Environment Agency

RESIDENTIAL GRID BASED INVESTIGATION, THORNTON-CLEVELEYS

Factual Report



70100310/
JULY 2025

OFFICIAL SENSITIVE

Environment Agency

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NQMS DECLARATION

NQMS SQP Declaration of Document Adequacy

Project

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Summary Description of Project / Proposed development
WSP UK Ltd (WSP) was instructed by the Environment Agency (EA) to undertake a grid based soil investigation (Track 1) in areas of residential land use within a 500m radius of the Thornton manufacturing facility, located within Thornton-Cleveleys .

This report sets out a factual account of the Grid Investigation undertaken between February and March 2025.

Document

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Declaration

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I have reviewed the document described in the Document Details section, in relation to the project and site described in the Site Details section, and I am satisfied that:

1. The assessment has been carried out by appropriately capable people with reference to the Brownfield Skills Framework.
2. That the assessment carried out is, to the best of my knowledge, undertaken with reasonable skill and care, and the information and data reported:
    i. describe an appropriate scope and objectives and
    ii. accord with relevant good practice guidance and standards and
    iii. are based upon appropriately robust science and
    iv. are factually correct and
    v. have been appropriately reviewed.
3. That all specialist aspects have been reviewed by an appropriately qualified/competent person with relevant skills and experience in that specialist area.
4. That the interpretation and conclusions are reasonable.
5. That proposals to mitigate actual, potential, or residual risks are appropriate (where relevant to the report type).
6. I am competent to sign this Declaration and that
    a. I am fully aware of and comply with the SiLC Code of Practice and the Code of Conduct of Institution of Environmental Sciences through which I hold Chartership .
    b. The work of this review and Declaration are within the limits of my knowledge, competence and professional capacity.

Note: The document that has been reviewed was prepared by the organisation named for the benefit of the named Client who has reliance upon it. Any professional liability arising from any proven negligent act or omission by the Company carrying out the work and publishing the document rests with that Company and not with the SQP or the NQMS.

Signed:

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0725-J9545

Date:

Name:
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National Quality Mark Scheme for Land Contamination Management

ABOUT THE AUTHORS

[redacted]

1. INTRODUCTION

1.1. TERMS OF REFERENCE

WSP UK Ltd (WSP) was instructed by the Environment Agency (EA, 'the Client') to undertake a grid-based soil investigation (Track 1) in areas of residential land use within a 500m radius of the Thornton manufacturing facility, located within Thornton-Cleveleys .

This report sets out a factual account of the Grid Investigation undertaken between February and March 2025. Follow up reporting will provide the interpretation of the dataset. A Sampling Plan is included as Figure 1 within Appendix A.

Works were undertaken under the HSE, 2015. Construction (Design & Management) Regulations (CDM) [3] where WSP were Principal Contractor and Designer.

1.2. PROJECT CONTEXT AND BACKGROUND

The investigation presented herein forms part of a wider Part 2A inspection focused on the Thornton facility and the surrounding land. The EA is leading the inspection on behalf of Wyre Council (the Local Authority). As part of an earlier phase of works [1], a number of plausible contaminant linkages were identified attributed to legacy operations that warrant further investigation or quantification in accordance with EA, 2020. Land Contamination Risk Management (LCRM) [4] and to be compliant with investigation requirements under Part 2A of the Environmental Protection Act, 1990 [5].

The potential risk to human health from legacy aerial deposition of PFOA in shallow soils associated with the AGC Chemicals Europe (AGCCE) manufacturing facility (also known as the 'Thornton facility') has been identified as a priority for further consideration. Aerial emissions and subsequent deposition of PFOA from the Thornton facility is known to have occurred between the 1950s and 2012.

The wider investigation is being undertaken through a two tracked, phased and iterative approach, defined as follows:

- Track 1 refers to the wider assessment of contaminant dispersion across the area.
- Track 2 is a more targeted Part 2A compliant assessment of specific parcels of land where evidence indicates a potentially unacceptable risk.

The works reported herein are based on the results of an offsite Preliminary Soils Investigation undertaken by WSP in September 2024 [1][2] which suggested a potential contaminant linkage between legacy aerial deposition of PFOA in soils within the surrounding area and residents with gardens who grow or have the potential to grow home grown produce for consumption.

Whilst the primary focus of this investigation is on the risk to human health, the wider Part 2A study focuses on other linkages of concern, including the risk to the water environment. It is recognised that the investigation into offsite impacts and their significance in the context of Part 2A requires a phased / iterative process. The works described herein (under Track 1) present part of the second phase of works (known as the Phase 2 Grid Investigation).

1.3. REMIT

The purpose of the Grid Investigation was to further investigate the potential contaminant linkage between legacy aerial deposition of PFOA in soils and residents with gardens who grow or have the potential to grow home grown produce for consumption. These works were to provide non targeted coverage on a 100m-150m grid spacing, including an area considered potentially at high risk of historical aerial deposition of PFOA (based on dispersion modelling undertaken by the EA Air Quality Modelling & Assessment Unit (AQMAU) in August 2023 [11]).

1.4. SCOPE OF WORK

The scope of works for the residential Grid Investigation comprised the following:

- Identification of locations for shallow sampling based on a regular 100m/150m grid spacing within a 500m radius in addition to targeting areas of public open space. Wyre Council were responsible for contacting residents / landowners based on the identified sampling points and obtaining the necessary consents ahead of sampling.
- Review of historical maps, utility plans and unexploded ordnance (UXO) data for the area of investigation .
- Preparation of a Construction Phase Plan (CPP) [6] to include risk assessments and method statements for the proposed works, in accordance with the CDM Regulations, 2015.
- Service identification and service clearance by a specialist third party contractor and provision of surveying coordinates of all exploratory hole locations.
- Preliminary shallow soil assessment within 500m radius comprising the excavation of 63 sample points by a by a specialist contractor to a depth of up to 0.6m below ground level (m bgl). For each sample point, a minimum of two hand dug pits were to be progressed (subject to access, utilities and obstructions):
  - 36 sample points (72 hand pits) distributed on a non-targeted regular grid spacing of 100m to the south/southeast of the facility
  - 11 sample points (22 hand pits) distributed on a non-targeted regular grid spacing of 150m to the south/southwest of the facility
  - 19 sample points (38 hand pits) within areas of public open space identified within the residential areas

  The locations of the sample points are indicated on Figure1 in Appendix A. Up to three soil samples were to be obtained per sample point to target the shallow vertical profile (total 390 samples).
- Analysis of all soil samples obtained for a specified suite of contaminants comprising PFAS Broad Suite (ALS laboratory method TM440, PFOA, Perfluorooctanesulfonic acid (PFOS), Perfluorononanoic acid (PFNA) and Perfluorohexane sulfonate (PFHxS) at a limit of detection / method detection limit (LOD/MDL) of 0.5µg/kg), in addition to soil organic matter (SOM) and pH.
- Collection and analysis of quality assurance / quality control (QA/QC) samples in the form of equipment rinsates, analysed for PFAS Broad Suite (ALS method TM434) at a frequency equivalent to approximately 10% of samples obtained.

- Factual reporting.

1.5. LEGISLATIVE CONTEXT AND GUIDANCE

The investigation was undertaken in general accordance with the following standards and guidance documents:

- British Standard (BS) 5930:2015 +A1:2020 Code of Practice for Ground Investigation [7].
- BS 10175:2011+A2:2017, Investigation of Potentially Contaminated Sites, Code of Practice [8].
- Health & Safety Executive (HSE), 2015. Construction (Design and Management) Regulations [3].
- EA, 2020. Land Contamination Risk Management (LCRM) [4].
- Part 2A of the Environmental Protection Act, 1990 [9].
- Department for environment, food and rural affairs (Defra), 2012. Contaminated Land Statutory Guidance [10].

1.6. LIMITATIONS

The report is addressed to and may be relied upon by the EA, as “the Client” within the meaning given to that phrase within the agreement and subject to the terms and conditions contained therein.

This report has been completed with regard to generally accepted consulting practices and may not be relied upon by any other party without the explicit written agreement of WSP. No other third-party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

Unless WSP has actual knowledge to the contrary, WSP has assumed the correctness and completeness of third-party information supplied and shall have no liability in respect of any inaccuracy, defect or omission in any information or materials provided, anecdotally or otherwise, by the Client or any other third party to WSP. WSP does not assume any liability for misrepresentation of information or for items not visible, accessible, present or supplied at the time of the study.

WSP’s General Limitations are included in Appendix B.

2. BACKGROUND AND SITE DETAIL

Based on the findings of the Preliminary Soils Investigation [2], including reference to an independent air dispersion modelling assessment undertaken by the EA AQMAU [11], the purpose of the Grid Investigation was to further investigate the potential contaminant linkage between legacy aerial deposition of PFOA in soils and residents with gardens who grow or have the potential to grow home grown produce for consumption.

The EA AQMAU dispersion modelling study (reported elsewhere) indicated that residential land to the southwest, south and southeast within 500m and orientated within the predominant wind direction represents the greatest potential risk of historical aerial deposition of PFOA. As part of the Preliminary Investigation [2] representative sampling within this area was initially limited due to the availability of Council owned land.

The location of the land sampled as part of the Phase 2 Grid Investigation is shown in Figure 1 in Appendix A.

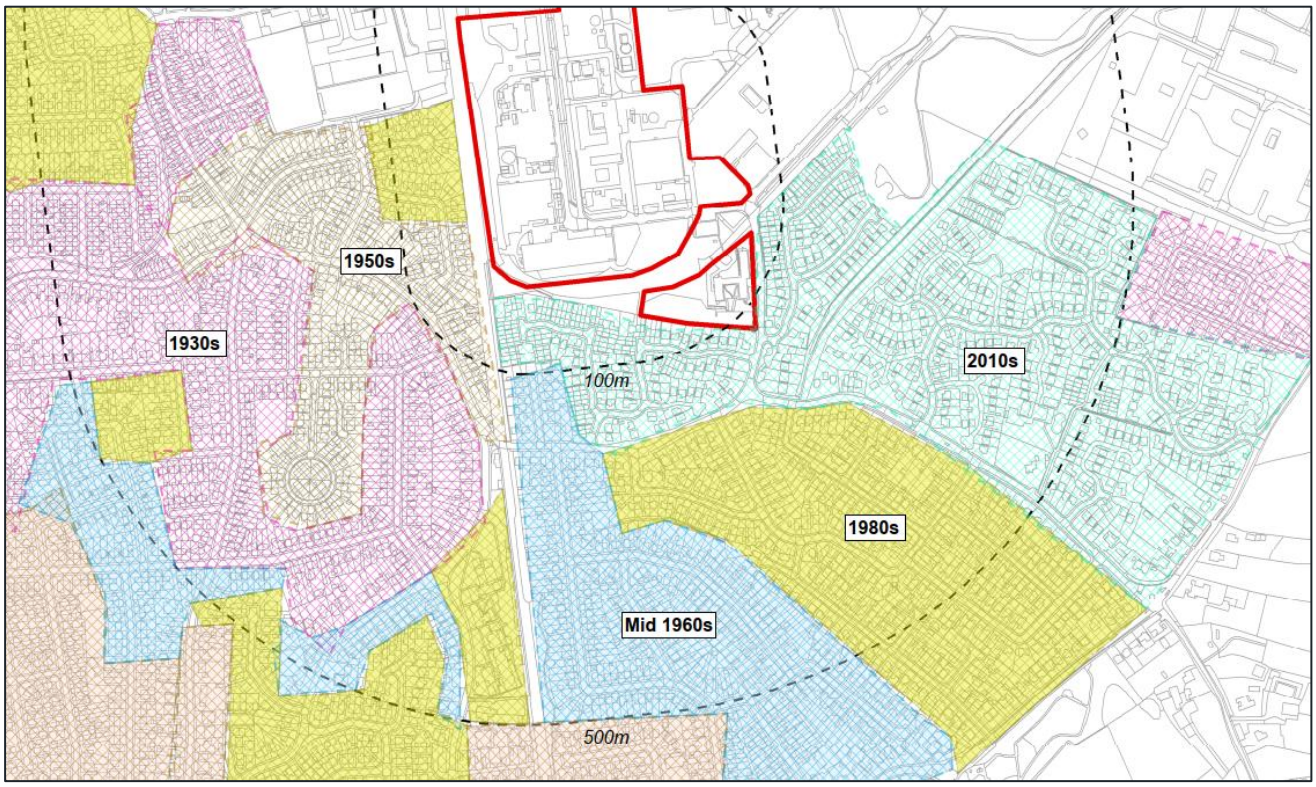
A summary of the Preliminary Soils Investigation is presented in Section 2.2 below.

2.1. DEVELOPMENT HISTORY – PHASE 2 GRID SAMPLING AREA

A high-level desk study review has been completed of the Phase 2 Grid area which included review of historical land use and development history which may affect sample results (including the potential for earthworks / ground disturbance / importing of soils i.e. associated with residential capping layers). As previously mentioned, PFOA was emitted from the Thornton facility between the 1950s and 2012. The results of the high-level desk study are provided in Appendix C.

In summary, low rise residential development has gradually occurred over the mapping period with initial residential development occurring between 1910 and the 1950s and generally being limited to land within the west. Newer housing estates, typically built from the mid-1960s onwards, gradually expand into the eastern area until 2010, when the full residential extent is shown. The periods of residential development within the Phase 2 Grid sampling area are shown within Insert 2.1 below.

Insert 2-1 – Phase 2 Grid Sampling Area - Approximate Residential Development History



2.2. PRELIMINARY OFFSITE GROUND INVESTIGATION (SEPTEMBER 2024)

A detailed account of the offsite Preliminary Investigation[2] is provided within the Factual Report [2]. In summary, the works were undertaken to provide an initial indication of PFOA concentrations in shallow soil radial to the Thornton facility at distances up to 5km.

A total of 199 No. shallow soil samples were analysed, from a range of land uses, across 22 separate council owned land parcels, including school playing fields, public open space and parks. The sampling works confirmed the presence of PFOA above the LOD in 187 out of 199 samples (representing ~94%) at concentrations up to 35.1µg/kg suggesting widespread impact of PFOA within surrounding soils.

As previously mentioned, the available council owned land within residential areas located 500m of the facility and within modelled high-risk areas of deposition was limited and therefore the general area to the south, southwest and southeast was not sampled as part of the Preliminary Phase [2].

3. PHASE 2 GRID BASED INVESTIGATION

3.1. FIELDWORKS

The Phase 2 Grid Investigation was undertaken between February and March 2025 supervised by two WSP engineers on a general full-time basis. The area subject to soil sampling is shown in Figure 1 in Appendix A.

Due to the extremely low method detection limits associated with PFAS analysis (e.g. part per billion for soils) and the many potential sources of PFAS contamination, in accordance with the Preliminary Phase of works [2] field personnel followed specific PFAS sampling QA/QC protocols and standard operating procedures (SOP) to ensure the quality of analysis results. Specific method statements were devised and incorporated into the design of the investigation. Full copies of the SOP and method statements for reference are presented in Appendix D.

A summary of the PFAS specific quality assurance actions taken on-site is provided within Section 3.7.

3.2. COMPLETED SCOPE OF FIELDWORK

The programme of completed fieldwork activities is summarised in Table 3-1 below.

Table 3-1 – Programme of Completed Works

Date	Programme of Completed Works
02 – 10 Jan 25	Identification of proposed Phase 2 Grid sample points and high-level desk-based assessment
06 Jan 25 – 14 February 25	Preparation, submission and authorisation of health and safety documentation including liaison with the Principal Designer (Mott McDonald). Access to residential properties arranged by Wyre Council.
17 Feb 25	Inductions and mobilisation of hand pitting crew and service clearance contractor
17 – 21 Feb 25	Service clearance, hand pitting and soil sampling at: GR01: SP201, SP203, SP204, SP207, SP209, SP210, SP213, SP219, SP221, SP223, SP226, SP227, SP228, SP232, SP235 GR02: SP206, SP207, SP211, SP217, SP219.
24 – 28 Feb 25	Service clearance, hand pitting and soil sampling at: GR01: SP202, SP205, SP208, SP212, SP214, SP215, SP218, SP220, SP224, SP229, SP230, SP233 GR02: SP202, SP205, SP208, SP210, SP212, SP213, SP215, SP216, POS: SP201, SP202, SP203, SP204, SP205, SP208, SP210, SP211
03 – 07 March 25	Service clearance, hand pitting and soil sampling at: GR01: SP206, SP211, SP216, SP222, SP225, SP231, SP234, SP236 GR02: SP204, SP214, SP218 POS: SP207, SP208, SP209, SP211, SP212, SP213, SP214

The following deviations / restrictions from the original planned scope of works are noted:

- Various sampling points were re-positioned onsite to account for site constraints including the potential presence of previously unidentified underground utilities
- Given access restrictions at two locations and the lack of suitable alternative sampling locations, sampling works could not be completed for two locations: GR02-SP201 and GR02-SP212.
- Due to lack of suitable sample areas within properties (i.e. no areas of landscaping) or given access restrictions, the total number of samples analysed was 291 of the proposed 297 soil samples (as specified by the sampling plan). Grid Based Sample Points

A total of 63 sample points (130 hand pits) were distributed within a 500m radius of the Thornton facility as per the below:

- 35 sample points (71 hand pits) distributed on a non-targeted regular grid spacing of 100m to the south/southeast of the facility
- 15 sample points (31 hand pits) distributed on a non-targeted regular grid spacing of 150m to the south/southwest of the facility
- 13 sample points (28 hand pits) within areas of public open space identified within the residential areas

For each sample point, a minimum of two hand dug pits were progressed by a specialist contractor to a depth of up to 0.6m m bgl (subject to access agreements, utilities and obstructions). At three locations, additional hand pits were progressed when the target sample depth could not be reached (GR01-SP209 and GR02-SP216) or additional locations were required for coverage (POS-211) (see Section 3.4). The locations of the sample points are indicated on Figure 1 in Appendix A.

The following updated sample locations were progressed to account for access restrictions at the original locations:

Table 3-2 – Updated Sample Locations

Original Location (not completed)	Updated Location (completed)
GR01-SP217	POS-SP212
GR02-SP203	POS-SP213
GR02–SP209	POS-SP214
POS-SP206	POS-211B/C

Up to three soil samples were obtained per sample point to target the shallow vertical profile. All soil sampling points were positioned in areas of landscaping e.g. within private gardens or within grassed open space. The national grid coordinates for each proposed sampling point were given to the specialist surveyor (Midland Survey) who marked and cleared each location (using a cable avoidance tools (CAT) and ground penetrating radar (GPR)). The sampling locations were then re-surveyed via GPS to account for any repositioning (coordinates and elevations X, Y, Z) which are presented on the logs (presented in Appendix E) . Plans showing the sampling points within the investigation area is presented as Figure 1 within Appendix A.

3.3. SAMPLE DEPTH

To ensure the shallow profile was targeted whilst continuing to align with the exposure assumptions for different land uses, at each identified sampling point, three shallow, hand dug soil samples was undertaken between ground level and 0.6m bgl. Samples were obtained at discreet 0.1m depth ranges, as indicated within Appendix E.

In total, 348 soil samples were collected; although not all samples collected were scheduled for analysis with a select number sent for interim storage at the laboratory. More detail on the analysis undertaken is presented in Section 3.8.

3.4. SOIL SAMPLE IDENTIFICATION

For sample identification purposes, each sample was prefixed 'GR' (grid) or 'POS' (public open space) with each sample ID then provided with a 'SP' (sample point) location corresponding to its position within the sample area and a depth profile of where the sample was taken from (e.g. 0.3 – 0.4). A suffix of 'A' – 'D' was included within the naming convention to represent additional hand pits progressed at each sample point.

The sample identification details are summarised in Appendix E. The locations of the sampling points are shown in Figure 1 in Appendix A.

3.5. LOGGING AND SAMPLING

During the soil sampling works, EA representatives attended site on 24 February 2025 and observed sampling activities.

The sampling technique comprised hand dug pits (using insulated hand tools) whilst adopting a strict methodology for the avoidance of cross contamination or introduction of PFAS during hole advancement or sample collection. The hand pits were all positioned within areas of landscaping within residential gardens or areas of public open space with no requirement for mechanical excavation or coring of ground surface.

Contractor Geotron undertook the hand pitting works which were overseen by two WSP geo-environmental engineers on a general full-time basis. A written record of the soil strata was logged in accordance with BS5930:2015 by the WSP engineers and hand dug inspection pits and associated arisings were photographed. Selected photographs are included on the exploratory hole logs, presented in Appendix F.

Arisings were placed on thin HDPE sheeting in accordance with laboratory advice, and in accordance with the Preliminary Phase [2] of works. Discrete disturbed soil samples were extracted from arisings using a handheld stainless-steel trowel, undertaken in accordance with the methodology described in Appendix D. Arisings were subsequently used as backfill and compacted to restore the hand pit once the samples had been recovered. Samples were collected in laboratory supplied sample containers (1kg tubs) and placed within the laboratory supplied cool bags. The samples were sent by courier to the laboratory either the same day or following day (ALS Life Sciences Ltd (ALS)).

Quality assurance / quality control (QA/QC) samples were collected in accordance with the sampling plan, in the form of equipment/ rinsate samples at an approximate frequency of 1 in 10 samples collected (more detail presented in Section 3.7).

3.6. HEALTH AND SAFETY

WSP acted as Principal Contractor during the ground investigation and supervised all site activities on a full-time basis. A Construction Phase Plan (CPP) was prepared prior to commencement of the ground investigation and issued to the Principal Designer (Mott McDonald) acting on behalf of the Client (the EA), for approval.

- WSP, 07 February 2025. Thornton Construction Phase Plan (ref: 70100310-CPP202).

The CPP set out the arrangements made for securing health and safety during the construction period. The CPP detailed site rules, risk assessments and method statements of all subcontractors and WSP, and specific measures put in place to mitigate the identified health and safety risks.

The CPP is to be submitted to the EA for inclusion in the Health and Safety File kept by the Client. This factual ground investigation report is part of the Health and Safety File.

3.7. QUALITY ASSURANCE AND QUALITY CONTROL

Due to the low screening level concentrations and prevalence of PFAS in consumer products, false positives are a major concern due to potential for cross-contamination between sampling locations and contamination of samples.

During the Phase 2 Grid Investigation, detailed consideration was given to methods to avoid the unintended introduction of contaminants of concern (PFOA in particular, given the sensitivities of PFAS analysis) into the subsurface attributed to the processes and materials being employed.

As stated within Section 3.1, recommended guidance on PFAS sampling was followed during the investigation and sampling to limit the potential for introduction of contaminants or cross contamination of soil samples during collection. Generally, this guidance required the undertaking of the following precautions during the investigation:

- The hand pitting and sampling equipment was regularly cleaned with a liquinox solution made with laboratory supplied PFAS-free deionised water. The hand pitting tools were cleaned between every sample point whilst the sampling equipment was cleaned between every sample collected.
- Triple rinse of tools and equipment with laboratory supplied PFAS-free deionised water.
- The changing of disposable gloves for every sample collected.
- Samples were stored in sealed containers appropriate for laboratory analysis for the required suite.

During the investigation, quality assurance / quality control samples were collected in general accordance with that outlined within Table 3-3.

Table 3-3 – Quality Control Sampling Plan

QC Sample	Description	Typical Quantity
Equipment/ rinsate Blank	E.g. sample taken of the rinse water from the final rinse after decontamination of the field equipment. Used to assess whether the decontamination process has been adequately undertaken.	At an approximate frequency of 1 in 10 soil samples collected

The soil quality control samples collected as part of the Phase 2 Grid Investigation are summarised in Table 3-4 below. In summary during the soils investigation, 28 rinsate samples of the field equipment were taken from selected sample locations (equating to ~10% of soil samples collected).

The results of the QA/QC rinsate testing is presented in Section 4.3.

Table 3-4 –Quality Control Samples

Area	Unique Sampling Code	Type
Grid 01	GR01-SP203 0.20-0.30	Rinsate sample – hand trowel
	GR01-SP206 0.30-0.40	Rinsate sample - hand trowel
	GR01-SP213 0.20-0.30	Rinsate sample - hand trowel
	GR01-SP222 0.00-0.10	Rinsate sample - hand trowel
	GR01-SP223 0.40-0.50	Rinsate sample - hand trowel
	GR01-SP225 0.00-0.10	Rinsate sample - hand trowel
	GR01-SP227 0.10-0.20	Rinsate sample- hand trowel
	GR01-SP229 0.40-0.50	Rinsate sample- hand trowel
	GR01-SP201A 0.50-0.60	Rinsate sample- hand trowel
	GR01-SP206A 0.50-0.60	Rinsate sample - hand trowel
	GR01-SP210A 0.20-0.30	Rinsate sample- hand trowel
	GR01-SP211A 0.10-0.20	Rinsate sample- hand trowel
	GR01-SP218A 0.00-0.10	Rinsate sample- hand trowel
	GR01-SP226A 0.50-0.60	Rinsate sample- hand trowel
Grid 02	GR02-SP208 0.30-0.40	Rinsate sample - hand trowel
	GR02-SP214 0.40-0.50	Rinsate sample - hand trowel
	GR02-SP217 0.40-0.50	Rinsate sample - hand trowel
	GR02-SP202A 0.20-0.30	Rinsate sample- hand trowel
	GR02-SP204A 0.00-0.10	Rinsate sample- hand trowel
	GR02-SP207A 0.30-0.40	Rinsate sample- hand trowel
	GR02-SP211A 0.10-0.20	Rinsate sample- hand trowel
	GR02-SP214A 0.50-0.60	Rinsate sample- hand trowel
	GR02-SP219A 0.30-0.40	Rinsate sample - hand trowel
POS	POS-SP204 0.20-0.30	Rinsate sample- hand trowel
	POS-SP205 0.50-0.60	Rinsate sample- hand trowel
	POS-SP209 0.40-0.50	Rinsate sample- hand trowel
	POS-SP207A 0.50-0.60	Rinsate sample - hand trowel
	POS-SP210A 0.20-0.30	Rinsate sample - hand trowel

In addition to the above, ALS Laboratories internal Quality Processes are presented on the laboratory reports within Appendix G. This includes the results of an analytical quality control (AQC (Spiked Sample)) run with each batch of samples. The bold figure detailed is the percentage recovery result for the AQC, whist the subscript numbers are the percentage recovery lower control

limit (LCL) and upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control. Where the AQC sample fails, the batch is cancelled, and samples are re-run.

Based on the AQCs data presented within laboratory reports, recovery of 5:3 FTCA, 6:2 FTAB, 7:3 FTCA in the quality control samples has observed to be <50% of the target value. The results for these analytes are therefore indicative only. The remaining AQCs are within the acceptable ranges and therefore pass their QA/QC. The laboratory AQC compliance shows that the extraction/analysis process worked and won't have affected the levels of the contaminants in the actual samples.

3.8. LABORATORY CHEMICAL ANALYSIS

3.8.1. Soil Sampling

A summary of the sampling and laboratory analysis undertaken during the Phase 2 Grid Investigation is presented in Table 3-5 below. The soil samples were collected in fully labelled laboratory-supplied containers, relevant to the required suite of analysis; and transported in cooled containers under full chain of custody to a UKAS accredited laboratory (ALS Life Sciences Ltd).

Whilst, for the purpose of this investigation, PFOA was identified as the principal contaminant of concern, a wider suite of PFAS analysis was implemented which offered the lowest MDL/LOD available for PFOA (0.5µg/kg).

Soil analysis for PFAS in the present study was not accredited (which applies to the services currently available from all UK labs). However, certain analysis methods for waters (applicable to the equipment rinsates) are validated to ISO 17025. The environmental laboratory reports are presented in Appendix G

Table 3-5 – Summary of Environmental Laboratory Analysis Schedule

Chemical Analysis		Number of Samples Analysed	
	Accredited Method ?	Soil	Soil QA/QC (rinsate)
PFAS Broad Suite (soil)	No	291	-
PFAS Broad Suite (water)	Yes - TM434	-	28
Soil Organic Matter	Yes – TM132	291	-
pH	Yes - TM133	291	-

It is noted where samples have been diluted by the laboratory for analysis, a variation in the reported limits of detection is observed.

4. FINDINGS

4.1. ENCOUNTERED GROUND CONDITIONS

A summary of the recorded ground conditions is presented in Table 5-1 below. The full recorded details and a photographical log are presented on the exploratory logs contained in Appendix E. The sampling location plan is provided within Figure 1 in Appendix A.

Table 4-1 – Summary of Encountered Ground Conditions

Strata		Depth to Base (m bgl)*	Typical Description	Notes
Made Ground	Cohesive Made Ground (Topsoil)	0.10 to 0.60 (0.60)	Grass over brown sandy slightly gravelly clay with rootlets. Often slightly silty. Occasional gravel including brick, plastic and glass.	Encountered within the majority of locations. Depth not proven within approximately 50 locations. Ashy inclusions encountered within three locations: GR01-SP206, GR02-SP210A, GR02-SP213A.
	Granular Made Ground	0.15 to 0.60 (0.60)	Brown and grey sandy / slightly sandy clayey / slightly clayey fine to coarse gravel of various lithologies, including brick, sandstone, limestone. Occasionally ashy. Or Brown gravely fine to coarse sand with occasional / rare cobbles of brick.	Encountered within approximately 16 locations. Depth not proven within 5 locations (GR01-SP211A, GR01-SP221A, POS-SP204, POS-SP214A). Within 2 areas of public open space (POS-SP204/A and POS-SP214) and a location within a residential garden (GR02-SP215), ashy material with clinker was encountered. Notable cobbles of brick and concrete recorded within GR01-SP211, GR01-SP216 and GR01-SP219. Builders sand recorded within GR02-SP207.
Natural Topsoil		0.35 to 0.40	Grass over dark brown sandy clay / clayey sand with frequent rootlets. Slightly silty. Occasional gravel.	Only encountered within approximately 6 residential gardens (GR01-SP202, GR01-204/A, GR01-215/A, GR01-222/A, GR01-227A and GR02-SP219A) and 2 areas of public open space (POS-SP211/A/B, POS-SP212/A.
Reworked / Tidal Flat Deposits (TDF)		Not proven (0.60)	Grey orangish brown silty sandy clay / sandy silt	Encountered within approximately 2/3 of locations.

** Depth in brackets indicates maximum depth (unproven).*

Limited volumes of groundwater were recorded, often as small seepages of water as opposed to a continuous groundwater table.

4.2. SOIL LABORATORY ANALYSIS RESULTS

In total, 291 soil samples were analysed as part of the Phase 2 Grid Investigation. Sampling was undertaken from discrete depth intervals between ground level and 0.6m bgl and subject to a suite of PFAS testing (PFAS Broad Suite), pH and SOM, as detailed within Table 3-5.

The soil laboratory reports are provided in Appendix G.

4.2.1. PFOA IN SOILS

A summary of detected PFOA concentrations is provided in Table 4-2below. PFOA was encountered above the LOD within 287 samples (out of a 291 samples) with a detection frequency of 99%. Detected concentrations ranged between 0.73µg/kg and 144µg/kg with an average concentration of 4.18µg/kg.

Typically, concentrations were within an order of magnitude and similar to concentrations encountered during previous phases of work. Two notable PFOA concentrations of 41.7µg/kg and 144µg/kg were recorded within GR01-SP221 (0.4- 0.5m bgl) and GR01-SP232 (0.4 – 0.5m bgl) respectively, which are located to the southeast of the facility.

The soil laboratory reports are provided in Appendix G whilst tables detailing the compiled PFAS soil analysis is presented within Appendix I.

The average PFOA concentrations for each sample point are shown within Figure 2 in Appendix A.

Table 4-2 – Summary of Detected PFOA

Investigation	Number of samples	Number of samples with PFOA concentrations above LOD	PFOA concentration (µg/kg)			
			Maximum	Minimum	Mean	Median
Phase 2 Grid	291	287	144	0.73	4.18	2.71

The average PFOA concentrations from discrete depth intervals is shown in Table 4-3 below. In accordance with previous findings, average PFOA concentrations appear to increase within depth across the dataset.

Table 4-3 – Average PFOA Concentration by Depth

Investigation	Average PFOA concentration (µg/kg)		
	0.0 – 0.2m bgl	0.2 – 0.4m bgl	0.4 – 0.6m bgl
Phase 2 Grid	2.83 (106 Samples)	3.61 (92 samples)	6.15 (92 samples)

4.2.2. PFAS IN SOILS

As part of the wider PFAS Broad Suite, a collection of 52 PFAS compounds were analysed in addition to PFOA. Whilst PFOA is the contaminant of concern under investigation, Table 4-4 provides a summary of the concentrations of wider PFAS observed across the soil sample population above the laboratory LOD. A wide range of PFAS has been detected in the samples; however, PFOA is the dominant PFAS compound encountered, which is consistent with the previous phases of work [2]. PFOA is known to have been emitted at the Thornton site and is the main contaminant of concern under investigation.

Of the sum of PFAS measured, PFOA made up 82% of the total, with the next most predominant compounds relating to linear PFOS (4.7%), PFPA (4.4%) and 6:2 FTAB (3.3%). A chart detailing the relative contribution of each PFAS to the total PFAS concentration reported above the LOD is presented in Graph 4.1. Average concentrations for PFOA were 4.18µg/kg whilst average

concentrations across remaining PFAS compounds typically ranged between 0.70µg/kg and 2.07µg/kg . For 6:2 FTAB a higher average indicative concentration of 24.65 µg/kg was recorded (based on two samples only).

The soil laboratory reports are provided in Appendix G whilst tables detailing the compiled PFAS soil analysis is presented within Appendix I.

