when compared against the DWI guidance value of 100ng/l.

30/03/2026 – Canal Water Sampling
Three PFAS samples were taken from the adjacent canal on the 30th March 26. One sample was taken upstream of site (W3), one sample taken midstream (W2), and one sample taken downstream of site (W1).

WS3 – Upstream
PFOS total – 3.29ng/l
PFOS total TOP ASSAY - ND

WS2 – Mid stream/Adjacent to site
PFOS total – 3.39ng/l
PFOS total TOP ASSAY - ND

WS1 – Downstream
PFOS total – **5.65ng/l**
PFOS total TOP ASSAY - ND

Based on the results of the water sampling, it can be seen that minor levels of PFOS are present in the canal, however they don't appear to be coming from site, based on the upstream and midstream levels being similar, and the downstream levels being ever so slightly higher.

The PFOS levels identified in the upstream and midstream samples are below the EQS value of 4.4ng/l, however the downstream sample is slightly above this level at 5.65ng/l.

PFAS Testing Summary
Based on the testing to date, no elevated PFAS levels were encountered in the soils on site, no elevated PFOS levels were encountered in the boreholes/groundwaters on site, and only one (1 No) elevated level of PFOS was noted in the water sampling in the canal, and this was encountered downstream of the site with upstream and midstream levels being fairly consistent.

As a result, PFAS is not deemed to be a significant risk on this site.

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The groundwater in the wells dried up on the last round of water sampling hence only once sample being taken from BH03. This suggests that this water is likely perched and correlate with E3Ps comment on low recharge.

11.4 Waters Contamination Summary – Other Determinants

Groundwater samples were taken from BH2 – BH3 on the 04/12/2025, BH01 on the 15/01/2026 and BH1 – BH3 on the 25/03/26 and analysed for heavy metals. The results can be seen below;

04/12/2025
BH02 – Zinc – 94ug/l. DWS Guidance value of 3,000ug/l or EQS value of 10.9ug/l. Only elevated against DWS.
BH03 – Cadmium – 2.1ug/l. DWS Guidance value of 5ug/l or EQS value of 0.25ug/l. Only elevated against EQS.
BH03 – Copper – 73ug/l. DWS Guidance value of 2,000ug/l or EQS value of 1ug/l. Only elevated against EQS.
BH03 – Lead – 87.3ug/l. DWS Guidance value of 10ug/l or EQS value of 1.2ug/l. Elevated against both.
BH03 – Nickel – 372ug/lg. DWS Guidance value of 20ug/l or EQS value of 4ug/l. Elevated against both.

15/01/2026
BH01 – Lead – 1.5ug/l. DWS Guidance value of 10ug/l or EQS value of 1.2ug/l. Only elevated against EQS.
BH01 – Zinc – 38ug/l. DWS Guidance value of 3,000ug/l or EQS value of 10.9ug/l. Only elevated against EQS.

25/03/2026
BH01 – Lead – 4.2ug/l. DWS Guidance value of 10ug/l or EQS value of 1.2ug/l. Only elevated against EQS
BH03 – Lead – 2.5ug/l. DWS Guidance value of 10ug/l or EQS value of 1.2ug/l. Only elevated against EQS
BH01 – Zinc – 61ug/l. DWS Guidance value of 3,000ug/l or EQS value of 10.9ug/l. Only elevated against EQS.
BH02 – Zinc – 30ug/l. DWS Guidance value of 3,000ug/l or EQS value of 10.9ug/l. Only elevated against EQS.
BH03 – Zinc – 115ug/l. DWS Guidance value of 3,000ug/l or EQS value of 10.9ug/l. Only elevated against EQS.

This choice between using the DWS guidance or the EQS depends entirely on the type of water being tested. DWS guidance is for drinking water and EQS for environmental waters such as groundwaters. Based on the site investigation undertaken on the site to date, the water encountered is likely to be perched and as such not ‘true’ groundwater. The underlying aquifer is also classed as a Secondary B Aquifer and therefore not deemed to be high risk. In regards to EQS standards and water abstractions, the closest groundwater abstraction is over 680m W of the site and therefore deemed as low risk receptor in this risk

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assessment.

Based on the above, neither guidance values are deemed fully appropriate, and the low levels of PFAS/heavy metal contamination encountered with the perched waters are deemed to be a low risk to groundwater receptors given their low sensitivity and the remedial proposals for the site. The Secondary B Aquifer without abstraction is not deemed a sensitive receptor but the only viable one in this scenario. The canal is not deemed to be a significant receptor due to its clay lining.

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12 ENVIRONMENTAL RISK ASSESSMENT

12.1 General

This section assesses likely risks to the identified receptors, arising from potential contamination sources. It provides a final qualitative assessment of the risks involved, indicating whether (where appropriate) any immediate action is required to mitigate certain risks.

In assessing the risk qualitatively, it is appropriate to use the methods outlined in the CIRIA document C552, "Contaminated Land Risk Assessment a Guide to Good Practice". It uses a classification of risk based on the magnitude of the potential consequence or severity or risk occurring, compared with the magnitude of the probability or likelihood of the risk occurring. These are indicated on the attached tables in Appendix F.

The bedrock deposits are classed as a Secondary B Aquifer. With respect to human health, the proposed end use (residential with home grown produce) is of high sensitivity. Therefore the site's environmental setting is considered to be a low to moderate environmental sensitivity. Transient risks to construction workers can be addressed by the adoption of appropriate health and safety measures (see Section 15.2), therefore, the primary residual risks that require assessment are Site End Users. The following sections are split into soils and groundwater for clarity.

12.2 Assessment of Contamination Analytical Results

Soils
No further soil analysis was undertaken other than the 5 PFAS samples.

Since the issue of the original Betts Geo SI report, BSH have undertaken a Remediation Strategy & Enabling Works Report for the site which stated that the site would undergo a full turnover down to 3m or natural to remove the vast majority of contamination previously encountered.

Following this turnover, it was recommended that a 600mm capping system with basal break layer/no dig membrane was installed within garden and landscaped areas across the site.

These proposed remedial measures supersede any recommendations within the previous Betts Geo SI report referenced in Section 3.1 above.

Groundwater, Surface Water and Aquifer Risk

"The underlying aquifer and groundwater are largely protected by cohesive clay strata. No significant mobile contamination has been observed."

Deeper groundwater testing has not identified any significant contamination. The perched waters are deemed to be a low risk to groundwater receptors given their low sensitivity and the remedial proposals for

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the site.

Risk to Canal

"As previously discussed, the risk of contamination to the adjacent canal to the north of the site is deemed low due to the anticipated cohesive superficial geology surrounding the clay preventing any significant contamination migration. A road/access track is also present between the canal and the site, increasing its distance from site.

Protection measures may be required during the construction works to prevent any water ingress during the earthworks and sediment runoff will need to be controlled.

If any unofficial connections are discovered to the canal during the construction works, they will be blocked up to prevent any water from the site draining to the canal."

PFAS testing undertaken within the canal has identified minor levels of PFOS present in the canal, however they don't appear to be coming from site, based on the upstream and midstream levels being similar, and the downstream levels being ever so slightly higher.

The PFOS levels identified in the upstream and midstream samples are below the EQS value of 4.4ng/l, however the downstream sample is slightly above this level at 5.65ng/l.

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13 REVISED CONCEPTUAL SITE MODEL

13.1 General

The Initial Conceptual Site Model has been amended with the findings of the additional deeper boreholes undertaken on site.

13.2 Final Conceptual Site Model

This section reassesses likely risks to the identified receptors, arising from potential contamination sources. It provides a final qualitative assessment of the risks involved, indicating whether (where appropriate) any immediate action is required to mitigate certain risks. It also discusses (where appropriate) what longer term measures or remedial works may be required in the future if the site were to be developed. It is considered that the site has not been assessed by the Local Authority as a contaminated site under the terms of the Environmental Protection Act 1990 Part IIa.

Target (Receptor)	Potential Source-Pathway Linkage	Remedial Action Required (where appropriate)	Est. Degree of Risk to Target Following Remedial Action Where Necessary
Site End Users	Inhalation of soil gases, odours or dust.	No radon protection required. CS2 with hydrocarbon resistance ground gas protection is recommended across site.	Low
Site End Users	Ingestion of, and skin contact with, contaminated soil.	3m site turnover or down to natural. Following turnover, full site requires 600mm clean and inert capping with basal break layer/no dig membrane	Low
Site End Users	Ingestion of contaminants in vegetables etc. or in soils adhering to vegetables, etc	3m site turnover or down to natural. Following turnover, full site requires 600mm clean and inert capping with basal break layer/no dig membrane	Low
Construction/ Maintenance Workers	Inhalation of soil gases, odours or dust.	PPE	Low (assumed basic PPE is used)
Construction/ Maintenance Workers	Ingestion of, and skin contact with, contaminated soil	PPE	Low (assumed basic PPE is used)
Plants	Adverse effects on growth caused by presence of contaminants in soil	3m site turnover or down to natural. Following turnover, full site requires 600mm clean and inert capping with basal break layer/no dig membrane.	Low
Buildings and Structures	Flow of ground gas into buildings. Asphyxiation, toxicity, explosion and fire hazards	No radon protection required. CS2 with hydrocarbon resistance ground gas protection is recommended across site.	Low
Foundations	Sulphate attack of foundations	Foundations to be designed as per section 16.9 of original Betts Geo SI report.	Low
Water Supplies	Hydrocarbons penetrating plastic water supply pipes.	Pipeline risk assessment required. Protect-a-line anticipated due to elevated TPH/VOC/SVOCs.	Low

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Groundwater	Migration of soluble contaminants into groundwater on or off site	No remedial action required confirmed by additional deeper SI & groundwater testing. Significant thickness of cohesive strata will limit vertical migration.	Low
Surface Water	Migration of soluble contaminants and/or direct run-off of contaminants	No highly mobile, with regards to water, contamination observed at site. No significant risk anticipated to the nearby canal based on results of water testing however protection measures may be required during the construction works to prevent any water ingress during the earthworks and sediment runoff will need to be controlled. Direct leaching into the culverted Clayton Brook beneath the made ground possible.	Low

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14 OUTLINE STRATEGY FOR RISK REDUCTION / REMEDIATION STRATEGY

14.1 General

The following section details any recommendations and to reduce risk on site and recommended remedial actions (as per the previous sections of this report). For clarity, the section is split into sub-sections as per the conceptual site model (Section 13).

It is important to note that as this report purely details the deeper GI, the recommended remedial measures detailed in the previous Betts Geo report & the BSH Remedial Strategy still stand.

14.2 Construction/Maintenance Workers

The following recommendations should be adhered to during site works:

- Toolbox talk on asbestos.
- Consideration to dampening down during work within made ground.
- Site workers should wear gloves, boots and overalls and wash their hands before eating, drinking and smoking. Excessive dust generation should be avoided.
- It is recommended that during all excavations adequate ventilation should be maintained. If man entry is required, gas monitoring should be carried out as a precaution.
- If areas of suspected contamination are found then a suitably qualified person should undertake appropriate sampling, testing and further risk assessment.

14.3 Site-End Users

Since the issue of the original Betts Geo SI report, BSH have undertaken a Remediation Strategy & Enabling Works Report for the site which stated that the site would undergo a full turnover down to 3m or natural to remove the vast majority of contamination previously encountered.

Following this turnover, it was recommended that a 600mm capping system with basal break layer/no dig membrane be installed within garden and landscaped areas across the site.

During the enabling works, BSH identified a hydrocarbon hotspot in the north east corner of the site. Soils were excavated locally and retained initially on hardstanding for testing. Soils were excavated down to clean underlying natural soils. Validation samples were taken in the northern, eastern, southern and western face of the excavation and base samples taken.

A total volume of approximately 40m3 of hydrocarbon impacted soils were removed from the identified hotspot excavation during the site wide turnover works. The soils were subsequently placed in a quarantine area stockpiled on a geomembrane prior to being removed off site to an appropriately licensed landfill.

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14.4 Controlled Waters

BSH have undertaken a Remediation Strategy & Enabling Works Report for the site which stated that the site would undergo a full turnover down to 3m or natural to remove the vast majority of contamination previously encountered. Deeper ground investigation and groundwater sampling has also confirmed that there is limited contamination within the groundwaters.

The underlying aquifer and groundwater are largely protected by cohesive clay strata, which will limit migration. The underlying solid geology is the Manchester Marls, which has been classified as a Secondary B Aquifer and is of low permeability which will inhibit vertical and horizontal migration.

There are no potable abstractions within 500m of the site.

The risk of contamination to the adjacent canal to the north of the site is deemed low due to the anticipated cohesive superficial geology surrounding the clay preventing any significant contamination migration. A road/access track is also present between the canal and the site, increasing its distance from site. PFAS undertaken within the canal identified no elevated PFAS levels in the canal upstream or midstream, with some slightly elevated levels downstream (when compared against the EQS value of 4.4ng/l).

Protection measures may be required during the construction works to prevent any water ingress during the earthworks and sediment runoff will need to be controlled.

If any unofficial connections are discovered to the canal during the construction works, they will be blocked up to prevent any water from the site draining to the canal.

The risk for direct leaching into the Clayton Brook culvert beneath site cannot be discounted at this stage due to lack of knowledge as to its construction.

14.5 Ground Gas Protection Measures

No further ground gas risk assessment was undertaken as part of these additional works therefore the original ground gas recommendations as per the report in Section 3.1 still stand. These are summarised below;

Site Area	Site Classification	Recommended Ground Gas Protection Measures
Whole Site	CS2 with Hydrocarbon Resistance	Low-level ground gas protection measures are required, using a membrane and ventilated sub-floor void that creates a permeability contrast to limit the ingress of gas into buildings. Gas protection measures are to be installed as prescribed in BRE 414. Ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours.

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14.6 Piped Drinking Water Supplies

The use of Protect-A-Line is anticipated; a UU risk assessment should be completed to confirm.

14.7 Off-Site Disposal of Surplus Soil

It is recommended that the results of the contamination testing (including the history of the site) be presented to any proposed landfills, to obtain their acceptance of the information to date and to determine the actual WAC limits used by them, (see Appendix J for further guidance). Segregation of made ground/topsoil and natural should be possible given the chemical analysis and very different visual identification.

Site waste management plans will be required due to the size and cost of the proposed scheme.

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15 GEOTECHNICAL ASSESSMENT

15.1 Introduction

It is understood that the proposed development will consist of construction of residential properties with associated rear gardens, associated infrastructure and public open space. The properties are expected to be multiple storey.

15.2 Site Preparation and Excavation

Excavation in close proximity to any existing services will need to ensure that the excavation walls are stable or appropriately battered to a safe angle, temporary slope stability works may be required in any deep excavations.

All excavations should be planned, and due consideration should be given to providing temporary support or suitable battering. Excavations should be regularly inspected by a competent person to ensure continued safety. Further advice on the safety of excavations is given *in Health and Safety in Construction.* Shallow (<1.20mbgl) excavations for service trenches could be complicated by collapsing sands, silts/clays, and care should be taken.

Topsoil and any unsuitable Made Ground should be removed from beneath all proposed buildings and hard standing areas.

Buried obstructions are anticipated therefore an allowance for breaking out should be allowed for. Suitable arisings generated by the grubbing of obstructions can be processed to produce a product graded as 6F2, suitable for re-use on-site as a granular running surface or as capping materials beneath adoptable or private highways.

Excavations of shallow soils should not present any difficulty for conventional plant. Stability of the black ashy sandy gravel is questionable and should be considered during construction.

15.3 Control of Groundwater/Surface Water

Shallow perched groundwater has been observed during previous phases of investigation. The provision of pumping/shuttering will be necessary during excavation of foundation trenches, especially during wet weather, close to surface water features and to deeper excavations for sewers etc. It is good practice to have such equipment on standby in case of seasonal / abnormal weather conditions.

15.4 Foundations

Due to the variability of the ground, a detailed foundation zoning plan should be undertaken once final layouts / levels are known taking in to account the varying ground conditions.

For low-rise properties, strip / trench foundations may be suitable where competent ground is found

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<2.00mbgl, based on the below;

- Firm CLAY strata with an allowable bearing pressure (ABP) of 100kN/m2
- Stiff CLAY strata with an allowable bearing pressure of 125kN/m2

However, due to the prevalence and depth of made ground, previous infrastructure and contamination (arisings), it would be prudent to allow for a piled foundation solution across the site.

A detailed foundation zoning plan is advised when proposed levels and full layouts are known.

Possibility of culverts and air ducts from the Clayton Brook and former use cannot be discounted.

Allowance for pre-digging pile locations should be made due to possibility of unknown obstructions and fused slag blocks – potential requirement for driven steel piles should be considered especially if deeper made ground contains boulders as found in some locations.

Foundations should be excavated wholly on one stratum. Should proposed foundations span different strata, trenching and stepping of foundations and/or nominal reinforcement will be required.

Calculations on the allowable bearing capacity indicate settlements of less than 25mm for a square pad using the above allowable bearing capacity.

For any multi-storey structures, a piled foundation solution will be required based on greater expected loadings. A specialised piling foundation contractor should be consulted with regards to pile design.

Foundations post turn over and engineering to 95% to go to vibro ground improvement and or piled - subject to detailed design / liaison with specialist piling / ground improvement contractor.

15.5 Ground Floor Construction

Suspended floor construction e.g. either in-situ RC slabs or block and beam flooring is recommended as per NHBC guidance.

15.6 Soakaways

Soakaway tests were not undertaken during the fieldwork due to the anticipated made ground and underlying cohesive strata which would not be suitable for infiltration as a surface water drainage option.

15.7 Heave / Shrinkage Potential

A summary of Atterburg limit tests is shown overleaf:

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Betts Geo Investigation (October 2022)					
Exploratory Position ID	Depth (m)	Plasticity Index %	% <425um	Modified Plasticity Index %	NHBC Volume Change Level
TP209	2.00	14	99	13.86	Low
Betts Geo Investigation (August 2021)					
Exploratory Position ID	Depth (m)	Plasticity Index %	% <425um	Modified Plasticity Index %	NHBC Volume Change Level
TP1	1.20	20	95	19.00	Low
WS101	3.70	20	97	19.40	Low

Low plasticity is evident across the materials tested. Foundation design for tree heave protection could be designed accordingly following discussion with the NHBC.

15.8 Highway

According to the criteria of Highways Agency HD 25/95 Volume 7 Section 2 Part 2 HD 25/94, a CBR value of 3% on the made ground is anticipated, however in-situ CBR's should be undertaken during construction to confirm.

15.9 Protection of Buried Concrete

It is considered for concrete design purposes that a brownfield site and mobile groundwater conditions are applicable onsite, and the results are summarised below.

Area Around WS204

Concrete Classification	
Design Sulphate Class	DS-3
ACEC Class	AC-3
Design Chemical Class	DC-3

Area Around WS101

Concrete Classification	
Design Sulphate Class	DS-1s
ACEC Class	AC-2
Design Chemical Class	DC-2

Rest of Site

Concrete Classification	
Design Sulphate Class	DS-1s
ACEC Class	AC-1
Design Chemical Class	DC-1

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16 REFERENCES

16.1 *BS 5930:2015 Code of Practice for Site Investigation.*

16.2 *BS1377: 2016 Methods of Test for Soils for Civil Engineering Purposes.*

16.3 Assessment of risks to human health from land contamination: an overview of the development of guideline values and related research. EA, 2002.

16.4 *Contaminated Land Risk Assessment; A Guide to Good Practice; CIRIA C552: 2001.*

16.5 *Health and Safety in Construction, HSG150, HSE, 1996.*

16.6 *Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste, Environment Agency, WM2 Version 1.0, June 2003.*

16.7 *DoE (1991), The Building Regulations Approved Document C, Site Preparation and Resistance to Moisture, HMSO.*

16.8 *Baker W (1987), Investigation Strategy - lecture at City of Birmingham Development Department Symposium on Methane Generating Sites, 9 December 1987, Industrial Research Laboratories, Birmingham.*

16.9 *NHBC* Standards, Chapter 4.2, 2017 Building Near Trees.

16.10 *Highways Agency HD 25/95 volume 7 section 2 Part 2 HD 25/94.*

16.11 *Water Regulations Advisory Scheme (2002) The selection of materials for water supply pipes to be laid in contaminated land.*

16.12 *Anon (1997) Dutch in Policy Retreat on Contaminated Land ENDS (Environmental Data Services), 269, 46.*

16.13 *Water Regulations Advisory Scheme (2002) The selection of materials for water supply pipes to be laid in contaminated land.*

16.14 *Piling In Layered Ground: Risks to Groundwater and Archaeology Science Report SC020074/SR Environment Agency October 2006.*

16.15 *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention National Groundwater & Contaminated Land Centre report NC/99/73 F J Westcott, C M B Lean & M L Cunningham May 2001.*

16.16 *'Guidance on Evaluation of Development Proposals on Sites Where Methane and Carbon Dioxide are Present', Report Edition No.04 March 2007 NHBC – designed for use with low rise residential properties.*

16.17 *CIRIA C665 'Assessing risks posed by hazardous ground gases for buildings' 2007 - for high rise residential / flats*

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16.18 *BS8485:2015 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'.*

16.19 *BRE 414 'Protective measures for housing on gas-contaminated land' Roger Johnson, Parkman Environment 2001.*

16.20 *BS 8500- 1:2006 'Concrete – Complementary British Standard to BS EN 206-1 – Part 1: Method of specifying and guidance for the specifier' November 2006.*

16.21 *'Planning Policy 23:Planning and Pollution Control' Office of the Deputy Prime Minister 2004.*

16.22 *CLR11 'Model Procedures for the Management of Land Contamination' DEFRA 2004.*

16.23 *BRE 465 'Cover Systems for Land Regeneration' 2004.*

16.24 *'The UK Approach for Evaluating the Human Health Risks from Petroleum Hydrocarbons in Soils, Environment Agency Science Report P5-080/TR3', Environment Agency (May 2005).*

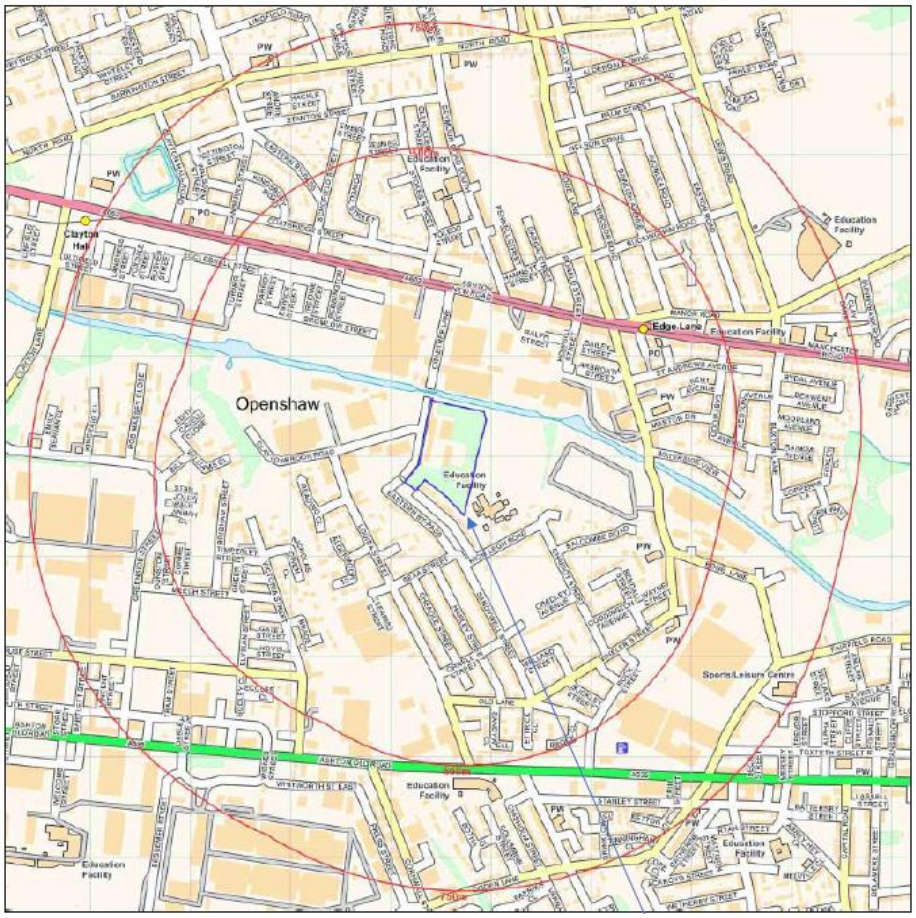
16.25 *TOX12- Contaminants in Soil: Collation of Toxicological Data and Intake Values for Humans. Dioxins, Furans and Dioxin-like PCBs' Environment Agency 2003.*

16.26 *Atkins 2017 AtRisksoil.co.uk SSV's derived using CLEA for 1 or 6% SOM. Residential with homegrown produce.*

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APPENDIX A

(i) Site Location Plan



N

Site Location Plan

The site is located between Openshaw and Clayton and is between Ashton New Road and Ashton Old Road.

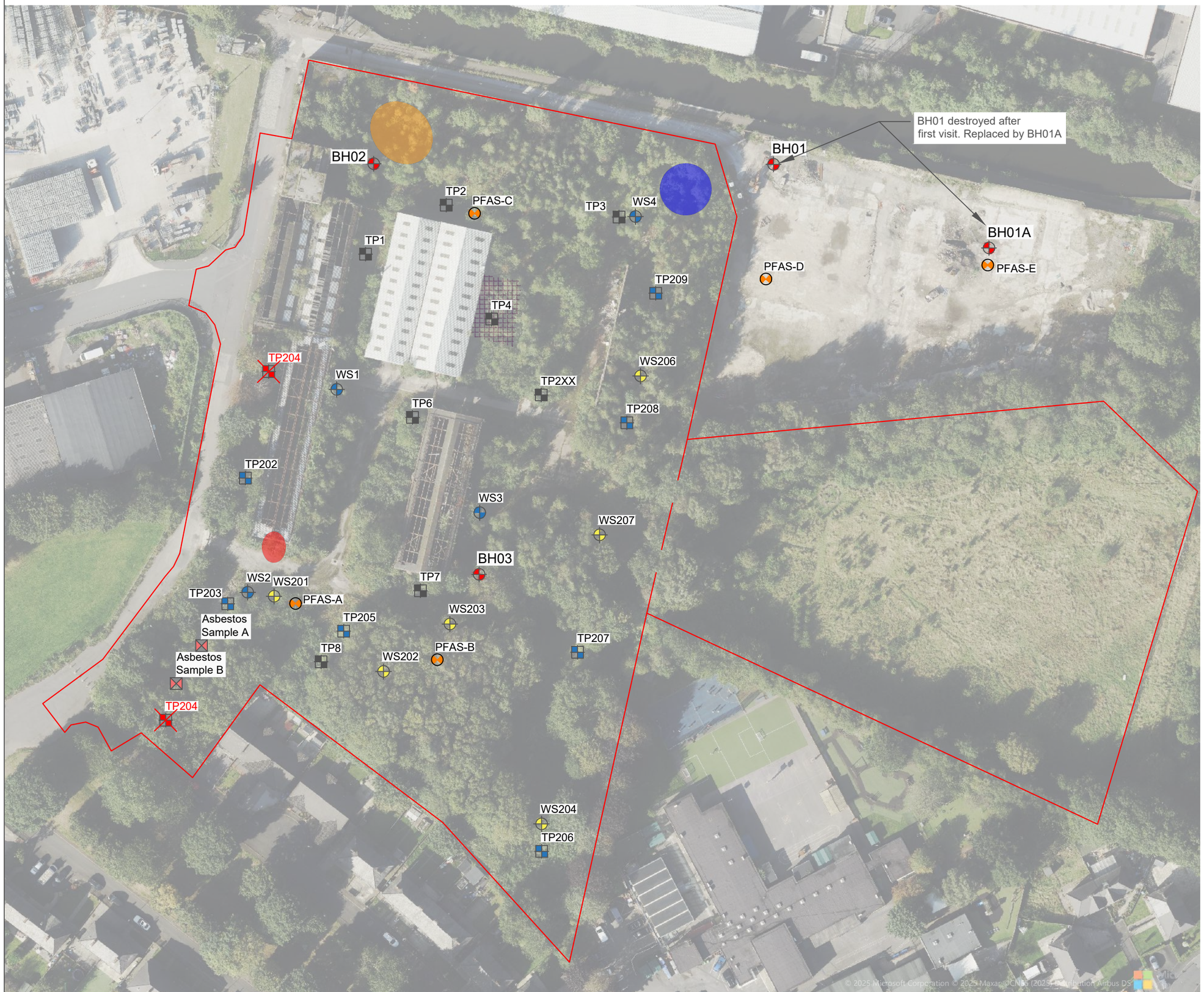
The site has an approximate address of B&S Masset, Crabtree Lane, Manchester, M11 1BR.