Graph 4-1 - Sum of PFAS Concentrations in Soils (µg/kg)

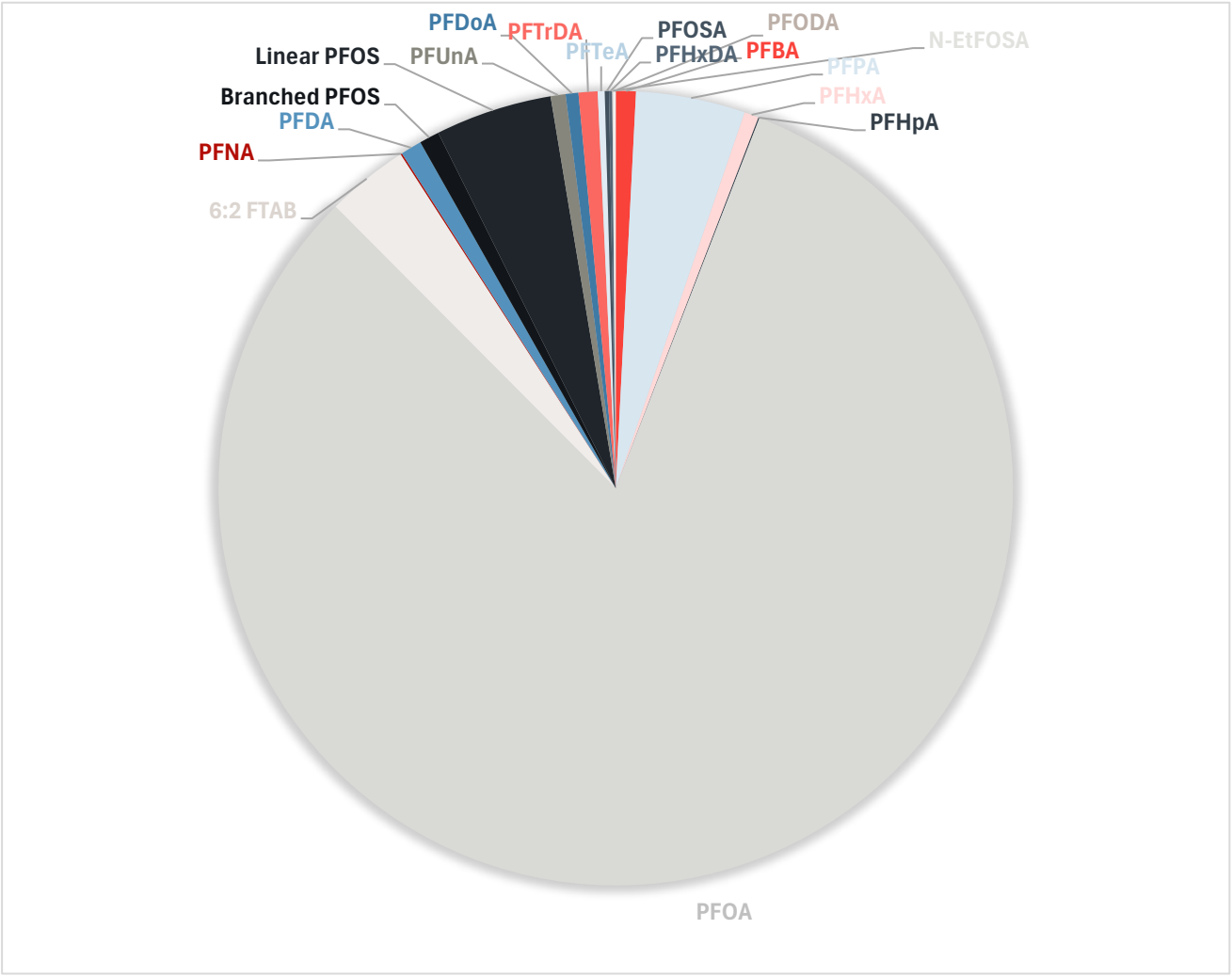


Table 4-4 –Summary of Detected PFAS Compounds in Soils

Detected PFAS Compound	Limit of Detection (LOD) (µg/kg)	Reported Range in Detected Result (µg/kg)	No. of Samples >LOD (*Detection Frequency DF*)	Average (µg/kg)	Median (µg/kg)
Perfluroalkylated carboxylic acids (PFCAs) in order of increasing chain length					
PFBA	0.5	0.66 – 1.43	13 *(4%)*	0.92	0.89
PFPA	0.5	0.61 – 2.58	55 *(19%)*	1.19	0.99

Detected PFAS Compound	Limit of Detection (LOD) (µg/kg)	Reported Range in Detected Result (µg/kg)	No. of Samples >LOD *(Detection Frequency DF)*	Average (µg/kg)	Median (µg/kg)
PFHxA	0.5	0.65 – 3.60	5 *(2%)*	1.73	0.97
PFHpA	0.5	0.70	1 *(0.3%)*	0.70	0.70
PFOA	0.5	0.73 - 144	287 *(99%)*	4.18	2.71
PFNA	0.5	0.93	1 *(0.3%)*	0.93	0.93
PFDA	0.5	0.68 – 1.42	13 *(4%)*	1	0.94
PFUnA	0.5	0.66 – 1.82	9 *(3%)*	1	0.89
PFDoA	0.5	0.83 – 2.26	6 *(2%)*	1.27	1.08
PFTrDA	0.5	0.98 – 4.69	6 *(2%)*	1.90	1.37
PFTeA	0.5	0.62 – 3.52	2 *(0.6%)*	2.07	2.07
PFOSA	0.5	0.82 - 1.71	2 *(0.7%)*	1.27	1.27
PFHxDA	0.5	1.94	1 *(0.3%)*	1.94	1.94
PFODA	0.5	1.35	1 *(0.3%)*	1.35	1.35
N-EtFOSA	0.5	0.69 – 0.69	1 *(0.3%)*	0.69	0.69
Perfluroalkylated sulfonic acids (PFSAs) in order of increasing chain length					
Linear PFOS	0.6	0.76 – 12	40 *(14%)*	1.74	1.12
Branched PFOS	0.6	0.91 – 4.92	*7 (2%)*	1.70	0.98
Total PFOS	0.5 / 0.6	0.76 –16.9	41 *(14%)*	1.99	1.07
Fluorotelomers					
6:2 FTAB	10	15 – 34.3	2 *(0.7%)*	24.65	24.65

Based on the results, the additional is noted:

- A range of compounds within the perfluoroalkylated sulfonic acids (PFSA) and perfluroalkylated carboxylic acids (PFCAs) subgroups have been detected including PFOA and branched / linear PFOS. A greater range in PFAS compounds has been detected when compared to previous phases of sampling – (18 PFAS compounds encountered compared to 9 PFAS compounds detected as part of the Preliminary Phase [2] .
- In accordance with previous findings [2], the greatest prevalence and highest PFAS concentrations relate to PFOA. Other PFAS compounds have been detected; although, the distribution is more sporadic and concentration magnitude much lower. PFOA was detected at

concentrations between 0.73µg/kg and 144µg/kg with an average of 4.18µg/kg. The detection frequency of PFOA (i.e. values above the LOD) was 99%.

- Total PFOS was detected within 41 samples between 0.76µg/kg. and 16.9µg/kg. Linear isomers were detected at greater concentrations and within 40 samples (detection frequency of 14%) when compared to branched isomers, which were detected at low concentrations within 7 samples only (detection frequency 2%). This trend is consistent with previous findings [2].
- A range of other PFAS compounds were detected; although, detections were at much lower concentrations. Typically, concentrations for other PFAS compounds were <5µg/kg, except for 6:2 FTAB, where indicative concentrations between 15µg/kg and 34µg/kg were recorded (based on two samples obtained from GR02-SP202).
- Concentrations of encountered PFAS were of a similar order of magnitude between samples, except for a small number of outliers where the highest PFOA concentrations have been recorded (GR01-SP232 and GR01-SP221).

4.2.3. pH

pH ranged between 5.29 and 9.18 indicating acidic to alkaline conditions.

4.2.4. SOM

Soil organic matter varied considerably within soil samples tested with reported concentrations between 0.73% to 20%. The highest reported SOM content was typically taken from topsoil / near surface samples from areas of public open space.

4.3. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

4.3.1. Laboratory Quality Assurance

The test schedules from the laboratory were checked for consistency with the sampling plan and proposed analytical schedule on the day of receipt, and any errors were rectified with the laboratory within the holding time, where applicable. During Phase 2 Grid soil sampling, 28 rinsate samples of the field equipment were taken from selected sample locations (as detailed within Table 3-4) and submitted for PFAS analysis to assess whether the decontamination process has been adequately undertaken.

A QA/QC pass is indicated where concentrations in equipment rinsates are below the laboratory LOD. Upon review of the analysis, concentrations of PFAS analytes were below the LOD, with the exception of trace concentrations reported in one sample as outlined in Table 4-5.

Table 4-5 – QA/QC Detections

QA/QC Rinsate Sample Reference	Corresponding Soil sample depth	PFAS compound >LOD	PFAS concentration >LOD ug/l
GR01-SP227	0.0-0.10	PFHxDA	0.00153

Trace concentrations of PFHxDA was identified within the rinsate sample GR01-SP227. Within the corresponding soil sample taken from GR01-SP227, in addition to other samples taken from the sample point, concentrations of PFHxDA were not identified above the LOD (0.6µg/kg). The trace detection of PFHxDA is not considered to be significant in the context of the dataset and overall, the QA/QC processes were deemed effective.

The results of the rinsate samples are contained within the laboratory reports presented in Appendix G.

5. SUMMARY

A Phase 2 (Track 1) Grid Investigation was undertaken between February and March 2025 comprising a wider grid-based sampling exercise in areas of residential land use within 500m radius of the Thornton manufacturing facility, located within Thornton-Cleveleys. Works were undertaken under the CDM, 2015 Regulations [3] where WSP was Principal Contractor and Designer.

These additional works were based on the results of an offsite Preliminary Soils Investigation undertaken by WSP in September 2024 [1][2] which suggested a potential contaminant linkage between legacy aerial deposition of PFOA in soils within the surrounding area and residents with gardens who grow or have the potential to grow home grown produce for consumption. Aerial deposition of PFOA is considered to be attributed to legacy aerial emissions from the Thornton manufacturing facility between the 1950s and 2012.

The investigation comprised the analysis of 191 shallow soil samples collected from 62 samples points within a 500m radius of the Thornton facility. For each sample point, a minimum of two hand dug pits were progressed by a specialist contractor to a depth of up to 0.6m bgl. Recommended guidance on PFAS sampling was followed during the investigation and sampling to limit the potential for introduction of contaminants or cross contamination of soil samples during collection. In addition, representative QA/QC samples in the form of equipment rinsates were also analysed.

A wide range of PFAS has been detected in the samples; however, the greatest prevalence, and highest PFAS soil concentrations relate to PFOA which is consistent with the previous phases of work [2]. PFOA is known have been emitted at the Thornton site and is the main contaminant of concern under investigation. PFOA was encountered above the LOD within 287 samples out of 291 samples (detection frequency 99%) at concentrations of between 0.73µg/kg and 144µg/kg, with an average of 4.18µg/kg. Of the sum of PFAS measured, PFOA made up 82% of the total. Typically, concentrations were within an order of magnitude and similar to concentrations encountered during previous phases of work [2]. Average concentrations across remaining PFAS compounds typically ranged between 0.70µg/kg and 2.07µg/kg which were more sporadic in detections.

Follow up reporting will provide the interpretation of the dataset in the context of Part 2A. It is recognised that the investigation into offsite impacts and their significance in the context of Part 2A will be a phased / iterative process and the works described within this document represents part of the second phase of Track 1 offsite sampling to observe the wider distribution of contaminant dispersion across the area.

6. REFERENCES

1. WSP, 17 February 2025. Desk Study: AGC Chemicals Europe Ltd Facility, Thornton-Cleveleys (ref: 70100310-12157(5).
2. WSP, 12 December 2025. Site at Thornton-Cleveleys, Factual Report from Preliminary Phase of Offsite Soils Investigation (ref: 70100310/12232(2).
3. HSE, 2015. Construction (Design and Management) Regulations.
4. EA, 2020. Land Contamination Risk Management (LCRM).
5. Part 2A of the Environmental Protection Act, 1990.
6. WSP, January 2025. Thornton Construction Phase Plan (ref: 70100310-CPP(201))
7. BS 5930:2015 +A1:2020 Code of Practice for Ground Investigation.
8. BS 10175:2011+A2:2017, Investigation of Potentially Contaminated Sites, Code of Practice.
9. Part 2A of the Environmental Protection Act, 1990.
10. Defra, 2012. Contaminated Land Statutory Guidance.
11. EA Air Quality Modelling & Assessment Unit (AQMAU), 2023. AGC Chemicals PFOA Dispersion. Air dispersion and deposition modelling study. AQMAU-C2478-RP02.
12. Groundsure Report, 12 August 2024 (ref: GS-WIF-Q5F-TX1-C81_Central Areas).

7. GLOSSARY AND ABBREVIATIONS

The following terms and abbreviations have been used throughout the enclosed statement. All may be considered as common terms used on an everyday basis by Contaminated Land professionals, their definitions are presented to assist the reader and avoid ambiguity.

Above Ordnance Datum (AOD).

Air dispersion Modelling is the use of mathematical formulations to simulate atmospheric processes and predict the dispersion of pollutants.

Analytical Quality Control (AQC) refers to the procedures adopted by the performing laboratory to ensure that analytical measurements are of adequate accuracy for their intended purpose.

Asbestos containing material (ACMs). Products that have asbestos in them. Asbestos is a mineral that has been used for its fireproofing and insulation properties. Examples include construction and insulation materials, such as fireproofing, pipes, boilers, roofing, plaster, wallboard, and cement; friction products, such as brakes and clutches; heat-resistant fabrics, packaging, gaskets, and coatings.

Below ground level (BGL).

Conceptual site model (CSM). A representation of the characteristics of the site in diagrammatic or written form that shows the possible Pollutant linkages between Contaminants, Pathways and Receptors.

Contaminant. A substance that is in, on or under the land and that has the potential to cause harm or to cause pollution to the water environment.

Contaminant linkage. The relationship between a contaminant, pathway and receptor, which is identified by developing the conceptual site model ('CSM'). See also source-pathway-receptor linkage.

Contaminant of concern (CoC). Contaminants that pose an unacceptable risk to human health and the environment, as identified in the risk assessments.

Contaminated Land. Contaminated Land: defined in section 78A(2) of the Environmental Protection Act [1] as: 'any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that - '(a) significant harm is being caused or there is a significant possibility of such harm being caused, or; '(b) pollution of controlled waters is being, or is likely to be, caused.' OR with respect to radioactive contamination defined in section 78A(2)(as modified) as 'any land which appears to the local authority in whose area it is situated to be in such a condition, by reasons of substances in, on or under the ground, that: (a) harm is being caused, or (b) there is a significant possibility of such harm being caused.'

Construction Phase Plan (CPP) is a document that sets out the health and safety management arrangements for a project. It is a key document that details the health and safety risks associated with the construction phase of the project and the control measures that will be implemented to minimise risks or where possible, eliminate them. The Construction Phase Plan is an explicit requirement under CDM 2015.

The Construction (Design and Management) Regulations, 2015 (CDM 2015). A set of rules that aim to improve health and safety in the construction industry by managing risks from start to finish.

Harm. This means adverse impacts on the health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to property. (Defined in section 78A(4) of the Environmental Protection Act 1990)

Hazard. A property or situation that in particular circumstances could lead to harm or pollution.

Natural drift, or Superficial deposits (formerly known as 'drift' by British Geological Survey) are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 2.6 million years from the present. They rest on older deposits or rocks referred to as bedrock.

LOD or Limit of Detection. The lower limit achievable detection as reported by the smallest amount (concentration) that can be detected with reasonable certainty using a specific analytical procedure.

Part 2A: Part 2A of the Environmental Protection Act 1990 [1].

Pathway. A route or means by which a receptor could be, or is exposed to, or affected by a Contaminant.

Per- and polyfluoroalkyl substances (PFAS). A group of synthetic organofluorine chemical compounds that have multiple fluorine atoms attached to an alkyl chain.

13. Perfluorooctanesulfonic acid (PFOS)
14. Perfluorooctanoic acid (PFOA)
15. Perfluorosulfonic acids (PFSAs)
16. Perfluoroalkyl carboxylic acids (PFCAs)
17. Perfluoropentanoic acid (PFPA / PFPeA)
18. perfluorohexane sulfonate (PFHxS)
19. Perfluorohexanoic acid (PFHxA)
20. Perfluoroheptanoic acid (PFHpA)
21. Perfluoroheptyl sulphonate (PFHpS)
22. 5:3 Fluorotelomer carboxylic acid (5:3 FTCA)
23. Fluorotelomers (FTS)
24. 6:2 fluorotelomer sulfonamidoalkyl betaine (6:2 FTAB)
25. Perfluoroalkyl acids (PFAAs)

Plausible Contaminant Linkage. A contaminant linkage that may plausibly be significant but requires further quantification or investigation to confirm or refute in the context of Part 2A.

Quality Assurance / Quality Control (QA/QC)

Receptor. In general terms, something that could be adversely affected by contamination (e.g., people, an ecological system, property or a water body).

Risk. A combination of the probability, or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

Risk Assessment. The formal process of identifying, assessing and evaluating the health and environmental risks that may be associated with a hazard.

Site Investigation (SI). The collection and analysis of soil, surface water, groundwater, soil gas and other media as a means of further understanding the condition of the site and to inform the risk assessment. This investigation may be undertaken in a single stage, or a number of successive stages.

Site of Special Scientific Interest (SSSI).

Soil organic matter (SOM). The organic matter component of soil, consisting of plant and animal detritus at various stages of decomposition, cells and tissues of soil microbes, and substances that soil microbes synthesize.

Source-Pathway-Receptor linkage. The relationship between a Contaminant, Pathway and Receptor, which is identified by developing the CSM. See also Pollutant linkage.

Significant Possibility of Significant Harm (SPOSH) (a formal term within Part 2A Legislation). The following health effects should always be considered to constitute significant harm to human health: death; life threatening diseases (e.g., cancers); other diseases likely to have serious impacts on health; serious injury; birth defects; and impairment of reproductive functions. Other health effects may be considered by the local authority to constitute significant harm. For example, a wide range of conditions may or may not constitute significant harm (alone or in combination) including physical injury; gastrointestinal disturbances; respiratory tract effects; cardio-vascular effects; central nervous system effects; skin ailments; effects on organs such as the liver or kidneys; or a wide range of other health impacts. In deciding whether or not a particular form of harm is significant harm, the local authority should consider the seriousness of the harm in question: including the impact on the health, and quality of life, of any person suffering the harm; and the scale of the harm.

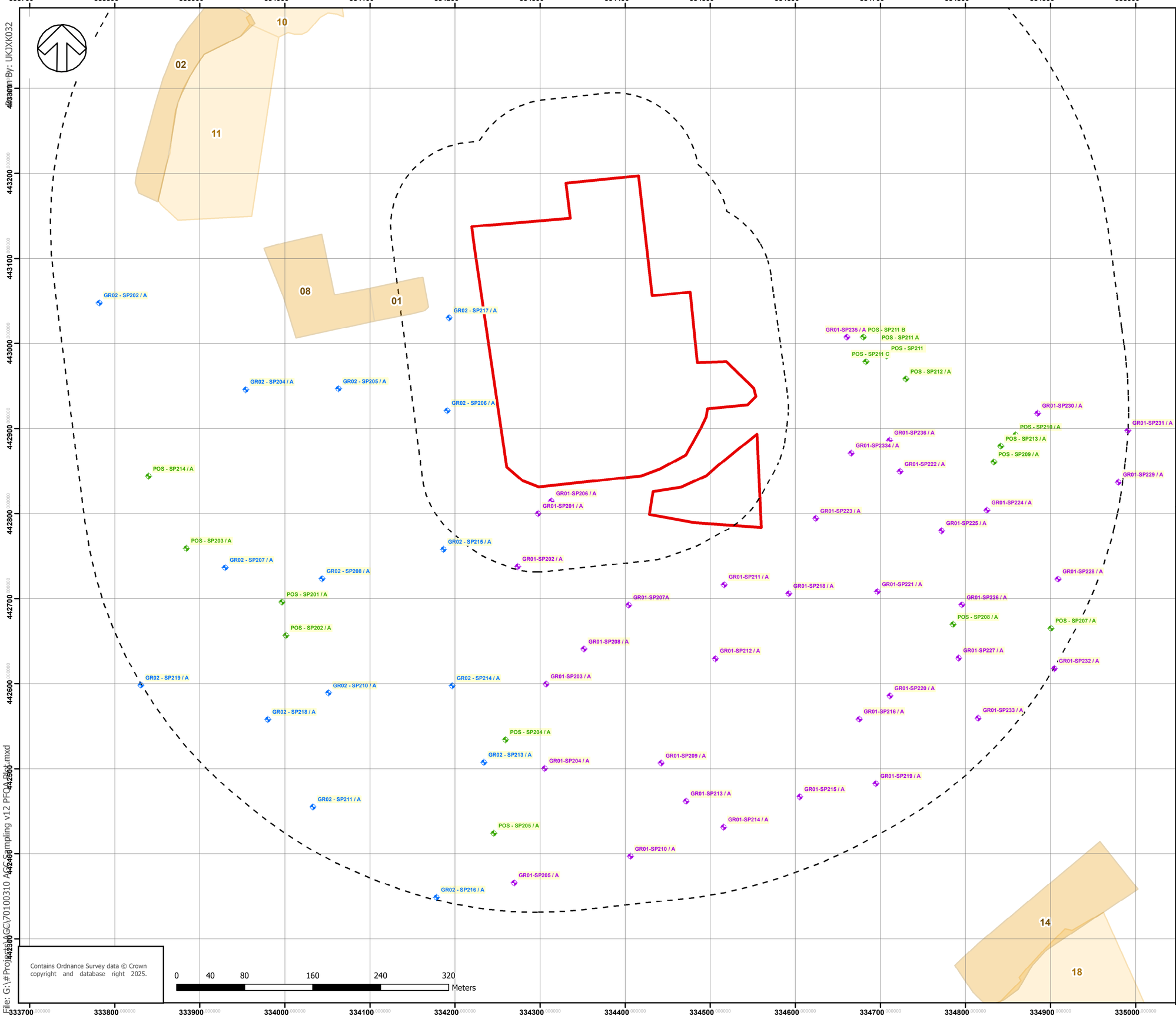
Unacceptable risk: means a risk of such a nature that it would give grounds for land to be considered Contaminated Land under Part 2A.

Uncertainty. A lack of knowledge about specific factors in a risk or exposure assessment, including parameter uncertainty, model uncertainty and scenario uncertainty. Parameter uncertainty refers to the uncertainty in the model parameter values, which can be due to uncertainties in the data available. Model uncertainty is uncertainty due to imperfections and idealizations made in the physical model formulation. Scenario uncertainty is uncertainty in the actual conceptual model being assumed for example in the actual exposure duration and frequency of a receptor on a site.

Unexploded Ordnance (UXO). A term for any sort of military ammunition or explosive device that failed to function as intended and still pose a risk of detonation.

Appendix A

FIGURES



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Plotted By: UKJXK032

File: G:\Projects\GC\70100310 AGG Sampling v12 PFOA.mxd

DO NOT SCALE

Legend

- Phase 2 - Residential 100m Grid (S/SE/E)
- Phase 2 - Residential 150m Grid (W/SW/S)
- Phase 2 - Public Open Space
- Preliminary Phase: Sampled Land Parcels - Sept 2024

DRAWING STATUS: WORKING

8 First Street
Manchester
Tel: +44 (0)161 200 500
Website: www.wsp.com

CLIENT: ENVIRONMENT AGENCY

ARCHITECT: WSP UK LIMITED

PROJECT: 70100310 EA PHASE 4
PHASE 2 SAMPLING

THORNTON SITE

TITLE: FIGURE 1
PHASE 2 GRID SAMPLING PLAN

SCALE @ A	CHECKED:	APPROVED:
1:0	CHK	APP
CAD FILE:	**DESIGN-DRAWN:**	**DATE:**
WSP - A2 Landscape	USER	APR 25

PROJECT No:	DRAWING No:	REV:
70100310	70100310/P2 -01A	

© WSP Global Inc

Drawn By: UKDXK032

DO NOT SCALE

Legend

Average PFOA Concentrations (per Sample Point)

ug/kg

- 1.03 - 2.47
- 2.47- 4.31
- 4.31 - 6.87
- 6.87- 12.16
- 12.16 - 34.43

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0 50 100 200 300 400 Meters

DRAWING STATUS: WORKING

wsp
8 First Street
Manchester
Tel: +44 (0)161 200 500
Website: www.wsp.com

CLIENT: ENVIRONMENT AGENCY

ARCHITECT: WSP UK LIMITED

PROJECT: 70100310
PHASE 2 INVESTIGATION

LAND AT THORNTON-CLEVELEYS

TITLE: FIGURE 2
PHASE 2 GRID -
AVERAGE PFOA CONCENTRATIONS UG/KG

SCALE @ A	CHECKED:	APPROVED:
1:0	KG	HDL
CAD FILE: WSP - A2 Landscape	DESIGN-DRAWN: USER	DATE: MAY 25
PROJECT No: 70100310	DRAWING No: 70100310/P2 -02	REV:

© WSP Global Inc

File: G:\#Projects\AGC\70100310 AGC Sampling v14 contour.mxd

Appendix B

NOTES AND LIMITATIONS

Official Sensitive

REPORT LIMITATIONS - GROUND AND WATER

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:

- **i.** The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- **ii.** Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

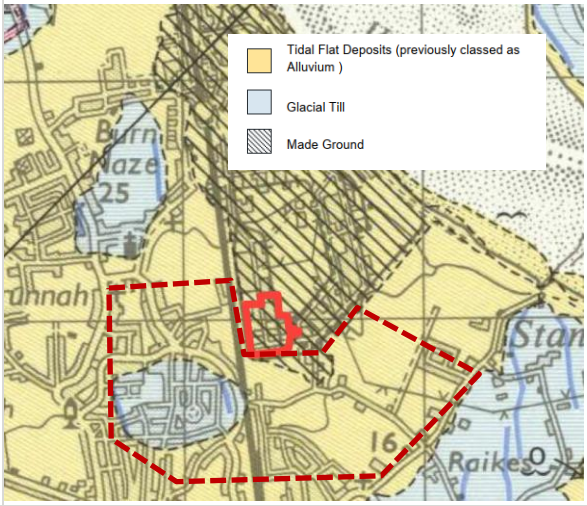
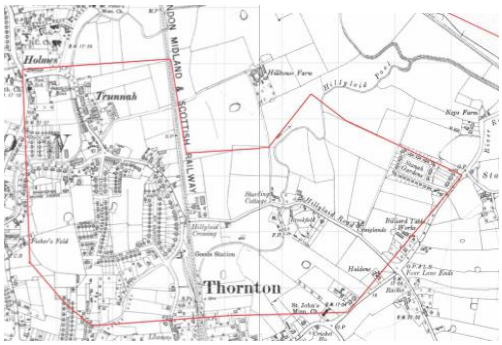
28. The data is presented and will be compared with assessment criteria.

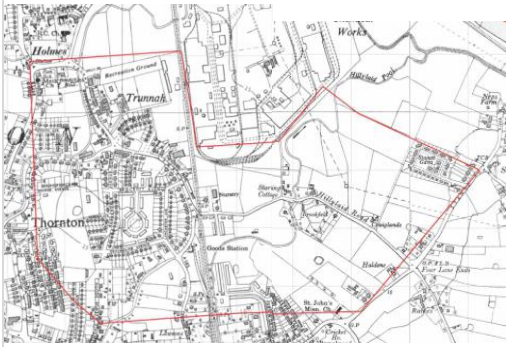
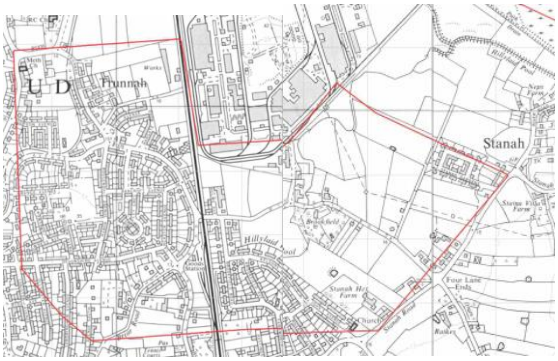
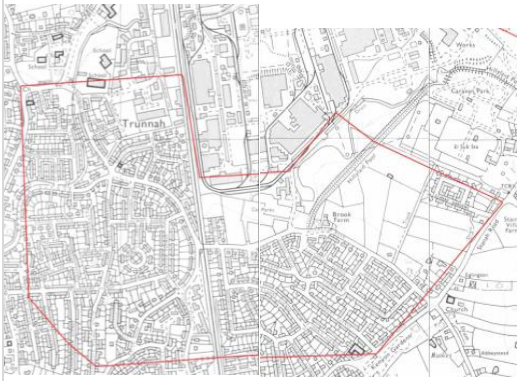
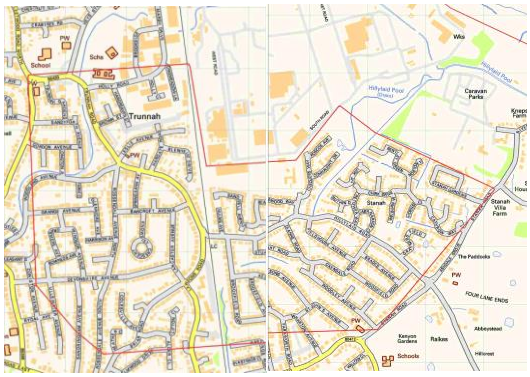
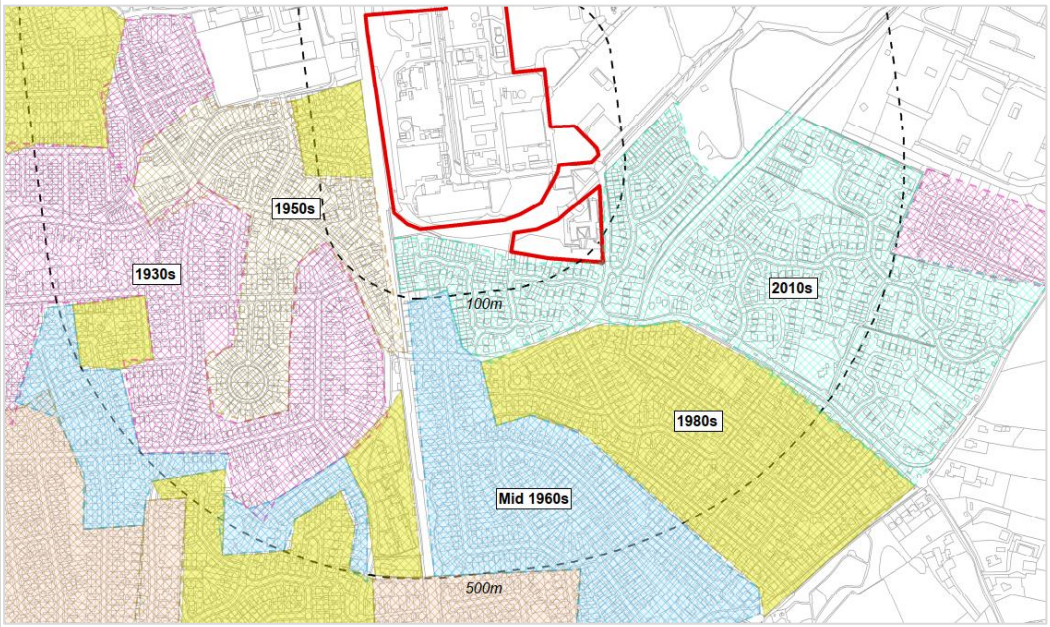
Appendix C

LAND PARCEL DESK REVIEW

Official Sensitive

THORNTON PHASE 2 GRID INVESTIGATION – HIGH-LEVEL DESK STUDY INFORMATION

Aspect	Detail
Geology	British Geological Survey (BGS) mapping indicates Made Ground to be present within the north of the site, associated with a wider area corresponding to the legacy ICI Hillhouse chemical works. The regional geology indicates the area is located on superficial deposits of post glacial Tidal Flat Deposits (TFD) (previously classed as Estuarine Alluvium) overlying glacial Till, or Till. The TFD (Unproductive) are described as unconsolidated sediment, mainly mud or sand whilst the Til (Secondary Undifferentiated) l is described as unsorted and unstratified drift, generally over consolidated and consists of a heterogenous mixture of clay, sand, gravel and boulders. The underlying solid geology is the Kirkham Mudstone (part of the Mercia Mudstone Group) (Secondary B aquifer) underlain by the Sherwood Sandstone Group. *Extract 1 – Geological Mapping (red hatch represents approximate Grid Boundary)* 
Land use	In summary, over the mapping period (1848 – 2024) residential development associated with the town of Thornton gradually occurs within the Phase 2 Grid Area alongside the development and expansion of the Imperial Chemical Industries (ICI) site which is constructed in the 1940s. As shown in the extract below, by 2010, the full extent of residential development is shown. *Extract 2 – Selected OS Mapping Detailing Residential Development)* <u>1910</u> (1:10,560)  <u>1930</u> (1:10,560) 

Aspect	Detail
	1951 (1:10,560)  1967 (1:10,560)  1981 (1:10,000)  2010 (1:10,000)  *Extract 3 – Approximate Residential History* 
Potential PFAS Source in the vicinity	FLOOD RISK ▪ The risk of flooding from rivers and the sea is generally low / very low; however, a high risk is associated with Hillylaid Pools and Royles Brook

Aspect	Detail
	▪ The site is situated within a Flood Zone 3 (1 in 100 chance of flooding (1%) and Flood Zone 2 (1 in 1000 (0.1%) year chance of flooding) when the presence of flood defences are ignored. ▪ The highest surface water flood risk present on the site is 1 in 30 year, 0.1-0.3m risk. ▪ There is a low / negligible chance of groundwater flooding at the site. LAND USE ▪ Historical industrial land uses in the area include the ICI site (a former chemical works used for chlorine production and then repurposed for plastics and chemicals production). Victrex is a legacy ICI business still operational involved in the plastics manufacture with Vinnolit, a PVC manufacturing works recently being demolished. ▪ Current industrial land uses in the area include the Red Marsh Industrial Estate located within the west of the site which includes a metal recycling centre, powder and coating works in addition to vehicle repair. Out with Red Marsh industrial estate, further sporadic industrial land uses include an electrical equipment and servicing outfit, aviation engineers, and haulage services. WASTE ▪ Two historical landfills are indicated 345m east (Stanah House, household waste) and 473m southeast (Limebrest Farm, inert waste) both with last input dates 1970 and 1973 respectively. ▪ Two historical waste sites (scrap yards) are indicated onsite with records dated 1980 and 1994 located at Red Marsh Industrial Estate. No other pertinent information has been supplied. ▪ The Groundsure report also records a licence waste site onsite categorised as a metal recycling site, also located at Red Marsh Industrial Estate. A further licensed waste site is located 55m north associated with a physical treatment facility at Hillhouse.

Appendix D

STANDARD OPERATING PROCEDURE

METHOD STATEMENT – Excavation of Hand Pits

Project Name:	Thornton Preliminary Offsite Sampling	**Project Number:**	70100310
This document is to be read in conjunction with	• T480 – Site Risk Assessment for the works. • Construction Phase Plan. • Site Documents Pack (including contractor Risk Assessments and Method Statements (if applicable), COSHH assessments, proposed exploratory hole plan and exploratory hole and sampling schedule). • Permit(s) to Dig		
Purpose	This Method Statement has been written for the excavation of hand dug pits as part of ground investigations. It does not cover temporary propping or shoring of pits. It does not cover utility avoidance surveys – see Procedure for the avoidance of underground utilities and below ground structures: here.		
Equipment:	• Hand digging tools (Insulated shovel, scissor shovels, etc.). • Tablet (or other method for taking logs and notes including stationery)/ weather writer* clipboard or somewhere to store drawings and paperwork. • Pens* / pencils. • Tape measure. • Camera (separate to phone or tablet if necessary). • Laboratory supplied sample containers* and chain of custody sheets (if obtaining samples). • Sampling trowel (stainless steel*). • PID (if head space testing and/or personal monitoring require one). • Spill kit (may be provided by Contractor). • Blue roll. • Heavy plastic sheeting* or boards for soil arisings (if required and if not provided by Contractor). • Detergent / PFAS free decontamination solution* (if required, COSHH assessment to be in Site Documents Pack). • PFAS free deionised water for rinsing equipment. • PFAS free buckets and wastewater storage container for decontamination. • Photo board* (if required). • Pedestrian barriers and hazard tape (if required and if not provided by Contractor) • Permits to Dig for the hand dug pit locations. • CAT and Genny Minimum CAT4+ or equivalent (if not provided by Contractor). • Hand held GPS.		

Site specific requirements	OTHER SITE-SPECIFIC REQUIREMENTS:
	• Known constraints: Specific to each land parcel and to be assessed as part of a dynamic risk assessment e.g. soft / uneven ground, structures, trench / manhole covers, overhead wires / gantries, rabbit burrow, etc.
	• Pedestrian barrier requirements around each work location to segregate hand pit works and public/other works: Mobile/folding pedestrian barriers to be placed around hand pitting equipment and hand pit within land parcels that are open to the public. Not required for private/secure land parcels.
	• Personal / ambient monitoring requirements: No personal or ambient monitoring requirements
	• Target depth for hand pits: 600mm (unless specifically indicated otherwise based on known tillage or ground disturbance). See exploratory hole and sampling schedule.
	• Soil sampling requirements: See exploratory hole and sampling schedule for specific location requirements. Generic requirements:
	  ○ Surface or near-surface soil (primarily 0.0- 0.05m)
	  ○ Sub-surface soil (0.10 – 0.15m)		

	○ Deeper soil (0.4 - 0.6m) ○ Change in strata to also trigger sample collection • In-situ testing requirements: No in-situ testing required • Chemical laboratory details: ○ Samples to be couriered under chain of custody procedures to ALS Lif Sciences Ltd, Hawarden Business Park, Hawarden. CH5 3US. Tel: 01244528700 Email: Hawarden.sales@alsglobal.com ○ Samples to be packaged and transported in cooled box/bag provided by the laboratory ○ All soil samples collected to be scheduled for PFAS Broad Suite (TM440) in accordance with the exploratory hole and sampling schedule. Note some samples may be selected for interim storage at the laboratory and later scheduling. • Disposal of arisings: During the works, all arisings retrieved are to be stored on sheeting or boards in the order retrieved. Once target depth has been achieved and required samples collected, the arisings are to be replaced within the hole consistent with the order they were obtained. Any deficit (due to sampling) to be made up from a local surface scrape, where feasible. The replaced material should be compacted during backfill and left slightly mounded to allow for settlement. • Decontamination of equipment: Tools to be decontaminated using PFAS free detergent prior to commencement and prior to sample collection. After decontamination a final rinse should be undertaken using laboratory supplied PFAS free deionised water. • QA/QC: equipment/rinsate samples to be collected in accordance with the exploratory hole and sampling schedule.
PFAS specific requirements	*PFAS SPECIFIC CONSIDERATIONS: *Items within the method statement marked with an asterix (*) indicates where consideration should be given to the potential for the influence of positive and negative sample bias[1] relating to PFAS. Note, research indicates that the most likely pathway for sample bias is through direct contact between sampling equipment and the sample. Examples are provided below.* • Equipment: ○ Weather writers, waterproof paper and other equipment comprised of waterproof materials should only be used in inclement weather. Such items should be kept separate from sampling equipment and gloves changed between use of equipment and interaction with the samples. ○ Use of waterproof pens including permanent markers and dry wipe markers should be avoided. ○ Sample containers should be supplied by the laboratory and specifically for PFAS analysis (Only use high-density polyethylene (HDPE) or polypropylene containers with unlined plastic caps). ○ Tools used for digging and sampling should be PFAS free. ○ Any plastic sheeting or boards to be used for storing spoil should be PFAS free. ○ Decontamination detergents or solutions should be PFAS free and supplied by the laboratory e.g. liquinox. Laboratory supplied PFAS free deionised water should be used for the final rinse during decontamination of sampling equipment. • PPE: Consideration in the use and selection of PPE should also be given to the potential for the introduction of PFAS into the sampling process e.g.

[1] Positive bias is the overestimation of analyte concentration and can result from contamination of samples by field equipment, materials, and sampling procedures used during sample collection, storage, and transport. Negative bias is the underestimation of analyte concentration and can result from improper field sampling procedures, using materials to which the contaminant sorbs, or sample storage conditions that could result in analyte degradation prior to analysis. (NGWA, 2023)

	○ Waterproof fabrics can contain PFAS and should only be worn in inclement weather. If worn, all precautions should be taken to avoid contact between the sample and the waterproof fabric. E.g. Sample container should not be stored or transported in coat pockets. Recommended material for field clothing and PPE may include waterproof clothing that contains polyurethane, polyvinyl chloride, wax-coated fabric, rubber, or neoprene. The use of waterproof clothing during sample collection should be documented in the site diary with the refined sampling protocols to be adopted. ○ Disposable gloves to be changed frequently. Hands should be washed with PFAS-free soap and new, clean disposable gloves should be donned prior to the collection of each sample. ○ Application of sunscreen or insect repellents to be undertaken outside of the working area and hands thoroughly washed with PFAS free soap prior to re-entry. Use should be documented in the site diary with the refined sampling protocols to be adopted. • Food and cosmetic products: General consideration to be given to the potential for introduction of PFAS into the sampling process e.g. ○ Food products and packaging can contain PFAS. Food should be consumed outside of the working area and packaging disposed of appropriately. Hands to be washed thoroughly with PFAS free soap after consumption or handling of food or food packaging. ○ Fabric detergents and cosmetics can contain PFAS. Contact between skin or clothing and the sample should be avoided. ○ Disposable gloves to be changed frequently. • Disposable nitrile gloves must be worn at all times and a new pair of nitrile gloves are to be worn prior to the following activities at each sample location: ○ Contact with laboratory-suppled sample containers or PFAS-free water containers. ○ Decontamination of sampling equipment. ○ Insertion of silicon tubing into the peristaltic pump. ○ Sample collection. ○ Handling of QA/QC samples including field blanks and equipment blanks. ○ After the handling of any non-dedicated sampling equipment or contact with non-decontaminated surfaces.
Detailed Methodology of works to be carried out: Prior to Mobilising to hand pit locations.	• All personnel should wear PPE* as stated in the site-specific instructions/Risk Assessment. • COSHH assessments for all materials used on site should be available. • All staff are to be briefed as to their responsibilities and aware of the safety measures in place during the works. • Hand tools should be insulated. WSP engineers should inspect hand tools for damage and suitability prior to using the tools. Any damaged hand tools are to be disposed of safely and new tools must be purchased.
Equipment decontamination procedure	**Equipment decontamination:** • Rinse equipment thoroughly with an Alconox®, Citranox® or Liquinox® solution made with laboratory-supplied PFAS-free deionized water. • Triple rinse with laboratory-supplied PFAS-free water. • If elevated concentrations of other organic contaminants are present, wipe the equipment with solvent followed by rinses with detergent and laboratory-supplied PFAS-free water as above; solvent type is to be selected based on local protocols and

METHOD STATEMENT – Excavation of Hand Pits

	standards, and could include isopropyl alcohol, methylated spirits (denatured alcohol), methyl hydrate (methanol) or acetone. Review SDS prior to use of solvent and avoid use of solvent that is a contaminant of concern at the site. • Allow equipment to air dry. • When suitable, store equipment in a clean Ziploc® bag until required. • Decontamination fluids are not to be reused during the sampling program and should be collected in a waste container for proper disposal as per local regulations.
Detailed Methodology of works to be carried out: <u>Establishing work area at hand pit locations</u>	1. Hand pits will be progressed at the locations shown on the exploratory hole location plan and within the utility clearance area that is covered by a permit to dig. 2. Check buried utilities and clearance boxes are clearly marked. If the utility spray paint markings are no longer visible, contact the project manager. 3. Check the work area is safe before setting up. Known constraints/obstructions including ecological ones will be highlighted in the site-specific instructions. 4. Pre-condition photos should be taken before the work area is set up. 5. Pit locations to be recorded using handheld GPS. 6. The work area should be large enough to ensure that there is room for the required equipment, operatives, and spoil and that the investigation team are able to move around freely to minimise the risk of slips, trip and falls. Ensure that good housekeeping takes place including ensuring that trip hazards such as cool boxes, dip tapes and sample containers are stored in a safe place. 7. Set-up pedestrian barriers to segregate work area as required in the site-specific instruction. 8. Set-up personal monitoring if/as required in the site-specific instruction. 9. WSP supervisor/engineer to ensure spill kit, fire extinguisher and first aid kit/ eye wash are available close to the location.
Detailed Methodology of works to be carried out: <u>Hand Pit Excavation</u>	• In-ground excavations are hazardous and can be fatal if not undertaken correctly. **Under no circumstances should any WSP employees or sub-contractor enter an excavation, regardless of depth.** • Before excavation commences, the supervising WSP engineer will scan the surface of the hand pit with a CAT 4 and signal generator to confirm the absence of services. (Check utility clearance equipment has a valid calibration). • WSP Engineer to issue Permit to Dig. • Knee pads or a kneel pad must be used by the WSP engineer to avoid contact with sharps on the ground when kneeling down. Avoid kneeling if possible. • Plastic sheeting* or bulk bags* will be placed at ground level ready for arisings. Locate soil arisings away from pit edge and samples to be taken from the arisings pile. Segregate arisings based on soil type. • Keep surface dressing material or turf etc. stored separately to avoid mixing with other arisings so that this can be replaced when backfilling and compaction has been completed • Safe digging techniques are to be utilised during excavation works, this includes the use of only insulated spades, shovels and grafts, **the use of picks, bars or pinch bars is prohibited.** Excessive force should not be used to undertake the excavation and the digging tools should not be thrown into the pit. • Pits will be excavated by the WSP engineer to the required depth as stated in the site-specific requirements. Contact the PM if this is not possible. Hand pits should be terminated, and the PM contacted if any of the following occur to consider whether it is safe to continue: • Visibility is impaired by rapid ingress of water; water should be monitored to ensure this stabilises.

METHOD STATEMENT – Excavation of Hand Pits

<table>
<tr><td></td><td>

Signs of utilities in the excavation such as clean fill material (pea gravel or sand), marker tape, marker tiles or cables/pipework.
Visual observation of quantities of suspected asbestos containing materials (ACM) such as lagging or cement bonded asbestos.
Soil arisings should be logged in accordance with BS5930:2015+A1:2020. Where waste materials are encountered these should be logged as close to the guidance documents with detail provided on the type of materials, any dates and percentage composition.
Descriptions of visual and olfactory contamination should accord with the scale provided in the table below.
Soil sampling and in-situ testing to be undertaken as the excavation progresses based on details provided in the site-specific requirement. Soils for chemical sampling to be kept in cool box with real ice, double bagged with LDPE bags (avoid use of chemical freezer packs).

Visual and Olfactory Contamination Descriptions
<table>
<tr><th>Visual Evidence of Contamination</th><th>Olfactory Evidence of Contamination</th></tr>
<tr><td>1 – No obvious contamination</td><td>A – No perceived odour</td></tr>
<tr><td>2 – Slight evidence of contamination</td><td>B – Slight odour</td></tr>
<tr><td>3 – Definite evidence of contamination</td><td>C – Definite odour</td></tr>
<tr><td>4 – Gross contamination (free product)</td><td>D – Strong odour</td></tr>
</table>
If you are unsure about anything, contact the PM and/or Site Manager. If you have any concerns regarding the safety of the work, YOU ARE AUTHORISED TO STOP THE WORK and you have a duty to intervene – you can have confidence that you will always be supported by WSP if you intervene on safety grounds.
</td></tr>
<tr><td>Detailed Methodology of works to be carried out: <u>Sample Handling</u></td><td>

Samples should be collected in laboratory supplied sample containers, packaged and immediately placed on ice within the laboratory supplied coolboxes/bags.
Samples to be shipped as soon as possible (within 24hrs) to the laboratory using the laboratory arranged courier under chain of custody procedures.
Samples should remain cool during storage and shipment (≤ 6 °C). Therefore, if samples are stored for an extended period of time, ice may need to be replaced.
Samples should be scheduled for the required analysis within the required timeframe to ensure the relevant holding times are not exceeded.
Coolers must be packed in such a way as to ensure that no leaks occur during shipment and storage. Ice must be double bagged to prevent leaks. Ice bags should be placed in such a way as to ensure good contact between the ice bags and the sample containers, preferably in the upper part of the cooler since warm air tends to stay higher. Organize the containers in the cooler appropriately and add bubble wrap as needed.
Samples from different land parcels should be segregated so that each coolbox/bag only contains samples from a single land parcel.

</td></tr>
<tr><td>Detailed Methodology of works to be carried out: <u>Hand Pit Backfilling</u></td><td>
DO NOT LEAVE OPEN EXCAVATIONS UNATTENDED

Excavation to be backfilled using the soil arisings.
Arisings to be replaced in reverse order and compacted in layers using hand tools.
Obtain a photograph of the reinstated hand pit and work area.
WSP Engineer to complete and close the Permit to Dig.

</td></tr>
</table>

METHOD STATEMENT – Excavation of Hand Pits

	In areas accessible to the public, all hand pits to be fenced with pedestrian barriers to prevent unauthorised access to work area. No open hand pit to be left open and unfenced or unattended. NB the hand pits are unlikely to exceed 0.3m diameter and 0.6m depth and therefore only represent a potential trip hazard rather than an unstable excavation or fall from height.						
Required Personnel Protective Equipment:	 Safety Boots	 Hard Hats	 Safety Gloves	 Hearing Protection	 Eye Protection	 Respiratory Protection	Other: 1. Hi-visibility waistcoat/ jacket/ coat* 2. Knee pads 3. PFAS free disposable Gloves*
Applicable:	Yes Conform to 20345:2011 and protective mid-sole	Yes Conforms to EN397	Yes Cut resistant level 3 EN388	No	Yes Splash and impact resistant with sides EN166	No	4. Weather dependent PPE e.g. waterproofs* or sunscreen* (use to be documented in site diary with the refined sampling protocols to be adopted)
Prepared by: (signature)					**Print name:** [redacted] **Date: 06/08/24**		
Authorised by: (signature)					**Print name:** [redacted] **Date: 12/08/24**		

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed to coordinate a per- and polyfluoroalkyl substances (PFAS) sampling program with the analytical laboratory during the planning stages of the project. In addition, an overview of sample handling procedures is provided with reference to specific other SOPs as needed. The results of the laboratory analyses are dependent on the ability to collect a representative sample and maintain the sample integrity until it can be analyzed. Proper sample collection, storage and documentation all work to maintain sample integrity within a sampling program.

The SOPs available with specific reference to PFAS sampling programs are as follows:

- SOP-1: General Field Methods for PFAS Sampling
- SOP-2: Quality Assurance / Quality Control (QA/QC) Protocols for PFAS Sampling
- SOP-3: PFAS Monitoring Well Development – Purging and Sampling
- SOP-4: PFAS Soil Sampling
- SOP-5: PFAS Surface Water Sampling
- SOP-6: PFAS Drinking Water Sampling
- SOP-7: Sediment Sampling
- SOP-8: Tissue Sampling
- SOP-9: PFAS Construction Materials Sampling

Consult with a PFAS Subject Matter Expert (SME) if required at any time during the planning or execution phase of your proposal and project or contact INT-PFAS@golder.com

Local sampling guidance protocols, if available, should always be consulted. Local protocols can supersede or complement these SOPs, as applicable.

2.0 FIELD PREPARATION - OVERVIEW

Once the sampling program, PFAS analytes of interest and objectives have been finalized, determine the number of samples and types of analyses to be conducted. Several analytical packages for PFAS are offered by the different laboratories and these change frequently as new analytes are added. Review analytical lists from the selected laboratory (accredited for PFAS analyses) based on project objectives and confirm the following:

- Method detection limits (MDL) meet applicable regulatory standards/guidelines. Whenever possible the MDL should be at least an order of magnitude lower than the standards/guidelines;
- Method reportable limits meet applicable regulatory standards/guidelines;
- Recommended and minimum sample volumes required for each sample type (i.e., soil, sediment, water);
- Analytical turnaround time with reference to the project schedule; and
- Laboratory has capacity to meet hold times and reporting schedules.

Laboratories may offer in-house or modified methods and operating procedures for analysis of PFAS in certain environmental matrices. Review the lab methodology when using a new laboratory, especially if needed to change laboratory during monitoring programs.

The most robust and accurate method for PFAS quantification involves isotope dilution (the PFAS target analyte is quantitated relative to its isotopically labeled equivalent). Confirm with the laboratory that isotope dilution is used and check what isotopically labeled standards are analysed.

Some other specific considerations for a PFAS sampling program:

- Confirm the number of field staff needed to undertake the sampling;
- Request sampling containers and any other relevant sampling media (such as swabs) from the analytical laboratory based on the specific analyses to be performed (PFAS and other parameters as needed).
- Confirm sampling method will yield sufficient volume to completely fill sample container to minimize surface-to-volume ratio and decrease the likelihood of PFAS loss via sorption to the sampling container;
- Include an appropriate number of QA/QC samples (refer to SOP-2) in order to identify potential PFAS cross-contamination during sampling. Order extra QA/QC supplies to cover potentially extra days in the field;
- Determine if arrangements must be made for courier services in order to meet sample hold times;
- Specify to the laboratory if chlorinated drinking water samples are to be collected for PFAS as these sample containers require Trizma® preservative in some jurisdictions;
- Obtain Safety Data Sheets (SDS) pertaining to sample preservatives and keep them in the field file;
- Request clean, separate coolers for PFAS samples and one Chain of Custody (CoC) form per cooler;
- Request PFAS-free water for trip blanks (at least one trip blank per shipment) and rinse water to clean sampling equipment.
- Wash your hands and use a new pair of nitrile gloves prior to reviewing the content of the cooler to confirm the number, type and status of the sample containers, CoC forms, custody seals and other supplies.

3.0 LABORATORY SAMPLE SUBMISSION - OVERVIEW

1) All samples should be individually bagged using Ziploc®-type storage bags, placed on ice immediately after sampling and kept at ≤ 6 ºC, unless otherwise stated in SOPs for specific sampling medium (SOP-3 to SOP-9). No chemical (blue) ice packs used within the coolers unless tested to be PFAS free. Unless collected from the same source, samples for PFAS analysis should be stored in separate coolers from the other samples collected as part of the program to minimize the likelihood of cross-contamination during storage, transport and/or handling.

2) Prior to shipping the samples, confirm that the sample ID on the container matches the sample ID on the field notes and CoC. Fill out the CoC accordingly and submit one CoC per cooler. Place the CoC inside a sealed plastic bag such as Ziploc® bag at the top of the cooler before shipment. If you are not shipping directly to the laboratory, include additional signed custody seals in the bag with the CoC forms.

3) Samples should remain cool during storage and shipment (≤ 6 ºC). Therefore, if samples are stored for an extended period of time, ice may need to be replaced. If samples are stored within a refrigerator, confirm the absence of potential PFAS sources in the refrigerator that can come in contact with the samples such as blue ice/gel packs, aluminum foil, wax paper, etc.

4) Coolers must be packed in such a way as to ensure that no leaks occur during shipment and storage (note that a courier may stop shipment if a cooler is noted to leak). Ice must be double bagged to prevent leaks. Consideration should be given to assess if local jurisdictions require the use of ice made of Type I - ultrapure water (i.e.,18.2 MΩ). Ice bags should be placed in such a way as to ensure good contact between the ice bags and the sample containers, preferably in the upper part of the cooler since warm air tends to stay higher. Organize the containers in the cooler appropriately and add bubble wrap as needed.

5) Complete a Deficiency Avoidance Checklist (if required) prior to sealing the cooler for shipment. Place custody seals across all openings of the cooler and wrap several layers of clear packing tape over the seals and around the entire cooler in case the lid may inadvertently open during transport.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be used during implementation of per- and polyfluoroalkyl substances (PFAS) sampling programs.

Due to the extremely low method detection limits associated with PFAS analysis (i.e., part per trillion) and the many potential sources of PFAS contamination, Field Personnel must employ the greatest caution by strictly following the protocols described herein or protocols from local jurisdictions, as applicable. Frequent replacement of nitrile gloves and decontamination of non-dedicated sampling equipment in accordance with the appropriate procedures will mitigate the potential for PFAS cross-contamination.

This SOP includes the following:

- Considerations regarding food packaging and food consumption during PFAS sampling programs;
- Field gear and clothing restrictions;
- Personal hygiene requirements;
- Sample area access restrictions; and
- Field equipment decontamination.

Some of the provisions of the PFAS sampling program requirements described herein may conflict with standard health and safety procedures (e.g., use of insect repellant or sunscreen). Therefore, prior to implementation of a field program subject to these protocols, an Addendum to the site-specific Health and Safety Plan (HASP) should be prepared and discussed with Project Managers to address any potential conflicts between the requirements described herein and standard health and safety procedures. The PFAS Sampling Checklist included in Attachment 1 should be reviewed, filled in and signed prior to the initiation of the field activities and re-checked daily to ensure compliance.

Note that the health and safety of personnel should not be compromised during PFAS sampling programs. Deviations from PFAS sampling protocols for health and safety reasons should be noted and appropriate blank samples should be collected to support the analytical results.

2.0 CONTAMINATION CATEGORIES

Based on Michigan Department of Environmental Quality General PFAS Sampling Guidance (2018), PFAS contamination sources can be divided into two categories:

Category 1: Items and materials that will come in direct contact with the sample. These should not be used when sampling unless they are known to be PFAS-free based on certification from the supplier or by collecting an equipment blank sample prior to use.

Category 2: Items and materials that will not come in direct contact with the sample. These should be avoided, if possible, unless they are known to be PFAS-free based on certification from the supplier or by collecting an equipment blank sample prior to use.

Note that the collection of regular blanks (field and trip) is critical for all PFAS programs even if PFAS-free supplies are ordered as there is no guarantee that materials have not been in contact with PFAS sources.

3.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee that the PFAS sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Leader should ensure that on-site personnel, including subcontractors and third parties that may have direct access to the sampling area, understand the sampling requirements and potential for cross-contamination on-site. Field Personnel should be notified of these requirements a minimum of five days prior to the start of field work to have the time to appropriately comply with many of the food and clothing requirements prior to arriving at the site.

4.0 GENERAL FIELD METHODS AND ACTIVITIES

4.1 Food Consumption

Components of some food packages have been treated with PFAS to resist wetting and staining. Potential sources of PFAS contamination as related to food packaging include paper bags and paper packaging for pre-wrapped foods and snacks (e.g. chocolate bars, energy bars, granola bars, potato chips, etc.), fast food wrappings, pizza boxes, aluminum foil, wax paper, and/or coated textiles.

During field breaks, Field Personnel should not consume food or beverage near collected samples and/or within the immediate vicinity of the sampling locations. Prior to the consumption of food or beverages, Field Personnel need to remove their nitrile gloves and coveralls and move to a location that is outside the sampling area (at least 10 m away, downwind). When finished, Field Personnel need to wash their hands (in remote areas bring along additional PFAS-free laboratory rinse water) and put on a new pair of nitrile gloves prior to returning to the sampling area.

Note that nitrile gloves must be powder-free.

4.2 Field Gear and Clothing Restrictions

Because treatments to provide water resistant, waterproof or stain-resistant clothing include the use of PFAS, Field Personnel should avoid wearing any water-resistant, waterproof, stain-resistant treated clothing or coated Tyvek® clothing in the sampling area during the field program. Permissible field clothing for PFAS sampling programs includes clothing made from natural fibers, preferably cotton and rain gear made of polyethylene, vinyl or PVC. Clothing made of synthetic fibers can be used provided that they are certified or tested to be PFAS-free, meet the following conditions or are covered by cotton coveralls and do not come in contact with the sample/sample equipment:

- They are not water resistant/proof, stain resistant, or impregnated with UV protective chemicals or insect repellant; and
- They are completely covered by clothing made of natural fibers.

In areas where reflective vests or coveralls with reflective strips are needed for safety reasons, these items can be worn but they should be noted on the field notes or sample collection forms. Precautions should be taken to make sure that they do not come in contact with the samples and sample-contact materials.

Field clothing should be laundered with a minimal amount of detergent and no fabric softener or scented products should be used. It is preferred field clothing is washed a second time on a rinse-only cycle, using only water, prior to drying. Anti-static dryer sheets shall not be used when drying field clothing. It is preferred that field clothing is made from cotton and has been laundered many times, as new clothing may contain PFAS related treatments. Clothing containing Gore-Tex™ shall not be worn in the sampling area, as Gore-Tex™ clothing contains a PFAS membrane.

Most safety footwear is constructed of leather and synthetic materials that have been treated to provide some degree of waterproofing and/or increased durability. Therefore, footwear materials represent a potential source of PFAS. Field Personnel's contact with safety footwear including donning footwear or tying laces shall not occur within the sampling area. If footwear must be adjusted, Field Personnel must re-locate outside the sampling area to make the necessary adjustments. Nitrile gloves need to be worn when contacting footwear and replaced prior to re-entering the sampling area.

Any samples and/or disposable sample-contact materials that come in contact with footwear or non-compliant clothing (as described above) must be discarded. Reusable sampling equipment (e.g., trowels and pumps) must be cleaned before use if they have contacted non-compliant footwear or garments.

Waterproof field books should not be used in the sampling area, and field notes should be recorded using a non-gel pen or pencil.

Disposable nitrile gloves must be worn at all times and a new pair of nitrile gloves are to be worn prior to the following activities at each sample location:

- Contact with laboratory-suppled sample containers or PFAS-free water containers;
- Decontamination of sampling equipment;
- Insertion of anything into the well (e.g. HDPE tubing, HydraSleeve, bailer, etc.);
- Insertion of silicon tubing into the peristaltic pump;
- Sample collection;
- Handling of QA/QC samples including field blanks and equipment blanks; and
- After the handling of any non-dedicated sampling equipment or contact with non-decontaminated surfaces.

4.3 Personal Hygiene

Many personal hygiene products (e.g., shampoo, conditioner, body gel, cosmetic cream, hand creams, insect repellents, sunscreens, etc.) may contain PFAS and should not come into contact with the samples, sampling equipment and/or be used within the sampling area. If these products are required during the field program, use of products that are 100% natural or identified as PFAS free is recommended. The application of the products should be outside of the sampling area and product types should be noted in the field notes. Field Personnel should wash their hands thoroughly (repeatedly rinse with water only) before returning to the sampling area and replace nitrile gloves prior to initiating field activities. Appropriate blank samples should be collected as part of all programs to confirm analytical results and understanding of potential cross-contamination.

4.4 Sample Area Access

Visitors, including subcontractors or site personnel, who are not following these general PFAS sampling program protocols should remain outside of the sampling area (at least 10 m away from the sampling area) until PFAS sample collection activities are completed, the PFAS sample containers have been enclosed in a Ziploc® storage bag, and samples have been placed in the sample coolers.

4.5 Field Equipment Decontamination

Use the procedures in this section to decontaminate all non-dedicated sampling equipment (e.g., submersible pumps, tubing shears, etc.):

- Rinse equipment thoroughly with an Alconox®, Citranox® or Liquinox® solution made with laboratory-supplied PFAS-free water (5% v/v);
- Triple rinse with laboratory-supplied PFAS-free water;
- If elevated concentrations of other organic contaminants are present, wipe the equipment with solvent followed by rinses with detergent and laboratory-supplied PFAS-free water as above; solvent type is to be selected based on local protocols and standards, and could include isopropyl alcohol, methylated spirits (denatured alcohol), methyl hydrate (methanol) or acetone. Review SDS prior to use of solvent and avoid use of solvent that is a contaminant of concern at the site.
- Allow equipment to air dry; and
- When suitable, store equipment in a clean Ziploc® bag until required.

Decontamination fluids are not to be reused during the sampling program and should be collected in a waste container for proper disposal as per local regulations.

Use of commercially available deionized water or municipal water is acceptable for decontamination of large field equipment. However, pre-testing the water for PFAS and other potential contaminants of concern is recommended before the field program is initiated, unless the water is known to not have PFAS concentrations that would negatively affect the field program. Pre-testing should take place at least three weeks prior to the initiation of field work (or longer based on laboratory turn around times) to ensure the receipt of results in time. If the water source or supplier is expected to change during the field program, re-testing will be required and the time taken for re-testing must be taken into account.

Date: _____ Project number: _____

Weather *(temp/precipitation)*: _____ Site Name: _____

Field Clothing and PPE
No coated Tyvek® suits are used in the sampling area unless tested to be PFAS-free.
Field crew has not used fabric softener on the clothing worn during sampling day.
Field crew has not used cosmetics, moisturizers, hand cream or other related products on sampling day.
Field crew has not applied unauthorized sunscreen or insect repellant. Refer to the Michigan Sampling Guidance or available local protocols for approved sunscreen, insect repellant and other products.
Field Equipment
No Teflon® or Gore-Tex™ containing materials in the sampling area to avoid cross-contamination. Pumps and other equipment with screw fittings may have Teflon® tape in the threads – inspect, remove and clean (or request supplier to this prior to delivery) if these can come in direct contact with the sample.
All sample materials should be made from stainless steel, HDPE, acetate, silicon, or polypropylene. LDPE should not come in contact with samples (potential sorption) unless authorized by local protocols.
Cables or strings used for bailers, pressure transducers or other monitoring devices to be installed in water should be made of undyed nylon, undyed cotton, steel, HDPE, polyethylene, vinyl, PVC or tested to be PFAS-free.
No waterproof field books in the sampling area.
No PFAS-coated plastic clipboards, binders, or spiral hard cover notebooks in the sampling area.
No adhesives (Duct tape, Post-It Notes) in the sampling area.
Coolers filled with regular doubled-bagged ice only. No chemical (blue) ice packs used within the coolers unless tested to be PFAS free.
Sample Containers
All sample containers used to be those supplied by the analytical laboratory specifically for PFAS (made of HDPE or polypropylene).
Caps used to be those supplied by the analytical laboratory specifically for PFAS (unlined and made of HDPE or polypropylene).
Sample containers to be labelled with ball-point pen (no markers or sharpies).

Wet Weather	
Waterproof clothing made of polyurethane, vinyl and PVC or other materials tested to be PFAS free.	
Equipment Decontamination	
Distilled water and "PFAS-free" water onsite for decontamination of sample equipment along with polyethylene or PVC brush, dedicated cotton cloth or untreated paper towel.	
Alconox®, Liquinox®, Citranox® and methyl hydrate (depending on local regulations) to be used as decontamination media.	
Food Considerations	
	No food or drink in sampling area.

If any applicable boxes cannot be checked, the field lead should describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work.

Corrective action should include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

_____

_____

_____

Field Lead Name: _____

Signature:_____ Date/Time:_____

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the Quality Assurance / Quality Control (QA/QC) samples that should be included as part of a PFAS sampling program. This SOP includes protocols for the collection of the following QA/QC samples:

- Field Duplicates;
- Equipment Blanks;
- Field Blanks; and
- Trip Blanks.

2.0 RESPONSIBILITIES

The Field Team Lead and Field Personnel have the shared responsibility to oversee and ensure that the PFAS QA/QC sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Lead should review the SOP with Field Personnel so they understand and comply with this SOP.

3.0 QA/QC SAMPLES

3.1 Field Duplicates

One field duplicate should be collected for every ten field samples collected per medium (e.g., water and soil) during a PFAS sampling program. If there are < 10 samples collected (per medium) as part of a sampling program, one field duplicate should be included. A field duplicate should be collected at the same time as the parent sample using the exact same procedure employed for the samples following the media-specific SOPs.

The field duplicate should be submitted for laboratory analysis with a different identifier to the parent sample, and this identifier should be recorded in the field notes to link to the parent sample. The sample identifier should be discussed with the Project Team Lead prior to initiation of field work.

The number of QA/QC samples collected as part of a field program is dependent on many factors:

- ***shipment constraints (i.e., remoteness);***
- ***budgets;***
- ***regulatory frameworks; and/or***
- ***project objectives.***

Discuss specific project needs with Project Team Lead prior to formulating a QA/QC program.

3.2 Equipment Blanks

Depending on the size of the sampling program, equipment blanks may be collected for each day of sampling and/or per sampling event. The sampling frequency should be discussed with the Project Team Lead prior to initiation of the field program.

Equipment blanks should be collected using laboratory-supplied PFAS-free water following the exact same procedure employed for the samples following the media-specific SOPs.

Equipment blanks should be collected after decontamination of non-dedicated equipment (i.e., pumps), when using new disposable equipment or when using dedicated equipment that is not certified as PFAS-free, as appropriate.

Sample bottles should be labelled using identifiers determined in discussion with the Project Team Lead prior to the initiation of the sampling program. The sample identifier should be recorded in the field notes.

3.3 Field Blanks

Depending on the size of the sampling program, field blanks may be collected for each day of sampling and/or per sampling event. Field blanks are prepared using laboratory-supplied PFAS-free water that is poured into laboratory-supplied PFAS free containers used to collect the samples (i.e., HDPE or polypropylene) in the field. The field blanks should be handled using the same sample handling techniques discussed in media specific SOPs.

Sample bottles should be labelled using identifiers determined in discussion with the Project Team Lead prior to the initiation of the sampling program. The sample identifier should be recorded in the field notes.

3.4 Trip Blanks

Laboratory-supplied trip blanks (PFAS-free water in the same container used for the samples) should be submitted with each laboratory shipment of water samples. Trip blanks are ordered from the laboratory and accompany the bottle order to site and the sample shipment from site. The trip blank remains in the cooler (bagged in the Ziploc®) in the field for the duration of the sampling program. Ensure sufficient trip blanks are ordered and accompany each water sample shipment.

Sample bottles should be labelled using identifiers determined in discussion with the Project Team Lead prior to the initiation of the sampling program. The sample identifier should be recorded in the field notes.

Trip blanks may be placed on hold rather than analyzed. Trip blanks may be analyzed only in the event of suspect results; however, this should be discussed with the Project Team Lead. Hold times should be verified prior to placing samples on hold for extended periods of time.

4.0 SAMPLE SHIPMENT

The QA/QC samples should be maintained at a temperature ≤ 6 ºC (but must not be frozen) during shipment and storage and handled as per the requirements of the parent samples discussed in other SOPs. Tracking numbers for all shipments should be provided once the sample coolers have been shipped to ensure their timely delivery.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the installation and development of groundwater monitoring wells as well as purging and collection of groundwater samples for analysis of per- and polyfluoroalkyl substances (PFAS).

This SOP includes the following:

- Monitoring Well Installation;
- Monitoring Well Development;
- Purging and sampling procedure; and
- Water Level Measurement.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”. With the exceptions provided in these SOPs, Field Personnel should follow the monitoring well installation, development, purging and sampling protocols according to the standard Golder SOPs or project specific Sampling and Analysis Plan (SAP) and Health, Safety and Environmental Plan (HASEP).

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the installation and development of monitoring well, purging and groundwater sampling program are performed in accordance with the protocols described in this SOP. The Field Team Leader should review the SOP with Field Personnel so they understand and comply with this SOP.

3.0 MONITORING WELL INSTALLATION

The Project Manager and Field Personnel should make all the drilling contractors, other field subcontractors and the suppliers of well equipment aware of the precautions related to PFAS investigations as mentioned in the applicable SOPs for the specific job well ahead of the beginning of the field program. The Project Manager should make sure that the equipment (well material, O-ring seals, etc.) does not include any PFAS or Teflon® components. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable.

New nitrile gloves must be worn by the drilling contractors prior to the handling of well components and supplies at each location

3.1 MONITORING WELL DEVELOPMENT

Following installation, monitoring wells must be developed to remove fine particles from the filter pack and to remove any fluids introduced to the monitoring well during drilling. Proper monitoring well development ensures that samples collected are representative of surrounding aquifer conditions and reduces the amount of sediment produced during sample collection. Field Personnel should use appropriate well development equipment to generate sufficient energy to agitate the water column and induce flow reversals in the monitoring well screen, filter pack, and/or formation to loosen fine-grained materials and draw them into the well. Field Personnel should develop monitoring wells until visibly clear water is discharged from the well.

Field Personnel should not use Teflon® tubing or any other PFAS-containing materials for well development. Field Personnel shall not re-use materials between well locations whenever possible. After completion of monitoring well development, Field Personnel should put all disposable materials in heavy-duty (i.e., lawn waste) garbage bags for disposal.

Field Personnel should develop monitoring wells using a submersible pump or inertial pumps, and high-density polyethylene (HDPE) tubing. Other pumping methods may be preferred or required for deep and/or high-yield monitoring wells (e.g., air-lift pumping using either compressed air or nitrogen). The Project Manager should inquire the manufacturer and/or subcontractors with sufficient notice prior to performing this task, and make sure that the down-the-well equipment (pumps, tubing, etc.) is PFAS free. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable. Field Personnel should determine and cut the appropriate length of new HDPE tubing to be used in each well to avoid contact with any materials other than the well and pump.

Development water shall be containerized and/or disposed of in accordance with local regulations or protocols.

4.0 WATER LEVEL SURVEY, WELL PURGING AND SAMPLING PROCEDURES

4.1 Water Level Measurement

Static water/product level measurement should be conducted prior to sampling using a water level probe or hydrocarbon interface probe. The measuring device should be cleaned between monitoring well locations as per SOP-1 with the addition of one extra cycle of solvent and de-ionized (DI) PFAS-free laboratory-supplied water rinse. Unless absolutely required, only depth to water measurements, and not bottom of well measurements should be made, to ensure only the metal part of the interface probe contacts the water column.

In case pressure transducers or other monitoring devices are to be installed in the monitoring wells, the composition of the material used for the string/cable and the monitoring equipment should be reviewed to confirm the absence of PFAS-containing materials. Polyethylene, nylon or steel cable are generally acceptable options.

4.2 Monitoring Well Purge

If pumping, monitoring or any other equipment is found in the monitoring well, written details on the construction materials for the equipment including strings, tape and valves should be requested and reviewed as applicable. Unless evidence is found that no PFAS-containing materials are present, the Project Manager should discuss the situation with the client to determine if the well should be purged and sampled upon removal of the equipment (additional purging may be advisable) or if sampling at this location should not be conducted.

Field Personnel should purge monitoring wells using a peristaltic pump or submersible pump and HDPE tubing. HDPE tubing should be used instead of low-density polyethylene (LDPE) tubing because of the lower tendency to sorb PFAS. Low-flow purging and sampling techniques should be used whenever possible. If no-purge samplers are to be used, e.g. HydraSleeves, the PFAS-specific models should be obtained. Field Personnel shall inquire of the manufacturer and identify down-the-well equipment whose construction does not include any Teflon® or PFAS-containing components (e.g., check balls, O-rings, compression fittings, etc.). Written details on the equipment construction materials shall be requested and reviewed as applicable. Field Personnel should decontaminate non-dedicated components and sampling equipment (including pumps, tubing shears, etc.) in accordance with SOP-1 between well purge locations. Following completion of

monitoring well purge activities at a monitoring well location, Field Personnel shall place all disposable materials in heavy-duty (i.e., lawn waste) garbage bags for disposal.

Purge water shall be containerized and disposed of in accordance with local regulations or protocols.

4.3 Sample Collection

Groundwater samples shall be collected in HDPE or polypropylene sample containers provided by the laboratory specifically for use in the collection samples for analysis of PFAS (no Teflon® liner). Groundwater sample containers should be labeled using a non-gel pen or a pencil, and a new pair of nitrile gloves should be donned before sampling. Sample container lids should remain on the sample container until immediately prior to sample collection and lids should be resealed immediately following sample collection. Field Personnel should hold the sample container lid in their gloved hand until the lid is screwed on the sample container.