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APPENDIX B

(i) Betts Exploratory Hole Location Plan

© Betts Geo Environmental Ltd 2025



Legend	
BH01	Cable Percussive Locations
	Exploratory BH - Betts 2025
WS4	Historical Exploratory Location
WS206	Historical Exploratory Location
TP208	Historical Exploratory Location
TP3	Historical Exploratory Location
	Exploratory Location Not Undertaken
	Asbestoss Sampled
PFAS-E	PFAS Soil Sample
	Soft Wet Ground
	Depression
	Asbestoss At Surface
	Concrete Base with Metal
	Site Boundary

REV	DATE	BY	DESCRIPTION	CHK
---	---	---	---	---

DRAWING STATUS: DRAFT

BETTS GEO
CONSULTING ENGINEERS
Unit 6, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire CH5 2LY
Tel: 01244 288178 Fax: 01244 288516 enquiries@betts-associates.co.uk

Keepmoat Homes

PROJECT:
Crabtree Lane
Openshaw

TITLE:
Cable Percussive Hole
Location Plan with
Historical SI Locations

DATE:	SCALE @ SIZE:	DRAWN:	CHECKED:
3/12/25	NTS	AJG	MJF

PROJECT No:	DRAWING No:	REV:
25KMH022	EXP001	–

File: 25KMH022 CRABTREE LANE BG AG.DWG - Saved:07/01/2026 14:53:42 - Plotted: 07/01/2026 14:54:08

APPENDIX C

(i) Betts Exploratory Hole Logs

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Cable Percussion Log

BH01
Sheet 1 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-18	2025-11-20

Client Keepmoat
Consultant Betts Geo
Contractor JB Drilling

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
						(1.90)		Loose black gravelly fine to coaese SAND with a medium cobble content of subangular brick. Gravel is angular to subrounded, fine to coarse brick, concrete and occasional wood fragments. [MADE GROUND]
		1.20	SPT	N=1 (1,0/0,0,0,1)				
						1.90		
		2.00	SPT	N=8 (1,2/2,2,2,2)		(0.60)		Firm grey mottled brown slightly gravelly CLAY. Gravel is angular to subrounded, fine to coarse sandstone and mudstone. [GLACIAL TILL]
		2.00	D			2.50		Firm to stiff grey silty CLAY. [GLACIAL TILL]
		3.00	SPT	N=20 (1,3/3,5,5,7)				
		3.00	D			(2.50)		
		4.00	SPT	N=26 (1,3/5,5,8,8)				
		4.00	D					
		5.00	SPT	N=33 (3,6/8,10,8,7)		5.00		Brown very silty fine SAND. [GLACIOFLUVIAL DEPOSITS]
		5.00	D			(1.00)		
		6.00	SPT	N=45 (3,8/8,11,11,15)		6.00		Brown fine to coarse SAND [GLACIOFLUVIAL DEPOSITS]
		6.00	D					
		7.50	SPT	N=50 for 225mm (5,11/21,29,45,0 for 0mm)				
		7.50	D					
		8.00	D			(4.50)		
		9.00	SPT	N=50 for 155mm (5,8/13,24,13 for 5mm)				
		9.00	D					
								Continued on next page

Remarks
Refusal at 17.00m

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 17.00m	CP	Dando 2000	AS

Cable Percussion Log

BH01
Sheet 2 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-18	2025-11-20

Client Keepmoat

Consultant Betts Geo

Contractor JB Drilling

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
								As previous page.
		10.50 10.50	SPT D	N=50 for 155mm (3,7/15,27,8 for 5mm)		10.50		Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is subangular to subrounded, fine to medium quartz. [GLACIOFLUVIAL DEPOSITS]
		12.00 12.00	SPT D	N=50 for 190mm (6,10/17,18,15 for 40mm)		(3.00)		
		13.50 13.50	SPT D	N=85 (8,12/16,20,14,35)		13.50		Brown clayey very silty fine SAND. [GLACIOFLUVIAL DEPOSITS]
		15.00 15.00	SPT D	N=50 for 235mm (6,8/11,16,16,7 for 10mm)		(1.50) 15.00		Very stiff to hard slightly silty CLAY. [WEATHERED MUDSTONE?]
		16.50 16.50	SPT D	N=80 (9,14/17,19,14,30)		(2.00) 17.00		*End of Borehole at 17.00m*

Remarks
Refusal at 17.00m

Method, Plant, Stability, Dimensions			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 17.00m	CP	Dando 2000	AS

Cable Percussion Log

BH01

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-18	2025-11-20

Client	Consultant	Contractor
Keepmoat	Betts Geo	JB Drilling

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
8.00				
11.50				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
8.00	5.30	20	
11.50	9.20	20	

SPT - Details

Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)					N=1 (1,0/0,0,0,1)
2.00 (S)					N=8 (1,2/2,2,2,2)
3.00 (S)					N=20 (1,3/3,5,5,7)
4.00 (S)					N=26 (1,3/5,5,8,8)
5.00 (S)					N=33 (3,6/8,10,8,7)
6.00 (S)					N=45 (3,8/8,11,11,15)
7.50 (S)					N=50 for 225mm (5,11/21,29,45,0 for 0mm)
9.00 (S)					N=50 for 155mm (5,8/13,24,13 for 5mm)
10.50 (S)					N=50 for 155mm (3,7/15,27,8 for 5mm)
12.00 (S)					N=50 for 190mm (6,10/17,18,15 for 40mm)
13.50 (S)					N=85 (8,12/16,20,14,35)
15.00 (S)					N=50 for 235mm (6,8/11,16,16,7 for 10mm)
16.50 (S)					N=80 (9,14/17,19,14,30)

Sample Details

Sample ID	Type	Water Level (m)	Remarks
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		

Remarks
Refusal at 17.00m

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 17.00m	CP	Dando 2000	AS

Cable Percussion Log

BH02
Sheet 1 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-21	2025-11-24

Client Keepmoat
Consultant Betts Geo
Contractor JB Drilling

Inst/ Backfill	Water Levels	Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Legend	Description
						(1.00)		Loose black gravelly fine to coaese SAND with a medium cobble content of subangular brick. Gravel is angular to subrounded, fine to coarse brick, concrete and occasional wood fragments. [MADE GROUND]
						1.00		
		1.20 1.20	SPT D	N=17 (3,3/3,4,5,5)				Firm brown slightly gravelly CLAY. Gravel is subangular to subrounded, fine to medium sandstone. [GLACIAL TILL]
		2.00 2.00	SPT D	N=21 (2,3/4,5,5,7)		(2.00)		
		3.00 3.00	SPT D	N=44 (6,11/10,12,12,10)		3.00		Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to subrounded, fine to coarse sandstone. [GLACIOFLUVIAL DEPOSITS]
		4.00 4.00	SPT D	N=47 (4,9/9,12,12,14)				
		5.00 5.00	SPT D	N=50 (5,9/13,17,19,1)				
		6.00	SPT	N=50 for 205mm (4,11/14,19,17 for 55mm)				
		6.00	D			(7.00)		
		7.00	D					
		7.50	SPT	N=50 for 225mm (8,12/21,29,30,0 for 0mm)				
		8.00	D					
		9.00 9.00	SPT D	N=12 (1,1/2,3,3,4)				
						10.00		

Continued on next page

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

Cable Percussion Log

BH02
Sheet 2 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-21	2025-11-24

Client
Keepmoat

Consultant
Betts Geo

Contractor
JB Drilling

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
		10.50	SPT	N=22 (3,3/4,5,5,8)		(3.00)		Soft to firm dark brown slightly gravelly sandy CLAY. Gravel is angular to subrounded, fine to coarse sandstone. [GLACIOFLUVIAL DEPOSITS]
		10.50	D					
		12.00	SPT	N=50 for 225mm (3,7/15,15,20,0 for 0mm)				
		12.00	D					
		13.50	SPT	N=50 for 231mm (3,4/8,15,23,40 for 6mm)		13.00		Dark brown clayey fine to coarse SAND. [GLACIOFLUVIAL DEPOSITS]
		13.50	D					
		15.00	SPT	N=100 (5,5/9,19,22,50)		(5.00)		*Below 16.00m, becoming slightly gravelly. (16.00m)*
		15.00	D					
		16.50	SPT	N=80 (6,8/15,18,17,30)				
		16.95	D					
		18.00	SPT	N=50 for 225mm (9,13/29,21,40,0 for 0mm)		18.00		Very stiff to hard dark brown slightly gravelly CLAY. Gravel is angular to subrounded, fine to medium mudstone. [WEATHERED MUDSTONE?]
		19.50	SPT	N=80 (11,14/32,18,30,0)		(2.00)		
						20.00		*End of Borehole at 20.00m*

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

Cable Percussion Log

BH02

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-21	2025-11-24

Client	Consultant	Contractor
Keepmoat	Betts Geo	JB Drilling

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
6.70				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
6.70	5.20	20	

SPT - Details

Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)					N=17 (3,3/3,4,5,5)
2.00 (S)					N=21 (2,3/4,5,5,7)
3.00 (S)					N=44 (6,11/10,12,12,10)
4.00 (S)					N=47 (4,9/9,12,12,14)
5.00 (S)					N=50 (5,9/13,17,19,1)
6.00 (S)					N=50 for 205mm (4,11/14,19,17 for 55mm)
7.50 (S)					N=50 for 225mm (8,12/21,29,30,0 for 0mm)
9.00 (S)					N=12 (1,1/2,3,3,4)
10.50 (S)					N=22 (3,3/4,5,5,8)
12.00 (S)					N=50 for 225mm (3,7/15,15,20,0 for 0mm)
13.50 (S)					N=50 for 231mm (3,4/8,15,23,40 for 6mm)
15.00 (S)					N=100 (5,5/9,19,22,50)
16.50 (S)					N=80 (6,8/15,18,17,30)
18.00 (S)					N=50 for 225mm (9,13/29,21,40,0 for 0mm)
19.50 (S)					N=80 (11,14/32,18,30,0)

Sample Details

Sample ID	Type	Water Level (m)	Remarks
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

Cable Percussion Log

BH03

Sheet 1 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-25	2025-11-27

Client
Keepmoat

Consultant
Betts Geo

Contractor
JB Drilling

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
								Conrete over balck gravelly fine to coarse SAND. Gravel is angular to subrounded, fine to coarse ash, clinker, birck and concrete. [MADE GROUND]
		1.20 1.20	SPT D	N=4 (1,1/0,1,1,2)				
		2.00 2.00	SPT D	N=6 (1,1/2,1,1,2)		(5.00)		
		3.00 3.00	SPT D	N=15 (3,3/4,5,3,3)				
		4.00 4.00	SPT D	N=18 (6,11/5,6,4,3)				
		5.00 5.00	SPT D	N=9 (2,2/2,2,3,2)		5.00 (1.00)		Black sandy angulae to subrounded, fine to coarse GRAVEL of ash, clinker, brick and concrete. [MADE GROUND]
		6.00 6.00	SPT D	N=14 (2,2/2,2,4,6)		6.00 (1.50)		Soft black sandy gravelly CLAY. Gravel is angular to subrounded, fine to coarse ash, brick, concrete and clinker. [MADE GROUND]
		7.50 7.50	SPT D	N=20 (3,3/4,4,5,7)		7.50 (3.00)		Dark brown slightly gravelly sandy CLAY. Gravel is angular to subrounded, fine to coarse sandstone. [GLACIAL TILL]
		9.00	SPT	N=17 (2,3/3,4,5,5)				

Continued on next page

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

Cable Percussion Log

BH03
Sheet 2 of 2

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-25	2025-11-27

Client
Keepmoat

Consultant
Betts Geo

Contractor
JB Drilling

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
								As previous page.
		10.50	SPT	N=79 (7,19/15,15,19,30)		10.50		
		10.50	D					Dark brown slightly gravelly silty fine to coarse SAND. Gravel is angular to subrounded, fine to coarse sandstone. [GLACIOFLUVIAL DEPOSITS]
						(1.50)		
		12.00	SPT	N=50 for 225mm (14,11/12,24,14,0 for 0mm)		12.00		
		12.00	D					Dark brown slightly gravelly very silty fine SAND. Gravel is angular to subrounded, fine to coarse sandstone. [GLACIOFLUVIAL DEPOSITS]
						(1.50)		
		13.50	SPT	N=50 for 230mm (9,12/18,22,10,0 for 5mm)		13.50		
		13.50	D					Dark orangish brown slightly silty fine to coarse SAND. [GLACIOFLUVIAL DEPOSITS]
		15.00	SPT	N=50 for 225mm (6,15/23,21,6,0 for 0mm)				
		15.00	D					
						(4.50)		
		16.50	SPT	N=50 for 225mm (8,14/14,25,11,0 for 0mm)				
		16.50	D					
		18.00	SPT	N=50 for 225mm (3,5/9,18,23,0 for 0mm)		18.00		
		18.00	D					Stiff brown slightly sandy CLAY. [GLACIAL TILL]
						(2.00)		
		19.50	SPT	N=40 (2,4/8,8,9,15)				
		19.50	D					*Below 19.50, becoming sandy. (19.50m)*
						20.00		*End of Borehole at 20.00m*

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

Cable Percussion Log

BH03

SUPPLEMENTARY INFO

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane	25KMH022	2025-11-25	2025-11-27

Client	Consultant	Contractor
Keepmoat	Betts Geo	JB Drilling

Water Strike - General

Struck (m)	Seal Depth (m)	Casing Depth (m)	Date and Time	Remarks
10.90				

Water Strike - Details

Struck (m)	Rose To (m)	Time (mins)	Remarks
10.90	7.20	20	

SPT - Details

Top Depth (m) (Type)	Casing Depth (m)	Water Depth (m)	Hammer Serial No.	Energy Ratio (%)	Results
1.20 (S)					N=4 (1,1/0,1,1,2)
2.00 (S)					N=6 (1,1/2,1,1,2)
3.00 (S)					N=15 (3,3/4,5,3,3)
4.00 (S)					N=18 (6,11/5,6,4,3)
5.00 (S)					N=9 (2,2/2,2,3,2)
6.00 (S)					N=14 (2,2/2,2,4,6)
7.50 (S)					N=20 (3,3/4,4,5,7)
9.00 (S)					N=17 (2,3/3,4,5,5)
10.50 (S)					N=79 (7,19/15,15,19,30)
12.00 (S)					N=50 for 225mm (14,11/12,24,14,0 for 0mm)
13.50 (S)					N=50 for 230mm (9,12/18,22,10,0 for 5mm)
15.00 (S)					N=50 for 225mm (6,15/23,21,6,0 for 0mm)
16.50 (S)					N=50 for 225mm (8,14/14,25,11,0 for 0mm)
18.00 (S)					N=50 for 225mm (3,5/9,18,23,0 for 0mm)
19.50 (S)					N=40 (2,4/8,8,9,15)

Sample Details

Sample ID	Type	Water Level (m)	Remarks
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		
	D		

Remarks
Target depth reached.

Method, Plant, Stability, Dimensions

			Logger
0.00 - 1.20m	IP	Hand tools	AS
1.20 - 20.00m	CP	Dando 2000	AS

BETTS GEO
CONSULTING ENGINEERS

Key to exploratory hole symbols and abbreviations

SAMPLE TYPES

ACM - Asbestos sample
AMAL - Amalgamated sample
B - Bulk disturbed sample
BLK - Block sample
C - Core sample
CBR - CBR test sample
D - Disturbed sample
ES - Environmental sample
EW - Environmental water sample
G - Gas sample
J - Jar sample
L - Liner sample
TW - Pushed thin wall sample
U - Undisturbed sample
UT - Undisturbed thin wall sample
W - Water sample

IN-SITU TESTS

HV - Hand shear vane
HV(r) - Hand shear vane residual
PID - Photo ionisation detector
PP - Hand penetrometer
SPT - Standard penetration test
SPT(C) - SPT using cone

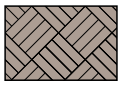
GROUNDWATER

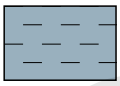
Groundwater strike
Groundwater rest level

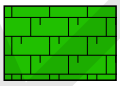
ROTARY CORE DETAILS

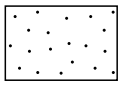
TCR - Total core recovery (%)
SCR - Solid core recovery (%)
RQD - Rock quality designation (%)
FI - Fracture index
NI - Non-intact core
AZCL - Assumed zone of core loss

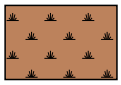
LEGEND

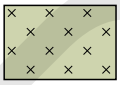

Topsoil

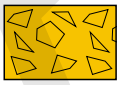

Clay

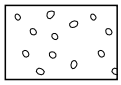

Chalk

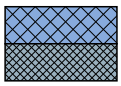

Sand backfill

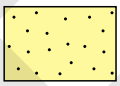

Peat

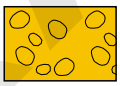

Silt

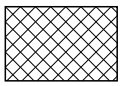

Breccia

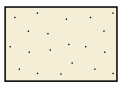

Gravel backfill

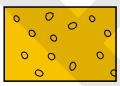

Made ground [cohesive]


Sand

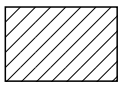

Conglomerate

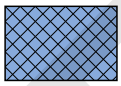

Arisings

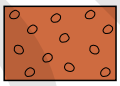

Concrete

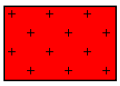

Gravel

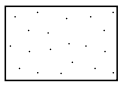

Metamorphic

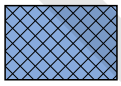

Bentonite

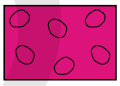

Wood


Cobbles


Igneous


Concrete


Brick


Boulders

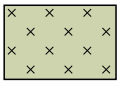

Grout


Bituminous material

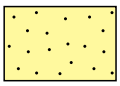

Mudstone


Plain pipe

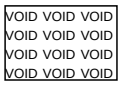

Gypsum


Siltstone

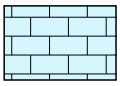

Coal


Sandstone


Slotted pipe



Void


Limestone

DRAFT

Cable Percussion Log

BH01A
Sheet 1 of 1

BETTS GEO CONSULTING ENGINEERS

Hole Type	Easting	Northing	Ground Level (m)	Scale
CP				1:50

Project Name	Project No.	Start Date	End Date
Crabtree Lane, Openshaw	25KMH022	2025-01-06	2025-01-06

Client	Consultant	Contractor
Keepmoat Homes	RD	JB Drilling Ltd

Inst/ Backfill	Water Levels	Samples and Tests: Depth (m)	Type/ Ref	Results	Level (m)	Depth (thickness) (m)	Strata: Legend	Description
						(0.30) 0.30		Snow over dense black orange brown very sandy very gravelly COBBLES of fine to coarse brick and mortar. Gravel of fine to coarse angular brick. [MADE GROUND]
						(1.70)		Dense black slightly clayey ashy GRAVEL of fine to coarse angular coke, clinker and brick. [MADE GROUND]
						2.00 (0.80)		Firm to stiff brown slightly silty sandy CLAY with rare gravel of fine subangular mixed lithologies. [GLACIAL TILL]
						2.80 (1.00)		Medium dense grey brown medium SAND. [GLACIOFLUVIAL DEPOSITS]
						3.80 (1.00)		Medium dense brown SAND & GRAVEL. Sand fine to coarse. Gravel fine to medium subrounded mixed lihologies. [GLACIOFLUVIAL DEPOSITS]
						4.80 (3.20)		Medium dense brown medium SAND. [GLACIOFLUVIAL DEPOSITS]
						8.00		*End of Borehole at 8.00m*

DRAFT

Remarks
Dry and stable.
No visual or olfactory evidence of contamiantion.
Bentonite seal at base of made ground.
Terminated at BH01 well depth.
Installed with monitoring well to full depth.

Method, Plant, Stability, Dimensions
0.00 - 8.00m CP Dando 2000
Stable

Logger
RD

APPENDIX D

(i) Contamination Test Results

© Betts Geo Environmental Ltd 2025

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/14177
Issue Number: 1 **Date:** 15 December, 2025

Client:
Betts Geo Environmental
Old Marsh Farm Barns
Welsh Road
Sealand
Flintshire
UK
CH5 2LY

Project Manager: Betts Geolab/Graham Clark
Project Name: Crabtree Lane
Project Ref: 25KMH022
Order No: BG6071
Date Samples Received: 04/12/25
Date Instructions Received: 05/12/25
Date Analysis Completed: 15/12/25

Approved by:

[redacted]

Danielle Brierley
Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 25/14177

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	25/14177/1	25/14177/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH02	BH03								
Depth to Top										
Depth To Bottom										
Date Sampled	04-Dec-25	04-Dec-25								
Sample Type	WATER - GW	WATER - GW								
Sample Matrix Code	N/A	N/A								
COD (settled)$_{A}^{\#}$	19	38						mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	1	3						mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	429.3	926.8						mg/l Ca CO3	4	A-T-049w
Arsenic (dissolved)$_{A}^{\#}$	<1	8						µg/l	1	A-T-025w
Boron (dissolved)$_{A}^{\#}$	163	61						µg/l	10	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	2.1						µg/l	0.2	A-T-025w
Copper (dissolved)$_{A}^{\#}$	<4	73						µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	1	16						µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	0.5	87.3						µg/l	0.1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1						µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	4	35						µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	2						µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	94	372						µg/l	2	A-T-025w
PAH (total 16) (w)$_{A}^{\#}$	0.92	0.07						µg/l	0.01	A-T-019w

Envirolab Job Number: 25/14177

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	25/14177/1	25/14177/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH02	BH03								
Depth to Top										
Depth To Bottom										
Date Sampled	04-Dec-25	04-Dec-25								
Sample Type	WATER - GW	WATER - GW								
Sample Matrix Code	N/A	N/A								
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	12	34						µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	12	34						µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<10	<10						µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A^{\#}$	<10	<10						µg/l	10	A-T-055w
Total Aromatics $(w)_A^{\#}$	<10	<10						µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	12	34						µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Betts Geo Environmental, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, UK, CH5 2LY

Project: Crabtree Lane

Clients Project No: 25KMH022

Project No: 25/14177

Date Received: 05/12/2025 (am)

Cool Box Temperatures (°C): 11.2

Lab Sample ID	25/14177/1	25/14177/2
Client Sample No		
Client Sample ID/Depth	BH02	BH03
Date Sampled	04/12/25	04/12/25
Deviation Code		
F	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	25/14177/1	25/14177/2
Client Sample No		
Client Sample ID/Depth	BH02	BH03
Date Sampled	04/12/25	04/12/25
BOD (settled, 5 day)	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	25/14177/1	25/14177/2
Client Sample No		
Client Sample ID/Depth	BH02	BH03
Date Sampled	04/12/25	04/12/25
A-T-019w	10/12/2025	10/12/2025
A-T-022w	10/12/2025	10/12/2025
A-T-025w	15/12/2025	15/12/2025
A-T-034w	09/12/2025	09/12/2025
A-T-048	15/12/2025	15/12/2025
A-T-049w	10/12/2025	10/12/2025
A-T-055w	15/12/2025	15/12/2025
Calc-As Recd	15/12/2025	15/12/2025

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

TEST REPORT

Report Number: 2026-162

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758946
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 16/01/2026
Date of Analysis : 19/01/2026
Date of Report : 29/01/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/00379/1 BH01 15/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director
Signatu [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-162
Customer Sample Identifier : 26/00379/1 BH01 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	4.51
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X)	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	33.5
PFBS	1	ng/l	17.1
PFDA	1	ng/l	2.42
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	44.8
PFHpS	1	ng/l	1.45
PFHxA	1	ng/l	53.5
PFHxDA	1	ng/l	ND
PFHxS Linear	1	ng/l	32.4
PFHxS Branched #	1	ng/l	10
PFHxS Total #	1	ng/l	42.4
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-162
Customer Sample Identifier : 26/00379/1 BH01 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	4.16
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	26.2
PFOA Branched #	1	ng/l	1.36
PFOA Total #	1	ng/l	27.5
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	17.6
PFOS Branched #	1	ng/l	8.26
PFOS Total #	1	ng/l	25.9
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	55.7
PFPeS	1	ng/l	5.36
PFTeA	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	44

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-162 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758946
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	16/01/2026
Date of Analysis :	21/01/2026
Date of Report :	29/01/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/00379/1 BH01 15/01/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-162 TOPA
Customer Sample Identifier : 26/00379/1 BH01 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	17.8
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	68.1
PFBS	10	ng/l	23.1
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	59.2
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	92.1
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	32.3
PFHxS Branched	10	ng/l	13
PFHxS Total	10	ng/l	45.3
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-162 TOPA
Customer Sample Identifier : 26/00379/1 BH01 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	43
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	43
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	12.8
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	12.8
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	94.3
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	204

ND - not detected

TEST REPORT

Report Number: 2026-163

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758946
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 16/01/2026
Date of Analysis : 19/01/2026
Date of Report : 29/01/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/00379/2 BH02 15/01/26
Sample Condition : Non-Conforming*

Comments:
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*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-163
Customer Sample Identifier : 26/00379/2 BH02 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS ^	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS ^	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	2.34
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X)	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	7.44
PFBS	1	ng/l	6.81
PFDA	1	ng/l	ND
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	ND
PFHpS	1	ng/l	1.22
PFHxA	1	ng/l	2.59
PFHxDA	1	ng/l	ND
PFHxS Linear	1	ng/l	36.6
PFHxS Branched #	1	ng/l	13.4
PFHxS Total #	1	ng/l	50
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-163
Customer Sample Identifier : 26/00379/2 BH02 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	2.78
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	2.78
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	17.8
PFOS Branched #	1	ng/l	18.6
PFOS Total #	1	ng/l	36.4
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	1.22
PFPeS	1	ng/l	2.76
PFTeA	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	2.16

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-163 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758946
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	16/01/2026
Date of Analysis :	21/01/2026
Date of Report :	29/01/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/00379/2 BH02 15/01/26
Sample Condition :	Conforming

Comments:
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Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-163 TOPA
Customer Sample Identifier : 26/00379/2 BH02 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	50.8
PFBS	10	ng/l	11
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	21.5
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	39.4
PFHxS Branched	10	ng/l	17.4
PFHxS Total	10	ng/l	56.8
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-163 TOPA
Customer Sample Identifier : 26/00379/2 BH02 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	18.2

ND - not detected

TEST REPORT

Report Number: 2026-164

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758946
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 16/01/2026
Date of Analysis : 19/01/2026
Date of Report : 29/01/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/00379/3 BH03 15/01/26
Sample Condition : Non-Conforming*

Comments:
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*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-164
Customer Sample Identifier : 26/00379/3 BH03 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	2
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X)	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	10.8
PFBS	1	ng/l	9.7
PFDA	1	ng/l	ND
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	ND
PFHpS	1	ng/l	ND
PFHxA	1	ng/l	3.48
PFHxDA	1	ng/l	ND
PFHxS Linear	1	ng/l	40.7
PFHxS Branched #	1	ng/l	11.1
PFHxS Total #	1	ng/l	51.8
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-164
Customer Sample Identifier : 26/00379/3 BH03 15/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	2.86
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	2.86
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	18.9
PFOS Branched #	1	ng/l	17.9
PFOS Total #	1	ng/l	36.8
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	2.23
PFPeS	1	ng/l	2.61
PFTeA	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	13

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-164 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758946
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	16/01/2026
Date of Analysis :	21/01/2026
Date of Report :	29/01/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/00379/3 BH03 15/01/26
Sample Condition :	Conforming

Comments:
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Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-164 TOPA
Customer Sample Identifier : 26/00379/3 BH03 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	80.3
PFBS	10	ng/l	18.7
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	22.8
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	44
PFHxS Branched	10	ng/l	11.4
PFHxS Total	10	ng/l	55.4
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-164 TOPA
Customer Sample Identifier : 26/00379/3 BH03 15/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	410

ND - not detected

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 26/00379
Issue Number: 1 **Date:** 30 January, 2026

Client:
Betts Geo Environmental
Old Marsh Farm Barns
Welsh Road
Sealand
Flintshire
UK
CH5 2LY

Project Manager: Betts Geolab/Graham Clark
Project Name: Crabtree Lane
Project Ref: 25KMH022
Order No: BG6107
Date Samples Received: 15/01/26
Date Instructions Received: 15/01/26
Date Analysis Completed: 30/01/26

Approved by:

[redacted]

Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 26/00379

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/00379/1	26/00379/2	26/00379/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01	BH02	BH03							
Depth to Top										
Depth To Bottom										
Date Sampled	15-Jan-26	15-Jan-26	15-Jan-26							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
COD (settled)$_{A}^{\#}$	37	-	-					mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	<1	-	-					mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	572.5	-	-					mg/l Ca CO3	4	A-T-049w
Arsenic (dissolved)$_{A}^{\#}$	<1	-	-					µg/l	1	A-T-025w
Boron (dissolved)$_{A}^{\#}$	133	-	-					µg/l	10	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	-	-					µg/l	0.2	A-T-025w
Copper (dissolved)$_{A}^{\#}$	<4	-	-					µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	-	-					µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	1.5	-	-					µg/l	0.1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	-	-					µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	-	-					µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	3	-	-					µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	38	-	-					µg/l	2	A-T-025w
PAH (total 16) (w)$_{A}^{\#}$	0.45	-	-					µg/l	0.01	A-T-019w
PFBA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFPeA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFHxA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFHpA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFOA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFNA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFDA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFUnA; PFUdA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFDoA(w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFTrDA; PFTriA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFTeA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFHxDA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFODA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFBS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFPeS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFHxS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFHpS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFOS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFNS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas

Envirolab Job Number: 26/00379

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/00379/1	26/00379/2	26/00379/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01	BH02	BH03							
Depth to Top										
Depth To Bottom										
Date Sampled	15-Jan-26	15-Jan-26	15-Jan-26							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
PFDS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFUnDS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFDoS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
HFPO-DA (Gen X) (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
HFPO-TA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
DONA; ADONA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFMOPrA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
NFDHA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFMOBA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
PFecHS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
3:3 FTCA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	2	Subcon Veritas
5:3 FTCA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	2	Subcon Veritas
7:3 FTCA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	2	Subcon Veritas
PFEESA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
6:2 Cl-PFESA; 9 Cl-PF3ONS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
8:2 Cl-PFESA; 11 Cl-PF3OUdS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
4:2 FTSA; 4:2FTS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
6:2 FTSA; 6:2FTS (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
8:2 FTSA; 8:2FTS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
FBSA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
FHxSA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
FOSA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
MeFOSA; N-MeFOSA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
EtFOSA; N-EtFOSA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
MeFOSE (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
EtFOSE (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
NMeFOSAA; MeFOSAA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
NEtFOSAA; EtFOSAA (w)$_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
FOSAA (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas
10:2 FTS (w) $_{A}^{\#}$	Appended	Appended	Appended					ng/l	1	Subcon Veritas

Envirolab Job Number: 26/00379

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/00379/1	26/00379/2	26/00379/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01	BH02	BH03							
Depth to Top										
Depth To Bottom										
Date Sampled	15-Jan-26	15-Jan-26	15-Jan-26							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	-	-					µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	-	-					µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	-	-					µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A^{\#}$	<10	-	-					µg/l	10	A-T-055w
Total Aromatics $(w)_A^{\#}$	<10	-	-					µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	-	-					µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	-	-					µg/l	1	A-T-022w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Betts Geo Environmental, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, UK, CH5 2LY

Project: Crabtree Lane

Clients Project No: 25KMH022

Project No: 26/00379

Date Received: 15/01/2026 (am)

Cool Box Temperatures (°C): 6.3

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/00379/1	26/00379/2	26/00379/3
Client Sample No			
Client Sample ID/Depth	BH01	BH02	BH03
Date Sampled	15/01/26	15/01/26	15/01/26
A-T-019w	19/01/2026		
A-T-022w	19/01/2026		
A-T-025w	21/01/2026		
A-T-034w	16/01/2026		
A-T-048	20/01/2026		
A-T-049w	23/01/2026		
A-T-055w	19/01/2026		
Calc-As Recd	19/01/2026		

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

TEST REPORT

Report Number: 2026-57

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 15/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/1 PFAS-A 06/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director
Signatu [redacted]

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Results PFAS

Sample Type : Soil
Test Report Number : 2026-57
Customer Sample Identifier : 26/00140/1 PFAS-A 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS ^	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS ^	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched #	1	µg/kg	ND
PFHxS Total #	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-57
Customer Sample Identifier : 26/00140/1 PFAS-A 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched #	1	µg/kg	ND
PFOA Total #	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	4.22
PFOS Branched #	1	µg/kg	ND
PFOS Total #	1	µg/kg	4.22
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB #	1	µg/kg	1.21

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-57 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758913
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	12/01/2026
Date of Analysis :	16/01/2026
Date of Report :	23/01/2026
Sample Type :	Soil
Customer Sample Identifier :	26/00140/1 PFAS-A 06/01/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signat [redacted]

Results PFAS

Sample Type : Soil
Test Report Number : 2026-57 TOPA
Customer Sample Identifier : 26/00140/1 PFAS-A 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched	1	µg/kg	ND
PFHxS Total	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-57 TOPA
Customer Sample Identifier : 26/00140/1 PFAS-A 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched	1	µg/kg	ND
PFOA Total	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	3.54
PFOS Branched	1	µg/kg	ND
PFOS Total	1	µg/kg	3.54
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB	1	µg/kg	2.68

ND - not detected

TEST REPORT

Report Number: 2026-58

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 15/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/2 PFAS-B 06/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director

[redacted]

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Results PFAS

Sample Type : Soil
Test Report Number : 2026-58
Customer Sample Identifier : 26/00140/2 PFAS-B 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched #	1	µg/kg	ND
PFHxS Total #	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-58
Customer Sample Identifier : 26/00140/2 PFAS-B 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched #	1	µg/kg	ND
PFOA Total #	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched #	1	µg/kg	ND
PFOS Total #	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB #	1	µg/kg	ND

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-58 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758913
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	01/12/2026
Date of Analysis :	16/01/2026
Date of Report :	23/01/2026
Sample Type :	Soil
Customer Sample Identifier :	26/00140/2 PFAS-B 06/01/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director
Signature [redacted]

Results PFAS

Sample Type : Soil
Test Report Number : 2026-58 TOPA
Customer Sample Identifier : 26/00140/2 PFAS-B 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched	1	µg/kg	ND
PFHxS Total	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-58 TOPA
Customer Sample Identifier : 26/00140/2 PFAS-B 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched	1	µg/kg	ND
PFOA Total	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched	1	µg/kg	ND
PFOS Total	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB	1	µg/kg	8.89

ND - not detected

TEST REPORT

Report Number: 2026-59

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 15/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/3 PFAS-C 06/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director

Signature : [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Soil
Test Report Number : 2026-59
Customer Sample Identifier : 26/00140/3 PFAS-C 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched #	1	µg/kg	ND
PFHxS Total #	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-59
Customer Sample Identifier : 26/00140/3 PFAS-C 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched #	1	µg/kg	ND
PFOA Total #	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched #	1	µg/kg	ND
PFOS Total #	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB #	1	µg/kg	1.2

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-59 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0758913
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	12/01/2026
Date of Analysis :	16/01/2026
Date of Report :	23/01/2026
Sample Type :	Soil
Customer Sample Identifier :	26/00140/3 PFAS-C 06/01/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

Results PFAS

Sample Type : Soil
Test Report Number : 2026-59 TOPA
Customer Sample Identifier : 26/00140/3 PFAS-C 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched	1	µg/kg	ND
PFHxS Total	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-59 TOPA
Customer Sample Identifier : 26/00140/3 PFAS-C 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched	1	µg/kg	ND
PFOA Total	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched	1	µg/kg	ND
PFOS Total	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB	1	µg/kg	6.97

ND - not detected

TEST REPORT

Report Number: 2026-60

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 15/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director
Signatur [redacted]

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26667

Results PFAS

Sample Type : Soil
Test Report Number : 2026-60
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched #	1	µg/kg	ND
PFHxS Total #	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-60
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched #	1	µg/kg	ND
PFOA Total #	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched #	1	µg/kg	ND
PFOS Total #	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB #	1	µg/kg	4.34

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-60 TOPA

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 16/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Conforming

Comments:
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Approved by : Karolina Pettit
Position : Director
Signatu [redacted]

Results PFAS

Sample Type : Soil
Test Report Number : 2026-60 TOPA
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA ^	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA ^	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched	1	µg/kg	ND
PFHxS Total	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-60 TOPA
Customer Sample Identifier : 26/00140/4 PFAS-D 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched	1	µg/kg	ND
PFOA Total	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched	1	µg/kg	ND
PFOS Total	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB	1	µg/kg	1.29

ND - not detected

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-61

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 15/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Non-Conforming*

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.
*** Sample's temperature outside of suitable range**

Approved by : Karolina Pettit
Position : Director
Signatu [redacted]

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26667

Results PFAS

Sample Type : Soil
Test Report Number : 2026-61
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched #	1	µg/kg	ND
PFHxS Total #	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-61
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Non-Conforming*
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched #	1	µg/kg	ND
PFOA Total #	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched #	1	µg/kg	ND
PFOS Total #	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB #	1	µg/kg	1.1

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-61 TOPA

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0758913
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 12/01/2026
Date of Analysis : 16/01/2026
Date of Report : 23/01/2026
Sample Type : Soil
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director
Signat [redacted]

Results PFAS

Sample Type : Soil
Test Report Number : 2026-61 TOPA
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	1	µg/kg	ND
4:2 FTSA; 4:2 FTS	1	µg/kg	ND
PFecHS	1	µg/kg	ND
5:3 FTCA	1	µg/kg	ND
6:2 FTSA; 6:2 FTS	1	µg/kg	ND
7:3 FTCA	1	µg/kg	ND
8:2 FTSA; 8:2 FTS	1	µg/kg	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	µg/kg	ND
10:2 FTS	1	µg/kg	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	µg/kg	ND
DONA; ADONA	1	µg/kg	ND
EtFOSE	1	µg/kg	ND
FBSA	1	µg/kg	ND
FHxSA	1	µg/kg	ND
FOSAA	1	µg/kg	ND
HFPO-DA (Gen X)	1	µg/kg	ND
HFPO-TA	1	µg/kg	ND
EtFOSA; N-EtFOSA	1	µg/kg	ND
NEtFOSAA; EtFOSAA	1	µg/kg	ND
NFDHA	1	µg/kg	ND
MeFOSA; N-MeFOSA	1	µg/kg	ND
NMeFOSAA; MeFOSAA	1	µg/kg	ND
MeFOSE	1	µg/kg	ND
PFBA	1	µg/kg	ND
PFBS	1	µg/kg	ND
PFDA	1	µg/kg	ND
PFDoA	1	µg/kg	ND
PFDoS	1	µg/kg	ND
PFDS	1	µg/kg	ND
PFEESA	1	µg/kg	ND
PFHpA	1	µg/kg	ND
PFHpS	1	µg/kg	ND
PFHxA	1	µg/kg	ND
PFHxDA	1	µg/kg	ND
PFHxS Linear	1	µg/kg	ND
PFHxS Branched	1	µg/kg	ND
PFHxS Total	1	µg/kg	ND
PFMOBA	1	µg/kg	ND
PFMOPrA	1	µg/kg	ND

Results PFAS

Sample Type : Soil
Test Report Number : 2026-61 TOPA
Customer Sample Identifier : 26/00140/5 PFAS-E 06/01/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	1	µg/kg	ND
PFNS	1	µg/kg	ND
PFOA Linear	1	µg/kg	ND
PFOA Branched	1	µg/kg	ND
PFOA Total	1	µg/kg	ND
PFODA	1	µg/kg	ND
PFOS Linear	1	µg/kg	ND
PFOS Branched	1	µg/kg	ND
PFOS Total	1	µg/kg	ND
FOSA (PFOSA)	1	µg/kg	ND
PFPeA	1	µg/kg	ND
PFPeS	1	µg/kg	ND
PFTeA	1	µg/kg	ND
PFTrDA (PFTriA)	1	µg/kg	ND
PFUdA; PFUnA	1	µg/kg	ND
PFUnDS	1	µg/kg	ND
6:2 FTAB	1	µg/kg	19.9

ND - not detected

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 26/00140
Issue Number: 1 **Date:** 26 January, 2026

Client:
Betts Geo Environmental
Old Marsh Farm Barns
Welsh Road
Sealand
Flintshire
UK
CH5 2LY

Project Manager: Adam Smith/Betts Geolab/Marc Fawcett/Robert Davies
Project Name: Crabtree Lane, Openshaw
Project Ref: 25KMH022
Order No: BG6106
Date Samples Received: 09/01/26
Date Instructions Received: 09/01/26
Date Analysis Completed: 26/01/26

Approved by:

[redacted]

Zipporah Bannister
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 26/00140

Client Project Name: Crabtree Lane, Openshaw

Client Project Ref: 25KMH022

Lab Sample ID	26/00140/1	26/00140/2	26/00140/3	26/00140/4	26/00140/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	PFAS - A	PFAS - B	PFAS - C	PFAS - D	PFAS - E					
Depth to Top										
Depth To Bottom										
Date Sampled	06-Jan-26	06-Jan-26	06-Jan-26	06-Jan-26	06-Jan-26					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL					
Sample Matrix Code										
PFBA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFPeA$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFHxA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFHpA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFOA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFNA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFDA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFUnA; PFUdA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFDoA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFTrDA; PFTriA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFTeA (s) SUBCON Veritas$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFHxDA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFODA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFBS (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFPeS$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFHxS$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFHpS (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFOS (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFNS (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFDS (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFUnDS (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFDoS (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
HFPO-DA (Gen X) (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
HFPO-TA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
DONA; ADONA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFMOPrA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
NFDHA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFMOBA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFecHS (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
3:3 FTCA (s)$_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
5:3 FTCA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
7:3 FTCA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
PFEESA (s) $_A^\#$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas

Envirolab Job Number: 26/00140

Client Project Name: Crabtree Lane, Openshaw

Client Project Ref: 25KMH022

Lab Sample ID	26/00140/1	26/00140/2	26/00140/3	26/00140/4	26/00140/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	PFAS - A	PFAS - B	PFAS - C	PFAS - D	PFAS - E					
Depth to Top										
Depth To Bottom										
Date Sampled	06-Jan-26	06-Jan-26	06-Jan-26	06-Jan-26	06-Jan-26					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL					
Sample Matrix Code										
6:2 Cl-PFESA; 9Cl-PF3ONS (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
8:2 Cl-PFESA; 11Cl-PF3OUdS (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
4:2 FTSA; 4:2 FTS (s) $_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
6:2 FTSA; 6:2 FTS (s) $_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
8:2 FTSA; 8:2 FTS (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
FBSA (s) $_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
FHxSA (s) $_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
FOSA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
MeFOSA; N-MeFOSA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
EtFOSA; N-EtFOSA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
MeFOSE (s) $_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
EtFOSE (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
NMeFOSAA; MeFOSAA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
NEtFOSAA; EtFOSAA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
FOSAA (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas
10:2 FTS (s)$_A^{\#}$	Appended	Appended	Appended	Appended	Appended			µg/kg	1	Subcon Veritas

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Betts Geo Environmental, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, UK, CH5 2LY

Project: Crabtree Lane, Openshaw

Clients Project No: 25KMH022

Project No: 26/00140

Date Received: 09/01/2026 (am)

Cool Box Temperatures (°C): 2.1

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/00140/1	26/00140/2	26/00140/3	26/00140/4	26/00140/5
Client Sample No					
Client Sample ID/Depth	PFAS - A	PFAS - B	PFAS - C	PFAS - D	PFAS - E
Date Sampled	06/01/26	06/01/26	06/01/26	06/01/26	06/01/26

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

TEST REPORT

Report Number: 2026-692

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759220
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 18/02/2026
Date of Analysis : 20/02/2026
Date of Report : 24/02/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/01778/1 BH3 16/02/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signat [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-692
Customer Sample Identifier : 26/01778/1 BH3 16/02/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	2.19
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	5.96
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X)	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	46
PFBS	1	ng/l	19.7
PFDA	1	ng/l	1.27
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	46.5
PFHpS	1	ng/l	1.32
PFHxA	1	ng/l	58.1
PFHxDA	1	ng/l	ND
PFHxS Linear	1	ng/l	52.1
PFHxS Branched #	1	ng/l	16.6
PFHxS Total #	1	ng/l	68.7
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-692
Customer Sample Identifier : 26/01778/1 BH3 16/02/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	2.85
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	58.5
PFOA Branched #	1	ng/l	3.38
PFOA Total #	1	ng/l	61.8
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	22.4
PFOS Branched #	1	ng/l	14.5
PFOS Total #	1	ng/l	36.8
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	58.3
PFPeS	1	ng/l	6.57
PFTeA	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	7.07