Field Personnel should wash their hands and put on a new pair of nitrile gloves prior to sample collection. Once the nitrile gloves are put on, Field Personnel should not touch any potential source of PFAS contamination such as papers, pens, clothes, etc. prior to the collection of groundwater samples. If Field Personnel need to take notes or handle anything other than the sample container prior to collecting the sample, the old nitrile gloves with which contact was made shall be removed and new nitrile gloves put on.

Field Personnel should hold the sample container in such a manner that the sample container does not come in direct contact with the HDPE tubing or pump equipment. The sampling container shall be filled completely to minimize surface-to-volume ratio and therefore the likelihood of PFAS loss via sorption.

If Field Personnel observe suspended solids in the collected groundwater sample, a new sample should be collected in a new bottle, if possible. No subsampling, sample transfer or sample filtering should occur in the field. If it is not possible to collect a sample with minimal suspended solids, Field Personnel should contact the Project Manager and, if the sample is submitted for analysis, indicate the presence of suspended solids as a note on the chain-of-custody form.

Once the groundwater sample container lid has been resealed, the sample container should be placed into individual new Ziploc® storage bag. Following groundwater sample collection, groundwater sample containers enclosed within their Ziploc® storage bags shall be placed on ice in the laboratory-provided sample cooler. Field Personnel should minimize the sample exposure to sunlight during sample handling and storage.

5.0 SAMPLE SHIPMENT

Groundwater samples should be maintained at a temperature ≤ 6 ºC (but must not be frozen) during shipment and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of soil samples for analysis of per- and polyfluoroalkyl substances (PFAS).

This SOP includes the following:

- Sample container and handling considerations;
- Soil sample collection procedures;
- Sample shipping requirements, and
- Field equipment decontamination procedures.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 "*Planning and Sample Submission Preparation", SOP-1 "General Field Methods for PFAS Sampling*" and SOP-2 "*Quality Assurance / Quality Control Protocols for PFAS Sampling*".

With the exceptions provided in these SOPs, Field Personnel should follow the soil sampling protocols provided in the standard Golder SOPs and the project Specific Work Instructions (SWI), if available, and modification provided in this SOP as related to PFAS sampling.

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the PFAS soil sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Leader should ensure that Field Personnel understand and comply with this SOP.

3.0 SOIL SAMPLING PROCEDURES

3.1 Sample Containers and Handling

Soil sample containers should not be handled without first donning a new, clean pair of nitrile gloves (powder-free). Soil samples should only be collected in high density polyethylene (HDPE) or polypropylene (PP) containers provided by the laboratory for specific PFAS use with no Teflon liners. Glass containers should not be used due to the potential for loss of PFAS through sorption processes. Soil sample containers should be labelled after collection of the soil sample using a non-gel pen or a pencil. If a marker must be used for labelling purposes, nitrile gloves are to be removed after use of the marker and replaced with new ones.

3.2 Sample Collection

A new pair of powder-free nitrile gloves should be worn prior to the collection of each sample. Soil samples collected for analysis of PFAS should be obtained using clean, decontaminated stainless-steel spoons, trowels or augers. All non-dedicated sampling equipment must be decontaminated prior to sampling activities and before each subsequent sample location in accordance with the decontamination procedures described below. Background soil samples or samples interpreted to be less impacted should be collected first. Soil samples are to be placed directly into the laboratory-supplied HDPE or polypropylene containers. The containers should be filled completely to minimize surface-to-volume ratio and therefore the likelihood of PFAS loss via sorption. No subsampling or sample transfer should occur in the field. Once the soil sample container lid has been resealed, soil sample containers should be individually placed in a new Ziploc® bag. Following soil sample collection, the sample containers enclosed within their Ziploc® bags should be placed in the laboratory-provided sample cooler on ice. Field personnel should minimize the sample exposure to sunlight during sample handling and storage.

3.2.1 Drilling and Test Pitting

With the exceptions provided in this SOP, Field Personnel should follow the drilling and test pitting protocols according to the standard Golder SOPs or project specific Sampling and Analysis Plan (SAP).

The Project Manager and Field Personnel shall make all the contractors aware of the precautions related to PFAS investigations as contained in the applicable PFAS SOPs for the specific job well ahead of the beginning of the field program to ensure their personnel are fully familiar with these precautions and can make necessary arrangements. The Project Manager and Field Personnel should inquire the manufacturer and subcontractors with sufficient notice prior to performing this task, and make sure to use PFAS free tools and equipment (augers, split spoons, soil sample sleeves, tubing, tape, grease, lubricants, drilling fluid, etc.). Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable.

Use of tap or tanker water is acceptable for use as drilling fluid. However, pre-testing the water for PFAS and other potential contaminants of concern is recommended before the field program is initiated, unless the water is known to not have PFAS concentrations that would negatively affect the field program. Pre-testing should occur at least 3 weeks before the field work starts to receive the results and make any necessary alternative plans if needed. If the water source or supplier is expected to change during the field program, re-testing will be required and the time taken for re-testing must be taken into account.

Soil cuttings and return fluid from drilling operations should be containerized for characterization and disposal according to local regulations and protocols.

If a drill rig is being used, new nitrile gloves should be worn by the drilling contractor prior to the handling and recovery of the sampling equipment (e.g., split spoon). A new pair of clean nitrile gloves should be worn by field staff prior to the collection of each soil sample.

NOTE: Equipment blanks must be collected using PFAS free water poured over appropriate equipment as per SOP-2.

3.3 Sample Shipping

Soil sample containers should be stored in coolers maintained at ≤ 6 ºC (but must not be frozen) and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

3.4 Field Equipment Decontamination

All the non-dedicated sampling equipment (e.g., stainless steel spoons or trowels) used to collect soil samples should be decontaminated as follows:

- Clean with a brush to remove particulate matter and surface films;
- Rinse thoroughly with Alconox®, Citranox®, or Liquinox® solution made with laboratory-supplied PFAS-free water (5% v/v);
- Triple rinse with laboratory-supplied PFAS-free water;
- If elevated concentrations of other organic contaminants are present, wipe with solvent followed by a triple rinse with laboratory-supplied PFAS-free water;
- Allow equipment to air dry; and

- When suitable, store equipment in a clean Ziploc® bag until required.

Decontamination fluids are not to be reused during the sampling program and should be collected in a waste container for proper disposal as per local regulations.

Use of commercially available deionized water or municipal water is acceptable for decontamination of large field equipment such as drilling augers. However, pre-testing the water for PFAS and other potential contaminants of concern is recommended before the field program is initiated, unless the water is known to not have PFAS concentrations that would negatively affect the field program. Pre-testing should take place at least three weeks prior to the initiation of field work to ensure the receipt of results in time. Re-testing of the decontamination water should be conducted if the quality of the source water changes over the duration of the field program.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of surface water samples for analysis of per- and polyfluoroalkyl substances (PFAS).

This SOP includes the following:

- Sample container and handling considerations;
- Equipment;
- Water sample collection procedures;
- Water level measurement; and
- Sample shipping requirements.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”.

With the exceptions provided in these SOPs, Field Personnel should follow the surface water sampling protocols according to the standard Golder SOPs or project specific Sampling and Analysis Plan (SAP).

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the surface water sampling program is performed in accordance with the protocols described in this SOP. The Field Team Leader should review the SOP with Field Personnel so that they understand and comply with this SOP.

3.0 SURFACE WATER SAMPLING PROCEDURE

3.1 Sample Container and Handling

Surface water samples should be collected in HDPE or polypropylene sample containers provided by the laboratory specifically for the collection of samples for PFAS analysis (without a Teflon® liner). Surface water sample container lid should remain on the container until immediately prior to the sample collection and lid should put back and tightly screwed (snug, but not too tight) immediately after the sample collection. Field Personnel should hold the sample container lid in the hand until the lid is screwed on the sample container. Surface water sample container labels should be completed using a non-gel pen or a pencil after the lid has been re-secured on the sample container. If a marker must be used, nitrile gloves should be changed after use of the marker.

3.2 Equipment

Field Personnel should not use equipment made of Teflon®, other PFAS-containing materials or materials coated with waterproofing agents including tape, strings/cables, boat components and waders. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) must be requested and reviewed as applicable before commencement of the field program so that alternative arrangements can be made if needed. Sampling materials should not be re-used between sample locations whenever possible. Following completion of surface water sampling at a given location, all disposable materials should be placed in heavy-duty (i.e., lawn waste) garbage bags for disposal. Field Personnel should wear nitrile gloves at all the times.

All the non-dedicated components and sampling equipment must be decontaminated between sampling locations (see SOP-1).

3.3 Sample Collection

Sample containers should not be handled without first donning a new, clean pair of nitrile gloves (powder-free). Surface water must be collected by inserting a laboratory-supplied, capped HDPE or polypropylene sampling container in the water with the opening pointing down to avoid the collection of surface films or foams. There are cases where significant PFAS concentrations were found in foam while very low concentrations were detected in the underlying surface water. As such a separate sample of the foam should be collected, if needed. The capped container should be immersed away from the bottom of the water body to avoid sediment disturbance and as close to the middle of the channel as possible. The sampling container should be positioned in such a way that the sampling personnel and equipment are downstream of the sample collection location.

Surface water samples should be placed directly into laboratory-supplied containers. If preservative is used in the sample container, a laboratory-supplied HDPE or polypropylene container for PFAS sampling should be used for sample collection and transfer. Once the water sample container lid has been resealed, the surface water sample containers should be individually bagged using Ziploc® bags and placed in the laboratory-provided sample cooler on ice. Field Personnel should minimize the sample exposure to sunlight during sample handling and storage.

Samples should be collected from the most downstream to the most upstream location, but, whenever possible, background samples or sample interpreted to be less impacted should be collected first. Sample collection must take place prior to the measurement of water level or field water quality parameters to minimize the potential for cross-contamination. Where surface water samples and sediment samples are to be collected at the same location, surface water samples should be collected first to minimize the presence of sediment in the water column.

3.4 Water Level Measurement

Measurement of water level and field water quality parameters should take place after surface water sample collection to minimize the potential for cross-contamination due to surface water/sediment contact with field equipment. The measuring devices must be cleaned between sampling locations following SOP-1. In case pressure transducers or other monitoring devices are to be installed in the surface water, the composition of the material used for the posts, string/cable and the monitoring equipment must be reviewed to confirm the absence of PFAS-containing materials.

3.5 Sample Shipping

Surface water sample containers should be stored in coolers and maintained at ≤ 6 ºC (but must not be frozen) and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of drinking water samples for analysis of per- and polyfluoroalkyl substances (PFAS).

This SOP includes the following:

- Sample container and handling considerations;
- Equipment;
- Water sample collection procedures; and
- Sample shipping requirements.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”. For collecting drinking water samples from wells, refer to SOP-3 “PFAS Program Monitoring Well Development, Purging and Sampling”.

With the exceptions provided in these SOPs, Field Personnel should follow the drinking water sampling protocols for well sampling and faucet sampling according to the standard Golder SOPs or project specific Sampling and Analysis Plan (SAP).

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the drinking water sampling program is performed in accordance with the protocols described in this SOP. The Field Team Leader should review the SOP with Field Personnel so that they understand and comply with this SOP.

3.0 DRINKING WATER SAMPLING PROCEDURE

3.1 Sample Containers and Handling

Sample containers should not be handled without first donning a new, clean pair of nitrile gloves (powder-free). Drinking water samples should be collected in HDPE or polypropylene sample containers provided by the laboratory specifically for the collection of samples for PFAS analysis (without a Teflon® liner). Glass containers should not be used due to the potential for loss of PFAS through sorption. In accordance with US-EPA Method 537, chlorinated drinking water sample bottles should contain Trizma® preservative.

Drinking water sample container lids should remain on the sample container until immediately prior to sample collection and lids shall be resealed immediately following sample collection. Field personnel should hold the sample container lid in their hand until the lid is screwed on the sample container. Drinking water sample container labels should be completed using a non-gel pen or a pencil after the lid has been re-secured on the sample container. If a marker must be used, nitrile gloves should be changed after use of the marker.

3.2 Equipment

Field Personnel should not use equipment made of Teflon®, other PFAS-containing materials or materials coated with waterproofing agents including tape, strings/cables, pumps, tubing, etc. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable before commencement of the field program so that alternative arrangements can be made if needed. Sampling materials should not be re-used between sample locations. Following completion of drinking water sampling at a

given location, all disposable materials should be placed in heavy-duty (i.e., lawn waste) garbage bags for disposal. Field Personnel should wear nitrile gloves at all the times.

All the non-dedicated components and sampling equipment must be decontaminated between sampling locations (see SOP-1).

If drinking water samples are to be collected from faucets, Field Personnel should complete a detailed survey of equipment and materials present in the vicinity of the faucet (within ~1 m) and document any findings related to potential PFAS contamination in writing supported by photographs. Any material found or suspected to contain PFAS should be relocated away from the faucet and a new pair of nitrile gloves should be used after handling any of such materials.

3.3 Sample Collection

When sampling from a faucet, the faucet aerator should be removed. After donning a new pair of nitrile gloves, run water for at least 5 min, slow water flow to avoid splashing and fill laboratory-supplied HDPE or polypropylene containers up to the brim of the sampling container without overflow. Once the water sample container lid has been resealed, the sample containers should be individually bagged using Ziploc® bags and placed in the laboratory-provided sample cooler on ice. Field Personnel should minimize sample exposure to sunlight during sample handling and storage.

3.4 Sample Shipping

Drinking water sample containers should be stored in coolers on ice, maintained at ≤ 6 ºC (but must not be frozen) and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of sediment samples for analysis of per- and polyfluoroalkyl substances (PFAS).

This SOP includes the following:

- Sample container and handling considerations;
- Sample collection procedures;
- Sample shipping requirements; and
- Field equipment decontamination procedures.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”.

With the exceptions provided in these SOPs, Field Personnel should follow the sediment sampling protocols provided in the standard Golder SOPs and the project Specific Work Instructions (SWI), if available, and modification provided in this SOP as related to PFAS sampling.

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the PFAS sediment sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Leader should ensure that Field Personnel understand and comply with this SOP.

3.0 SEDIMENT SAMPLING PROCEDURES

3.1 Sample Containers and Handling

Sediment sample containers should not be handled without first donning a new, clean pair of nitrile gloves. Sediment samples should only be collected in high density polyethylene (HDPE) or polypropylene (PP) containers provided by the laboratory for specific PFAS use (without Teflon liner). Glass containers should not be used due to the potential for loss of PFAS through sorption processes. Sediment sample containers should be labelled after collection of the sediment using a non-gel pen or a pencil. If a marker must be used for labelling, nitrile gloves are to be removed after use of the marker and replaced with new ones.

3.2 Equipment

Field Personnel should not use equipment made of Teflon®, other PFAS-containing materials or materials coated with waterproofing agents including sampling tools, tape, strings/cables, boat components and waders. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable before commencement of the field program so that alternative arrangements can be made if needed. Field Personnel should not re-use materials between sample locations whenever possible. Following the completion of sediment sampling at a given location, Field Personnel should place all disposable materials in heavy-duty (i.e., lawn waste) garbage bags for disposal. Field Personnel should wear nitrile gloves at all the times.

3.3 Sample Collection

A new pair of nitrile gloves should be worn prior to the handling of the sampling equipment and the collection of each sample. Sediment samples collected for the analysis of PFAS should be obtained using clean, decontaminated grab or core samplers.

Sediment samples are to be placed directly into the laboratory-supplied HDPE or polypropylene containers. The containers should be filled completely to minimize surface-to-volume ratio and therefore the likelihood of PFAS loss via sorption. No subsampling or sample transfer should occur in the field. Once the sediment sample container lid has been resealed, sample containers should be individually bagged using Ziploc® bags. Following sample collection, the sediment sample containers enclosed within their Ziploc® bags should be placed in the laboratory-provided sample cooler on ice. Field Personnel should minimize the sample exposure to sunlight during sample handling and storage.

Samples should be collected from the most downstream to the most upstream location, but, whenever possible, background samples or samples interpreted to be less impacted should be collected first. Where surface water samples and sediment samples are to be collected at the same location, surface water samples should be collected first to minimize the presence of sediment in the water column.

If sampling requires physical entry by field staff into the water body, field staff should stand at the downstream side of the sample location to minimize disturbance of the sample location.

All the non-dedicated tools and sampling equipment must be decontaminated before use as indicated below. Equipment blanks must be collected using PFAS free water poured over appropriate equipment part and carefully collected (see SOP-2).

3.4 Sample Shipping

Sediment sample containers should be stored in coolers on ice and maintained at ≤ 6 ºC (but must not be frozen) and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

3.5 Field Equipment Decontamination

All the non-dedicated sampling equipment (e.g., grab or core sampler) used to collect sediment samples should be decontaminated as follows:

- Clean with a brush to remove particulate matter and surface films;
- Rinse thoroughly with Alconox®, Citranox®, or Liquinox® solution made with laboratory-supplied PFAS-free water (5% v/v);
- Triple rinse with laboratory-supplied PFAS-free water;
- If elevated concentration of other organic contaminants are present, wipe with solvent followed by a triple; rinse with laboratory-supplied PFAS-free water;
- Allow equipment to air dry; and
- When suitable, store equipment in a clean Ziploc® bag until required.

Decontamination fluids are not to be reused during the sampling program and should be collected in a waste container for proper disposal as per local regulations. Use of commercially available deionized water or municipal water is acceptable for decontamination of large field equipment. However, pre-testing the water for PFAS and other potential contaminants of concern is recommended before the field program is initiated, unless the water is known to not have PFAS concentrations that would negatively affect the field program. Pre-testing should take place at least three weeks prior to the initiation of field work to ensure the receipt of results in time. Re-testing of the decontamination water should be conducted if the quality of the source water changes over the duration of the field program.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of tissue samples for analysis of per- and polyfluoroalkyl substances (PFAS). Samples include terrestrial vegetation, soil invertebrates and small mammals as well as aquatic vegetation, invertebrates and fish.

This SOP includes the following:

- Sample container and handling considerations;
- Sample collection procedures; and
- Sample Shipping Requirements.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”.

With the exceptions provided in these SOPs, Field Personnel should follow the sampling protocols provided in the standard Golder SOPs and the Specific Work Instructions (SWI).

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the PFAS tissue sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Leader should ensure that Field Personnel understand and comply with this SOP.

3.0 TISSUE SAMPLING PROCEDURES

3.1 Sample Containers and Handling

Sample containers should not be handled without first donning a new, clean pair of powder-free nitrile gloves. Samples should only be collected in containers provided by the laboratory for specific PFAS use (without Teflon liner) or Whirl-Pak™ bags. Glass containers are not be used due to the potential for loss of PFAS through sorption processes, particularly from wet tissues. Sample container labels should be labelled after collection of the sample using a non-gel pen or a pencil. If a marker must be used for labelling purposes, nitrile gloves are to be removed after use of the marker and replaced with new ones.

3.2 Sample Collection

A new pair of powder-free nitrile gloves should be worn prior to the handling of the sampling equipment and the collection of each sample. Sample exposure to light should be minimized during sample processing and storage.

Terrestrial Vegetation Tissue - Terrestrial plant tissue samples (i.e., berries, grass, leaves, seeds, etc.) should be collected using gloved hands in laboratory-supplied HDPE or polypropylene containers specific for PFAS use (without Teflon liner). Once the sample container lid has been resealed, sample containers should be individually bagged using Ziploc® bags. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Terrestrial Soil Invertebrates Tissue - Earthworms or other soil invertebrates should be collected by gloved hands from shallow test pits dug using a clean PFAS-free shovel or trowel. Each sample should be placed on PFAS-free filter paper (moistened with laboratory supplied PFAS-free water) and stored in laboratory-supplied containers specific for PFAS use. Samples should be stored in refrigerator (~4^{o} C) for 48 hours to allow for the

evacuation of soil from the earthworms. After 48 hours, Field Personnel should manually purge all remaining soil from the earthworms, rinse the earthworms with laboratory-supplied PFAS-free water to remove any remaining soil or sediments and transfer them to laboratory supplied containers specific for PFAS use. Once the sample container lid has been resealed, sample containers should be individually bagged using Ziploc® bags. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Aerial invertebrates Tissue - Samples should be collected using traps (e.g. light traps or baited traps) or insect collection nets free of PFAS. Tissue should be transferred to a Whirl-Pak™ bag and stored on ice. Once the sample container lid has been resealed, sample containers should be individually bagged using Ziploc® bags. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Terrestrial Small Mammal Tissue - Live traps made of PFAS-free material or coating should be used to capture small mammals. Traps are typically baited with peanut butter/rolled oat mixture and mealworms that should be confirmed to be PFAS-free. Pre-washed quilting material made of untreated, natural fibers can be placed inside the trap for warmth and comfort. Handlers of the small mammals should wear appropriate Personal Protective Equipment including powder-free nitrile gloves. Traps should be shaken to remove soil particles and/or vegetation. The traps should be released over a new Ziploc® bag allowing the animal to fall into the bag to minimize direct handler contact with the animal. Cervical dislocation should be used to humanely euthanize the target animals captured before placing each animal in a laboratory supplied container specific for PFAS use. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Amphibians Tissue - Amphibians tissue should be collected in pitfall traps (containers made of PFAS-free material or coating, buried in the ground) located adjacent to a barrier (e.g. silt fence) so that amphibians travelling along the barrier are more likely to fall into the trap. Dowling should be placed in the traps so that small mammals that fall into these traps are able to climb out. Pithing should be used to humanely euthanize the target amphibians captured before placing each animal in a laboratory supplied container specific for PFAS use. Each sample should be placed on moistened (with laboratory supplied PFAS-free water), PFAS-free filter paper in laboratory-supplied containers specific for PFAS use. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Aquatic Vegetation Tissue - Aquatic plant tissue should be collected using gloved hands, roots should be trimmed with scissors made of PFAS-free material, if necessary. The plants should be rinsed with laboratory-supplied PFAS-free water, pat dry with PFAS-free material and transferred to a Whirl-Pak™ bag which should be frozen as soon as possible. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Benthic Invertebrates Tissue - Refer to SOP-7 “PFAS Sediment Sampling” for collecting sediment samples for benthic invertebrates. Upon retrieving the sediment grab sampler, benthic invertebrates should be picked or sieved from debris, removed from shells/casings, rinsed with laboratory supplied PFAS-free water and patted dry using with PFAS-free material. Organisms shall be removed from shells/casings and remaining sediment. The samples should be transferred to a Whirl-Pak™ bag, which should be frozen as soon as possible. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

Fish Tissue - Fish can be captured by electrofishing, minnow trapping, seining or angling. Any fish collection equipment and bait should be free of PFAS-containing materials. Target captured fish should be stored individually in Whirl-Pak™ bags, which should be frozen as soon as possible. The sample should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the sample should be frozen.

3.3 Equipment

All the non-dedicated tools and sampling equipment must be decontaminated before use at each sampling location following SOP-1. Equipment blanks must be collected using PFAS free water poured over appropriate equipment part and carefully collected (see SOP-2). Use of commercially available deionized water or municipal water is acceptable for decontamination of large field equipment. However, pre-testing the water for PFAS and other potential contaminants of concern is recommended before the field program is initiated, unless the water is known to not have PFAS concentrations that would negatively affect the field program. Pre-testing should take place at least three weeks prior to the initiation of field work to ensure the receipt of results in time. Re-testing of the decontamination water should be conducted if the quality of the source water changes over the duration of the field program.

Field Personnel should not use equipment made of Teflon®, other PFAS-containing materials or materials coated with waterproofing agents including scissors, traps, baits, sampling tools, tape, strings/cables, nets, boat components, waders and detergents. Written details on the equipment construction materials and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable before commencement of the field program so that alternative arrangements can be made if needed. In case of uncertainty, materials should be tested for PFAS before the field program begins and the results included in the site-specific field protocol. Pre-testing should occur at least 3 weeks before the field work starts to receive the results and make any necessary alternative plans.

Field Personnel should not re-use materials between sample locations. Following completion of tissue sampling at a given location, Field Personnel should place all disposable materials in heavy-duty (i.e., lawn waste) garbage bags for disposal. Field personnel should wear nitrile gloves at all the times.

3.4 Sample Shipping

Tissue samples should be kept refrigerated below 6°C and delivered to the laboratory within a day from collection. If longer delivery times are expected, the samples should be frozen. The details of the sample shipment and laboratory submission are provided in SOP-0.

1.0 GENERAL APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to describe the procedures that should be followed for the collection of construction material samples for analysis of per- and polyfluoroalkyl substances (PFAS). Construction materials such as asphalt, concrete, metal, plastic, and wood, etc. are typically tested to assess PFAS concentrations on and beneath the surface of the material, to estimate the depth of PFAS penetration, or to determine whether the material is suitable for landfill disposal. Depending on the purpose of the sampling program, samples can be an aliquot of the material to measure PFAS concentrations in the bulk sample (collected by chipping or coring) or surface swaps that are used to measure PFAS concentrations on the surface of the material.

This SOP includes the following:

- Sample container and handling considerations;
- Sample collection procedures; and
- Sample shipping requirements.

For general field work planning and procedures for PFAS sampling, refer to SOP-0 “Planning and Sample Submission Preparation”, SOP-1 “General Field Methods for PFAS Sampling” and SOP-2 “Quality Assurance / Quality Control Protocols for PFAS Sampling”.

With the exceptions provided in these SOPs, Field Personnel should follow the sampling protocols provided in the standard Golder SOPs and the project Specific Work Instructions (SWI) for construction materials sampling.

2.0 RESPONSIBILITIES

The Field Team Leader and Field Personnel have the shared responsibility to oversee and ensure that the PFAS construction materials sampling program is performed in accordance with the program-specific protocols described in this SOP. The Field Team Leader should ensure that Field Personnel understand and comply with this SOP.

3.0 CONSTRUCTION MATERIALS SAMPLING PROCEDURES

3.1 Sample Containers and Handling

Sample containers should not be handled without first donning a new, clean pair of nitrile gloves. Samples should only be collected in containers provided by the laboratory for specific PFAS use (without Teflon liner) or Ziploc® storage bag. Sample container should be labelled after collection of the sample using a non-gel pen or a pencil. If a marker must be used, nitrile gloves should be removed after use of the marker and replaced with new ones.

3.2 Sample Collection

A new pair of nitrile gloves should be worn prior to the handling and recovery of the sampling equipment and the collection of each sample. During sample processing and storage, exposure of the sample to light should be minimized.

Bulk Samples – If a shallow or surface sample is required, chip, break or cut the material using a PFAS- free chisel, or other chipping or cutting tool, ensuring that the sample retained for analysis is from the appropriate location/interval. Measure and record the surface area and approximate thickness of the sample extracted. If a coring device is used, core to the desired depth, remove the core and split it at the desired intervals. Record the

depth and interval of the core. Break the sample into small pieces (if needed) to fit in laboratory-supplied HDPE or polypropylene containers specific for PFAS use (without Teflon liner). Ensure that only the targeted construction material is included in the final sample. Each sample container should be individually bagged using Ziploc® bags, placed in the laboratory-provided sample cooler on ice and maintained at ≤ 6 ºC (but must not be frozen). Based on the objectives of the sampling program, provide instruction to the laboratory about the sample preparation such as whether the sample should be ground (while minimizing heat generation and volatile losses) or extracted as received.

Surface Swab Samples – Use pre-moistened gauze pads (PFAS-free) supplied by the analytical laboratory for collection of surface swab samples. Measure, and if necessary, mark (using pencil), an area on the surface to be sampled, typically, an area of 100 cm^2 should be swabbed to collect optimum sample. The area can be of any shape; to increase the degree of accuracy, a clean template shall be used. If the surface is irregular (e.g., tubing), estimate the area as accurately as possible. After donning a new pair of nitrile gloves, remove the wipe from its package and thoroughly swab the entire area inside the template side to side, in an overlapping “S” or “Z” pattern; fold the wipe in half with the sample side folded inward and repeat the wiping procedure within the same selected sampling area using an up and down overlapping “S” or “Z” pattern at right angles to the first wiping; fold the wipe in half again with the sample side folded inward and repeat the wiping procedure one more time, concentrating on covering the edges and corners within the selected surface area; fold the wipe again with the sample side folded inward and store the wipe into a new Ziploc® bag. This first bag should be placed inverted inside a second Ziploc® storage bag and placed in coolers maintained at ≤ 6 ºC (but must not be frozen).

All the non-dedicated components and sampling equipment must be decontaminated between sampling locations (see SOP-1). Equipment blanks must be collected using PFAS-free water poured over appropriate equipment part and carefully collected (see SOP-2).

3.3 Equipment

All the non-dedicated tools and sampling equipment must be decontaminated before use at each sampling location following SOP-1.

Field personnel should not use equipment made of Teflon®, other PFAS-containing materials or materials coated with waterproofing agents including chisel, hammer, coring device, grease, lubricants, and moisturized gauze pads. Written details on the material composition of the equipment and/or Safety Data Sheets (SDS) should be requested and reviewed as applicable before commencement of the field program so that alternative arrangements can be made if needed. In case of uncertainty, materials should be tested for PFAS before the field program begins and the results included in the site-specific field protocol. Pre-testing should occur at least 3 weeks before the field work starts to receive the results and make any necessary alternative plans in time.

Field Personnel should not re-use materials between sample locations. Following completion of sampling at a given location, Field Personnel should place all disposable materials in heavy-duty (i.e., lawn waste) garbage bags for disposal. Field Personnel should wear nitrile gloves at all the times.

3.4 Sample Shipping

Sample containers should be stored in a cooler on ice, maintained at ≤ 6 ºC (but must not be frozen) and transported by overnight courier to the laboratory. The details of the sample shipment and laboratory submission are provided in SOP-0.