ND - not detected

 # Non Accredited

TEST REPORT

Report Number: 2026-692 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759220
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	18/02/2026
Date of Analysis :	20/02/2026
Date of Report :	24/02/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/01778/1 BH3 16/02/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-692 TOPA
Customer Sample Identifier : 26/01778/1 BH3 16/02/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	65.3
PFBS	10	ng/l	23.1
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	45.9
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	78.9
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	44.4
PFHxS Branched	10	ng/l	16.5
PFHxS Total	10	ng/l	60.9
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-692 TOPA
Customer Sample Identifier : 26/01778/1 BH3 16/02/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	55.8
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	55.8
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	25.92
PFOS Branched	10	ng/l	18.71
PFOS Total	10	ng/l	44.63
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	79.4
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	59.4

ND - not detected

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 26/01778
Issue Number: 1 **Date:** 04 March, 2026

Client:
Betts Geo Environmental
Old Marsh Farm Barns
Welsh Road
Sealand
Flintshire
UK
CH5 2LY

Project Manager: Betts Geolab/Graham Clark
Project Name: Crab Tree Lane
Project Ref: 25KMH022
Order No: BG6160
Date Samples Received: 16/02/26
Date Instructions Received: 16/02/26
Date Analysis Completed: 04/03/26



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 26/01778

Client Project Name: Crab Tree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/01778/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH3									
Depth to Top										
Depth To Bottom										
Date Sampled	16-Feb-26									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
PFBA (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
PFPeA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFHxA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFHpA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFOA (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
PFNA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFDA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFUnA; PFUdA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFDoA(w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFTrDA; PFTriA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFTeA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFHxDA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFODA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFBS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFPeS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFHxS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFHpS (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
PFOS (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
PFNS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFDS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFUnDS (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFDoS (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
HFPO-DA (Gen X) (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
HFPO-TA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
DONA; ADONA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFMOPrA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
NFDHA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFMOBA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas
PFecHS (w)$_A^\#$	Appended							ng/l	1	Subcon Veritas
3:3 FTCA (w) $_A^\#$	Appended							ng/l	2	Subcon Veritas
5:3 FTCA (w)$_A^\#$	Appended							ng/l	2	Subcon Veritas
7:3 FTCA (w) $_A^\#$	Appended							ng/l	2	Subcon Veritas
PFEESA (w) $_A^\#$	Appended							ng/l	1	Subcon Veritas

Envirolab Job Number: 26/01778

Client Project Name: Crab Tree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/01778/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH3									
Depth to Top										
Depth To Bottom										
Date Sampled	16-Feb-26									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
6:2 Cl-PFESA; 9 Cl-PF3ONS (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
8:2 Cl-PFESA; 11 Cl-PF3OUdS (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
4:2 FTSA; 4:2FTS (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
6:2 FTSA; 6:2FTS (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
8:2 FTSA; 8:2FTS (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
FBSA (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
FHxSA (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
FOSA (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
MeFOSA; N-MeFOSA (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
EtFOSA; N-EtFOSA (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
MeFOSE (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
EtFOSE (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
NMeFOSAA; MeFOSAA (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
NEtFOSAA; EtFOSAA (w)$_A^{\#}$	Appended							ng/l	1	Subcon Veritas
FOSAA (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas
10:2 FTS (w) $_A^{\#}$	Appended							ng/l	1	Subcon Veritas

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Betts Geo Environmental, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, UK, CH5 2LY

Project: Crab Tree Lane

Clients Project No: 25KMH022

Project No: 26/01778

Date Received: 16/02/2026 (pm)

Cool Box Temperatures (°C): 7.9

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/01778/1
Client Sample No	
Client Sample ID/Depth	BH3
Date Sampled	16/02/26

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

TEST REPORT

Report Number: 2026-1459

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/4 BH1A 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1459
Customer Sample Identifier : 26/03646/4 BH1A 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	5.05
FHxSA	1	ng/l	1.2
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	39.2
PFBS	1	ng/l	22
PFDA	1	ng/l	1.04
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	48
PFHpS	1	ng/l	2.23
PFHxA	1	ng/l	63.7
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	44.3
PFHxS Branched #	1	ng/l	5.42
PFHxS Total #	1	ng/l	49.7
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1459
Customer Sample Identifier : 26/03646/4 BH1A 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	3.85
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	55.2
PFOA Branched #	1	ng/l	3.06
PFOA Total #	1	ng/l	58.2
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	33.1
PFOS Branched #	1	ng/l	29
PFOS Total #	1	ng/l	62.1
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	68.4
PFPeS	1	ng/l	7.12
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	16.8

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1459 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	08/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/4 BH1A 25/03/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1459 TOPA
Customer Sample Identifier : 26/03646/4 BH1A 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	74.7
PFBS	10	ng/l	27.9
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	53.8
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	92.6
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	45.5
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	45.5
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1459 TOPA
Customer Sample Identifier : 26/03646/4 BH1A 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	64.5
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	64.5
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	14.5
PFOS Total	10	ng/l	14.5
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	90
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	42.7

ND - not detected

TEST REPORT

Report Number: 2026-1460

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/5 BH2 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signatur [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1460
Customer Sample Identifier : 26/03646/5 BH2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	5.26
FHxSA	1	ng/l	1.44
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	43.6
PFBS	1	ng/l	25.5
PFDA	1	ng/l	1
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	49.7
PFHpS	1	ng/l	2.51
PFHxA	1	ng/l	67.4
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	43.6
PFHxS Branched #	1	ng/l	6.27
PFHxS Total #	1	ng/l	49.9
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1460
Customer Sample Identifier : 26/03646/5 BH2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	3.62
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	54.5
PFOA Branched #	1	ng/l	3.14
PFOA Total #	1	ng/l	57.6
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	35.2
PFOS Branched #	1	ng/l	28.7
PFOS Total #	1	ng/l	63.8
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	73.1
PFPeS	1	ng/l	7.36
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	27.8

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1460 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	09/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/5 BH2 25/03/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1460 TOPA
Customer Sample Identifier : 26/03646/5 BH2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	29.9
PFBS	10	ng/l	ND
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	ND
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	39
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	39
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1460 TOPA
Customer Sample Identifier : 26/03646/5 BH2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	89.3

ND - not detected

TEST REPORT

Report Number: 2026-1461

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/6 BH3 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

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26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1461
Customer Sample Identifier : 26/03646/6 BH3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	ND
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	3.02
PFBS	1	ng/l	1.37
PFDA	1	ng/l	ND
PFDoA ^	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	ND
PFHpS	1	ng/l	ND
PFHxA	1	ng/l	1
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	ND
PFHxS Branched #	1	ng/l	ND
PFHxS Total #	1	ng/l	ND
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1461
Customer Sample Identifier : 26/03646/6 BH3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	2.01
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	2.01
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	ND
PFOS Branched #	1	ng/l	2.72
PFOS Total #	1	ng/l	2.72
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	1.84
PFPeS	1	ng/l	ND
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	2.92

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1461T TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	09/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/6 BH3 25/03/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signatu [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1461T TOPA
Customer Sample Identifier : 26/03646/6 BH3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	ND
PFBS	10	ng/l	ND
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	ND
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	ND
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	ND
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1461T TOPA
Customer Sample Identifier : 26/03646/6 BH3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	40.7

ND - not detected

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 26/03646
Issue Number: 1 **Date:** 15 April, 2026

Client:
Betts Geo Environmental
Old Marsh Farm Barns
Welsh Road
Sealand
Flintshire
UK
CH5 2LY

Project Manager: Betts Geolab/Graham Clark
Project Name: Crabtree Lane
Project Ref: 25KMH022
Order No: BG6224
Date Samples Received: 25/03/26
Date Instructions Received: 25/03/26
Date Analysis Completed: 15/04/26

Approved by:

[redacted]

Gemma Berrisford
Deputy Client Services Supervisor

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1247

Envirolab Job Number: 26/03646

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/03646/1	26/03646/2	26/03646/3	26/03646/4	26/03646/5	26/03646/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	W1	W2	W3	BH1A	BH2	BH3				
Depth to Top										
Depth To Bottom										
Date Sampled	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26				
Sample Type	WATER - EW	WATER - EW	WATER - EW	WATER - GW	WATER - GW	WATER - GW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
COD (settled)$_{A}^{\#}$	-	-	-	15	9	10		mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	-	-	-	<1	<1	<1		mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	-	-	-	678	471	567		mg/l Ca CO3	4	A-T-049w
Arsenic (dissolved)$_{A}^{\#}$	-	-	-	<2	<1	<2		µg/l	1	A-T-025w
Boron (dissolved)$_{A}^{\#}$	-	-	-	158	173	74		µg/l	10	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	-	-	-	<0.4	<0.2	<0.4		µg/l	0.2	A-T-025w
Copper (dissolved)$_{A}^{\#}$	-	-	-	<8	<4	<8		µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	-	-	-	<2	<1	9		µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	-	-	-	4.2	0.2	2.5		µg/l	0.1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	-	-	-	<0.2	<0.1	<0.2		µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	-	-	-	<4	2	<4		µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	-	-	-	2	<1	<2		µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	-	-	-	61	30	115		µg/l	2	A-T-025w
PAH (total 16) (w)$_{A}^{\#}$	-	-	-	<0.01	<0.01	0.03		µg/l	0.01	A-T-019w
PFBA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFPeA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFHxA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFHpA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFOA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFNA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFDA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFUnA; PFUdA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFDoA(w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFTrDA; PFTriA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFTeA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFHxDA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFODA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFBS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFPeS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFHxS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFHpS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFOS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFNS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas

Envirolab Job Number: 26/03646

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/03646/1	26/03646/2	26/03646/3	26/03646/4	26/03646/5	26/03646/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	W1	W2	W3	BH1A	BH2	BH3				
Depth to Top										
Depth To Bottom										
Date Sampled	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26				
Sample Type	WATER - EW	WATER - EW	WATER - EW	WATER - GW	WATER - GW	WATER - GW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
PFDS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFUnDS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFDoS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
HFPO-DA (Gen X) (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
HFPO-TA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
DONA; ADONA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFMOPrA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
NFDHA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFMOBA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
PFecHS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
3:3 FTCA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	2	Subcon Veritas
5:3 FTCA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	2	Subcon Veritas
7:3 FTCA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	2	Subcon Veritas
PFEESA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
6:2 Cl-PFESA; 9 Cl-PF3ONS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
8:2 Cl-PFESA; 11 Cl-PF3OUdS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
4:2 FTSA; 4:2FTS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
6:2 FTSA; 6:2FTS (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
8:2 FTSA; 8:2FTS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
FBSA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
FHxSA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
FOSA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
MeFOSA; N-MeFOSA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
EtFOSA; N-EtFOSA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
MeFOSE (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
EtFOSE (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
NMeFOSAA; MeFOSAA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
NEtFOSAA; EtFOSAA (w)$_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
FOSAA (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas
10:2 FTS (w) $_{A}^{\#}$	Appended	Appended	Appended	Appended	Appended	Appended		ng/l	1	Subcon Veritas

Envirolab Job Number: 26/03646

Client Project Name: Crabtree Lane

Client Project Ref: 25KMH022

Lab Sample ID	26/03646/1	26/03646/2	26/03646/3	26/03646/4	26/03646/5	26/03646/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	W1	W2	W3	BH1A	BH2	BH3				
Depth to Top										
Depth To Bottom										
Date Sampled	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26	25-Mar-26				
Sample Type	WATER - EW	WATER - EW	WATER - EW	WATER - GW	WATER - GW	WATER - GW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	-	-	-	<5	10	<50		µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	-	-	-	<5	10	<50		µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	-	-	-	1	<1	<1		µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	-	-	-	<5	<5	<50		µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A^{\#}$	-	-	-	<10	<10	<100		µg/l	10	A-T-055w
Total Aromatics $(w)_A^{\#}$	-	-	-	<10	<10	<100		µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	-	-	-	<10	10	<100		µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	-	-	-	1	<1	<1		µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	-	-	-	<1	<1	<1		µg/l	1	A-T-022w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
Subscript "@"	Result is an opinion
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Betts Geo Environmental, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, UK, CH5 2LY

Project: Crabtree Lane

Clients Project No: 25KMH022

Project No: 26/03646

Date Received: 25/03/2026 (am)

Cool Box Temperatures (°C): 5.8 & 6.0

Lab Sample ID	26/03646/4	26/03646/6
Client Sample No		
Client Sample ID/Depth	BH1A	BH3
Date Sampled	25/03/26	25/03/26
Deviation Code		
A7 (no HNO3)	✓	✓
A9 (no H2SO4)	✓	✓

Key

A7 (no HNO3) *No HNO3 preserved bottle provided (dissolved metals will be deviating)*

A9 (no H2SO4) *No H2SO4 preserved bottle provided (phenols, ammonia, DOC, COD will be deviating)*

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	26/03646/1	26/03646/2	26/03646/3	26/03646/4	26/03646/5	26/03646/6
Client Sample No						
Client Sample ID/Depth	W1	W2	W3	BH1A	BH2	BH3
Date Sampled	25/03/26	25/03/26	25/03/26	25/03/26	25/03/26	25/03/26
A-T-019w				31/03/2026	31/03/2026	31/03/2026
A-T-022w				30/03/2026	30/03/2026	30/03/2026
A-T-025w				01/04/2026	30/03/2026	01/04/2026
A-T-034w				30/03/2026	30/03/2026	30/03/2026
A-T-048				31/03/2026	31/03/2026	31/03/2026
A-T-049w				07/04/2026	07/04/2026	07/04/2026
A-T-055w				30/03/2026	30/03/2026	30/03/2026
Calc-As Recd				30/03/2026	30/03/2026	30/03/2026

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

TEST REPORT

Report Number: 2026-1456

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/1 W1 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signatu [redacted]

UKAS TESTING
26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1456
Customer Sample Identifier : 26/03646/1 W1 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	ND
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	1.96
PFBS	1	ng/l	2.4
PFDA	1	ng/l	ND
PFDoA ^	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	1.11
PFHpS	1	ng/l	ND
PFHxA	1	ng/l	1.64
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	ND
PFHxS Branched #	1	ng/l	ND
PFHxS Total #	1	ng/l	ND
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1456
Customer Sample Identifier : 26/03646/1 W1 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	4.01
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	4.01
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	2.2
PFOS Branched #	1	ng/l	3.44
PFOS Total #	1	ng/l	5.65
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	1.6
PFPeS	1	ng/l	ND
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	ND