Appendix E

SAMPLE TABLE

Official Sensitive

Appendix F
Thornton Phase 2 Grid Sampling - Sampling Points
Feb-25

Grid	Spacing	Number of Sampling Points	Sample Point (SP)	Hand Pit	Depth	Unique Sampling code
Grid01	100m S/SE of the facility	35	SP201		0.0 - 0.1	GR01/ SP201/ 0.0 - 0.1
					0.2 - 0.3	GR01/ SP201/ 0.2 - 0.3
				201	0.4 - 0.5	GR01/ SP201/ 0.4 - 0.5
					0.1 - 0.2	GR01/ SP201A/ 0.1 - 0.2
					0.3 - 0.4	GR01/ SP201A/ 0.3 - 0.4
				201A	0.5 - 0.6	GR01/ SP201A/ 0.5 - 0.6
			SP202		0.0 - 0.1	GR01/ SP202/ 0.0 - 0.1
					0.3-0.4	GR01/ SP202/ 0.3 - 0.4
				202	0.4 - 0.5	GR01/ SP202/ 0.4 - 0.5
					0.0 - 0.1	GR01/ SP202A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP202A 0.2 - 0.3
				202A	0.5 - 0.6	GR01/ SP202A 0.5 - 0.6
			SP203		0.0 - 0.1	GR01/ SP203 0.0 - 0.1
					0.2 - 0.3	GR01/ SP203 0.2 - 0.3
				203	0.4 - 0.5	GR01/ SP203 0.4 - 0.5
					0.1 - 0.2	GR01/ SP203A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP203A 0.3 - 0.4
				203A	0.5 - 0.6	GR01/ SP203A 0.5 - 0.6
			SP204		0.0 - 0.1	GR01/ SP204 0.0 - 0.1
					0.3 - 0.4	GR01/ SP204 0.3 - 0.4
				204	0.4 - 0.5	GR01/ SP204 0.4 - 0.5
					0.0 - 0.1	GR01/ SP204A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP204A 0.2 - 0.3
				204A	0.5 - 0.6	GR01/ SP204A 0.5 - 0.6
			SP205		0.0 - 0.1	GR01/ SP205 0.0 - 0.1
					0.2 - 0.3	GR01/ SP205 0.2 - 0.3
				205	0.4 - 0.5	GR01/ SP205 0.4 - 0.5
					0.1 - 0.2	GR01/ SP205A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP205A 0.3 - 0.4
				205A	0.5 - 0.6	GR01/ SP205A 0.5 - 0.6
			SP206		0.0 - 0.1	GR01/ SP206 0.0 - 0.1
					0.3 - 0.4	GR01/ SP206 0.3 - 0.4
				206	0.4 - 0.5	GR01/ SP206 0.4 - 0.5
					0.0 - 0.1	GR01/ SP206A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP206A 0.2 - 0.3
				206A	0.5 - 0.6	GR01/ SP206A 0.5 - 0.6
			SP207		0.0 - 0.1	GR01/ SP207 0.0 - 0.1
					0.2 - 0.3	GR01/ SP207 0.2 - 0.3
				207	0.4 - 0.5	GR01/ SP207 0.4 - 0.5
					0.1 - 0.2	GR01/ SP207A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP207A 0.3 - 0.4
				207A	0.5 - 0.6	GR01/ SP207A 0.5 - 0.6
			SP208		0.0 - 0.1	GR01/ SP208 0.0 - 0.1
					0.3 - 0.4	GR01/ SP208 0.3 - 0.4
				208	0.4 - 0.5	GR01/ SP208 0.4 - 0.5
					0.0 - 0.1	GR01/ SP208A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP208A 0.2 - 0.3
				208A	0.5 - 0.6	GR01/ SP208A 0.5 - 0.6
			SP209		0.0 - 0.1	GR01/ SP209 0.0 - 0.1
					0.2 - 0.3	GR01/ SP209 0.2 - 0.3
				209	0.4 - 0.5	GR01/ SP209 0.4 - 0.5
					0.1 - 0.2	GR01/ SP209A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP209A 0.3 - 0.4
				209A	0.5 - 0.6	GR01/ SP209A 0.5 - 0.6
					0.1 - 0.2	GR01/ SP209B 0.1 - 0.2
					0.3-0.4	GR01/ SP209B 0.3 - 0.4
				209B	0.5-0.6	GR01/ SP209B 0.5 - 0.9
			SP210		0.0 - 0.1	GR01/ SP210 0.0 - 0.1
					0.3 - 0.4	GR01/ SP210 0.3 - 0.4
				210	0.4 - 0.5	GR01/ SP210 0.4 - 0.5
					0.0 - 0.1	GR01/ SP210A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP210A 0.2 - 0.3
				210A	0.5 - 0.6	GR01/ SP210A 0.5 - 0.6
			SP211		0.0 - 0.1	GR01/ SP211 0.0 - 0.1
					0.2 - 0.3	GR01/ SP211 0.2 - 0.3
				211	0.4 - 0.5	GR01/ SP211 0.4 - 0.5
					0.1 - 0.2	GR01/ SP211A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP211A 0.3 - 0.4
				211A	0.5 - 0.6	GR01/ SP211A 0.5 - 0.6
			SP212		0.0 - 0.1	GR01/ SP212 0.0 - 0.1
					0.3 - 0.4	GR01/ SP212 0.3 - 0.4
				212	0.4 - 0.5	GR01/ SP212 0.4 - 0.5
					0.0 - 0.1	GR01/ SP212A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP212A 0.2 - 0.3
				212A	0.5 - 0.6	GR01/ SP212A 0.5 - 0.6
			SP213		0.0 - 0.1	GR01/ SP213 0.0 - 0.1
					0.2 - 0.3	GR01/ SP213 0.2 - 0.3
				213	0.4 - 0.5	GR01/ SP213 0.4 - 0.5
					0.1 - 0.2	GR01/ SP213A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP213A 0.3 - 0.4
				213A	0.5 - 0.6	GR01/ SP213A 0.5 - 0.6
			SP214		0.0 - 0.1	GR01/ SP214 0.0 - 0.1
					0.3-0.4	GR01/ SP214 0.3 - 0.4
				214	0.4 - 0.5	GR01/ SP214 0.4 - 0.5
					0.0 - 0.1	GR01/ SP214A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP214A 0.2 - 0.3
				214A	0.5 - 0.6	GR01/ SP214A 0.5 - 0.6
			SP215		0.0 - 0.1	GR01/ SP215 0.0 - 0.1
					0.2 - 0.3	GR01/ SP215 0.2 - 0.3
				215	0.4 - 0.5	GR01/ SP215 0.4 - 0.5
					0.1 - 0.2	GR01/ SP215A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP215A 0.3 - 0.4
				215A	0.5 - 0.6	GR01/ SP215A 0.5 - 0.6
			SP216		0.0 - 0.1	GR01/ SP216 0.0 - 0.1
					0.3 - 0.4	GR01/ SP216 0.3 - 0.4
				216	0.4 - 0.5	GR01/ SP216 0.4 - 0.5
					0.0 - 0.1	GR01/ SP216A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP216A 0.2 - 0.3
				216A	0.5 - 0.6	GR01/ SP216A 0.5 - 0.6
			SP218		0.0 - 0.1	GR01/ SP218 0.0 - 0.1
					0.3 - 0.4	GR01/ SP218 0.3 - 0.4
				218	0.4 - 0.5	GR01/ SP218 0.4 - 0.5
					0.0 - 0.1	GR01/ SP218A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP218A 0.2 - 0.3
				218A	0.5 - 0.6	GR01/ SP218A 0.5 - 0.6
			SP219		0.0 - 0.1	GR01/ SP219 0.0 - 0.1
					0.2 - 0.3	GR01/ SP219 0.2 - 0.3
				219	0.4 - 0.5	GR01/ SP219 0.4 - 0.5
					0.1 - 0.2	GR01/ SP219A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP219A 0.3 - 0.4
				219A	0.5 - 0.6	GR01/ SP219A 0.5 - 0.6
			SP220		0.0 - 0.1	GR01/ SP220 0.0 - 0.1
					0.3 - 0.4	GR01/ SP220 0.3 - 0.4
				220	0.4 - 0.5	GR01/ SP220 0.4 - 0.5
					0.0 - 0.1	GR01/ SP220A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP220A 0.2 - 0.3
				220A	0.5 - 0.6	GR01/ SP220A 0.5 - 0.6
			SP221		0.0 - 0.1	GR01/ SP221 0.0 - 0.1
					0.2 - 0.3	GR01/ SP221 0.2 - 0.3
				221	0.4 - 0.5	GR01/ SP221 0.4 - 0.5
					0.1 - 0.2	GR01/ SP221A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP221A 0.3 - 0.4
				221A	0.5 - 0.6	GR01/ SP221A 0.5 - 0.6
			SP222		0.0 - 0.1	GR01/ SP222 0.0 - 0.1
					0.3 - 0.4	GR01/ SP222 0.3 - 0.4
				222	0.4 - 0.5	GR01/ SP222 0.4 - 0.5
					0.0 - 0.1	GR01/ SP222A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP222A 0.2 - 0.3
				222A	0.5 - 0.6	GR01/ SP222A 0.5 - 0.6
			SP223		0.0 - 0.1	GR01/ SP223 0.0 - 0.1
					0.2 - 0.3	GR01/ SP223 0.2 - 0.3
				223	0.4 - 0.5	GR01/ SP223 0.4 - 0.5
					0.1 - 0.2	GR01/ SP223A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP223A 0.3 - 0.4
				223A	0.5 - 0.6	GR01/ SP223A 0.5 - 0.6
			SP224		0.0 - 0.1	GR01/ SP224 0.0 - 0.1
					0.3-0.4	GR01/ SP224 0.3 - 0.4
				224	0.4 - 0.5	GR01/ SP224 0.4 - 0.5
					0.0 - 0.1	GR01/ SP224A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP224A 0.2 - 0.3
				224A	0.5 - 0.6	GR01/ SP224A 0.5 - 0.6
			SP225		0.0 - 0.1	GR01/ SP225 0.0 - 0.1
					0.2 - 0.3	GR01/ SP225 0.2 - 0.3
				225	0.4 - 0.5	GR01/ SP225 0.4 - 0.5
					0.1 - 0.2	GR01/ SP225A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP225A 0.3 - 0.4
				225A	0.5 - 0.6	GR01/ SP225A 0.5 - 0.6
			SP226		0.0 - 0.1	GR01/ SP226 0.0 - 0.1
					0.3-0.4	GR01/ SP226 0.3 - 0.4
				226	0.4 - 0.5	GR01/ SP226 0.4 - 0.5
					0.0 - 0.1	GR01/ SP226A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP226A 0.2 - 0.3
				226A	0.5 - 0.6	GR01/ SP226A 0.5 - 0.6
			SP227		0.0 - 0.1	GR01/ SP227 0.0 - 0.1
					0.2 - 0.3	GR01/ SP227 0.2 - 0.3
				227	0.4 - 0.5	GR01/ SP227 0.4 - 0.5
					0.1 - 0.2	GR01/ SP227A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP227A 0.3 - 0.4
				227A	0.5 - 0.6	GR01/ SP227A 0.5 - 0.6
			SP228		0.0 - 0.1	GR01/ SP228 0.0 - 0.1
					0.3-0.4	GR01/ SP228 0.3 - 0.4
				228	0.4 - 0.5	GR01/ SP228 0.4 - 0.5
					0.0 - 0.1	GR01/ SP228A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP228A 0.2 - 0.3
				228A	0.5 - 0.6	GR01/ SP228A 0.5 - 0.6
			SP229		0.0 - 0.1	GR01/ SP229 0.0 - 0.1
					0.2 - 0.3	GR01/ SP229 0.2 - 0.3
				229	0.4 - 0.5	GR01/ SP229 0.4 - 0.5
					0.1 - 0.2	GR01/ SP229A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP229A 0.3 - 0.4
				229A	0.5 - 0.6	GR01/ SP229A 0.5 - 0.6
			SP230		0.0 - 0.1	GR01/ SP230 0.0 - 0.1
					0.3 - 0.4	GR01/ SP230 0.3 - 0.4
				230	0.4 - 0.5	GR01/ SP230 0.4 - 0.5
					0.0 - 0.1	GR01/ SP230A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP230A 0.2 - 0.3
				230A	0.5 - 0.6	GR01/ SP230A 0.5 - 0.6
			SP231		0.0 - 0.1	GR01/ SP231 0.0 - 0.1
					0.2 - 0.3	GR01/ SP231 0.2 - 0.3
				231	0.4 - 0.5	GR01/ SP231 0.4 - 0.5
					0.1 - 0.2	GR01/ SP231A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP231A 0.3 - 0.4
				231A	0.5 - 0.6	GR01/ SP231A 0.5 - 0.6
			SP232		0.0 - 0.1	GR01/ SP232 0.0 - 0.1
					0.3 - 0.4	GR01/ SP232 0.3 - 0.4
				232	0.4 - 0.5	GR01/ SP232 0.4 - 0.5
					0.0 - 0.1	GR01/ SP232A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP232A 0.2 - 0.3
				232A	0.5 - 0.6	GR01/ SP232A 0.5 - 0.6
			SP233		0.0 - 0.1	GR01/ SP233 0.0 - 0.1
					0.2 - 0.3	GR01/ SP233 0.2 - 0.3
				233	0.4 - 0.5	GR01/ SP233 0.4 - 0.5
					0.1 - 0.2	GR01/ SP233A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP233A 0.3 - 0.4
				233A	0.5 - 0.6	GR01/ SP233A 0.5 - 0.6
			SP234		0.0 - 0.1	GR01/ SP234 0.0 - 0.1
					0.3 - 0.4	GR01/ SP234 0.3 - 0.4
				234	0.4 - 0.5	GR01/ SP234 0.4 - 0.5
					0.0 - 0.1	GR01/ SP234A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP234A 0.2 - 0.3
				234A	0.5 - 0.6	GR01/ SP234A 0.5 - 0.6
			SP235		0.0 - 0.1	GR01/ SP235 0.0 - 0.1
					0.2 - 0.3	GR01/ SP235 0.2 - 0.3
				235	0.4 - 0.5	GR01/ SP235 0.4 - 0.5
					0.1 - 0.2	GR01/ SP235A 0.1 - 0.2
					0.3 - 0.4	GR01/ SP235A 0.3 - 0.4
				235A	0.5 - 0.6	GR01/ SP235A 0.5 - 0.6
			SP236		0.0 - 0.1	GR01/ SP236 0.0 - 0.1
					0.3-0.4	GR01/ SP236 0.3 - 0.4
				236	0.4 - 0.5	GR01/ SP236 0.4 - 0.5
					0.0 - 0.1	GR01/ SP236A 0.1 - 0.2
					0.2 - 0.3	GR01/ SP236A 0.2 - 0.3
				236A	0.5 - 0.6	GR01/ SP236A 0.5 - 0.6

Grid	Spacing	Number of Sampling Points	Sample Point (SP)	Hand pit	Depth	Unique Sampling code
Grid 02	150m S/ SW	15	SP202		0.0 - 0.1	GR02 SP202 0.0 - 0.1
					0.3-0.4	GR02 SP202 0.3 - 0.4
				202	0.4 - 0.5	GR02 SP202 0.4 - 0.5
					0.0 - 0.1	GR02 SP202A 0.1 - 0.2
					0.2 - 0.3	GR02 SP202A 0.2 - 0.3
				202A	0.5 - 0.6	GR02 SP202A 0.5 - 0.6
			SP204		0.0 - 0.1	GR02 SP204 0.0 - 0.1
					0.3-0.4	GR02 SP204 0.3 - 0.4
				204	0.4 - 0.5	GR02 SP204 0.4 - 0.5
					0.0 - 0.1	GR02 SP204A 0.1 - 0.2
					0.2 - 0.3	GR02 SP204A 0.2 - 0.3
				204A	0.5 - 0.6	GR02 SP204A 0.5 - 0.6
			SP205		0.0 - 0.1	GR02 SP205 0.0 - 0.1
					0.2 - 0.3	GR02 SP205 0.2 - 0.3
				205	0.4 - 0.5	GR02 SP205 0.4 - 0.5
					0.1 - 0.2	GR02 SP205A 0.1 - 0.2
					0.3 - 0.4	GR02 SP205A 0.3 - 0.4
				205A	0.5 - 0.6	GR02 SP205A 0.5 - 0.6
			SP206		0.0 - 0.1	GR02 SP206 0.0 - 0.1
					0.3-0.4	GR02 SP206 0.3 - 0.4
				206	0.4 - 0.5	GR02 SP206 0.4 - 0.5
					0.0 - 0.1	GR02 SP206A 0.1 - 0.2
					0.2 - 0.3	GR02 SP206A 0.2 - 0.3
				206A	0.5 - 0.6	GR02 SP206A 0.5 - 0.6
			SP207		0.0 - 0.1	GR02 SP207 0.0 - 0.1
					0.2 - 0.3	GR02 SP207 0.2 - 0.3
				207	0.4 - 0.5	GR02 SP207 0.4 - 0.5
					0.1 - 0.2	GR02 SP207A 0.1 - 0.2
					0.3 - 0.4	GR02 SP207A 0.3 - 0.4
				207A	0.5 - 0.6	GR02 SP207A 0.5 - 0.6
			SP208		0.0 - 0.1	GR02 SP208 0.0 - 0.1
					0.3-0.4	GR02 SP208 0.3 - 0.4
				208	0.4 - 0.5	GR02 SP208 0.4 - 0.5
					0.0 - 0.1	GR02 SP208A 0.1 - 0.2
					0.2 - 0.3	GR02 SP208A 0.2 - 0.3
				208A	0.5 - 0.6	GR02 SP208A 0.5 - 0.6
			SP210		0.0 - 0.1	GR02 SP210 0.0 - 0.1
					0.3-0.4	GR02 SP210 0.3 - 0.4
				210	0.4 - 0.5	GR02 SP210 0.4 - 0.5
					0.0 - 0.1	GR02 SP210A 0.1 - 0.2
					0.2 - 0.3	GR02 SP210A 0.2 - 0.3
				210A	0.5 - 0.6	GR02 SP210A 0.5 - 0.6
			SP211		0.0 - 0.1	GR02 SP211 0.0 - 0.1
					0.2 - 0.3	GR02 SP211 0.2 - 0.3
				211	0.4 - 0.5	GR02 SP211 0.4 - 0.5
					0.1 - 0.2	GR02 SP211A 0.1 - 0.2
					0.3 - 0.4	GR02 SP211A 0.3 - 0.4
				211A	0.5 - 0.6	GR02 SP211A 0.5 - 0.6
			SP213		0.0 - 0.1	GR02 SP213 0.0 - 0.1
					0.2 - 0.3	GR02 SP213 0.2 - 0.3
				213	0.4 - 0.5	GR02 SP213 0.4 - 0.5
					0.1 - 0.2	GR02 SP213A 0.1 - 0.2
					0.3 - 0.4	GR02 SP213A 0.3 - 0.4
				213A	0.5 - 0.6	GR02 SP213A 0.5 - 0.6
			SP214		0.0 - 0.1	GR02 SP214 0.0 - 0.1
					0.3-0.4	GR02 SP214 0.3 - 0.4
				214	0.4 - 0.5	GR02 SP214 0.4 - 0.5
					0.0 - 0.1	GR02 SP214A 0.1 - 0.2
					0.2 - 0.3	GR02 SP214A 0.2 - 0.3
				214A	0.5 - 0.6	GR02 SP214A 0.5 - 0.6
			SP215		0.0 - 0.1	GR02 SP215 0.0 - 0.1
					0.2 - 0.3	GR02 SP215 0.2 - 0.3
				215	0.4 - 0.5	GR02 SP215 0.4 - 0.5
					0.1 - 0.2	GR02 SP215A 0.1 - 0.2
					0.3 - 0.4	GR02 SP215A 0.3 - 0.4
				215A	0.5 - 0.6	GR02 SP215A 0.5 - 0.6
			SP216	216A	0.0 - 0.1	GR02 SP216A 0.0 - 0.1
				216B	0.0 - 0.1	GR02 SP216B 0.0 - 0.1
				216C	0.0 - 0.1	GR02 SP216C 0.0 - 0.1
			SP217		0.0 - 0.1	GR02 SP217 0.0 - 0.1
					0.2 - 0.3	GR02 SP217 0.2 - 0.3
				217	0.4 - 0.5	GR02 SP217 0.4 - 0.5
					0.1 - 0.2	GR02 SP217A 0.1 - 0.2
					0.3 - 0.4	GR02 SP217A 0.3 - 0.4
				217A	0.5 - 0.6	GR02 SP217A 0.5 - 0.6
			SP218		0.0 - 0.1	GR02 SP218 0.0 - 0.1
					0.3-0.4	GR02 SP218 0.3 - 0.4
				218	0.4 - 0.5	GR02 SP218 0.4 - 0.5
					0.0 - 0.1	GR02 SP218A 0.1 - 0.2
					0.2 - 0.3	GR02 SP218A 0.2 - 0.3
				218A	0.5 - 0.6	GR02 SP218A 0.5 - 0.6
			SP219		0.0 - 0.1	GR02 SP219 0.0 - 0.1
					0.2 - 0.3	GR02 SP219 0.2 - 0.3
				219	0.4 - 0.5	GR02 SP219 0.4 - 0.5
					0.1 - 0.2	GR02 SP219A 0.1 - 0.2
					0.3 - 0.4	GR02 SP219A 0.3 - 0.4
				219A	0.5 - 0.6	GR02 SP219A 0.5 - 0.6

Grid	Spacing	Number of Sampling Points	Sample Point (SP)	Hand pit	Depth	Unique Sampling code
POS	Public Open Space	13	SP201		0.0 - 0.1	POS/ SP201 0.0 - 0.1
					0.2 - 0.3	POS/ SP201 0.2 - 0.3
				201	0.4 - 0.5	POS/ SP201 0.4 - 0.5
					0.1 - 0.2	POS/ SP201A 0.1 - 0.2
					0.3 - 0.4	POS/ SP201A 0.3 - 0.4
				201A	0.5 - 0.6	POS/ SP201A 0.5 - 0.6
			SP202		0.0 - 0.1	POS/ SP202 0.0 - 0.1
					0.3-0.4	POS/ SP202 0.3 - 0.4
				202	0.4 - 0.5	POS/ SP202 0.4 - 0.5
					0.0 - 0.1	POS/ SP202A 0.1 - 0.2
					0.2 - 0.3	POS/ SP202A 0.2 - 0.3
				202A	0.5 - 0.6	POS/ SP202A 0.5 - 0.6
			SP203		0.0 - 0.1	POS/ SP203 0.0 - 0.1
					0.2 - 0.3	POS/ SP203 0.2 - 0.3
				203	0.4 - 0.5	POS/ SP203 0.4 - 0.5
					0.1 - 0.2	POS/ SP203A 0.1 - 0.2
					0.3 - 0.4	POS/ SP203A 0.3 - 0.4
				203A	0.5 - 0.6	POS/ SP203A 0.5 - 0.6
			SP204		0.0 - 0.1	POS/ SP204 0.0 - 0.1
					0.3-0.4	POS/ SP204 0.3 - 0.4
				204	0.4 - 0.5	POS/ SP204 0.4 - 0.5
					0.0 - 0.1	POS/ SP204A 0.1 - 0.2
					0.2 - 0.3	POS/ SP204A 0.2 - 0.3
				204A	0.5 - 0.6	POS/ SP204A 0.5 - 0.6
			SP205		0.0 - 0.1	POS/ SP205 0.0 - 0.1
					0.2 - 0.3	POS/ SP205 0.2 - 0.3
				205	0.4 - 0.5	POS/ SP205 0.4 - 0.5
					0.1 - 0.2	POS/ SP205A 0.1 - 0.2
					0.3 - 0.4	POS/ SP205A 0.3 - 0.4
				205A	0.5 - 0.6	POS/ SP205A 0.5 - 0.6
			SP207		0.0 - 0.1	POS/ SP207 0.0 - 0.1
					0.2 - 0.3	POS/ SP207 0.2 - 0.3
				207	0.4 - 0.5	POS/ SP207 0.4 - 0.5
					0.1 - 0.2	POS/ SP207A 0.1 - 0.2
					0.3 - 0.4	POS/ SP207A 0.3 - 0.4
				207A	0.5 - 0.6	POS/ SP207A 0.5 - 0.6
			SP208		0.0 - 0.1	POS/ SP208 0.0 - 0.1
					0.3-0.4	POS/ SP208 0.3 - 0.4
				208	0.4 - 0.5	POS/ SP208 0.4 - 0.5
					0.0 - 0.1	POS/ SP208A 0.1 - 0.2
					0.2 - 0.3	POS/ SP208A 0.2 - 0.3
				208A	0.5 - 0.6	POS/ SP208A 0.5 - 0.6
			SP209		0.0 - 0.1	POS/ SP209 0.0 - 0.1
					0.2 - 0.3	POS/ SP209 0.2 - 0.3
				209	0.4 - 0.5	POS/ SP209 0.4 - 0.5
					0.1 - 0.2	POS/ SP209A 0.1 - 0.2
					0.3 - 0.4	POS/ SP209A 0.3 - 0.4
				209A	0.5 - 0.6	POS/ SP209A 0.5 - 0.6
			SP210		0.0 - 0.1	POS/ SP210 0.0 - 0.1
					0.3-0.4	POS/ SP210 0.3 - 0.4
				210	0.4 - 0.5	POS/ SP210 0.4 - 0.5
					0.0 - 0.1	POS/ SP210A 0.1 - 0.2
					0.2 - 0.3	POS/ SP210A 0.2 - 0.3
				210A	0.5 - 0.6	POS/ SP210A 0.5 - 0.6
			SP211		0.0 - 0.1	POS/ SP211 0.0 - 0.1
					0.2 - 0.3	POS/ SP211 0.2 - 0.3
				211	0.4 - 0.5	POS/ SP211 0.4 - 0.5
					0.1 - 0.2	POS/ SP211A 0.1 - 0.2
					0.3 - 0.4	POS/ SP211A 0.3 - 0.4
				211A	0.5 - 0.6	POS/ SP211A 0.5 - 0.6
					0.0-0.1	POS/ SP211B 0.0 - 0.1
					0.3-0.4	POS/ SP211B 0.3 - 0.4
				211B	0.4-0.5	POS/ SP211B 0.4 - 0.5
					0.1-0.2	POS/ SP211C 0.1 - 0.2
					0.2-0.3	POS/ SP211C 0.2 - 0.3
				211C	0.5-0.6	POS/ SP211C 0.5 - 0.6
			SP212		0.0 - 0.1	GR02 SP212 0.0 - 0.1
					0.2 - 0.3	GR02 SP212 0.3 - 0.4
				212	0.4 - 0.5	GR02 SP212 0.4 - 0.5
					0.1 - 0.2	GR02 SP212A 0.1 - 0.2
					0.3 - 0.4	GR02 SP212A 0.2 - 0.3
				212A	0.5 - 0.6	GR02 SP212A 0.5 - 0.6
			SP213		0.0 - 0.1	GR02 SP213 0.0 - 0.1
					0.2 - 0.3	GR02 SP213 0.2 - 0.3
				213	0.4 - 0.5	GR02 SP213 0.4 - 0.5
					0.1 - 0.2	GR02 SP213A 0.1 - 0.2
					0.3 - 0.4	GR02 SP213A 0.3 - 0.4
				213A	0.5 - 0.6	GR02 SP213A 0.5 - 0.6
			SP214		0.0 - 0.1	GR02 SP214 0.0 - 0.1
					0.2 - 0.3	GR02 SP214 0.3 - 0.4
				214	0.4 - 0.5	GR02 SP214 0.4 - 0.5
					0.1 - 0.2	GR02 SP214A 0.1 - 0.2
					0.3 - 0.4	GR02 SP214A 0.2 - 0.3
				214A	0.5 - 0.6	GR02 SP214A 0.5 - 0.6

Appendix F

EXPLORATORY HOLE LOGS

Official Sensitive

Appendix G

LABORATORY RESULTS

Official Sensitive

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250219-55
Your Reference:	Thornton
Location:	Thornton
Report No:	760972
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 758385 in its entirety.

We received 39 samples on Wednesday February 19, 2025 and 34 of these samples were scheduled for analysis which was completed on Friday March 07, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31095986	GR01-SP213	ES	0.00 - 0.10	17/02/2025
31095988	GR01-SP213	ES	0.20 - 0.30	17/02/2025
31095966	GR01-SP213	EW	0.20 - 0.30	18/02/2025
31095990	GR01-SP213	ES	0.40 - 0.50	17/02/2025
31095898	GR01-SP219	ES	0.00 - 0.10	17/02/2025
31095900	GR01-SP219	ES	0.20 - 0.30	17/02/2025
31095904	GR01-SP219	ES	0.40 - 0.50	17/02/2025
31095912	GR01-SP223	ES	0.00 - 0.10	17/02/2025
31095917	GR01-SP223	ES	0.20 - 0.30	17/02/2025
31095919	GR01-SP223	ES	0.40 - 0.50	17/02/2025
31095972	GR01-SP223	EW	0.40 - 0.50	18/02/2025
31095927	GR01-SP228	ES	0.00 - 0.10	18/02/2025
31095929	GR01-SP228	ES	0.30 - 0.40	18/02/2025
31095931	GR01-SP228	ES	0.40 - 0.50	18/02/2025
31095943	GR02-SP206	ES	0.00 - 0.10	18/02/2025
31095946	GR02-SP206	ES	0.30 - 0.40	18/02/2025
31095952	GR02-SP206	ES	0.40 - 0.50	18/02/2025
31095889	GR02-SP211	ES	0.00 - 0.10	17/02/2025
31095915	GR02-SP211	ES	0.20 - 0.30	17/02/2025
31095938	GR02-SP211	ES	0.40 - 0.50	17/02/2025
31095892	GR01-SP213A	ES	0.10 - 0.20	17/02/2025
31095894	GR01-SP213A	ES	0.30 - 0.40	17/02/2025
31095896	GR01-SP213A	ES	0.50 - 0.60	17/02/2025
31095906	GR01-SP219A	ES	0.10 - 0.20	17/02/2025
31095908	GR01-SP219A	ES	0.30 - 0.40	17/02/2025
31095910	GR01-SP219A	ES	0.50 - 0.60	17/02/2025
31095921	GR01-SP223A	ES	0.10 - 0.20	17/02/2025
31095923	GR01-SP223A	ES	0.30 - 0.40	17/02/2025
31095925	GR01-SP223A	ES	0.50 - 0.60	17/02/2025
31095933	GR01-SP228A	ES	0.00 - 0.10	18/02/2025
31095935	GR01-SP228A	ES	0.20 - 0.30	18/02/2025
31095940	GR01-SP228A	ES	0.50 - 0.60	18/02/2025
31095954	GR02-SP206A	ES	0.00 - 0.10	18/02/2025
31095956	GR02-SP206A	ES	0.20 - 0.30	18/02/2025
31095958	GR02-SP206A	ES	0.50 - 0.60	18/02/2025
31095960	GR02-SP211A	EW	0.10 - 0.20	18/02/2025
31095977	GR02-SP211A	ES	0.10 - 0.20	17/02/2025
31095981	GR02-SP211A	ES	0.30 - 0.40	17/02/2025
31095984	GR02-SP211A	ES	0.50 - 0.60	17/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend

- X Test
- N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			31095986	31095988	31095966	31095898	31095900	31095904	31095912	31095917	31095919	31095972	31095927	31095929	31095943	31095946	31095889	31095915	31095892	31095894	31095896
Customer Sample Reference			GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP228	GR01-SP228	GR02-SP206	GR02-SP206	GR02-SP211	GR02-SP211	GR01-SP213A	GR01-SP213A	GR01-SP213A
AGS Reference			ES	ES	EW	ES	ES	ES	ES	ES	ES	EW	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth (m)			0.00 - 0.10	0.20 - 0.30	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
Container			1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	Digitube fo PFAS analysis.	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	Digitube fo PFAS analysis.	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
Sample Type			S	S	PW	S	S	S	S	S	S	PW	S	S	S	S	S	S	S	S	S
PFAS in soils	All	NDPs: 0 Tests: 31	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 3			X							X									
pH	All	NDPs: 0 Tests: 31	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 30	X	X		X	X	X	X	X	X		X	X	X		X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 31	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X

31095984	GR02-SP211A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		
31095981	GR02-SP211A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		
31095977	GR02-SP211A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		
31095960	GR02-SP211A	EW	0.10 - 0.20	Digitube fo PFAS analysis.	PW	X						
31095958	GR02-SP206A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		
31095956	GR02-SP206A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X			X		
31095954	GR02-SP206A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X			X		
31095940	GR01-SP228A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		
31095933	GR01-SP228A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X			X		
31095925	GR01-SP223A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		
31095923	GR01-SP223A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		
31095921	GR01-SP223A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		
31095910	GR01-SP219A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		
31095908	GR01-SP219A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		
31095906	GR01-SP219A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31095986	GR01-SP213	0.00 - 0.10	Dark Brown	Silt Loam	Vegetation	None
31095988	GR01-SP213	0.20 - 0.30	Dark Brown	Silt Loam	Vegetation	None
31095898	GR01-SP219	0.00 - 0.10	Dark Brown	Silty Clay Loam	Stones	Vegetation
31095900	GR01-SP219	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31095904	GR01-SP219	0.40 - 0.50	Light Brown	Silty Clay Loam	Stones	None
31095912	GR01-SP223	0.00 - 0.10	Dark Brown	Clay Loam	Stones	Vegetation
31095917	GR01-SP223	0.20 - 0.30	Light Brown	Silty Clay Loam	Stones	Vegetation
31095919	GR01-SP223	0.40 - 0.50	Dark Brown	Clay Loam	Vegetation	None
31095927	GR01-SP228	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Vegetation	Stones
31095929	GR01-SP228	0.30 - 0.40	Dark Brown	Clay Loam	Vegetation	None
31095943	GR02-SP206	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31095946	GR02-SP206	0.30 - 0.40	Dark Brown	Sandy Loam	Brick	Stones
31095889	GR02-SP211	0.00 - 0.10	Dark Brown	Silt Loam	Vegetation	None
31095915	GR02-SP211	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31095892	GR01-SP213A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Vegetation	None
31095894	GR01-SP213A	0.30 - 0.40	Dark Brown	Sandy Silt Loam	Vegetation	None
31095896	GR01-SP213A	0.50 - 0.60	Dark Brown	Clay Loam	Stones	None
31095906	GR01-SP219A	0.10 - 0.20	Dark Brown	Silt Loam	Stones	Vegetation
31095908	GR01-SP219A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Concrete/Aggregate
31095910	GR01-SP219A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Brick
31095921	GR01-SP223A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Vegetation	None
31095923	GR01-SP223A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31095925	GR01-SP223A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Concrete/Aggregate
31095933	GR01-SP228A	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Vegetation	None
31095940	GR01-SP228A	0.50 - 0.60	Dark Brown	Sandy Loam	Vegetation	None
31095954	GR02-SP206A	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31095956	GR02-SP206A	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31095958	GR02-SP206A	0.50 - 0.60	Dark Brown	Sandy Silt Loam	Vegetation	None
31095977	GR02-SP211A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Vegetation	None
31095981	GR02-SP211A	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31095984	GR02-SP211A	0.50 - 0.60	Dark Brown	Sandy Silt Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095986	31095988	31095966	31095898	31095900	31095904
			AGS Reference	ES	ES	EW	ES	ES	ES
PFBA (375-22-4)	<0.000002 mg/l	TM434				<0.00001			
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434				<0.000005			
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434				<0.00001			
PFPA (2706-90-3)	<0.000001 mg/l	TM434				<0.000005			
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434				<0.000005			
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434				<0.000005			
NFDHA (151772-58-6)	<0.000003 mg/l	TM434				<0.000015			
PFBS (375-73-5)	<0.000001 mg/l	TM434				<0.000005			
PFHxA (307-24-4)	<0.000001 mg/l	TM434				<0.000005			
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434				<0.00001			
PFEESA (113507-82-7)	<0.000001 mg/l	TM434				<0.000005			
PFHpA (375-85-9)	<0.000001 mg/l	TM434				<0.000005			
PFPeS (2706-91-4)	<0.000001 mg/l	TM434				<0.000005			
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434				<0.000025			
ADONA (919005-14-4)	<0.000001 mg/l	TM434				<0.000005			
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434				<0.000005			
FBSA (30334-69-1)	<0.000001 mg/l	TM434				<0.000005			
PFOA (335-67-1)	<0.000001 mg/l	TM434				<0.000003			
PFHxS (355-46-4)	<0.000001 mg/l	TM434				<0.000005			
PFNA (375-95-1)	<0.000001 mg/l	TM434				<0.000005			
PFecHS (133201-07-7)	<0.000001 mg/l	TM434				<0.000005			
PFHpS (375-92-8)	<0.000001 mg/l	TM434				<0.000005			
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434				<0.00001			
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434				<0.000025			
PFDA (335-76-2)	<0.000002 mg/l	TM434				<0.00001			
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434				<0.00001 ♦			
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434				<0.000025			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434				<0.000003			
Branched PFOS	<0.000001 mg/l	TM434				<0.000003			
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434				<0.00001 ♦			
PFUnA (2058-94-8)	<0.000002 mg/l	TM434				<0.00001			
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434				<0.000005			
PFNS (68259-12-1)	<0.000001 mg/l	TM434				<0.000005			

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095986	31095988	31095966	31095898	31095900	31095904
			AGS Reference	ES	ES	EW	ES	ES	ES
FHxSA (41997-13-1)	<0.000001 mg/l	TM434				<0.000005			
PFDoA (307-55-1)	<0.000002 mg/l	TM434				<0.00001			
PFDS (335-77-3)	<0.000002 mg/l	TM434				<0.00001			
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434				<0.000015			
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434				<0.00001			
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434				<0.00001			
PFTeA (376-06-7)	<0.000001 mg/l	TM434				<0.000005			
PFOSA (754-91-6)	<0.000002 mg/l	TM434				<0.00001			
PFDoS (79780-39-5)	<0.000002 mg/l	TM434				<0.00001			
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434				<0.000005			
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434				<0.000005			
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434				<0.00005 ♦			
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434				<0.000005			
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434				<0.00005 ♦			
PFODA (16517-11-6)	<0.000001 mg/l	TM434				<0.000005			
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434				<0.000005			
6:2 FTAB (34455-29-3)	<0.00001 mg/l	TM434				<0.00005			
Total PFOS	<0.000001 mg/l	TM434				<0.000003			
Moisture Content Ratio (% of as received sample)	%	PM024		34	22		24	24	15
Soil Organic Matter (SOM)	<0.35 %	TM132		4.47 #	2.17 #		3.79 #	4.64 #	2.19 #
pH	1 pH Units	TM133		5.9 M	6.53 M		7.07 M	8.18 M	7.89 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8		<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8		<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1		<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095986	31095988	31095966	31095898	31095900	31095904
			AGS Reference	ES	ES	EW	ES	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.04	3.75		0.958	2.24	3.23
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10		<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9		<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4		<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		1	<0.6		<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4		<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8		<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7		<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend									
#	ISO17025 accredited.	Customer Sample Ref.	GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219
M	mCERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
diss.filt	Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt	Total / unfiltered sample.	Date Sampled	17/02/2025	17/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025
*	Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
***	6:2 FTAB (see appendix)	SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
1-4+§@	Sample deviation (see appendix)	Lab Sample No.(s)	31095986	31095988	31095966	31095898	31095900	31095904
		AGS Reference	ES	ES	EW	ES	ES	ES

Component	LOD/Units	Method						
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5		<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9		<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5		<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	1	<0.6		<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51		<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP228	GR01-SP228
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	17/02/2025	18/02/2025	18/02/2025	18/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095912	31095917	31095919	31095972	31095927	31095929
			AGS Reference	ES	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.000002 mg/l	TM434					<0.000002		
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434					<0.000001		
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434					<0.000002		
PFPA (2706-90-3)	<0.000001 mg/l	TM434					<0.000001		
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434					<0.000001		
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434					<0.000001		
NFDHA (151772-58-6)	<0.000003 mg/l	TM434					<0.000003		
PFBS (375-73-5)	<0.000001 mg/l	TM434					<0.000001		
PFHxA (307-24-4)	<0.000001 mg/l	TM434					<0.000001		
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434					<0.000002		
PFEESA (113507-82-7)	<0.000001 mg/l	TM434					<0.000001		
PFHpA (375-85-9)	<0.000001 mg/l	TM434					<0.000001		
PFPeS (2706-91-4)	<0.000001 mg/l	TM434					<0.000001		
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434					<0.000005		
ADONA (919005-14-4)	<0.000001 mg/l	TM434					<0.000001		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434					<0.000001		
FBSA (30334-69-1)	<0.000001 mg/l	TM434					<0.000001		
PFOA (335-67-1)	<0.000001 mg/l	TM434					<0.000001		
PFHxS (355-46-4)	<0.000001 mg/l	TM434					<0.000001		
PFNA (375-95-1)	<0.000001 mg/l	TM434					<0.000001		
PFecHS (133201-07-7)	<0.000001 mg/l	TM434					<0.000001		
PFHpS (375-92-8)	<0.000001 mg/l	TM434					<0.000001		
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434					<0.000002		
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434					<0.000005		
PFDA (335-76-2)	<0.000002 mg/l	TM434					<0.000002		
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434					<0.000002 ♦		
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434					<0.000005		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434					<0.000001		
Branched PFOS	<0.000001 mg/l	TM434					<0.000001		
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434					<0.000002 ♦		
PFUnA (2058-94-8)	<0.000002 mg/l	TM434					<0.000002		
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434					<0.000001		
PFNS (68259-12-1)	<0.000001 mg/l	TM434					<0.000001		

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP228	GR01-SP228
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	17/02/2025	18/02/2025	18/02/2025	18/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095912	31095917	31095919	31095972	31095927	31095929
			AGS Reference	ES	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.000001 mg/l	TM434					<0.000001		
PFDoA (307-55-1)	<0.000002 mg/l	TM434					<0.000002		
PFDS (335-77-3)	<0.000002 mg/l	TM434					<0.000002		
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434					<0.000003		
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434					<0.000002		
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434					<0.000002		
PFTeA (376-06-7)	<0.000001 mg/l	TM434					<0.000001		
PFOSA (754-91-6)	<0.000002 mg/l	TM434					<0.000002		
PFDoS (79780-39-5)	<0.000002 mg/l	TM434					<0.000002		
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434					<0.000001		
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434					<0.000001		
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434					<0.00001 ♦		
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434					<0.000001		
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434					<0.00001 ♦		
PFODA (16517-11-6)	<0.000001 mg/l	TM434					<0.000001		
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434					<0.000001		
6:2 FTAB (34455-29-3)	<0.00001 mg/l	TM434					<0.00001		
Total PFOS	<0.000001 mg/l	TM434					<0.000001		
Moisture Content Ratio (% of as received sample)	%	PM024		26	15	16		29	27
Soil Organic Matter (SOM)	<0.35 %	TM132		7.78 #	1.26 #	1.14 #		6 #	4.53 #
pH	1 pH Units	TM133		7.38 M	8.74 M	8.52 M		7.44 M	7.59 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP228	GR01-SP228
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	17/02/2025	18/02/2025	18/02/2025	18/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095912	31095917	31095919	31095972	31095927	31095929
			AGS Reference	ES	ES	ES	EW	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.96	5.36	24.4		3.29	5.96
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend								
#	ISO17025 accredited.	Customer Sample Ref.	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP228	GR01-SP228
M	mCERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40
diss.filt	Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt	Total / unfiltered sample.	Date Sampled	17/02/2025	17/02/2025	17/02/2025	18/02/2025	18/02/2025	18/02/2025
*	Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
***	6:2 FTAB (see appendix)	SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
1-4+§@	Sample deviation (see appendix)	Lab Sample No.(s)	31095912	31095917	31095919	31095972	31095927	31095929
		AGS Reference	ES	ES	ES	EW	ES	ES