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1456 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	09/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/1 W1 25/03/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1456 TOPA
Customer Sample Identifier : 26/03646/1 W1 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	28.3
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	ND
PFBS	10	ng/l	ND
PFDA	10	ng/l	ND
PFDoA ^	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	ND
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	ND
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	ND
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1456 TOPA
Customer Sample Identifier : 26/03646/1 W1 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA ^	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	1066

ND - not detected

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1457

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/2 W2 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

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Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1457
Customer Sample Identifier : 26/03646/2 W2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	ND
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	1.43
PFBS	1	ng/l	2.55
PFDA	1	ng/l	ND
PFDoA ^	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	1.25
PFHpS	1	ng/l	ND
PFHxA	1	ng/l	1.77
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	1.15
PFHxS Branched #	1	ng/l	ND
PFHxS Total #	1	ng/l	1.15
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1457
Customer Sample Identifier : 26/03646/2 W2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	4.57
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	4.57
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	1.48
PFOS Branched #	1	ng/l	1.91
PFOS Total #	1	ng/l	3.39
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	1.91
PFPeS	1	ng/l	ND
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	ND

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1457 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	09/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/2 W2 25/03/26
Sample Condition :	Conforming

Comments:
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Approved by : Karolina Pettit
Position : Director

Signatu [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1457 TOPA
Customer Sample Identifier : 26/03646/2 W2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	ND
PFBS	10	ng/l	ND
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	ND
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	ND
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	ND
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1457 TOPA
Customer Sample Identifier : 26/03646/2 W2 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	163

ND - not detected

TEST REPORT

Report Number: 2026-1458

Customer Name : Envirolab Ltd
Customer Address : Housesteads
Off Stockport Road
Hattersley, SK14 3QU
Order Number : P0759512
Additional Reference: 25KMH022
Issue : 0
Date of Receipt : 30/03/2026
Date of Analysis : 01/04/2026
Date of Report : 08/04/2026
Sample Type : Ground Water
Customer Sample Identifier : 26/03646/3 W3 25/03/26
Sample Condition : Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature : [redacted]

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26667

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1458
Customer Sample Identifier : 26/03646/3 W3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
3:3 FTCA	2	ng/l	ND
4:2 FTSA; 4:2 FTS	1	ng/l	ND
PFecHS	1	ng/l	ND
5:3 FTCA	2	ng/l	ND
6:2 FTSA; 6:2 FTS	1	ng/l	ND
7:3 FTCA	2	ng/l	ND
8:2 FTSA; 8:2 FTS	1	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	1	ng/l	ND
10:2 FTS	1	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	1	ng/l	ND
DONA; ADONA	1	ng/l	ND
EtFOSE	1	ng/l	ND
FBSA	1	ng/l	ND
FHxSA	1	ng/l	ND
FOSAA	1	ng/l	ND
HFPO-DA (Gen X) ^	1	ng/l	ND
HFPO-TA	1	ng/l	ND
EtFOSA; N-EtFOSA	1	ng/l	ND
NEtFOSAA; EtFOSAA	1	ng/l	ND
NFDHA	1	ng/l	ND
MeFOSA; N-MeFOSA	1	ng/l	ND
NMeFOSAA; MeFOSAA	1	ng/l	ND
MeFOSE	1	ng/l	ND
PFBA	1	ng/l	2.62
PFBS	1	ng/l	2.98
PFDA	1	ng/l	ND
PFDoA	1	ng/l	ND
PFDoS	1	ng/l	ND
PFDS	1	ng/l	ND
PFEESA	1	ng/l	ND
PFHpA	1	ng/l	1.45
PFHpS	1	ng/l	ND
PFHxA	1	ng/l	1.63
PFHxDA ^	1	ng/l	ND
PFHxS Linear	1	ng/l	ND
PFHxS Branched #	1	ng/l	ND
PFHxS Total #	1	ng/l	ND
PFMOBA	1	ng/l	ND
PFMOPrA	1	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1458
Customer Sample Identifier : 26/03646/3 W3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Conc.
PFNA	1	ng/l	ND
PFNS	1	ng/l	ND
PFOA Linear	1	ng/l	3.83
PFOA Branched #	1	ng/l	ND
PFOA Total #	1	ng/l	3.83
PFODA	1	ng/l	ND
PFOS Linear	1	ng/l	1.54
PFOS Branched #	1	ng/l	1.76
PFOS Total #	1	ng/l	3.29
FOSA (PFOSA)	1	ng/l	ND
PFPeA	1	ng/l	1.85
PFPeS	1	ng/l	ND
PFTeA ^	1	ng/l	ND
PFTrDA (PFTriA)	1	ng/l	ND
PFUdA; PFUnA	1	ng/l	ND
PFUnDS	1	ng/l	ND
6:2 FTAB #	1	ng/l	4.5

ND - not detected

 # Non Accredited

^ The recovery of ES standard either <70% or >130%

NB - The above does not affect the results as recoveries % within EPA1633 method range.

TEST REPORT

Report Number: 2026-1458 TOPA

Customer Name :	Envirolab Ltd
Customer Address :	Housesteads Off Stockport Road Hattersley, SK14 3QU
Order Number :	P0759512
Additional Reference:	25KMH022
Issue :	0
Date of Receipt :	30/03/2026
Date of Analysis :	02/04/2026
Date of Report :	09/04/2026
Sample Type :	Ground Water
Customer Sample Identifier :	26/03646/3 W3 25/03/26
Sample Condition :	Conforming

Comments:
Any opinions or interpretations are outside the laboratory's scope of accreditation. The results included within the report are representative of the samples submitted for analysis and are expressed on as received basis, unless otherwise stated. This certificate shall not be reproduced, except in full, without the prior written approval of VLS. Customer name, address, order number, additional reference and sample identifier as provided by the customer.

Approved by : Karolina Pettit
Position : Director

Signature [redacted]

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1458 TOPA
Customer Sample Identifier : 26/03646/3 W3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
3:3 FTCA	10	ng/l	ND
4:2 FTSA; 4:2 FTS	10	ng/l	ND
PFecHS	10	ng/l	ND
5:3 FTCA	10	ng/l	ND
6:2 FTSA; 6:2 FTS	10	ng/l	ND
7:3 FTCA	10	ng/l	ND
8:2 FTSA; 8:2 FTS	10	ng/l	ND
6:2 Cl-PFESA; 9Cl-PF3ONS	10	ng/l	ND
10:2 FTS	10	ng/l	ND
8:2 Cl-PFESA; 11Cl-PF3OUdS	10	ng/l	ND
DONA; ADONA	10	ng/l	ND
EtFOSE	10	ng/l	ND
FBSA	10	ng/l	ND
FHxSA	10	ng/l	ND
FOSAA	10	ng/l	ND
HFPO-DA (Gen X)	10	ng/l	ND
HFPO-TA	10	ng/l	ND
EtFOSA; N-EtFOSA	10	ng/l	ND
NEtFOSAA; EtFOSAA	10	ng/l	ND
NFDHA	10	ng/l	ND
MeFOSA; N-MeFOSA	10	ng/l	ND
NMeFOSAA; MeFOSAA	10	ng/l	ND
MeFOSE	10	ng/l	ND
PFBA	10	ng/l	ND
PFBS	10	ng/l	ND
PFDA	10	ng/l	ND
PFDoA	10	ng/l	ND
PFDoS	10	ng/l	ND
PFDS	10	ng/l	ND
PFEESA	10	ng/l	ND
PFHpA	10	ng/l	ND
PFHpS	10	ng/l	ND
PFHxA	10	ng/l	ND
PFHxDA	10	ng/l	ND
PFHxS Linear	10	ng/l	ND
PFHxS Branched	10	ng/l	ND
PFHxS Total	10	ng/l	ND
PFMOBA	10	ng/l	ND
PFMOPrA	10	ng/l	ND

Results PFAS

Sample Type : Ground Water
Test Report Number : 2026-1458 TOPA
Customer Sample Identifier : 26/03646/3 W3 25/03/26
Sample Condition : Conforming
Test Method : VLS SOP 021

PFAS Compound	MDLs	Units	Post TOPA Conc.
PFNA	10	ng/l	ND
PFNS	10	ng/l	ND
PFOA Linear	10	ng/l	ND
PFOA Branched	10	ng/l	ND
PFOA Total	10	ng/l	ND
PFODA	10	ng/l	ND
PFOS Linear	10	ng/l	ND
PFOS Branched	10	ng/l	ND
PFOS Total	10	ng/l	ND
FOSA (PFOSA)	10	ng/l	ND
PFPeA	10	ng/l	ND
PFPeS	10	ng/l	ND
PFTeA	10	ng/l	ND
PFTrDA (PFTriA)	10	ng/l	ND
PFUdA; PFUnA	10	ng/l	ND
PFUnDS	10	ng/l	ND
6:2 FTAB	10	ng/l	104

ND - not detected

APPENDIX E

(i) Gas Monitoring Data (N/A)

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APPENDIX F

(i) Conceptual Model

The report aims to identify land which could potentially be affected by contamination, such that it could affect the value or re-use of the land, or such that mitigation would be required for certain proposed end uses of the land.

The assessment also aims to identify land which would be regarded as 'contaminated land' under the terms of the Environmental Protection Act 1990, Part IIa. This act includes a stricter test for contaminated land than that outlined above. Land is considered to be contaminated if either:

- the land is causing significant harm to people, ecosystems or infrastructure; or
- there is a significant possibility that such harm could be caused; or
- Pollution of controlled waters is being, or is likely to be, caused.

The following situations are defined as being where harm is to be regarded as significant:

- chronic or quite toxic effect, serious injury or death to humans;
- irreversible or other adverse harm to the ecological system;
- substantial damage to or failure of buildings;
- death of, or disease or other physical damage affecting, livestock or crops;
- Pollution of controlled waters.

The risk assessment uses a 'Source-Pathway-Receptor' methodology for assessing whether a source of contamination could potentially lead to harmful consequences. This means that there needs to be a pollutant linkage from source to receptor for harm to be caused, this linkage consisting of:

- a source of pollution;
- a pathway for the pollutant to move along;
- A receptor that is affected by the pollutant.

As an example, the pollutant source could be an identified leak of oil or an area of dumped waste.



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The pathways could include transport of the contaminant by groundwater, surface water, windblown dust, or vapours, and for human receptors will include the means, by which contaminants enter the body, for example skin contact, ingestion and inhalation.

Receptors include people, other living organisms, the built environment and groundwater and surface waters (these latter two also being contaminant pathways).

The source-pathway-receptor methodology relationship allows an assessment of the environmental risk to be determined, based on the nature of the source, the degree of exposure of the receptor to the source and the sensitivity of the receptor.

This section of the report is based on the information set out in the previous sections of the report and should not be read independently of such sections.

Initial Conceptual Model

From the available information the preliminary conceptual model is visualised as follows:

Target (Receptor)	**POTENTIAL SOURCE-PATHWAY LINKAGE**
Site users / residents	Inhalation of soil gas, odours or dust.
	Ingestion of, and skin contact with, contaminated soil.
	Ingestion of contaminants in vegetables etc. or in soils adhering to vegetables, etc.
Construction/ maintenance workers.	Inhalation of soil gas, odours or dust
	Ingestion of, and skin contact with, contaminated soil
Plants	Adverse effects on growth caused by presence of contaminants in soil
Buildings and Structures	Flow of ground gas into buildings. Asphyxiation, toxicity, explosion and fire hazards
	Sulphate attack of foundations
	Hydrocarbons penetrating plastic water supply pipes
Groundwater	Migration of soluble contaminants into groundwater on or off site. Migration of oils into groundwater on or off site.
Surface water	Migration of soluble contaminants and/or direct run-off of contaminants. Migration of oils into groundwater on or off site.

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Initial Environmental Risk Assessment

General

It is accepted that an environmental risk assessment can be based on a source-pathway-target model. An examination is carried out as to whether a target will be at risk from a contamination source, that a source exists, and whether there are any pathways (routes of exposure) which might actually link the source to the target.

Environmental risk assessments rely heavily on numerical trigger concentrations or guidelines because exposure of targets to contamination is difficult to quantify directly. Quantification of risk is therefore mainly undertaken for general scenarios in order to derive trigger levels. These are derived for various contaminants for particular targets and routes of exposure. An example of a sensitive target would be users of a domestic back garden, where routes of exposure might be skin contact, dust inhalation, direct ingestion and indirect ingestion via cultivation and consumption of fruit and vegetables.

In March 2002, the first parts of the new CLEA risk assessment guidance were released by DEFRA/Environment Agency.

The risk assessment approach is an extension of the 'fit for use' concept whereby land is cleaned up to a standard fit for the proposed use, that is, so all remaining risks are acceptable. However, as well as being 'fit for use', the environmental risk assessment approach also addresses the soil and water environment so that these are also safeguarded where necessary. For example if a site was contaminated with heavy metals and the development comprised the proposed construction of hard standings and buildings only, the fit-for-use approach might require no remediation for the site. However, consideration of the wider environment needs to address whether groundwater is being contaminated, and if so whether remediation is required for this reason.

The following classification presented by CIRIA has been used in the assessment of risk:

Estimation of risk from consideration of magnitude, consequences and probabilities				
Probability	**Consequences**			
	Severe	**Moderate**	**Mild**	**Minor**
High	Very high	High	Moderate	Moderate / Low
Medium	High	Moderate	Moderate / Low	Low
Low	Moderate	Moderate / Low	Low	Very Low
Unlikely	Moderate / Low	Low	Very Low	Very Low

Reference: Contaminated Land Risk Management; A Guide to Good Practice, CIRIA C552:2001

CIRIA C665 Situation A Ground Gas Conceptual Model

The risk table contained in C665 is basically a modified risk assessment from CIRIA 152 1995, by which a conceptual model and semi-quantitative risk assessment can be made.

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APPENDIX G

(i) Notes on Ground Gas

Ground Gas

The Building Regulations and BRE Report 212 state that precautions are not mandatory against carbon dioxide unless 5.0% volume is exceeded. These documents do not give a threshold level for methane, but Baker suggests that this level is 0.1% volume. For methane up to 1.0% volume, and carbon dioxide above 5.0% volume, the Building Regulations and BRE Report state that passive measures may be adopted. Above 1.0% methane further specific guidance must be sought.

CIRIA Report 149 gives further guidance on the appropriate precautions for various gas regimes, called characteristic situations in this report. In the DETR Guide for Design by Ove Arup, various types of passive measures are assessed for performance with different gas regimes. The assessments used computational fluid dynamic (CFD) modelling.

A gas regime is essentially defined by two parameters:

i) The concentration of the gas (e.g. % methane)

ii) The emission rate of the gas from the ground.

The fact that two parameters are used is problematic if the site is to be classified on the basis of Table 28 in CIRIA Report 149. This is because high gas concentrations are often encountered which fall into an onerous gas regime; whereas the low flow rates which are also frequently encountered fall into less onerous gas regimes.

In order to use the Guide for Design to decide if passive measures are suitable, it is necessary to combine the gas concentration and the emission rate.