Component	LOD/Units	Method						
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6		<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51		<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP206	GR02-SP206	GR02-SP211	GR02-SP211	GR01-SP213A	GR01-SP213A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095943	31095946	31095889	31095915	31095892	31095894
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		25	19	37	28	31	18
Soil Organic Matter (SOM)	<0.35 %	TM132		4.21 #	3.84 #	8.12 #	9.72 #	3.81 #	1.4 #
pH	1 pH Units	TM133		7.51 M	8.02 M	6.37 M	6.99 M	6.17 M	6.64 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.926	4.96	4.16	6.52	1.73	1.75
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	0.762	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP206	GR02-SP206	GR02-SP211	GR02-SP211	GR01-SP213A	GR01-SP213A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/02/2025	18/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095943	31095946	31095889	31095915	31095892	31095894
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	0.762	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP213A	GR01-SP219A	GR01-SP219A	GR01-SP219A	GR01-SP223A	GR01-SP223A
			Depth (m)	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095896	31095906	31095908	31095910	31095921	31095923
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		21	11	14	18	27	18
Soil Organic Matter (SOM)	<0.35 %	TM132		2.4 #	1.41 #	2.47 #	2.76 #	5.17 #	2.36 #
pH	1 pH Units	TM133		6.63 M	8.32 M	8.5 M	8.44 M	7.39 M	8.35 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.12	1.38	1.07	0.964	2.25	11.1
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP213A	GR01-SP219A	GR01-SP219A	GR01-SP219A	GR01-SP223A	GR01-SP223A
			Depth (m)	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025	17/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095896	31095906	31095908	31095910	31095921	31095923
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP223A	GR01-SP228A	GR01-SP228A	GR02-SP206A	GR02-SP206A	GR02-SP206A
			Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	17/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
			SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
			Lab Sample No.(s)	31095925	31095933	31095940	31095954	31095956	31095958
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		13	29	17	28	22	18
Soil Organic Matter (SOM)	<0.35 %	TM132		1.32 #	8.43 #	1.66 #	5.69 #	3.09 #	2.12 #
pH	1 pH Units	TM133		8.4 M	7.05 M	7.38 M	6.99 M	7.51 M	7.49 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	0.954	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		5.13	3.93	12.6	1.51	2.27	1.59
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	1.85	1.01	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend								
#	ISO17025 accredited.	Customer Sample Ref.	GR01-SP223A	GR01-SP228A	GR01-SP228A	GR02-SP206A	GR02-SP206A	GR02-SP206A
M	mCERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60
diss.filt	Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt	Total / unfiltered sample.	Date Sampled	17/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025	18/02/2025
*	Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025
***	6:2 FTAB (see appendix)	SDG Ref	250219-55	250219-55	250219-55	250219-55	250219-55	250219-55
1-4+§@	Sample deviation (see appendix)	Lab Sample No.(s)	31095925	31095933	31095940	31095954	31095956	31095958
		AGS Reference	ES	ES	ES	ES	ES	ES

Component	LOD/Units	Method						
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	1.85	1.01	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP211A	GR02-SP211A	GR02-SP211A	GR02-SP211A		
			Depth (m)	0.10 - 0.20	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60		
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	18/02/2025	17/02/2025	17/02/2025	17/02/2025		
			Sample Time	.	.	.	.		
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025		
			SDG Ref	250219-55	250219-55	250219-55	250219-55		
			Lab Sample No.(s)	31095960	31095977	31095981	31095984		
			AGS Reference	EW	ES	ES	ES		
PFBA (375-22-4)	<0.000002 mg/l	TM434		<0.000002					
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434		<0.000001					
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434		<0.000002					
PFPA (2706-90-3)	<0.000001 mg/l	TM434		<0.000001					
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434		<0.000001					
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434		<0.000001					
NFDHA (151772-58-6)	<0.000003 mg/l	TM434		<0.000003					
PFBS (375-73-5)	<0.000001 mg/l	TM434		<0.000001					
PFHxA (307-24-4)	<0.000001 mg/l	TM434		<0.000001					
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434		<0.000002					
PFEESA (113507-82-7)	<0.000001 mg/l	TM434		<0.000001					
PFHpA (375-85-9)	<0.000001 mg/l	TM434		<0.000001					
PFPeS (2706-91-4)	<0.000001 mg/l	TM434		<0.000001					
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434		<0.000005					
ADONA (919005-14-4)	<0.000001 mg/l	TM434		<0.000001					
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434		<0.000001					
FBSA (30334-69-1)	<0.000001 mg/l	TM434		<0.000001					
PFOA (335-67-1)	<0.000001 mg/l	TM434		<0.000001					
PFHxS (355-46-4)	<0.000001 mg/l	TM434		<0.000001					
PFNA (375-95-1)	<0.000001 mg/l	TM434		<0.000001					
PFecHS (133201-07-7)	<0.000001 mg/l	TM434		<0.000001					
PFHpS (375-92-8)	<0.000001 mg/l	TM434		<0.000001					
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434		<0.000002					
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434		<0.000005					
PFDA (335-76-2)	<0.000002 mg/l	TM434		<0.000002					
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434		<0.000002 ♦					
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434		<0.000005					
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434		<0.000001					
Branched PFOS	<0.000001 mg/l	TM434		<0.000001					
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434		<0.000002 ♦					
PFUnA (2058-94-8)	<0.000002 mg/l	TM434		<0.000002					
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434		<0.000001					
PFNS (68259-12-1)	<0.000001 mg/l	TM434		<0.000001					

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP211A	GR02-SP211A	GR02-SP211A	GR02-SP211A		
			Depth (m)	0.10 - 0.20	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60		
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	18/02/2025	17/02/2025	17/02/2025	17/02/2025		
			Sample Time	.	.	.	.		
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025		
			SDG Ref	250219-55	250219-55	250219-55	250219-55		
			Lab Sample No.(s)	31095960	31095977	31095981	31095984		
			AGS Reference	EW	ES	ES	ES		
FHxSA (41997-13-1)	<0.000001 mg/l	TM434		<0.000001					
PFDoA (307-55-1)	<0.000002 mg/l	TM434		<0.000002					
PFDS (335-77-3)	<0.000002 mg/l	TM434		<0.000002					
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434		<0.000003					
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434		<0.000002					
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434		<0.000002					
PFTeA (376-06-7)	<0.000001 mg/l	TM434		<0.000001					
PFOSA (754-91-6)	<0.000002 mg/l	TM434		<0.000002					
PFDoS (79780-39-5)	<0.000002 mg/l	TM434		<0.000002					
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434		<0.000001					
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434		<0.000001					
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434		<0.00001 ♦					
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434		<0.000001					
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434		<0.00001 ♦					
PFODA (16517-11-6)	<0.000001 mg/l	TM434		<0.000001					
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434		<0.000001					
6:2 FTAB (34455-29-3)	<0.00001 mg/l	TM434		<0.00001					
Total PFOS	<0.000001 mg/l	TM434		<0.000001					
Moisture Content Ratio (% of as received sample)	%	PM024			31	27	27		
Soil Organic Matter (SOM)	<0.35 %	TM132			10.2 #	9.36 #	2.28 #		
pH	1 pH Units	TM133			6.45 M	6.99 M	7.57 M		
PFBA (375-22-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440			<0.8	<0.8	<0.8		
PFPA (2706-90-3)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
NFDHA (151772-58-6)	<1.8 µg/kg	TM440			<1.8	<1.8	<1.8		
PFHxA (307-24-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFBS (375-73-5)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
HFPO-DA (13252-13-6)	<1 µg/kg	TM440			<1	<1	<1		
PFEESA (113507-82-7)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP211A	GR02-SP211A	GR02-SP211A	GR02-SP211A		
			Depth (m)	0.10 - 0.20	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60		
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	18/02/2025	17/02/2025	17/02/2025	17/02/2025		
			Sample Time	.	.	.	.		
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025		
			SDG Ref	250219-55	250219-55	250219-55	250219-55		
			Lab Sample No.(s)	31095960	31095977	31095981	31095984		
			AGS Reference	EW	ES	ES	ES		
PFPeS (2706-91-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
ADONA (919005-14-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440			<2.5	<2.5	<2.5		
PFOA (335-67-1)	<0.5 µg/kg	TM440			6.67	10.1	6.88		
PFHxS (355-46-4)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
FBSA (30334-69-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440			<10	<10	<10		
PFNA (375-95-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFecHS (133201-07-7)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFHpS (375-92-8)	<0.6 µg/kg	TM440			<0.6	<0.6	<0.6		
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440			<0.9	<0.9	<0.9		
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440			<4.4	<4.4	<4.4		
PFDA (335-76-2)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
Branched PFOS	<0.6 µg/kg	TM440			<0.6	<0.6	<0.6		
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440			0.881	<0.6	<0.6		
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440			<2.5	<2.5	<2.5		
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440			<1.4	<1.4	<1.4		
PFUnA (2058-94-8)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440			<0.8	<0.8	<0.8		
FHxSA (41997-13-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFNS (68259-12-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFDoA (307-55-1)	<0.6 µg/kg	TM440			<0.6	<0.6	<0.6		
PFDS (335-77-3)	<0.6 µg/kg	TM440			<0.6	<0.6	<0.6		
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440			<0.6	<0.6	<0.6		
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440			<0.7	<0.7	<0.7		
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFTeA (376-06-7)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFOSA (754-91-6)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFDoS (79780-39-5)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		

CERTIFICATE OF ANALYSIS

SDG: 250219-55 **Report Number:** 760972 **Superseded Report:** 758385
Client Ref.: Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP211A	GR02-SP211A	GR02-SP211A	GR02-SP211A		
			Depth (m)	0.10 - 0.20	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60		
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	18/02/2025	17/02/2025	17/02/2025	17/02/2025		
			Sample Time	.	.	.	.		
			Date Received	19/02/2025	19/02/2025	19/02/2025	19/02/2025		
			SDG Ref	250219-55	250219-55	250219-55	250219-55		
			Lab Sample No.(s)	31095960	31095977	31095981	31095984		
			AGS Reference	EW	ES	ES	ES		
MeFOSE (24448-09-7)	<5 µg/kg	TM440			<5	<5	<5		
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440			<0.9	<0.9	<0.9		
EtFOSE (1691-99-2)	<5 µg/kg	TM440			<5	<5	<5		
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
PFODA (16517-11-6)	<0.5 µg/kg	TM440			<0.5	<0.5	<0.5		
Total PFOS	<0.6 µg/kg	TM440			0.881	<0.6	<0.6		
Total Identified PFAS	<51 µg/kg	TM440			<51	<51	<51		

Table of Results - Appendix

Method No	Description
TM434	Analysis of PFAS
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

Lab Sample No(s)	31095966	31095986	31095988	31095898	31095900	31095904	31095912	31095917	31095919	31095972
Customer Sample Ref.	GR01-SP213	GR01-SP213	GR01-SP213	GR01-SP219	GR01-SP219	GR01-SP219	GR01-SP223	GR01-SP223	GR01-SP223	GR01-SP223
AGS Ref.	EW	ES	ES	ES	ES	ES	ES	ES	ES	EW
Depth	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50
Type	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process
PFAS in soils		24-Feb-2025	25-Feb-2025	25-Feb-2025	24-Feb-2025	25-Feb-2025	24-Feb-2025	25-Feb-2025	24-Feb-2025	
PFAS Liquids (Full Suite)	07-Mar-2025									07-Mar-2025
pH		25-Feb-2025	26-Feb-2025	25-Feb-2025	20-Feb-2025	25-Feb-2025	20-Feb-2025	26-Feb-2025	26-Feb-2025	
Sample description		19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	
Total Organic Carbon		25-Feb-2025	25-Feb-2025	26-Feb-2025	26-Feb-2025	24-Feb-2025	26-Feb-2025	26-Feb-2025	24-Feb-2025	

Lab Sample No(s)	31095927	31095929	31095943	31095946	31095889	31095915	31095892	31095894	31095896	31095906
Customer Sample Ref.	GR01-SP228	GR01-SP228	GR02-SP206	GR02-SP206	GR02-SP211	GR02-SP211	GR01-SP213A	GR01-SP213A	GR01-SP213A	GR01-SP219A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	24-Feb-2025	21-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	21-Feb-2025	24-Feb-2025	21-Feb-2025	25-Feb-2025
pH	20-Feb-2025	20-Feb-2025	20-Feb-2025	25-Feb-2025	26-Feb-2025	26-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	26-Feb-2025
Sample description	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025
Total Organic Carbon	24-Feb-2025	24-Feb-2025	25-Feb-2025	24-Feb-2025	25-Feb-2025	25-Feb-2025	24-Feb-2025	25-Feb-2025	24-Feb-2025	26-Feb-2025

Lab Sample No(s)	31095908	31095910	31095921	31095923	31095925	31095933	31095940	31095954	31095956	31095958
Customer Sample Ref.	GR01-SP219A	GR01-SP219A	GR01-SP223A	GR01-SP223A	GR01-SP223A	GR01-SP228A	GR01-SP228A	GR02-SP206A	GR02-SP206A	GR02-SP206A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	24-Feb-2025	25-Feb-2025	21-Feb-2025	21-Feb-2025	21-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025
pH	26-Feb-2025	26-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025	20-Feb-2025
Sample description	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025	19-Feb-2025
Total Organic Carbon	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	24-Feb-2025	25-Feb-2025	25-Feb-2025	25-Feb-2025	25-Feb-2025

Lab Sample No(s)	31095960	31095977	31095981	31095984
Customer Sample Ref.	GR02-SP211A	GR02-SP211A	GR02-SP211A	GR02-SP211A
AGS Ref.	EW	ES	ES	ES
Depth	0.10 - 0.20	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
Type	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils		24-Feb-2025	24-Feb-2025	24-Feb-2025
PFAS Liquids (Full Suite)	07-Mar-2025			
pH		20-Feb-2025	26-Feb-2025	25-Feb-2025
Sample description		19-Feb-2025	19-Feb-2025	19-Feb-2025
Total Organic Carbon		26-Feb-2025	25-Feb-2025	25-Feb-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3125	QC 3100	QC 3159
10:2 FTS (Raw)	TM440	**84.64** 53.10 : 140.00	**76.92** 53.10 : 140.00	**69.76** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**72.5** 53.56 : 141.19	**74.48** 53.56 : 141.19	**61.79** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**70.92** 50.54 : 133.25	**77.39** 50.54 : 133.25	**60.41** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**85.95** 56.34 : 145.91	**85.99** 56.34 : 145.91	**78.86** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**13.37** 52.66 : 130.08	**15.03** 52.66 : 130.08	**12.63** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**30.01** 38.50 : 101.50	**27.19** 38.50 : 101.50	**26.59** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**89.06** 54.79 : 144.46	**76.55** 54.79 : 144.46	**69.19** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**13.09** 48.60 : 128.14	**14.41** 48.60 : 128.14	**12.48** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**84.11** 56.03 : 147.72	**79.49** 56.03 : 147.72	**76.29** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**85.33** 55.74 : 146.96	**89.16** 55.74 : 146.96	**76.91** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**68.92** 54.59 : 143.91	**81.1** 54.59 : 143.91	**68.24** 54.59 : 143.91
ADONA (Raw)	TM440	**82.77** 54.01 : 132.33	**79.11** 54.01 : 132.33	**63.97** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**67.72** 54.09 : 142.61	**79.69** 54.09 : 142.61	**68.11** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**90.08** 52.48 : 138.36	**82.57** 52.48 : 138.36	**68.02** 52.48 : 138.36
EtFOSE (Raw)	TM440	**76.8** 57.05 : 145.29	**77.24** 57.05 : 145.29	**71.44** 57.05 : 145.29
FBSA (Raw)	TM440	**69.73** 49.51 : 125.13	**77.45** 49.51 : 125.13	**65.41** 49.51 : 125.13
FHxSA (Raw)	TM440	**70.18** 50.38 : 132.82	**79.73** 50.38 : 132.82	**65.6** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**88.39** 53.47 : 140.98	**79.73** 53.47 : 140.98	**74.25** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**92.68** 54.77 : 144.39	**71.14** 54.77 : 144.39	**82.33** 54.77 : 144.39
L-PFOS (Raw)	TM440	**67.72** 54.09 : 142.61	**79.69** 54.09 : 142.61	**68.11** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**79.59** 53.02 : 139.78	**73.1** 53.02 : 139.78	**61.97** 53.02 : 139.78
MeFOSE (Raw)	TM440	**76.71** 54.99 : 144.97	**79.7** 54.99 : 144.97	**71.14** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**94.84** 59.56 : 132.93	**86.03** 59.56 : 132.93	**76.15** 59.56 : 132.93
NFDHA (Raw)	TM440	**58.16** 57.35 : 151.20	**84.66** 57.35 : 151.20	**65.69** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**95.62** 59.19 : 133.01	**76.0** 59.19 : 133.01	**70.36** 59.19 : 133.01
PFBA (Raw)	TM440	**76.5** 52.69 : 138.91	**78.34** 52.69 : 138.91	**67.51** 52.69 : 138.91

PFAS in soils

		QC 3125	QC 3100	QC 3159
PFBS (Raw)	TM440	**74.84** 53.31 : 140.54	**73.16** 53.31 : 140.54	**66.41** 53.31 : 140.54
PFDA (Raw)	TM440	**80.32** 53.39 : 140.76	**75.14** 53.39 : 140.76	**69.46** 53.39 : 140.76
PFDoA (Raw)	TM440	**92.71** 52.85 : 139.34	**75.07** 52.85 : 139.34	**80.89** 52.85 : 139.34
PFDoS (Raw)	TM440	**65.19** 55.29 : 145.76	**74.32** 55.29 : 145.76	**64.67** 55.29 : 145.76
PFDS (Raw)	TM440	**64.45** 52.94 : 139.56	**74.08** 52.94 : 139.56	**69.0** 52.94 : 139.56
PFecHS (Raw)	TM440	**76.93** 50.75 : 133.80	**83.42** 50.75 : 133.80	**62.99** 50.75 : 133.80
PFEESA (Raw)	TM440	**74.03** 50.87 : 134.12	**68.79** 50.87 : 134.12	**61.8** 50.87 : 134.12
PFHpA (Raw)	TM440	**84.0** 52.61 : 138.69	**88.38** 52.61 : 138.69	**62.52** 52.61 : 138.69
PFHpS (Raw)	TM440	**73.8** 55.29 : 145.76	**81.5** 55.29 : 145.76	**68.96** 55.29 : 145.76
PFHxA (Raw)	TM440	**76.15** 54.05 : 142.50	**72.91** 54.05 : 142.50	**68.36** 54.05 : 142.50
PFHxDA (Raw)	TM440	**82.36** 52.03 : 137.17	**76.5** 52.03 : 137.17	**66.06** 52.03 : 137.17
PFHxS (Raw)	TM440	**75.62** 53.56 : 141.19	**73.51** 53.56 : 141.19	**63.7** 53.56 : 141.19
PFMOBA (Raw)	TM440	**73.04** 52.73 : 139.02	**72.16** 52.73 : 139.02	**60.9** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**80.59** 52.57 : 138.58	**82.41** 52.57 : 138.58	**75.2** 52.57 : 138.58
PFNA (Raw)	TM440	**80.74** 52.94 : 139.56	**84.94** 52.94 : 139.56	**70.0** 52.94 : 139.56
PFNS (Raw)	TM440	**71.09** 54.38 : 143.37	**74.66** 54.38 : 143.37	**66.24** 54.38 : 143.37
PFOA (Raw)	TM440	**76.64** 53.80 : 141.85	**74.52** 53.80 : 141.85	**66.63** 53.80 : 141.85
PFODA (Raw)	TM440	**92.11** 56.03 : 147.72	**70.01** 56.03 : 147.72	**69.84** 56.03 : 147.72
PFOSA (Raw)	TM440	**82.37** 53.10 : 140.00	**74.42** 53.10 : 140.00	**70.08** 53.10 : 140.00
PFPA (Raw)	TM440	**81.3** 53.89 : 142.06	**87.82** 53.89 : 142.06	**72.28** 53.89 : 142.06
PFPeS (Raw)	TM440	**81.96** 54.30 : 143.15	**80.23** 54.30 : 143.15	**72.5** 54.30 : 143.15
PFTeA (Raw)	TM440	**70.69** 53.06 : 139.89	**76.64** 53.06 : 139.89	**70.06** 53.06 : 139.89
PFTrDA (Raw)	TM440	**72.03** 51.70 : 136.30	**77.43** 51.70 : 136.30	**74.08** 51.70 : 136.30
PFTrDS (Raw)	TM440	**68.21** 56.24 : 148.26	**74.65** 56.24 : 148.26	**61.81** 56.24 : 148.26
PFUnA (Raw)	TM440	**78.46** 53.35 : 140.65	**71.68** 53.35 : 140.65	**77.44** 53.35 : 140.65
PFUnDS (Raw)	TM440	**63.99** 53.60 : 141.30	**72.14** 53.60 : 141.30	**62.77** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3173
11Cl-PF3OUdS (763051-92-9)	TM434	**97.12** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**99.88** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**89.88** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**86.13** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**80.38** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**84.13** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**94.38** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**86.63** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**86.25** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**88.87** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**87.38** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**84.75** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**101.0** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**102.75** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**95.63** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**96.0** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**83.63** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**86.75** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**82.5** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**71.88** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**99.88** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**74.13** 62.71 : 118.96
PFBA (375-22-4)	TM434	**85.0** 67.84 : 130.39
PFBS (375-73-5)	TM434	**96.88** 90.25 : 126.25
PFDA (335-76-2)	TM434	**82.88** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**80.63** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**84.25** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3173
PFDS (335-77-3)	TM434	**78.63** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**107.0** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**103.63** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**87.5** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**93.0** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**90.13** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**101.63** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**95.87** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**99.25** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**93.38** 64.06 : 130.06
PFNA (375-95-1)	TM434	**84.38** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**90.0** 70.70 : 130.93
PFOA (335-67-1)	TM434	**94.63** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**130.0** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**85.38** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**94.25** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**96.75** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**88.63** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**90.75** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**84.13** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**82.62** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**92.75** 85.84 : 139.76

pH

Component	Method Code	QC 3118	QC 3120	QC 3122	QC 3163	QC 3191
pH	TM133	**102.54** 98.80 : 104.41	**102.54** 98.80 : 104.41	**102.54** 98.80 : 104.41	**102.95** 96.07 : 104.37	**102.03** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3108	QC 3161	QC 3122	QC 3187	QC 3111
Total Organic Carbon	TM132	**98.54** 93.61 : 106.00	**99.64** 93.61 : 106.00	**97.08** 93.61 : 106.00	**97.81** 93.61 : 106.00	**98.91** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250221-60
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760973
Order Number:	UK-70100310-313

This report has been revised and directly supersedes 757851 in its entirety.

We received 50 samples on Friday February 21, 2025 and 38 of these samples were scheduled for analysis which was completed on Tuesday March 04, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31109943	GR01-SP203	ES	0.00 - 0.10	20/02/2025
31109946	GR01-SP203	ES	0.20 - 0.30	20/02/2025
31109974	GR01-SP203	EW	0.20 - 0.30	20/02/2025
31109948	GR01-SP203	ES	0.40 - 0.50	20/02/2025
31109871	GR01-SP207	ES	0.00 - 0.10	19/02/2025
31109873	GR01-SP207	ES	0.20 - 0.30	19/02/2025
31109878	GR01-SP207	ES	0.40 - 0.50	19/02/2025
31109902	GR01-SP210	ES	0.00 - 0.10	19/02/2025
31109904	GR01-SP210	ES	0.30 - 0.40	19/02/2025
31109906	GR01-SP210	ES	0.40 - 0.50	19/02/2025
31109983	GR01-SP226	ES	0.00 - 0.10	19/02/2025
31109986	GR01-SP226	ES	0.30 - 0.40	19/02/2025
31109990	GR01-SP226	ES	0.40 - 0.50	19/02/2025
31109860	GR01-SP235	ES	0.00 - 0.10	20/02/2025
31109862	GR01-SP235	ES	0.20 - 0.30	20/02/2025
31109864	GR01-SP235	ES	0.40 - 0.50	19/02/2025
31109886	GR02-SP207	ES	0.00 - 0.10	19/02/2025
31109888	GR02-SP207	ES	0.20 - 0.30	19/02/2025
31109891	GR02-SP207	ES	0.40 - 0.50	19/02/2025
31109849	GR02-SP217	ES	0.00 - 0.10	19/02/2025
31109876	GR02-SP217	ES	0.20 - 0.30	19/02/2025
31109950	GR02-SP217	EW	0.40 - 0.50	20/02/2025
31109900	GR02-SP217	ES	0.40 - 0.50	19/02/2025
31109920	GR02-SP219	ES	0.00 - 0.10	20/02/2025
31109925	GR02-SP219	ES	0.20 - 0.30	20/02/2025
31109929	GR02-SP219	ES	0.40 - 0.50	20/02/2202
31109880	GR01-SP207A	ES	0.10 - 0.20	19/02/2025
31109882	GR01-SP207A	ES	0.30 - 0.40	19/02/2025
31109884	GR01-SP207A	ES	0.50 - 0.60	19/02/2025
31109909	GR01-SP210A	ES	0.00 - 0.10	19/02/2025
31109912	GR01-SP210A	ES	0.20 - 0.30	19/02/2025
31109966	GR01-SP210A	EW	0.20 - 0.30	20/02/2025
31109917	GR01-SP210A	ES	0.50 - 0.60	19/02/2025
31109851	GR01-SP226A	ES	0.00 - 0.10	19/02/2025
31109854	GR01-SP226A	ES	0.20 - 0.30	19/02/2025
31109856	GR01-SP226A	ES	0.50 - 0.60	19/02/2025
31109954	GR01-SP226A	EW	0.50 - 0.60	20/02/2025
31109866	GR01-SP235A	ES	0.10 - 0.20	19/02/2025
31109868	GR01-SP235A	ES	0.30 - 0.40	19/02/2025
31109894	GR02-SP207A	ES	0.10 - 0.20	19/02/2025
31109896	GR02-SP207A	ES	0.30 - 0.40	19/02/2025
31109962	GR02-SP207A	EW	0.30 - 0.40	20/02/2025
31109898	GR02-SP207A	ES	0.50 - 0.60	19/02/2025
31109935	GR02-SP217A	ES	0.10 - 0.20	19/02/2025
31109960	GR02-SP217A	ES	0.30 - 0.40	19/02/2025
31109980	GR02-SP217A	ES	0.50 - 0.60	19/02/2025
31109932	GR02-SP219A	ES	0.10 - 0.20	20/02/2025
31109938	GR02-SP219A	ES	0.30 - 0.40	20/02/2025
31109970	GR02-SP219A	EW	0.30 - 0.40	20/02/2025
31109941	GR02-SP219A	ES	0.50 - 0.60	20/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 32	31109946	GR01-SP203	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 6	31109974	GR01-SP203	EW	0.20 - 0.30	Digitube fo PFAS analysis.	PW
			X					
pH	All	NDPs: 0 Tests: 32	31109948	GR01-SP203	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
Sample description	All	NDPs: 0 Tests: 32	31109871	GR01-SP207	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
Total Organic Carbon	All	NDPs: 0 Tests: 32	31109878	GR01-SP207	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31109904	GR01-SP210	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31109906	GR01-SP210	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31109983	GR01-SP226	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31109986	GR01-SP226	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31109990	GR01-SP226	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31109860	GR01-SP235	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31109862	GR01-SP235	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31109886	GR02-SP207	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31109849	GR02-SP217	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31109876	GR02-SP217	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31109950	GR02-SP217	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW
			X					
			31109900	GR02-SP217	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31109920	GR02-SP219	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31109925	GR02-SP219	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					

31109970	GR02-SP219A	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW			x				
31109938	GR02-SP219A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109932	GR02-SP219A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109960	GR02-SP217A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109935	GR02-SP217A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109898	GR02-SP207A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109962	GR02-SP207A	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW			x				
31109896	GR02-SP207A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109868	GR01-SP235A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109866	GR01-SP235A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109954	GR01-SP226A	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW			x				
31109856	GR01-SP226A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109851	GR01-SP226A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109917	GR01-SP210A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109966	GR01-SP210A	EW	0.20 - 0.30	Digitube fo PFAS analysis.	PW			x				
31109912	GR01-SP210A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109909	GR01-SP210A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109884	GR01-SP207A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S	x			x		x		x
31109882	GR01-SP207A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S	x			x		x		x

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31109946	GR01-SP203	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31109948	GR01-SP203	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Crushed Brick
31109871	GR01-SP207	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	Stones
31109878	GR01-SP207	0.40 - 0.50	Dark Brown	Silty Clay Loam	Stones	Brick
31109904	GR01-SP210	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31109906	GR01-SP210	0.40 - 0.50	Dark Brown	Silty Clay Loam	Vegetation	None
31109983	GR01-SP226	0.00 - 0.10	Dark Brown	Clay Loam	Vegetation	None
31109986	GR01-SP226	0.30 - 0.40	Dark Brown	Clay Loam	Vegetation	None
31109990	GR01-SP226	0.40 - 0.50	Dark Brown	Clay	Vegetation	None
31109860	GR01-SP235	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	None
31109862	GR01-SP235	0.20 - 0.30	Dark Brown	Silty Clay Loam	Vegetation	Stones
31109886	GR02-SP207	0.00 - 0.10	Dark Brown	Sand	Stones	Vegetation
31109849	GR02-SP217	0.00 - 0.10	Dark Brown	Silt Loam	Stones	Vegetation
31109876	GR02-SP217	0.20 - 0.30	Dark Brown	Clay Loam	Stones	Vegetation
31109900	GR02-SP217	0.40 - 0.50	Dark Brown	Silt Loam	Stones	Vegetation
31109920	GR02-SP219	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Glass & Stones	Vegetation
31109925	GR02-SP219	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	None
31109882	GR01-SP207A	0.30 - 0.40	Dark Brown	Sandy Loam	Crushed Brick	Concrete/Aggregate
31109884	GR01-SP207A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Crushed Brick
31109909	GR01-SP210A	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	None
31109912	GR01-SP210A	0.20 - 0.30	Dark Brown	Silty Clay Loam	Vegetation	None
31109917	GR01-SP210A	0.50 - 0.60	Light Brown	Silty Clay Loam	Vegetation	None
31109851	GR01-SP226A	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Vegetation	None
31109856	GR01-SP226A	0.50 - 0.60	Dark Brown	Clay	Vegetation	None
31109866	GR01-SP235A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Vegetation	Stones
31109868	GR01-SP235A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31109896	GR02-SP207A	0.30 - 0.40	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31109898	GR02-SP207A	0.50 - 0.60	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31109935	GR02-SP217A	0.10 - 0.20	Dark Brown	Silt Loam	Stones	Vegetation
31109960	GR02-SP217A	0.30 - 0.40	Dark Brown	Clay	Vegetation	None
31109932	GR02-SP219A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31109938	GR02-SP219A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203	GR01-SP203	GR01-SP203	GR01-SP207	GR01-SP207	GR01-SP210
			Depth (m)	0.20 - 0.30	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109946	31109974	31109948	31109871	31109878	31109904
			AGS Reference	ES	EW	ES	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002				
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001				
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002				
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001				
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001				
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001				
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003				
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001				
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001				
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002				
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001				
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001				
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001				
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005				
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001				
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001				
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001				
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065				
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001				
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001				
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001				
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001				
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002				
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005				
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002				
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦				
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005				
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065				
Branched PFOS	<0.00065 µg/l	TM434			<0.00065				
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦				
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002				
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001				
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001				

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203	GR01-SP203	GR01-SP203	GR01-SP207	GR01-SP207	GR01-SP210
			Depth (m)	0.20 - 0.30	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109946	31109974	31109948	31109871	31109878	31109904
			AGS Reference	ES	EW	ES	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001				
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002				
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002				
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003				
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002				
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002				
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001				
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002				
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002				
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001				
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001				
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 ♦				
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001				
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 ♦				
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001				
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001				
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01				
Total PFOS	<0.00065 µg/l	TM434			<0.00065				
Moisture Content Ratio (% of as received sample)	%	PM024	22		21	31	17	20	
Soil Organic Matter (SOM)	<0.35 %	TM132	4.21 #		3.02 #	5.84 #	2.09 #	4.97 #	
pH	1 pH Units	TM133	7.93 M		8.08 M	7.11 M	8.43 M	6.73 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8		<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8		<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1		<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203	GR01-SP203	GR01-SP203	GR01-SP207	GR01-SP207	GR01-SP210
			Depth (m)	0.20 - 0.30	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109946	31109974	31109948	31109871	31109878	31109904
			AGS Reference	ES	EW	ES	ES	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.18		1.46	1.53	4.9	3.1
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203	GR01-SP203	GR01-SP203	GR01-SP207	GR01-SP207	GR01-SP210
			Depth (m)	0.20 - 0.30	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109946	31109974	31109948	31109871	31109878	31109904
			AGS Reference	ES	EW	ES	ES	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51		<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210	GR01-SP226	GR01-SP226	GR01-SP226	GR01-SP235	GR01-SP235
			Depth (m)	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109906	31109983	31109986	31109990	31109860	31109862
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		21	30	24	16	25	15
Soil Organic Matter (SOM)	<0.35 %	TM132		4.53 #	4.86 #	3.81 #	1.07 #	5.86 #	2.14 #
pH	1 pH Units	TM133		7.01 M	6.52 M	7.89 M	7.82 M	6.88 M	8.14 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	0.736	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		3.04	2.01	7.04	4.53	1.82	2.06
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	0.812
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210	GR01-SP226	GR01-SP226	GR01-SP226	GR01-SP235	GR01-SP235
			Depth (m)	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109906	31109983	31109986	31109990	31109860	31109862
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	0.778	0.91
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	0.834	0.94
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	1.13	1.27
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	0.812
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP219
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109886	31109849	31109876	31109950	31109900	31109920
			AGS Reference	ES	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434					<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434					<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434					<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434					<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434					<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434					<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434					<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434					<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434					<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434					<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434					<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434					<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434					<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434					<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434					<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434					<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434					<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434					<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434					<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434					<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434					<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434					<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434					<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434					<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434					<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434					<0.002 ♦		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434					<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434					<0.00065		
Branched PFOS	<0.00065 µg/l	TM434					<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434					<0.002 ♦		
PFUnA (2058-94-8)	<0.002 µg/l	TM434					<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434					<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434					<0.001		