Three recent publications are used for ground gas risk assessment:

- CIRIA C665 for high rise residential / flats
- BS8485:2007 'Code of practice for the characterization and remediation from ground gas in affected developments'

These documents improve upon the approach used in previous CIRIA and Wilson /Card Papers, by placing emphasis on gas flow rates, but still retain some reliance on the gas concentrations themselves.

CIRIA C665 Situation A Ground Gas Conceptual Model

The risk table contained in C665 is basically a modified risk assessment from CIRIA 152 1995, by which a conceptual model and semi-quantitative risk assessment can be made.

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High Rise / Flats (CIRIA 665 Table 8.5)

Characteristic Situation (CIRIA Report 149)	Risk Classification	Gas Screening Value (CH4 or CO2) (l/hr) [1]	Additional factors	Typical source of generation
1	Very low risk	**<0.07**	Typically methane ≤1%v/v and/or carbon dioxide ≤5%v/v. Otherwise consider increase to Situation 2	Natural soils with low Organic content. "Typical" Made Ground
2	Low risk	**<0.7**	Borehole flow rate not to exceed 70l/hr. Otherwise consider increase to Situation 3	Natural soil, high peat/organic content. "Typical" Made Ground
3	Moderate risk	**<3.5**		Old landfill, inert waste, mineworking flooded
4	Moderate to high risk	**<15**	Quantitative risk assessment required to evaluate scope of protective measures	Mineworking susceptible to flooding, completed landfill (WMP 26B criteria)
5	High risk	**<70**		Mineworking unflooded inactive with shallow workings near surface
6	Very high risk	**>70**		Recent landfill site

Notes:
1. Gas screening value: litres of gas/hour is calculated by multiplying the gas concentration (%) by the measured borehole flow rate (l/hr);
2. Site characterisation should be based on gas monitoring of concentrations and borehole flow rates for the minimum periods as defined within within CIRIA Report 665;
3. Source of gas and generation potential/performance must be identified;
4. Soil gas investigation to be in accordance with guidance contained within CIRIA Report 665;
5. If there is no detectable flow, use the limit of detection of the instrument;
6. The boundaries between the Partners in Technology classifications do not fit exactly with the boundaries for the above classification.

Typical scope of protective measures (extract from CIRIA Report 665 Table 8.6)

Characteristic Situation (from Table 8.5)	Number of levels of protection	Typical scope of protective measures for residential building (not low-rise traditional housing)[1]

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1	None	No special precautions
2	2	a) Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200g DPM and under-floor venting b) Beam and block or pre-cast concrete and 2000 g DPM/reinforced gas membrane and under-floor venting. All joints and penetrations sealed.
3	2	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised under-floor sub-space.
4	3	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated under-floor subspace or positively pressurised under-floor sub-space, over-site capping or blinding and in ground venting layer
5	4	Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and ventilated or positively pressurised under-floor sub-space, over-site capping and in ground venting layer and in ground venting wells or barriers.
6	5	Not suitable unless gas regime is reduced first and quantitative risk assessment carried out to assess design of protection measures in conjunction with foundation design.

Notes:

1. Not suitable for use with low rise traditional housing. (Use the NHBC document instead);
2. Typical scope of protective measures may be rationalised for specific developments on the basis of quantitative risk assessments;
3. Note the type of protection is given for illustration purposes only. Information on the detailing and construction of passive protection measures is given in BR414 (Johnson, 2001). Individual site specific designs should provide the same number of separate protective methods for any given characteristic situation. See CIRIA Report 49;
4. In all cases there should be minimum penetration of ground slabs by services and minimum number of confined spaces such as cupboards above the ground slab. Any confined spaces should be ventilated;
5. Foundation design must minimise differential settlement particularly between structural elements and ground-bearing slabs;
6. Commercial buildings with basement car parks, provided with ventilation in accordance with the Building Regulations, may not require gas protection for Characteristic Situations 3 and 4;
7. Floor slabs should provide an acceptable formation on which to lay the gas membrane. If a block beam floor is used it should be well detailed so it has no voids in it that membranes have to span, and all holes for service penetrations should be filled. The minimum density of the blocks should be 600kg/m3 and the top surface should have a 4:1 ratio sand to cement grout brushed into all joints before placing any membrane (this is also good practice to stabilise the floor and should be carried out regardless of the need for ground gas membranes);
8. The ground gas-resistant membrane can also act as the damp-proof membrane;
9. Based on Building Regulations Approved Document C (Office of the Deputy Prime Minister, 2004a),which states that "a membrane below the concrete could be formed with a sheet of polyethylene, which should be at least 300mu thick (1200 gauge)". Please note the alteration from 300mm (as stated in the Approved Document C) to 300mu, as 300mm is a typographical error that has been recognised and corrected for within this report and CIRIA Report 665.

BS8485: 2007

Table 2: Required Gas Protection By Characteristic Gas Situation & Type Of Building

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Characteristic gas situation, CS	NHBC traffic light	Required gas protection			
		Non-managed property, e.g. private housing	Public building [A]	Commercial buildings	Industrial buildings [B]
1	Green	0	0	0	0
2	Amber 1	3	3	2	1 [C]
3	Amber 2	4	3	2	2
4	Red	6 [D]	5 [D]	4	3
5			6 [E]	5	4
6				7	6

NOTE Traffic light indications are taken from NHBC Report no.: 10627-R01 (04) [3] and are mainly applicable to low-rise residential housing. These are for comparative purposes but the boundaries between the traffic light indications and CS values do not coincide.

A) Public buildings include, for example, managed apartments, schools and hospitals.
B) Industrial buildings are generally open and well ventilated. However, areas such as office pods might require a separate assessment and may be classified as commercial buildings and require a different scope of gas protection to the main building.
C) Maximum methane concentration 20% otherwise consider an increase to CS3.
D) Residential building on higher traffic light/CS sites is not recommended unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations.
E) Consideration of issues such as ease of evacuation and how false alarms will be handled are needed when completing the design specification of any protection scheme.

Table 3: Solutions Scores

PROTECTION ELEMENT/SYSTEM		SCORE	COMMENTS
a) Venting/dilution (See Annex A)			
Passive sub floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.) A)	Very good performance	2.5	Ventilation performance in accordance with Annex A. If passive ventilation is poor this is generally unacceptable and some form of active system will be required.
	Good performance	1	
Subfloor ventilation with active abstraction/pressurization (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.) A)		2.5	There have to be robust management systems in place to ensure the continued maintenance of any ventilation system. Active ventilation can always be designed to meet good performance. Mechanically assisted systems come in two main forms:

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			extraction and positive pressurization.
Ventilated car park (basement or undercroft)		4	Assumes car park is vented to deal with car exhaust fumes, designed to Building Regulations Document F [5] and IStructE guidance [6].
b) Barriers			
Floor slabs			It is good practice to install ventilation in all foundation systems to effect pressure relief as a minimum. Breaches in floor slabs such as joints have to be effectively sealed against gas ingress in order to maintain these performances.
Block and beam floor slab		0	
Reinforced concrete ground bearing floor slab		0.5	
Reinforced concrete ground bearing foundation raft with limited service penetrations that are cast into slab		1.5	
Reinforced concrete cast in situ suspended slab with minimal service penetrations and water bars around all slab penetrations and at joints		1.5	
Fully tanked basement		2	
c) Membranes			
Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation B), C)		0.5	The performance of membranes is heavily dependent on the quality and design of the installation, resistance to damage after installation, and the integrity of joints
Proprietary gas resistant membrane to reasonable levels of workmanship/in line with current good practice under independent inspection (CQA) B), C)		1	
Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation		2	
d) Monitoring and detection (not applicable to non-managed property, or in isolation)			
Intermittent monitoring using hand held equipment		0.5	
Permanent monitoring and alarm system A)	Installed in the underfloor venting/ dilution system	2	Where fitted, permanent monitoring systems ought to be installed in the underfloor venting/dilution system in the first instance but can also be provided within the occupied space as a fail safe
	Installed in the building	1	
e) Pathway Intervention			
Pathway intervention		-	This can consist of site protection measures for off-site or on-site sources (see Annex A).

NOTE In practice the choice of materials might well rely on factors such as construction method and the risk of damage after installation. It is important to ensure that the chosen combination gives an appropriate level of protection

A) It is possible to test ventilation systems by installing monitoring probes for post installation validation.

B) If a 1 200 g DPM material is to function as a gas barrier it should be installed according to BRE 212 [8]/BRE 414 [9], being taped and sealed to all penetrations.

C) Polymeric Materials >1 200 g can be used to improve confidence in the barrier. Remember that their gas resistance is robust and resistant to site damage.

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APPENDIX H

(i) Off-site Disposal of Surplus Soil Guidance Notes

The disposal of waste (including surplus soils and contaminated soils) to landfill sites is governed by the *Landfill (England & Wales) Regulations 2002*, the *Hazardous Waste Technical Guidance document WM2 (2003)* and associated legislation.

One of the aims of the above legislation is to encourage waste producers (including developers disposing of surplus soils etc) to reduce their waste (and not just discard and disown it). This can be achieved by recycling or reusing the waste. In the case of contaminated sites where leaving contaminated material in-situ poses a risk to a potential receptor such as groundwater resources, further testing and assessment for such risk could reduce the quantities requiring disposal. If there is still unacceptable risk from contaminated soil being left in place, then it may be possible to reduce the risk to an acceptable level (such that the material can be left in place) by in-situ or ex-situ clean-up of the soils.

Before waste can be disposed of, the producer of the waste must undertake a number of steps. '*Initial Waste Testing and Characterisation'* is firstly undertaken to determine whether the waste is non-hazardous or hazardous. The exceptions are that some wastes such as coal tars, 'tank bottom sludge's', etc are immediately classed as hazardous, regardless of any testing or threshold concentrations.

Any inert or hazardous waste destined for landfill must undergo '*Compliance Testing'* using the Waste Acceptance Criteria (WAC). There are different inert and hazardous WAC limits relating to landfill sites that are correspondingly licensed to accept inert or hazardous waste.

If the '*Initial Waste Testing and Characterisation'* shows a waste to be hazardous, then it is a requirement that the material be tested against the WAC-hazardous suite of tests. If it *passes* the WAC-hazardous testing, then it can be taken to a hazardous waste landfill site. If the material *fails* the WAC-hazardous testing, then the material must be treated before undergoing re-characterisation, further WAC-hazardous testing and then potential disposal at a hazardous waste disposal site.

If the '*Initial Waste Testing and Characterisation'* shows a waste to be non-hazardous, then it can be taken to a non hazardous waste landfill site, without further testing. The producer may however decide to undertake WAC-inert testing, in an attempt to reclassify the waste as inert, in which case the waste could then go to an inert landfill site.

The volumes of soils associated with potential hotspots on a site (be they hazardous or non-hazardous) which might require off-site disposal, could potentially be reduced by further on-site sampling and subsequent testing.

With regard to the *Compliance Testing*, it should be noted that some landfill sites are permitted to increase the standard WAC-hazardous/inert limit concentrations, such that they might accept waste that would normally fail such limits.

We would recommend that the contamination testing results (including the history of the site) be presented to the proposed landfills, to determine if they will accept waste generated at the site and what classification they would impose.

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APPENDIX I

(i) Validation Report Guidance Notes

Unforeseen Hotspots of Contamination

Given the existence of made ground on the site it would be prudent to maintain vigilance during site clearance and construction, in case any further areas of suspected contamination are encountered.

If areas are found then a suitably qualified person should undertake appropriate sampling, testing and further risk assessment.

Any hotspots encountered during site clearance, not previously encountered in the ground investigation, are to be removed to a suitably licensed landfill site.

A validation report (see below) will be produced on completion of these works. This report will serve to confirm that the works were undertaken in accordance with the relevant legislation, the method statement, specification and planning conditions.

Validation Report Recommendations

It is suggested that the following records will be kept on site to provide a basis for the validation report:

- Daily record sheets of the remediation works to include a summary of the day's activities
- Weather conditions
- Plant, personnel and visitors to the remediation site
- Aspects relating to Health & Safety, environmental control or non-compliance with the specification or the Method Statements.
- All in situ and laboratory testing results.

All requirements of the remediation specification should be complied with; on completion of the remediation a validation report should be provided. This report will comprise the relevant site records and act as certification that the remedial and ground preparation works have been carried out in accordance with the specification.

The validation report will include the following:

- A description of the works undertaken.
- Records of any remediation works, including daily diary sheets.
- Progress photographs.
- Any chemical and geotechnical validation test results.
- As built surveys, including base excavations and top and bottom of capping layer.
- A statement that the works have been undertaken in accordance with the agreed specification

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APPENDIX J

(i) Notes on Limitations

This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese knotweed). It is recommended that these are considered as part of the assessment of development constraints for the site.

The ground conditions described in the above reports relate only to the points of investigation and do not necessarily guarantee a continuation of the ground conditions throughout the non-inspected area of the site. Whilst such exploratory holes would usually provide a reasonable indication as to the general ground conditions, these cannot be determined with complete certainty. Betts Geo has endeavoured to assess all information provided to them, but makes no guarantees or warranties as to the accuracy or completeness of this information.

The assessment and judgements given in this report are directed by both the finite data on which they are based and the proposed works to which they are addressed. The data essentially comprised a study of available documented information from various sources (including Client Furnished reports) together with discussions with relevant authorities and other interested parties. There may also be circumstances at the site that are not documented. The information reviewed is not exhaustive and has been accepted in good faith as providing representative and true data pertaining to site conditions. If additional information becomes available which might impact our environmental conclusions, we request the opportunity to review the information, reassess the potential concerns and modify our opinion if warranted.

It should be noted that any risks identified in this report are perceived risks based on the available information. Actual risks can only be assessed following a physical investigation of the site.

The site investigation has been carried out to provide information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made. Betts Geo Environmental Ltd undertake to exercise all reasonable skill, care and due diligence in the exercise of the investigation with respect to sampling techniques, sample storage and report interpretation.

The assessments and judgement given in this report are directed by both the finite data on which they are based and the proposed works to which they are addressed. Data acquisition is subject to the limitations of the methods of investigation used. Exploratory holes undertaken during fieldwork investigate small a small volume of ground in relation to the size of the site and as such can only provide an indication of site conditions. There may be conditions pertaining to the site and the proposed development i.e. localised “hotspots” of contamination, which have not been disclosed by the investigations.

The findings and opinions are relevant to the dates of our site works and should not be relied upon to represent conditions at substantially later dates. Conditions at the site will change over time due to natural variations and anthropogenic activities. Groundwater, surface water and soil gas conditions should be anticipated to change with diurnal, seasonal and meteorological variations.

The opinions expressed in this report regarding any contamination are based on simple statistical analysis and comparison with available guidance values. No liability can be accepted for the retrospective effects of any changes or amendments to these values.

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