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP219
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109886	31109849	31109876	31109950	31109900	31109920
			AGS Reference	ES	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434					<0.001		
PFDoA (307-55-1)	<0.002 µg/l	TM434					<0.002		
PFDS (335-77-3)	<0.002 µg/l	TM434					<0.002		
PFTrDA (72629-94-8)	<0.003 µg/l	TM434					<0.003		
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434					<0.002		
PFUnDS (749786-16-1)	<0.002 µg/l	TM434					<0.002		
PFTeA (376-06-7)	<0.001 µg/l	TM434					<0.001		
PFOSA (754-91-6)	<0.002 µg/l	TM434					<0.002		
PFDoS (79780-39-5)	<0.002 µg/l	TM434					<0.002		
PFTrDS (174675-49-1)	<0.001 µg/l	TM434					<0.001		
PFHxDA (67905-19-5)	<0.001 µg/l	TM434					<0.001		
MeFOSE (24448-09-7)	<0.01 µg/l	TM434					<0.01 ♦		
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434					<0.001		
EtFOSE (1691-99-2)	<0.01 µg/l	TM434					<0.01 ♦		
PFODA (16517-11-6)	<0.001 µg/l	TM434					<0.001		
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434					<0.001		
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434					<0.01		
Total PFOS	<0.00065 µg/l	TM434					<0.00065		
Moisture Content Ratio (% of as received sample)	%	PM024		14	37	19		19	23
Soil Organic Matter (SOM)	<0.35 %	TM132		2.05 #	7.48 #	2.69 #		1.93 #	4.05 #
pH	1 pH Units	TM133		7.37 M	5.67 M	6.29 M		6.56 M	7.46 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP219
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109886	31109849	31109876	31109950	31109900	31109920
			AGS Reference	ES	ES	ES	EW	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		<0.5	5.33	8.44		5.85	1.36
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	1.14	1.3		0.754	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	1.23	0.689		<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	1.08	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	0.98	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP219
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109886	31109849	31109876	31109950	31109900	31109920
			AGS Reference	ES	ES	ES	EW	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51		<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219	GR01-SP207A	GR01-SP207A	GR01-SP210A	GR01-SP210A	GR01-SP210A
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	20/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109925	31109882	31109884	31109909	31109912	31109966
			AGS Reference	ES	ES	ES	ES	ES	EW
PFBA (375-22-4)	<0.002 µg/l	TM434							<0.002
PFMOPrA (377-73-1)	<0.001 µg/l	TM434							<0.001
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434							<0.002
PFPA (2706-90-3)	<0.001 µg/l	TM434							<0.001
PFMOBA (863090-89-5)	<0.001 µg/l	TM434							<0.001
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434							<0.001
NFDHA (151772-58-6)	<0.003 µg/l	TM434							<0.003
PFBS (375-73-5)	<0.001 µg/l	TM434							<0.001
PFHxA (307-24-4)	<0.001 µg/l	TM434							<0.001
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434							<0.002
PFEESA (113507-82-7)	<0.001 µg/l	TM434							<0.001
PFHpA (375-85-9)	<0.001 µg/l	TM434							<0.001
PFPeS (2706-91-4)	<0.001 µg/l	TM434							<0.001
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434							<0.005
ADONA (919005-14-4)	<0.001 µg/l	TM434							<0.001
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434							<0.001
FBSA (30334-69-1)	<0.001 µg/l	TM434							<0.001
PFOA (335-67-1)	<0.00065 µg/l	TM434							<0.00065
PFHxS (355-46-4)	<0.001 µg/l	TM434							<0.001
PFNA (375-95-1)	<0.001 µg/l	TM434							<0.001
PFecHS (133201-07-7)	<0.001 µg/l	TM434							<0.001
PFHpS (375-92-8)	<0.001 µg/l	TM434							<0.001
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434							<0.002
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434							<0.005
PFDA (335-76-2)	<0.002 µg/l	TM434							<0.002
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434							<0.002 ♦
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434							<0.005
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434							<0.00065
Branched PFOS	<0.00065 µg/l	TM434							<0.00065
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434							<0.002 ♦
PFUnA (2058-94-8)	<0.002 µg/l	TM434							<0.002
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434							<0.001
PFNS (68259-12-1)	<0.001 µg/l	TM434							<0.001

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219	GR01-SP207A	GR01-SP207A	GR01-SP210A	GR01-SP210A	GR01-SP210A
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	20/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109925	31109882	31109884	31109909	31109912	31109966
			AGS Reference	ES	ES	ES	ES	ES	EW
FHxSA (41997-13-1)	<0.001 µg/l	TM434							<0.001
PFDoA (307-55-1)	<0.002 µg/l	TM434							<0.002
PFDS (335-77-3)	<0.002 µg/l	TM434							<0.002
PFTrDA (72629-94-8)	<0.003 µg/l	TM434							<0.003
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434							<0.002
PFUnDS (749786-16-1)	<0.002 µg/l	TM434							<0.002
PFTeA (376-06-7)	<0.001 µg/l	TM434							<0.001
PFOSA (754-91-6)	<0.002 µg/l	TM434							<0.002
PFDoS (79780-39-5)	<0.002 µg/l	TM434							<0.002
PFTrDS (174675-49-1)	<0.001 µg/l	TM434							<0.001
PFHxDA (67905-19-5)	<0.001 µg/l	TM434							<0.001
MeFOSE (24448-09-7)	<0.01 µg/l	TM434							<0.01 ♦
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434							<0.001
EtFOSE (1691-99-2)	<0.01 µg/l	TM434							<0.01 ♦
PFODA (16517-11-6)	<0.001 µg/l	TM434							<0.001
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434							<0.001
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434							<0.01
Total PFOS	<0.00065 µg/l	TM434							<0.00065
Moisture Content Ratio (% of as received sample)	%	PM024		19	17	16	29	23	
Soil Organic Matter (SOM)	<0.35 %	TM132		2.4 #	2.38 #	3.05 #	5.17 #	4.22 #	
pH	1 pH Units	TM133		7.82 M	8.49 M	8.41 M	5.9 M	6.24 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

Results Legend
ISO17025 accredited.
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aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219	GR01-SP207A	GR01-SP207A	GR01-SP210A	GR01-SP210A	GR01-SP210A
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	20/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109925	31109882	31109884	31109909	31109912	31109966
			AGS Reference	ES	ES	ES	ES	ES	EW
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.52	1.37	1.66	0.949	1.78	
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219	GR01-SP207A	GR01-SP207A	GR01-SP210A	GR01-SP210A	GR01-SP210A
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	20/02/2025	19/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109925	31109882	31109884	31109909	31109912	31109966
			AGS Reference	ES	ES	ES	ES	ES	EW
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210A	GR01-SP226A	GR01-SP226A	GR01-SP226A	GR01-SP235A	GR01-SP235A
			Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109917	31109851	31109856	31109954	31109866	31109868
			AGS Reference	ES	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434					<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434					<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434					<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434					<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434					<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434					<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434					<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434					<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434					<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434					<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434					<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434					<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434					<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434					<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434					<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434					<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434					<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434					<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434					<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434					<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434					<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434					<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434					<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434					<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434					<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434					<0.002 ♦		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434					<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434					<0.00065		
Branched PFOS	<0.00065 µg/l	TM434					<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434					<0.002 ♦		
PFUnA (2058-94-8)	<0.002 µg/l	TM434					<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434					<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434					<0.001		

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210A	GR01-SP226A	GR01-SP226A	GR01-SP226A	GR01-SP235A	GR01-SP235A
			Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109917	31109851	31109856	31109954	31109866	31109868
			AGS Reference	ES	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434					<0.001		
PFDoA (307-55-1)	<0.002 µg/l	TM434					<0.002		
PFDS (335-77-3)	<0.002 µg/l	TM434					<0.002		
PFTrDA (72629-94-8)	<0.003 µg/l	TM434					<0.003		
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434					<0.002		
PFUnDS (749786-16-1)	<0.002 µg/l	TM434					<0.002		
PFTeA (376-06-7)	<0.001 µg/l	TM434					<0.001		
PFOSA (754-91-6)	<0.002 µg/l	TM434					<0.002		
PFDoS (79780-39-5)	<0.002 µg/l	TM434					<0.002		
PFTrDS (174675-49-1)	<0.001 µg/l	TM434					<0.001		
PFHxDA (67905-19-5)	<0.001 µg/l	TM434					<0.001		
MeFOSE (24448-09-7)	<0.01 µg/l	TM434					<0.01 ♦		
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434					<0.001		
EtFOSE (1691-99-2)	<0.01 µg/l	TM434					<0.01 ♦		
PFODA (16517-11-6)	<0.001 µg/l	TM434					<0.001		
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434					<0.001		
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434					<0.01		
Total PFOS	<0.00065 µg/l	TM434					<0.00065		
Moisture Content Ratio (% of as received sample)	%	PM024		18	27	19		23	22
Soil Organic Matter (SOM)	<0.35 %	TM132		0.865 #	4.97 #	1.62 #		6.84 #	7.5 #
pH	1 pH Units	TM133		6.61 M	6.35 M	7.21 M		7.26 M	7.23 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		1.11	1.56
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210A	GR01-SP226A	GR01-SP226A	GR01-SP226A	GR01-SP235A	GR01-SP235A
			Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109917	31109851	31109856	31109954	31109866	31109868
			AGS Reference	ES	ES	ES	EW	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.872	5.44	5.99		3.71	5.94
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		0.893	1.06
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	0.87
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		0.658	0.889
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP210A	GR01-SP226A	GR01-SP226A	GR01-SP226A	GR01-SP235A	GR01-SP235A
			Depth (m)	0.50 - 0.60	0.00 - 0.10	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	19/02/2025	19/02/2025	20/02/2025	19/02/2025	19/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109917	31109851	31109856	31109954	31109866	31109868
			AGS Reference	ES	ES	ES	EW	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	0.87
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51		<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207A	GR02-SP207A	GR02-SP207A	GR02-SP217A	GR02-SP217A	GR02-SP219A
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109896	31109962	31109898	31109935	31109960	31109932
			AGS Reference	ES	EW	ES	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002				
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001				
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002				
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001				
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001				
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001				
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003				
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001				
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001				
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002				
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001				
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001				
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001				
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005				
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001				
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001				
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001				
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065				
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001				
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001				
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001				
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001				
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002				
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005				
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002				
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦				
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005				
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065				
Branched PFOS	<0.00065 µg/l	TM434			<0.00065				
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦				
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002				
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001				
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001				

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207A	GR02-SP207A	GR02-SP207A	GR02-SP217A	GR02-SP217A	GR02-SP219A
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109896	31109962	31109898	31109935	31109960	31109932
			AGS Reference	ES	EW	ES	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001				
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002				
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002				
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003				
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002				
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002				
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001				
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002				
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002				
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001				
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001				
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 ♦				
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001				
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 ♦				
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001				
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001				
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01				
Total PFOS	<0.00065 µg/l	TM434			<0.00065				
Moisture Content Ratio (% of as received sample)	%	PM024	16		16	27	20	33	
Soil Organic Matter (SOM)	<0.35 %	TM132	4.1 #		2.03 #	4.24 #	1.47 #	14 #	
pH	1 pH Units	TM133	8.19 M		7.98 M	6.99 M	7.2 M	7.03 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8		<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	0.807	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8		<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1		<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207A	GR02-SP207A	GR02-SP207A	GR02-SP217A	GR02-SP217A	GR02-SP219A
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109896	31109962	31109898	31109935	31109960	31109932
			AGS Reference	ES	EW	ES	ES	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.22		3.21	6.49	5.53	1.81
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	0.927	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	1.42	1.06	0.941
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	1.26	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP207A	GR02-SP207A	GR02-SP207A	GR02-SP217A	GR02-SP217A	GR02-SP219A
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/02/2025	20/02/2025	19/02/2025	19/02/2025	19/02/2025	20/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60	250221-60	250221-60	250221-60	250221-60
			Lab Sample No.(s)	31109896	31109962	31109898	31109935	31109960	31109932
			AGS Reference	ES	EW	ES	ES	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51		<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219A	GR02-SP219A				
			Depth (m)	0.30 - 0.40	0.30 - 0.40				
			Sample Type	Soil/Solid (S)	Process Water (PR)				
			Date Sampled	20/02/2025	20/02/2025				
			Sample Time	.	.				
			Date Received	21/02/2025	21/02/2025				
			SDG Ref	250221-60	250221-60				
			Lab Sample No.(s)	31109938	31109970				
			AGS Reference	ES	EW				
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002				
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001				
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002				
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001				
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001				
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001				
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003				
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001				
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001				
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002				
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001				
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001				
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001				
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005				
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001				
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001				
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001				
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065				
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001				
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001				
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001				
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001				
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002				
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005				
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002				
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦				
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005				
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065				
Branched PFOS	<0.00065 µg/l	TM434			<0.00065				
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦				
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002				
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001				
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001				

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219A	GR02-SP219A				
			Depth (m)	0.30 - 0.40	0.30 - 0.40				
			Sample Type	Soil/Solid (S)	Process Water (PR)				
			Date Sampled	20/02/2025	20/02/2025				
			Sample Time	.	.				
			Date Received	21/02/2025	21/02/2025				
			SDG Ref	250221-60	250221-60				
			Lab Sample No.(s)	31109938	31109970				
			AGS Reference	ES	EW				
FHxSA (41997-13-1)	<0.001 µg/l	TM434		<0.001					
PFDoA (307-55-1)	<0.002 µg/l	TM434		<0.002					
PFDS (335-77-3)	<0.002 µg/l	TM434		<0.002					
PFTrDA (72629-94-8)	<0.003 µg/l	TM434		<0.003					
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434		<0.002					
PFUnDS (749786-16-1)	<0.002 µg/l	TM434		<0.002					
PFTeA (376-06-7)	<0.001 µg/l	TM434		<0.001					
PFOSA (754-91-6)	<0.002 µg/l	TM434		<0.002					
PFDoS (79780-39-5)	<0.002 µg/l	TM434		<0.002					
PFTrDS (174675-49-1)	<0.001 µg/l	TM434		<0.001					
PFHxDA (67905-19-5)	<0.001 µg/l	TM434		<0.001					
MeFOSE (24448-09-7)	<0.01 µg/l	TM434		<0.01 ♦					
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434		<0.001					
EtFOSE (1691-99-2)	<0.01 µg/l	TM434		<0.01 ♦					
PFODA (16517-11-6)	<0.001 µg/l	TM434		<0.001					
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434		<0.001					
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434		<0.01					
Total PFOS	<0.00065 µg/l	TM434		<0.00065					
Moisture Content Ratio (% of as received sample)	%	PM024	20						
Soil Organic Matter (SOM)	<0.35 %	TM132	3.65 #						
pH	1 pH Units	TM133	7.12 M						
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5						
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5						
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8						
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5						
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5						
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5						
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8						
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5						
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5						
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1						
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5						
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440	<0.5						

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219A	GR02-SP219A				
			Depth (m)	0.30 - 0.40	0.30 - 0.40				
			Sample Type	Soil/Solid (S)	Process Water (PR)				
			Date Sampled	20/02/2025	20/02/2025				
			Sample Time	.	.				
			Date Received	21/02/2025	21/02/2025				
			SDG Ref	250221-60	250221-60				
			Lab Sample No.(s)	31109938	31109970				
			AGS Reference	ES	EW				
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5					
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5					
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5					
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5					
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.75					
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5					
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5					
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10					
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5					
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5					
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6					
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9					
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4					
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5					
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5					
Branched PFOS	<0.6 µg/kg	TM440		<0.6					
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6					
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5					
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4					
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5					
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5					
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8					
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5					
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5					
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6					
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6					
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6					
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7					
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5					
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5					
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5					
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5					
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5					

CERTIFICATE OF ANALYSIS

SDG: 250221-60 **Report Number:** 760973 **Superseded Report:** 757851
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
***	6:2 FTAB (see appendix)
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP219A	GR02-SP219A
			Depth (m)	0.30 - 0.40	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Process Water (PR)
			Date Sampled	20/02/2025	20/02/2025
			Sample Time	.	.
			Date Received	21/02/2025	21/02/2025
			SDG Ref	250221-60	250221-60
			Lab Sample No.(s)	31109938	31109970
			AGS Reference	ES	EW
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	
Total PFOS	<0.6 µg/kg	TM440		<0.6	
Total Identified PFAS	<51 µg/kg	TM440		<51	

Table of Results - Appendix

Method No	Description
TM440	
TM434	Analysis of PFAS
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

Lab Sample No(s)	31109946	31109948	31109974	31109871	31109878	31109904	31109906	31109983	31109986	31109990
Customer Sample Ref.	GR01-SP203	GR01-SP203	GR01-SP203	GR01-SP207	GR01-SP207	GR01-SP210	GR01-SP210	GR01-SP226	GR01-SP226	GR01-SP226
AGS Ref.	ES	ES	EW	ES	ES	ES	ES	ES	ES	ES
Depth	0.20 - 0.30	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025	28-Feb-2025		27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	28-Feb-2025
PFAS Liquids (Full Suite)			27-Feb-2025							
pH	04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025
Sample description	21-Feb-2025	21-Feb-2025		22-Feb-2025	22-Feb-2025	21-Feb-2025	22-Feb-2025	21-Feb-2025	21-Feb-2025	21-Feb-2025
Total Organic Carbon	27-Feb-2025	27-Feb-2025		26-Feb-2025	26-Feb-2025	26-Feb-2025	27-Feb-2025	27-Feb-2025	26-Feb-2025	26-Feb-2025

Lab Sample No(s)	31109860	31109862	31109886	31109849	31109876	31109900	31109950	31109920	31109925	31109882
Customer Sample Ref.	GR01-SP235	GR01-SP235	GR02-SP207	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP217	GR02-SP219	GR02-SP219	GR01-SP207A
AGS Ref.	ES	ES	ES	ES	ES	ES	EW	ES	ES	ES
Depth	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.30 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	28-Feb-2025	27-Feb-2025		27-Feb-2025	28-Feb-2025	27-Feb-2025
PFAS Liquids (Full Suite)							27-Feb-2025			
pH	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025	04-Mar-2025
Sample description	21-Feb-2025	22-Feb-2025	22-Feb-2025	22-Feb-2025	21-Feb-2025	22-Feb-2025		22-Feb-2025	21-Feb-2025	22-Feb-2025
Total Organic Carbon	26-Feb-2025	26-Feb-2025	26-Feb-2025	27-Feb-2025	26-Feb-2025	26-Feb-2025		26-Feb-2025	26-Feb-2025	26-Feb-2025

Lab Sample No(s)	31109884	31109909	31109912	31109917	31109966	31109851	31109856	31109954	31109866	31109868
Customer Sample Ref.	GR01-SP207A	GR01-SP210A	GR01-SP210A	GR01-SP210A	GR01-SP210A	GR01-SP226A	GR01-SP226A	GR01-SP226A	GR01-SP235A	GR01-SP235A
AGS Ref.	ES	ES	ES	ES	EW	ES	ES	EW	ES	ES
Depth	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.20 - 0.30	0.00 - 0.10	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025		28-Feb-2025	28-Feb-2025		28-Feb-2025	28-Feb-2025
PFAS Liquids (Full Suite)					27-Feb-2025			27-Feb-2025		
pH	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025
Sample description	21-Feb-2025	22-Feb-2025	22-Feb-2025	22-Feb-2025		21-Feb-2025	21-Feb-2025		21-Feb-2025	21-Feb-2025
Total Organic Carbon	26-Feb-2025	26-Feb-2025	27-Feb-2025	26-Feb-2025		26-Feb-2025	26-Feb-2025		27-Feb-2025	27-Feb-2025

Lab Sample No(s)	31109896	31109898	31109962	31109935	31109960	31109932	31109938	31109970
Customer Sample Ref.	GR02-SP207A	GR02-SP207A	GR02-SP207A	GR02-SP217A	GR02-SP217A	GR02-SP219A	GR02-SP219A	GR02-SP219A
AGS Ref.	ES	ES	EW	ES	ES	ES	ES	EW
Depth	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.30 - 0.40	0.30 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process
PFAS in soils	27-Feb-2025	27-Feb-2025		27-Feb-2025	28-Feb-2025	27-Feb-2025	28-Feb-2025	
PFAS Liquids (Full Suite)			27-Feb-2025					27-Feb-2025
pH	04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	
Sample description	22-Feb-2025	22-Feb-2025		22-Feb-2025	21-Feb-2025	21-Feb-2025	21-Feb-2025	
Total Organic Carbon	26-Feb-2025	26-Feb-2025		26-Feb-2025	26-Feb-2025	26-Feb-2025	26-Feb-2025	

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3190	QC 3169
10:2 FTS (Raw)	TM440	**87.66** 53.10 : 140.00	**92.65** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**80.49** 53.56 : 141.19	**85.45** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**78.23** 50.54 : 133.25	**78.46** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**91.58** 56.34 : 145.91	**100.08** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**14.43** 52.66 : 130.08	**14.76** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**29.21** 38.50 : 101.50	**32.56** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**88.38** 54.79 : 144.46	**92.22** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**15.78** 48.60 : 128.14	**16.59** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**92.44** 56.03 : 147.72	**91.96** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**83.92** 55.74 : 146.96	**89.4** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**82.98** 54.59 : 143.91	**87.85** 54.59 : 143.91
ADONA (Raw)	TM440	**81.47** 54.01 : 132.33	**83.38** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**80.6** 54.09 : 142.61	**84.91** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**91.49** 52.48 : 138.36	**99.03** 52.48 : 138.36
EtFOSE (Raw)	TM440	**84.79** 57.05 : 145.29	**89.35** 57.05 : 145.29
FBSA (Raw)	TM440	**77.75** 49.51 : 125.13	**87.19** 49.51 : 125.13
FHxSA (Raw)	TM440	**78.84** 50.38 : 132.82	**87.0** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**101.76** 53.47 : 140.98	**106.64** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**101.06** 54.77 : 144.39	**103.43** 54.77 : 144.39
L-PFOS (Raw)	TM440	**80.6** 54.09 : 142.61	**84.91** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**87.21** 53.02 : 139.78	**99.09** 53.02 : 139.78
MeFOSE (Raw)	TM440	**88.69** 54.99 : 144.97	**88.54** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**90.32** 59.56 : 132.93	**106.37** 59.56 : 132.93
NFDHA (Raw)	TM440	**73.77** 57.35 : 151.20	**78.26** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**99.57** 59.19 : 133.01	**113.96** 59.19 : 133.01
PFBA (Raw)	TM440	**83.66** 52.69 : 138.91	**84.27** 52.69 : 138.91

PFAS in soils

		QC 3190	QC 3169
PFBS (Raw)	TM440	**84.81** 53.31 : 140.54	**88.15** 53.31 : 140.54
PFDA (Raw)	TM440	**85.48** 53.39 : 140.76	**93.31** 53.39 : 140.76
PFDoA (Raw)	TM440	**95.81** 52.85 : 139.34	**94.63** 52.85 : 139.34
PFDoS (Raw)	TM440	**82.12** 55.29 : 145.76	**87.82** 55.29 : 145.76
PFDS (Raw)	TM440	**80.71** 52.94 : 139.56	**84.03** 52.94 : 139.56
PFecHS (Raw)	TM440	**78.02** 50.75 : 133.80	**87.66** 50.75 : 133.80
PFEESA (Raw)	TM440	**81.64** 50.87 : 134.12	**83.42** 50.87 : 134.12
PFHpA (Raw)	TM440	**81.74** 52.61 : 138.69	**82.04** 52.61 : 138.69
PFHpS (Raw)	TM440	**89.72** 55.29 : 145.76	**98.16** 55.29 : 145.76
PFHxA (Raw)	TM440	**83.34** 54.05 : 142.50	**85.26** 54.05 : 142.50
PFHxDA (Raw)	TM440	**83.68** 52.03 : 137.17	**94.96** 52.03 : 137.17
PFHxS (Raw)	TM440	**83.75** 53.56 : 141.19	**86.91** 53.56 : 141.19
PFMOBA (Raw)	TM440	**82.34** 52.73 : 139.02	**85.94** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**81.28** 52.57 : 138.58	**86.9** 52.57 : 138.58
PFNA (Raw)	TM440	**81.25** 52.94 : 139.56	**83.91** 52.94 : 139.56
PFNS (Raw)	TM440	**86.03** 54.38 : 143.37	**88.28** 54.38 : 143.37
PFOA (Raw)	TM440	**88.11** 53.80 : 141.85	**98.86** 53.80 : 141.85
PFODA (Raw)	TM440	**95.17** 56.03 : 147.72	**96.32** 56.03 : 147.72
PFOSA (Raw)	TM440	**87.77** 53.10 : 140.00	**93.28** 53.10 : 140.00
PFPA (Raw)	TM440	**83.49** 53.89 : 142.06	**90.25** 53.89 : 142.06
PFPeS (Raw)	TM440	**78.25** 54.30 : 143.15	**90.66** 54.30 : 143.15
PFTeA (Raw)	TM440	**88.46** 53.06 : 139.89	**93.46** 53.06 : 139.89
PFTrDA (Raw)	TM440	**85.4** 51.70 : 136.30	**88.35** 51.70 : 136.30
PFTrDS (Raw)	TM440	**76.59** 56.24 : 148.26	**85.49** 56.24 : 148.26
PFUnA (Raw)	TM440	**83.53** 53.35 : 140.65	**99.48** 53.35 : 140.65
PFUnDS (Raw)	TM440	**83.14** 53.60 : 141.30	**90.01** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3158
11Cl-PF3OUdS (763051-92-9)	TM434	**116.37** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**121.25** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**104.38** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**106.63** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**87.38** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**100.88** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**104.13** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**100.0** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**106.88** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**105.13** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**96.5** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**95.13** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**113.13** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**112.12** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**96.88** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**102.0** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**106.63** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**98.25** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**95.5** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**90.38** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**95.12** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**101.75** 62.71 : 118.96
PFBA (375-22-4)	TM434	**101.13** 67.84 : 130.39
PFBS (375-73-5)	TM434	**109.75** 90.25 : 126.25
PFDA (335-76-2)	TM434	**99.75** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**105.63** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**100.38** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3158
PFDS (335-77-3)	TM434	**110.63** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**118.75** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**119.75** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**109.62** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**112.38** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**103.87** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**105.38** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**110.63** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**110.38** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**106.13** 64.06 : 130.06
PFNA (375-95-1)	TM434	**103.0** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**113.87** 70.70 : 130.93
PFOA (335-67-1)	TM434	**107.75** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**115.38** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**102.75** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**107.5** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**107.25** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**108.75** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**116.25** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**103.75** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**103.37** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**115.13** 85.84 : 139.76

pH

Component	Method Code	QC 3136	QC 3144	QC 3140	QC 3138	QC 3142
pH	TM133	**98.16** 95.80 : 103.76	**97.42** 95.80 : 103.76	**97.42** 95.80 : 103.76	**98.34** 95.80 : 103.76	**97.97** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3118	QC 3193	QC 3127	QC 3147
Total Organic Carbon	TM132	**98.54** 93.61 : 106.00	**97.81** 93.61 : 106.00	**98.54** 93.61 : 106.00	**97.81** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250222-35
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760974
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 758912 in its entirety.

We received 40 samples on Saturday February 22, 2025 and 33 of these samples were scheduled for analysis which was completed on Thursday March 13, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

1291

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31114352	GR01-SP201	ES	0.00 - 0.10	21/02/2025
31114354	GR01-SP201	ES	0.20 - 0.30	21/02/2025
31114357	GR01-SP201	ES	0.40 - 0.50	21/02/2025
31114415	GR01-SP204	ES	0.00 - 0.10	21/02/2025
31114417	GR01-SP204	ES	0.30 - 0.40	21/02/2025
31114419	GR01-SP204	ES	0.40 - 0.50	21/02/2025
31114402	GR01-SP209	ES	0.00 - 0.10	21/02/2025
31114380	GR01-SP221	ES	0.00 - 0.10	21/02/2025
31114387	GR01-SP221	ES	0.20 - 0.30	21/02/2025
31114393	GR01-SP221	ES	0.40 - 0.50	21/02/2025
31114365	GR01-SP227	ES	0.00 - 0.10	21/02/2025
31114434	GR01-SP227	EW	0.10 - 0.20	21/02/2025
31114367	GR01-SP227	ES	0.20 - 0.30	21/02/2025
31114369	GR01-SP227	ES	0.40 - 0.50	21/02/2025
31114432	GR01-SP232	ES	0.00 - 0.10	21/02/2025
31114439	GR01-SP232	ES	0.30 - 0.40	21/02/2025
31114441	GR01-SP232	ES	0.40 - 0.50	21/02/2025
31114359	GR01-SP201A	ES	0.10 - 0.20	21/02/2025
31114361	GR01-SP201A	ES	0.30 - 0.40	21/02/2025
31114363	GR01-SP201A	ES	0.50 - 0.60	21/02/2025
31114428	GR01-SP201A	EW	0.50 - 0.60	21/02/2025
31114350	GR01-SP203A	ES	0.10 - 0.20	20/02/2025
31114373	GR01-SP203A	ES	0.30 - 0.40	20/02/2025
31114407	GR01-SP203A	ES	0.50 - 0.60	20/02/2025
31114421	GR01-SP204A	ES	0.10 - 0.20	21/02/2025
31114423	GR01-SP204A	ES	0.20 - 0.30	21/02/2025
31114426	GR01-SP204A	ES	0.50 - 0.60	21/02/2025
31114404	GR01-SP209A	ES	0.00 - 0.10	21/02/2025
31114396	GR01-SP221A	ES	0.10 - 0.20	21/02/2025
31114398	GR01-SP221A	ES	0.30 - 0.40	21/02/2025
31114400	GR01-SP221A	ES	0.50 - 0.60	21/02/2025
31114371	GR01-SP227A	ES	0.10 - 0.20	21/02/2025
31114375	GR01-SP227A	ES	0.30 - 0.40	21/02/2025
31114377	GR01-SP227A	ES	0.50 - 0.60	21/02/2025
31114443	GR01-SP232A	ES	0.10 - 0.20	21/02/2025
31114445	GR01-SP232A	ES	0.20 - 0.30	21/02/2025
31114447	GR01-SP232A	ES	0.50 - 0.60	21/02/2025
31114409	GR01-SP209B	ES	0.10 - 0.20	21/02/2025
31114411	GR01-SP209B	ES	0.30 - 0.40	21/02/2025
31114413	GR01-SP209B	ES	0.50 - 0.60	21/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912

Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 31	31114352	GR01-SP201	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31114354	GR01-SP201	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31114357	GR01-SP201	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31114417	GR01-SP204	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31114419	GR01-SP204	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31114402	GR01-SP209	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31114387	GR01-SP221	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31114393	GR01-SP221	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31114365	GR01-SP227	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31114434	GR01-SP227	EW	0.10 - 0.20	Digitube fo PFAS analysis.	PW
			31114367	GR01-SP227	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31114369	GR01-SP227	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31114432	GR01-SP232	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31114439	GR01-SP232	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31114441	GR01-SP232	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31114359	GR01-SP201A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31114363	GR01-SP201A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31114428	GR01-SP201A	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW
			31114350	GR01-SP203A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			X	X	X	X	X		X		X	X	X	X	X	X	X		X
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 2									X								
																		X	
pH	All	NDPs: 0 Tests: 31	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X
Sample description	All	NDPs: 0 Tests: 30	X		X	X	X	X	X	X	X		X	X	X	X	X	X	X		X
Total Organic Carbon	All	NDPs: 0 Tests: 31	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X

31114413	GR01-SP209B	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114411	GR01-SP209B	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114445	GR01-SP232A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114443	GR01-SP232A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114375	GR01-SP227A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114371	GR01-SP227A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114400	GR01-SP221A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114398	GR01-SP221A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114396	GR01-SP221A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114404	GR01-SP209A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114426	GR01-SP204A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114423	GR01-SP204A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114421	GR01-SP204A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X			X		X		X
31114373	GR01-SP203A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X			X		X		X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31114352	GR01-SP201	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31114354	GR01-SP201	0.20 - 0.30	Light Brown	Sandy Loam	Brick	Vegetation
31114357	GR01-SP201	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Tile/Insulation Board
31114417	GR01-SP204	0.30 - 0.40	Dark Brown	Silty Clay Loam	Stones	Vegetation
31114419	GR01-SP204	0.40 - 0.50	Light Brown	Silt Loam	Stones	Vegetation
31114402	GR01-SP209	0.00 - 0.10	Dark Brown	Sandy Loam	Vegetation	Glass
31114387	GR01-SP221	0.20 - 0.30	Dark Brown	Sandy Loam	Vegetation	None
31114393	GR01-SP221	0.40 - 0.50	Dark Brown	Sandy Loam	Vegetation	None
31114365	GR01-SP227	0.00 - 0.10	Dark Brown	Sandy Loam	Vegetation	Stones
31114367	GR01-SP227	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31114369	GR01-SP227	0.40 - 0.50	Light Brown	Silty Clay Loam	Vegetation	None
31114432	GR01-SP232	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31114439	GR01-SP232	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31114441	GR01-SP232	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31114359	GR01-SP201A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31114363	GR01-SP201A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Brick
31114350	GR01-SP203A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31114373	GR01-SP203A	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31114421	GR01-SP204A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Stones	Vegetation
31114423	GR01-SP204A	0.20 - 0.30	Dark Brown	Sandy Loam	Vegetation	None
31114426	GR01-SP204A	0.50 - 0.60	Light Brown	Silty Clay Loam	Vegetation	None
31114404	GR01-SP209A	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31114396	GR01-SP221A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31114398	GR01-SP221A	0.30 - 0.40	Dark Brown	Silty Clay Loam	Stones	None
31114400	GR01-SP221A	0.50 - 0.60	Dark Brown	Sandy Loam	Stones	Vegetation
31114371	GR01-SP227A	0.10 - 0.20	Dark Brown	Sandy Loam	Vegetation	Stones
31114375	GR01-SP227A	0.30 - 0.40	Dark Brown	Sandy Loam	Vegetation	None
31114443	GR01-SP232A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31114445	GR01-SP232A	0.20 - 0.30	Dark Brown	Silty Clay Loam	Stones	Vegetation
31114411	GR01-SP209B	0.30 - 0.40	Light Brown	Sandy Loam	Vegetation	None
31114413	GR01-SP209B	0.50 - 0.60	Light Brown	Sandy Loam	Vegetation	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP201	GR01-SP201	GR01-SP201	GR01-SP204	GR01-SP204	GR01-SP209
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114352	31114354	31114357	31114417	31114419	31114402
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		28	15	15	23	21	25
Soil Organic Matter (SOM)	<0.35 %	TM132		9.67 #	0.967 #	2.43 #	4.24 #	2.9 #	4.59 #
pH	1 pH Units	TM133		7.84 M	8.72 M	8.63 M	7.24 M	7.3 M	5.29 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		1.71	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.65	2.5	4.35	1.84	2.04	<0.5
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		1.01	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP201	GR01-SP201	GR01-SP201	GR01-SP204	GR01-SP204	GR01-SP209
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114352	31114354	31114357	31114417	31114419	31114402
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		1.01	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		-	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221	GR01-SP221	GR01-SP227	GR01-SP227	GR01-SP227	GR01-SP227
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114387	31114393	31114365	31114434	31114367	31114369
			AGS Reference	ES	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434					<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434					<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434					<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434					<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434					<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434					<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434					<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434					<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434					<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434					<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434					<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434					<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434					<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434					<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434					<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434					<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434					<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434					<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434					<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434					<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434					<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434					<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434					<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434					<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434					<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434					<0.002 ♦		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434					<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434					<0.00065		
Branched PFOS	<0.00065 µg/l	TM434					<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434					<0.002 ♦		
PFUnA (2058-94-8)	<0.002 µg/l	TM434					<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434					<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434					<0.001		

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221	GR01-SP221	GR01-SP227	GR01-SP227	GR01-SP227	GR01-SP227
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114387	31114393	31114365	31114434	31114367	31114369
			AGS Reference	ES	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434					<0.001		
PFDoA (307-55-1)	<0.002 µg/l	TM434					<0.002		
PFDS (335-77-3)	<0.002 µg/l	TM434					<0.002		
PFTrDA (72629-94-8)	<0.003 µg/l	TM434					<0.003		
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434					<0.002		
PFUnDS (749786-16-1)	<0.002 µg/l	TM434					<0.002		
PFTeA (376-06-7)	<0.001 µg/l	TM434					<0.001		
PFOSA (754-91-6)	<0.002 µg/l	TM434					<0.002		
PFDoS (79780-39-5)	<0.002 µg/l	TM434					<0.002		
PFTrDS (174675-49-1)	<0.001 µg/l	TM434					<0.001		
PFHxDA (67905-19-5)	<0.001 µg/l	TM434					0.00153		
MeFOSE (24448-09-7)	<0.01 µg/l	TM434					<0.01 ♦		
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434					<0.001		
EtFOSE (1691-99-2)	<0.01 µg/l	TM434					<0.01 ♦		
PFODA (16517-11-6)	<0.001 µg/l	TM434					<0.001		
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434					<0.001		
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434					<0.01		
Total PFOS	<0.00065 µg/l	TM434					<0.00065		
Moisture Content Ratio (% of as received sample)	%	PM024		18	22	25		21	19
Soil Organic Matter (SOM)	<0.35 %	TM132		2.29 #	4.9 #	3.02 #		2.36 #	1.23 #
pH	1 pH Units	TM133		8.24 M	7.91 M	6.04 M		6.31 M	6.8 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		0.688	1.63	<0.5		<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221	GR01-SP221	GR01-SP227	GR01-SP227	GR01-SP227	GR01-SP227
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114387	31114393	31114365	31114434	31114367	31114369
			AGS Reference	ES	ES	ES	EW	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.15	41.7	3.6		4.58	3.03
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	0.897	<0.5		<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		0.816	0.876	1.04		<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221	GR01-SP221	GR01-SP227	GR01-SP227	GR01-SP227	GR01-SP227
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114387	31114393	31114365	31114434	31114367	31114369
			AGS Reference	ES	ES	ES	EW	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		0.816	0.876	1.04		<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51		-	<51

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232	GR01-SP232	GR01-SP232	GR01-SP201A	GR01-SP201A	GR01-SP201A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114432	31114439	31114441	31114359	31114363	31114428
			AGS Reference	ES	ES	ES	ES	ES	EW
PFBA (375-22-4)	<0.002 µg/l	TM434							<0.002
PFMOPrA (377-73-1)	<0.001 µg/l	TM434							<0.001
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434							<0.002
PFPA (2706-90-3)	<0.001 µg/l	TM434							<0.001
PFMOBA (863090-89-5)	<0.001 µg/l	TM434							<0.001
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434							<0.001
NFDHA (151772-58-6)	<0.003 µg/l	TM434							<0.003
PFBS (375-73-5)	<0.001 µg/l	TM434							<0.001
PFHxA (307-24-4)	<0.001 µg/l	TM434							<0.001
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434							<0.002
PFEESA (113507-82-7)	<0.001 µg/l	TM434							<0.001
PFHpA (375-85-9)	<0.001 µg/l	TM434							<0.001
PFPeS (2706-91-4)	<0.001 µg/l	TM434							<0.001
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434							<0.005
ADONA (919005-14-4)	<0.001 µg/l	TM434							<0.001
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434							<0.001
FBSA (30334-69-1)	<0.001 µg/l	TM434							<0.001
PFOA (335-67-1)	<0.00065 µg/l	TM434							<0.00065
PFHxS (355-46-4)	<0.001 µg/l	TM434							<0.001
PFNA (375-95-1)	<0.001 µg/l	TM434							<0.001
PFecHS (133201-07-7)	<0.001 µg/l	TM434							<0.001
PFHpS (375-92-8)	<0.001 µg/l	TM434							<0.001
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434							<0.002
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434							<0.005
PFDA (335-76-2)	<0.002 µg/l	TM434							<0.002
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434							<0.002 ♦
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434							<0.005
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434							<0.00065
Branched PFOS	<0.00065 µg/l	TM434							<0.00065
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434							<0.002 ♦
PFUnA (2058-94-8)	<0.002 µg/l	TM434							<0.002
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434							<0.001
PFNS (68259-12-1)	<0.001 µg/l	TM434							<0.001

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232	GR01-SP232	GR01-SP232	GR01-SP201A	GR01-SP201A	GR01-SP201A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114432	31114439	31114441	31114359	31114363	31114428
			AGS Reference	ES	ES	ES	ES	ES	EW
FHxSA (41997-13-1)	<0.001 µg/l	TM434							<0.001
PFDoA (307-55-1)	<0.002 µg/l	TM434							<0.002
PFDS (335-77-3)	<0.002 µg/l	TM434							<0.002
PFTrDA (72629-94-8)	<0.003 µg/l	TM434							<0.003
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434							<0.002
PFUnDS (749786-16-1)	<0.002 µg/l	TM434							<0.002
PFTeA (376-06-7)	<0.001 µg/l	TM434							<0.001
PFOSA (754-91-6)	<0.002 µg/l	TM434							<0.002
PFDoS (79780-39-5)	<0.002 µg/l	TM434							<0.002
PFTrDS (174675-49-1)	<0.001 µg/l	TM434							<0.001
PFHxDA (67905-19-5)	<0.001 µg/l	TM434							<0.001
MeFOSE (24448-09-7)	<0.01 µg/l	TM434							<0.01 ♦
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434							<0.001
EtFOSE (1691-99-2)	<0.01 µg/l	TM434							<0.01 ♦
PFODA (16517-11-6)	<0.001 µg/l	TM434							<0.001
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434							<0.001
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434							<0.01
Total PFOS	<0.00065 µg/l	TM434							<0.00065
Moisture Content Ratio (% of as received sample)	%	PM024		20	23	21	15	15	
Soil Organic Matter (SOM)	<0.35 %	TM132		5.24 #	4.03 #	4.17 #	2.36 #	4.05 #	
pH	1 pH Units	TM133		8.22 M	8.1 M	7.65 M	8.48 M	8.58 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	0.607	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	0.697	<0.5	<0.5	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232	GR01-SP232	GR01-SP232	GR01-SP201A	GR01-SP201A	GR01-SP201A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114432	31114439	31114441	31114359	31114363	31114428
			AGS Reference	ES	ES	ES	ES	ES	EW
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
PFOA (335-67-1)	<0.5 µg/kg	TM440		8.09	15.2	144	0.923	3.51	
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	0.898	<0.6	<0.6	
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232	GR01-SP232	GR01-SP232	GR01-SP201A	GR01-SP201A	GR01-SP201A
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114432	31114439	31114441	31114359	31114363	31114428
			AGS Reference	ES	ES	ES	ES	ES	EW
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	0.898	<0.6	<0.6	
Total Identified PFAS	<51 µg/kg	TM440		<51	-	127	<51	<51	

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203A	GR01-SP203A	GR01-SP204A	GR01-SP204A	GR01-SP204A	GR01-SP209A
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114350	31114373	31114421	31114423	31114426	31114404
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		22	21	23	21	18	22
Soil Organic Matter (SOM)	<0.35 %	TM132		3.91 #	2.93 #	4.97 #	2.47 #	0.876 #	2.59 #
pH	1 pH Units	TM133		8.25 M	8.05 M	7.96 M	7.8 M	7.83 M	6.57 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	0.781	0.788	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.892	1.06	2.08	1.98	1.17	1.52
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP203A	GR01-SP203A	GR01-SP204A	GR01-SP204A	GR01-SP204A	GR01-SP209A
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	20/02/2025	20/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114350	31114373	31114421	31114423	31114426	31114404
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	-

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221A	GR01-SP221A	GR01-SP221A	GR01-SP227A	GR01-SP227A	GR01-SP232A
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114396	31114398	31114400	31114371	31114375	31114443
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		15	18	21	22	19	17
Soil Organic Matter (SOM)	<0.35 %	TM132		3.5 #	3.29 #	4.45 #	3.43 #	2.34 #	2.88 #
pH	1 pH Units	TM133		8.12 M	8.28 M	8.06 M	5.96 M	6.61 M	8.4 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		1.36	0.903	1.47	0.827	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.25	2.88	12.8	3.75	4.02	2.58
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	0.754	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	1.07	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP221A	GR01-SP221A	GR01-SP221A	GR01-SP227A	GR01-SP227A	GR01-SP232A
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025	21/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025	22/02/2025
			SDG Ref	250222-35	250222-35	250222-35	250222-35	250222-35	250222-35
			Lab Sample No.(s)	31114396	31114398	31114400	31114371	31114375	31114443
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	1.07	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		-	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232A	GR01-SP209B	GR01-SP209B			
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	21/02/2025	21/02/2025	21/02/2025			
			Sample Time	.	.	.			
			Date Received	22/02/2025	22/02/2025	22/02/2025			
			SDG Ref	250222-35	250222-35	250222-35			
			Lab Sample No.(s)	31114445	31114411	31114413			
			AGS Reference	ES	ES	ES			
Moisture Content Ratio (% of as received sample)	%	PM024		18	17	20			
Soil Organic Matter (SOM)	<0.35 %	TM132		2.88 #	2.28 #	1.54 #			
pH	1 pH Units	TM133		8.08 M	6.31 M	6.92 M			
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8			
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8			
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1			
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.27	1.26	1.32			
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10			
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9			
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4			
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP232A	GR01-SP209B	GR01-SP209B			
			Depth (m)	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	21/02/2025	21/02/2025	21/02/2025			
			Sample Time	.	.	.			
			Date Received	22/02/2025	22/02/2025	22/02/2025			
			SDG Ref	250222-35	250222-35	250222-35			
			Lab Sample No.(s)	31114445	31114411	31114413			
			AGS Reference	ES	ES	ES			
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4			
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8			
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7			
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5			
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9			
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5			
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51			

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	
TM434	Analysis of PFAS

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

Lab Sample No(s)	31114352	31114354	31114357	31114417	31114419	31114402	31114387	31114393	31114365	31114367
Customer Sample Ref.	GR01-SP201	GR01-SP201	GR01-SP201	GR01-SP204	GR01-SP204	GR01-SP209	GR01-SP221	GR01-SP221	GR01-SP227	GR01-SP227
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	10-Mar-2025	06-Mar-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025	10-Mar-2025	28-Feb-2025	28-Feb-2025	06-Mar-2025	10-Mar-2025
pH	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025
Sample description	25-Feb-2025	26-Feb-2025	26-Feb-2025	26-Feb-2025	25-Feb-2025	26-Feb-2025	25-Feb-2025	25-Feb-2025	26-Feb-2025	25-Feb-2025
Total Organic Carbon	03-Mar-2025	28-Feb-2025	28-Feb-2025	03-Mar-2025	27-Feb-2025	28-Feb-2025	03-Mar-2025	27-Feb-2025	28-Feb-2025	27-Feb-2025

Lab Sample No(s)	31114369	31114434	31114432	31114439	31114441	31114359	31114363	31114428	31114350	31114373
Customer Sample Ref.	GR01-SP227	GR01-SP227	GR01-SP232	GR01-SP232	GR01-SP232	GR01-SP201A	GR01-SP201A	GR01-SP201A	GR01-SP203A	GR01-SP203A
AGS Ref.	ES	EW	ES	ES	ES	ES	ES	EW	ES	ES
Depth	0.40 - 0.50	0.10 - 0.20	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
Type	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025		28-Feb-2025	10-Mar-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025		28-Feb-2025	06-Mar-2025
PFAS Liquids (Full Suite)		13-Mar-2025						13-Mar-2025		
pH	04-Mar-2025		04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025		04-Mar-2025	04-Mar-2025
Sample description	26-Feb-2025		25-Feb-2025	25-Feb-2025	25-Feb-2025	25-Feb-2025	26-Feb-2025		25-Feb-2025	26-Feb-2025
Total Organic Carbon	03-Mar-2025		03-Mar-2025	27-Feb-2025	03-Mar-2025	03-Mar-2025	28-Feb-2025		27-Feb-2025	03-Mar-2025

Lab Sample No(s)	31114421	31114423	31114426	31114404	31114396	31114398	31114400	31114371	31114375	31114443
Customer Sample Ref.	GR01-SP204A	GR01-SP204A	GR01-SP204A	GR01-SP209A	GR01-SP221A	GR01-SP221A	GR01-SP221A	GR01-SP227A	GR01-SP227A	GR01-SP232A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025	28-Feb-2025	28-Feb-2025	10-Mar-2025	10-Mar-2025	28-Feb-2025	28-Feb-2025	10-Mar-2025	28-Feb-2025	28-Feb-2025
pH	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025
Sample description	26-Feb-2025	25-Feb-2025	26-Feb-2025	25-Feb-2025	25-Feb-2025	26-Feb-2025	25-Feb-2025	26-Feb-2025	25-Feb-2025	25-Feb-2025
Total Organic Carbon	03-Mar-2025	03-Mar-2025	03-Mar-2025	27-Feb-2025	27-Feb-2025	28-Feb-2025	27-Feb-2025	28-Feb-2025	03-Mar-2025	27-Feb-2025

Lab Sample No(s)	31114445	31114411	31114413
Customer Sample Ref.	GR01-SP232A	GR01-SP209B	GR01-SP209B
AGS Ref.	ES	ES	ES
Depth	0.20 - 0.30	0.30 - 0.40	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	28-Feb-2025	10-Mar-2025	10-Mar-2025
pH	04-Mar-2025	04-Mar-2025	04-Mar-2025
Sample description	26-Feb-2025	26-Feb-2025	26-Feb-2025
Total Organic Carbon	28-Feb-2025	28-Feb-2025	28-Feb-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3138	QC 3123	QC 3196	QC 3139
10:2 FTS (Raw)	TM440	**83.89** 53.10 : 140.00	**61.03** 53.10 : 140.00	**67.7** 53.10 : 140.00	**75.2** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**71.85** 53.56 : 141.19	**64.07** 53.56 : 141.19	**68.57** 53.56 : 141.19	**85.16** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**73.61** 50.54 : 133.25	**43.03** 50.54 : 133.25	**59.24** 50.54 : 133.25	**73.96** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**85.02** 56.34 : 145.91	**65.76** 56.34 : 145.91	**69.83** 56.34 : 145.91	**82.73** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**15.43** 52.66 : 130.08	**11.05** 52.66 : 130.08	**12.72** 52.66 : 130.08	**15.93** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**25.29** 38.50 : 101.50	**23.97** 38.50 : 101.50	**28.71** 38.50 : 101.50	**25.23** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**79.11** 54.79 : 144.46	**66.05** 54.79 : 144.46	**65.79** 54.79 : 144.46	**77.79** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**13.53** 48.60 : 128.14	**11.65** 48.60 : 128.14	**14.91** 48.60 : 128.14	**12.01** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**74.16** 56.03 : 147.72	**67.55** 56.03 : 147.72	**71.67** 56.03 : 147.72	**73.67** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**82.14** 55.74 : 146.96	**63.68** 55.74 : 146.96	**64.83** 55.74 : 146.96	**74.59** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**76.53** 54.59 : 143.91	**65.03** 54.59 : 143.91	**64.51** 54.59 : 143.91	**83.43** 54.59 : 143.91
ADONA (Raw)	TM440	**72.99** 54.01 : 132.33	**59.29** 54.01 : 132.33	**64.53** 54.01 : 132.33	**66.95** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**74.46** 54.09 : 142.61	**62.28** 54.09 : 142.61	**60.81** 54.09 : 142.61	**82.19** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**71.71** 52.48 : 138.36	**76.61** 52.48 : 138.36	**78.8** 52.48 : 138.36	**70.3** 52.48 : 138.36
EtFOSE (Raw)	TM440	**72.14** 57.05 : 145.29	**63.01** 57.05 : 145.29	**66.5** 57.05 : 145.29	**68.24** 57.05 : 145.29
FBSA (Raw)	TM440	**66.57** 49.51 : 125.13	**57.86** 49.51 : 125.13	**76.85** 49.51 : 125.13	**66.98** 49.51 : 125.13
FHxSA (Raw)	TM440	**68.21** 50.38 : 132.82	**60.4** 50.38 : 132.82	**80.15** 50.38 : 132.82	**69.35** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**76.89** 53.47 : 140.98	**74.58** 53.47 : 140.98	**79.08** 53.47 : 140.98	**83.6** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**77.05** 54.77 : 144.39	**76.66** 54.77 : 144.39	**86.11** 54.77 : 144.39	**77.03** 54.77 : 144.39
L-PFOS (Raw)	TM440	**74.46** 54.09 : 142.61	**62.56** 54.09 : 142.61	**60.81** 54.09 : 142.61	**82.4** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**76.43** 53.02 : 139.78	**69.09** 53.02 : 139.78	**73.27** 53.02 : 139.78	**85.79** 53.02 : 139.78
MeFOSE (Raw)	TM440	**78.1** 54.99 : 144.97	**63.06** 54.99 : 144.97	**70.2** 54.99 : 144.97	**71.89** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**80.44** 59.56 : 132.93	**76.66** 59.56 : 132.93	**78.05** 59.56 : 132.93	**78.76** 59.56 : 132.93
NFDHA (Raw)	TM440	**95.19** 57.35 : 151.20	**57.17** 57.35 : 151.20	**76.58** 57.35 : 151.20	**104.33** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**71.63** 59.19 : 133.01	**84.06** 59.19 : 133.01	**84.57** 59.19 : 133.01	**66.53** 59.19 : 133.01
PFBA (Raw)	TM440	**75.37** 52.69 : 138.91	**61.37** 52.69 : 138.91	**67.96** 52.69 : 138.91	**77.59** 52.69 : 138.91

PFAS in soils

		QC 3138	QC 3123	QC 3196	QC 3139
PFBS (Raw)	TM440	**77.38** 53.31 : 140.54	**61.05** 53.31 : 140.54	**61.79** 53.31 : 140.54	**72.31** 53.31 : 140.54
PFDA (Raw)	TM440	**76.41** 53.39 : 140.76	**60.45** 53.39 : 140.76	**66.24** 53.39 : 140.76	**81.87** 53.39 : 140.76
PFDoA (Raw)	TM440	**77.3** 52.85 : 139.34	**57.03** 52.85 : 139.34	**70.89** 52.85 : 139.34	**76.32** 52.85 : 139.34
PFDoS (Raw)	TM440	**71.74** 55.29 : 145.76	**58.76** 55.29 : 145.76	**63.44** 55.29 : 145.76	**96.45** 55.29 : 145.76
PFDS (Raw)	TM440	**73.96** 52.94 : 139.56	**55.86** 52.94 : 139.56	**60.4** 52.94 : 139.56	**90.0** 52.94 : 139.56
PFecHS (Raw)	TM440	**71.64** 50.75 : 133.80	**59.86** 50.75 : 133.80	**58.15** 50.75 : 133.80	**77.44** 50.75 : 133.80
PFEESA (Raw)	TM440	**74.12** 50.87 : 134.12	**58.32** 50.87 : 134.12	**59.1** 50.87 : 134.12	**71.61** 50.87 : 134.12
PFHpA (Raw)	TM440	**80.66** 52.61 : 138.69	**61.76** 52.61 : 138.69	**64.24** 52.61 : 138.69	**71.5** 52.61 : 138.69
PFHpS (Raw)	TM440	**77.26** 55.29 : 145.76	**62.44** 55.29 : 145.76	**69.0** 55.29 : 145.76	**80.69** 55.29 : 145.76
PFHxA (Raw)	TM440	**78.02** 54.05 : 142.50	**56.56** 54.05 : 142.50	**62.65** 54.05 : 142.50	**73.42** 54.05 : 142.50
PFHxDA (Raw)	TM440	**70.24** 52.03 : 137.17	**55.87** 52.03 : 137.17	**60.76** 52.03 : 137.17	**65.95** 52.03 : 137.17
PFHxS (Raw)	TM440	**72.62** 53.56 : 141.19	**55.84** 53.56 : 141.19	**60.53** 53.56 : 141.19	**73.35** 53.56 : 141.19
PFMOBA (Raw)	TM440	**74.19** 52.73 : 139.02	**64.91** 52.73 : 139.02	**65.47** 52.73 : 139.02	**76.61** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**73.47** 52.57 : 138.58	**62.16** 52.57 : 138.58	**53.71** 52.57 : 138.58	**85.18** 52.57 : 138.58
PFNA (Raw)	TM440	**73.24** 52.94 : 139.56	**66.4** 52.94 : 139.56	**61.85** 52.94 : 139.56	**75.63** 52.94 : 139.56
PFNS (Raw)	TM440	**71.04** 54.38 : 143.37	**59.23** 54.38 : 143.37	**59.66** 54.38 : 143.37	**87.15** 54.38 : 143.37
PFOA (Raw)	TM440	**73.92** 53.80 : 141.85	**57.87** 53.80 : 141.85	**71.55** 53.80 : 141.85	**72.6** 53.80 : 141.85
PFODA (Raw)	TM440	**74.54** 56.03 : 147.72	**68.46** 56.03 : 147.72	**68.59** 56.03 : 147.72	**82.2** 56.03 : 147.72
PFOSA (Raw)	TM440	**72.53** 53.10 : 140.00	**70.61** 53.10 : 140.00	**69.07** 53.10 : 140.00	**68.52** 53.10 : 140.00
PFPA (Raw)	TM440	**79.36** 53.89 : 142.06	**63.86** 53.89 : 142.06	**63.62** 53.89 : 142.06	**81.28** 53.89 : 142.06
PFPeS (Raw)	TM440	**73.8** 54.30 : 143.15	**58.25** 54.30 : 143.15	**60.97** 54.30 : 143.15	**79.58** 54.30 : 143.15
PFTeA (Raw)	TM440	**72.92** 53.06 : 139.89	**64.72** 53.06 : 139.89	**67.02** 53.06 : 139.89	**70.2** 53.06 : 139.89
PFTrDA (Raw)	TM440	**81.43** 51.70 : 136.30	**65.92** 51.70 : 136.30	**62.72** 51.70 : 136.30	**76.38** 51.70 : 136.30
PFTrDS (Raw)	TM440	**73.82** 56.24 : 148.26	**56.12** 56.24 : 148.26	**56.38** 56.24 : 148.26	**95.47** 56.24 : 148.26
PFUnA (Raw)	TM440	**69.63** 53.35 : 140.65	**61.04** 53.35 : 140.65	**62.4** 53.35 : 140.65	**80.76** 53.35 : 140.65
PFUnDS (Raw)	TM440	**69.9** 53.60 : 141.30	**55.44** 53.60 : 141.30	**63.99** 53.60 : 141.30	**87.89** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3135
11Cl-PF3OUdS (763051-92-9)	TM434	**113.38** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**93.63** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**95.63** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**94.63** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**78.63** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**91.5** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**126.25** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**94.88** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**100.25** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**100.88** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**90.87** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**86.75** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**107.0** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**108.0** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**97.38** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**105.0** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**101.37** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**90.25** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**87.75** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**91.75** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**97.88** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**89.25** 62.71 : 118.96
PFBA (375-22-4)	TM434	**92.13** 67.84 : 130.39
PFBS (375-73-5)	TM434	**99.88** 90.25 : 126.25
PFDA (335-76-2)	TM434	**94.0** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**95.38** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**95.25** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3135
PFDS (335-77-3)	TM434	**100.25** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**117.13** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**112.5** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**100.88** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**104.13** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**93.88** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**101.25** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**103.37** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**103.63** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**98.38** 64.06 : 130.06
PFNA (375-95-1)	TM434	**95.5** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**101.25** 70.70 : 130.93
PFOA (335-67-1)	TM434	**101.63** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**112.5** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**92.63** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**99.63** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**102.63** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**90.63** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**106.13** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**96.63** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**96.88** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**108.88** 85.84 : 139.76

pH

Component	Method Code	QC 3194	QC 3199	QC 3103	QC 3144	QC 3197	QC 3101
pH	TM133	**98.16** 95.80 : 103.76	**97.79** 95.80 : 103.76	**97.79** 95.80 : 103.76	**97.42** 95.80 : 103.76	**98.16** 95.80 : 103.76	**97.79** 95.80 : 103.76

CERTIFICATE OF ANALYSIS

SDG: 250222-35 **Report Number:** 760974 **Superseded Report:** 758912
Client Ref.: 70100310 Thornton **Location:** Thornton

Total Organic Carbon

Component	Method Code	QC 3193	QC 3142	QC 3159	QC 3164
Total Organic Carbon	TM132	**97.81** 93.61 : 106.00	**98.18** 93.61 : 106.00	**98.91** 93.61 : 106.00	**98.54** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250226-56
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760976
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 758529 in its entirety.

We received 32 samples on Wednesday February 26, 2025 and 23 of these samples were scheduled for analysis which was completed on Monday March 10, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31129107	GR01-SP202	ES	0.00 - 0.10	25/02/2025
31129132	GR01-SP202	ES	0.30 - 0.40	25/02/2025
31129159	GR01-SP202	ES	0.40 - 0.50	25/02/2025
31129173	GR01-SP215	ES	0.00 - 0.10	25/02/2025
31129176	GR01-SP215	ES	0.20 - 0.30	25/02/2025
31129178	GR01-SP215	ES	0.40 - 0.50	25/02/2025
31129117	GR01-SP220	ES	0.00 - 0.10	25/02/2025
31129119	GR01-SP220	ES	0.30 - 0.40	25/02/2025
31129121	GR01-SP220	ES	0.40 - 0.50	25/02/2025
31129164	GR01-SP202A	ES	0.10 - 0.20	25/02/2025
31129167	GR01-SP202A	ES	0.20 - 0.30	25/02/2025
31129170	GR01-SP202A	ES	0.50 - 0.60	25/02/2025
31129110	GR01-SP215A	ES	0.10 - 0.20	25/02/2025
31129113	GR01-SP215A	ES	0.30 - 0.40	25/02/2025
31129115	GR01-SP215A	ES	0.50 - 0.60	25/02/2025
31129123	GR01-SP220A	ES	0.10 - 0.20	25/02/2025
31129126	GR01-SP220A	ES	0.20 - 0.30	25/02/2025
31129128	GR01-SP220A	ES	0.50 - 0.60	25/02/2025
31129095	no id			
31129102	NO ID			
31129148	POS-SP201	ES	0.00 - 0.10	25/02/2025
31129150	POS-SP201	ES	0.20 - 0.30	25/02/2025
31129152	POS-SP201	ES	0.40 - 0.50	25/02/2025
31129130	POS-SP202	ES	0.00 - 0.10	25/02/2025
31129136	POS-SP202	ES	0.30 - 0.40	25/02/2025
31129139	POS-SP202	ES	0.40 - 0.50	25/02/2025
31129154	POS-SP201A	ES	0.10 - 0.20	25/02/2025
31129156	POS-SP201A	ES	0.30 - 0.40	25/02/2025
31129162	POS-SP201A	ES	0.50 - 0.60	25/02/2025
31129142	POS-SP202A	ES	0.00 - 0.10	25/02/2025
31129144	POS-SP202A	ES	0.20 - 0.30	25/02/2025
31129146	POS-SP202A	ES	0.50 - 0.60	25/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
			31129132	GR01-SP202	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31129159	GR01-SP202	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31129173	GR01-SP215	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31129176	GR01-SP215	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31129178	GR01-SP215	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31129119	GR01-SP220	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31129121	GR01-SP220	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31129164	GR01-SP202A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31129170	GR01-SP202A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31129110	GR01-SP215A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31129115	GR01-SP215A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31129123	GR01-SP220A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31129126	GR01-SP220A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31129128	GR01-SP220A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31129148	POS-SP201	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31129150	POS-SP201	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31129152	POS-SP201	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31129130	POS-SP202	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31129139	POS-SP202	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
PFAS in soils	All	NDPs: 0 Tests: 23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pH	All	NDPs: 0 Tests: 23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

31129146	POS-SP202A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S					
31129144	POS-SP202A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X	X	X	X
31129162	POS-SP201A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X	X	X	X
31129154	POS-SP201A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X	X	X	X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31129132	GR01-SP202	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31129159	GR01-SP202	0.40 - 0.50	Dark Brown	Silty Clay Loam	Vegetation	None
31129173	GR01-SP215	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31129176	GR01-SP215	0.20 - 0.30	Dark Brown	Silty Clay Loam	Vegetation	None
31129178	GR01-SP215	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31129119	GR01-SP220	0.30 - 0.40	Dark Brown	Silty Clay Loam	Vegetation	Stones
31129121	GR01-SP220	0.40 - 0.50	Dark Brown	Silty Clay Loam	Stones	Vegetation
31129164	GR01-SP202A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31129170	GR01-SP202A	0.50 - 0.60	Dark Brown	Sandy Loam	Vegetation	None
31129110	GR01-SP215A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	None
31129115	GR01-SP215A	0.50 - 0.60	Light Brown	Silty Clay Loam	Vegetation	None
31129123	GR01-SP220A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	Stones
31129126	GR01-SP220A	0.20 - 0.30	Dark Brown	Silty Clay Loam	Vegetation	Stones
31129128	GR01-SP220A	0.50 - 0.60	Light Brown	Silty Clay Loam	Vegetation	None
31129148	POS-SP201	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31129150	POS-SP201	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31129152	POS-SP201	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31129130	POS-SP202	0.00 - 0.10	Dark Brown	Silt Loam	Stones	Vegetation
31129139	POS-SP202	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31129154	POS-SP201A	0.10 - 0.20	Dark Brown	Sandy Loam	Vegetation	Stones
31129162	POS-SP201A	0.50 - 0.60	Dark Brown	Sandy Loam	Stones	Brick
31129144	POS-SP202A	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31129146	POS-SP202A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP202	GR01-SP202	GR01-SP215	GR01-SP215	GR01-SP215	GR01-SP220
			Depth (m)	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129132	31129159	31129173	31129176	31129178	31129119
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		22	19	27	22	18	18
Soil Organic Matter (SOM)	<0.35 %	TM132		4.28 #	2.26 #	6.95 #	3.26 #	1.79 #	3.05 #
pH	1 pH Units	TM133		5.98 M	6.59 M	6.38 M	6.65 M	6.89 M	6.96 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		13.8	7.31	1.51	2.71	2.18	1.8
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP202	GR01-SP202	GR01-SP215	GR01-SP215	GR01-SP215	GR01-SP220
			Depth (m)	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129132	31129159	31129173	31129176	31129178	31129119
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP220	GR01-SP202A	GR01-SP202A	GR01-SP215A	GR01-SP215A	GR01-SP220A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129121	31129164	31129170	31129110	31129115	31129123
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		19	27	20	25	24	19
Soil Organic Matter (SOM)	<0.35 %	TM132		3.33 #	6.55 #	0.841 #	4.97 #	3.34 #	2.81 #
pH	1 pH Units	TM133		7.08 M	5.53 M	6.64 M	6.75 M	7.03 M	6.57 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		4.23	6.61	3.68	6.72	4.78	1.47
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	1.19	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP220	GR01-SP202A	GR01-SP202A	GR01-SP215A	GR01-SP215A	GR01-SP220A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129121	31129164	31129170	31129110	31129115	31129123
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	1.19	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP220A	GR01-SP220A	POS-SP201	POS-SP201	POS-SP201	POS-SP202
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129126	31129128	31129148	31129150	31129152	31129130
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		22	18	31	19	17	43
Soil Organic Matter (SOM)	<0.35 %	TM132		5.03 #	1.17 #	9.5 #	6.41 #	3.81 #	7.67 #
pH	1 pH Units	TM133		6.75 M	7.03 M	6.69 M	7.46 M	7.47 M	6.53 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	0.955	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.1	1.95	2.02	2.25	4.35	6.49
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP220A	GR01-SP220A	POS-SP201	POS-SP201	POS-SP201	POS-SP202
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129126	31129128	31129148	31129150	31129152	31129130
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP202	POS-SP201A	POS-SP201A	POS-SP202A	POS-SP202A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129139	31129154	31129162	31129144	31129146
			AGS Reference	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		15	36	16	21	14
Soil Organic Matter (SOM)	<0.35 %	TM132		0.726 #	8.95 #	1.52 #	3.98 #	0.802 #
pH	1 pH Units	TM133		7.16 M	7.34 M	8.41 M	7.44 M	7.59 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.71	6.82	4.19	6.23	3.36
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	1.19	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP202	POS-SP201A	POS-SP201A	POS-SP202A	POS-SP202A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	25/02/2025	25/02/2025	25/02/2025	25/02/2025	25/02/2025
			Sample Time	.	.	.	.	.
			Date Received	26/02/2025	26/02/2025	26/02/2025	26/02/2025	26/02/2025
			SDG Ref	250226-56	250226-56	250226-56	250226-56	250226-56
			Lab Sample No.(s)	31129139	31129154	31129162	31129144	31129146
			AGS Reference	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	1.19	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 250226-56 **Report Number:** 760976 **Superseded Report:** 758529
Client Ref.: 70100310 Thornton **Location:** Thornton

Test Completion Dates

Lab Sample No(s)	31129132	31129159	31129173	31129176	31129178	31129119	31129121	31129164	31129170	31129110
Customer Sample Ref.	GR01-SP202	GR01-SP202	GR01-SP215	GR01-SP215	GR01-SP215	GR01-SP220	GR01-SP220	GR01-SP202A	GR01-SP202A	GR01-SP215A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	07-Mar-2025	10-Mar-2025	07-Mar-2025	10-Mar-2025	10-Mar-2025	07-Mar-2025	10-Mar-2025	10-Mar-2025	07-Mar-2025	10-Mar-2025
pH	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025
Sample description	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025
Total Organic Carbon	03-Mar-2025	03-Mar-2025	03-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025

Lab Sample No(s)	31129115	31129123	31129126	31129128	31129148	31129150	31129152	31129130	31129139	31129154
Customer Sample Ref.	GR01-SP215A	GR01-SP220A	GR01-SP220A	GR01-SP220A	POS-SP201	POS-SP201	POS-SP201	POS-SP202	POS-SP202	POS-SP201A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	07-Mar-2025	07-Mar-2025	07-Mar-2025	10-Mar-2025	10-Mar-2025	07-Mar-2025	10-Mar-2025	07-Mar-2025	07-Mar-2025	10-Mar-2025
pH	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025
Sample description	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025	27-Feb-2025
Total Organic Carbon	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	03-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025	04-Mar-2025

Lab Sample No(s)	31129162	31129144	31129146
Customer Sample Ref.	POS-SP201A	POS-SP202A	POS-SP202A
AGS Ref.	ES	ES	ES
Depth	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	07-Mar-2025	07-Mar-2025	10-Mar-2025
pH	05-Mar-2025	05-Mar-2025	05-Mar-2025
Sample description	27-Feb-2025	27-Feb-2025	27-Feb-2025
Total Organic Carbon	03-Mar-2025	04-Mar-2025	04-Mar-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3139	QC 3166	QC 3186
10:2 FTS (Raw)	TM440	**75.2** 53.10 : 140.00	**87.07** 53.10 : 140.00	**57.3** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**85.16** 53.56 : 141.19	**72.36** 53.56 : 141.19	**71.43** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**73.96** 50.54 : 133.25	**72.31** 50.54 : 133.25	**67.91** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**82.73** 56.34 : 145.91	**85.11** 56.34 : 145.91	**79.19** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**15.93** 52.66 : 130.08	**13.53** 52.66 : 130.08	**14.63** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**25.23** 38.50 : 101.50	**26.27** 38.50 : 101.50	**22.78** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**77.79** 54.79 : 144.46	**82.59** 54.79 : 144.46	**75.31** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**12.01** 48.60 : 128.14	**13.88** 48.60 : 128.14	**10.61** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**73.67** 56.03 : 147.72	**78.02** 56.03 : 147.72	**69.85** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**74.59** 55.74 : 146.96	**83.13** 55.74 : 146.96	**72.8** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**83.43** 54.59 : 143.91	**80.93** 54.59 : 143.91	**71.21** 54.59 : 143.91
ADONA (Raw)	TM440	**66.95** 54.01 : 132.33	**80.29** 54.01 : 132.33	**75.89** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**82.19** 54.09 : 142.61	**82.96** 54.09 : 142.61	**69.28** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**70.3** 52.48 : 138.36	**77.85** 52.48 : 138.36	**59.28** 52.48 : 138.36
EtFOSE (Raw)	TM440	**68.24** 57.05 : 145.29	**85.44** 57.05 : 145.29	**69.13** 57.05 : 145.29
FBSA (Raw)	TM440	**66.98** 49.51 : 125.13	**72.37** 49.51 : 125.13	**60.72** 49.51 : 125.13
FHxSA (Raw)	TM440	**69.35** 50.38 : 132.82	**74.06** 50.38 : 132.82	**62.2** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**83.6** 53.47 : 140.98	**87.08** 53.47 : 140.98	**72.72** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**77.03** 54.77 : 144.39	**76.54** 54.77 : 144.39	**72.63** 54.77 : 144.39
L-PFOS (Raw)	TM440	**82.4** 54.09 : 142.61	**82.96** 54.09 : 142.61	**69.36** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**85.79** 53.02 : 139.78	**77.77** 53.02 : 139.78	**89.2** 53.02 : 139.78
MeFOSE (Raw)	TM440	**71.89** 54.99 : 144.97	**87.22** 54.99 : 144.97	**71.87** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**78.76** 59.56 : 132.93	**75.91** 59.56 : 132.93	**73.83** 59.56 : 132.93
NFDHA (Raw)	TM440	**104.33** 57.35 : 151.20	**84.63** 57.35 : 151.20	**101.52** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**66.53** 59.19 : 133.01	**73.9** 59.19 : 133.01	**64.2** 59.19 : 133.01
PFBA (Raw)	TM440	**77.59** 52.69 : 138.91	**78.56** 52.69 : 138.91	**73.42** 52.69 : 138.91

PFAS in soils

		QC 3139	QC 3166	QC 3186
PFBS (Raw)	TM440	**72.31** 53.31 : 140.54	**75.55** 53.31 : 140.54	**72.31** 53.31 : 140.54
PFDA (Raw)	TM440	**81.87** 53.39 : 140.76	**78.6** 53.39 : 140.76	**79.21** 53.39 : 140.76
PFDoA (Raw)	TM440	**76.32** 52.85 : 139.34	**82.44** 52.85 : 139.34	**63.77** 52.85 : 139.34
PFDoS (Raw)	TM440	**96.45** 55.29 : 145.76	**79.61** 55.29 : 145.76	**77.99** 55.29 : 145.76
PFDS (Raw)	TM440	**90.0** 52.94 : 139.56	**79.23** 52.94 : 139.56	**66.7** 52.94 : 139.56
PFecHS (Raw)	TM440	**77.44** 50.75 : 133.80	**81.0** 50.75 : 133.80	**69.69** 50.75 : 133.80
PFEESA (Raw)	TM440	**71.61** 50.87 : 134.12	**72.09** 50.87 : 134.12	**73.09** 50.87 : 134.12
PFHpA (Raw)	TM440	**71.5** 52.61 : 138.69	**78.69** 52.61 : 138.69	**80.36** 52.61 : 138.69
PFHpS (Raw)	TM440	**80.69** 55.29 : 145.76	**86.68** 55.29 : 145.76	**72.02** 55.29 : 145.76
PFHxA (Raw)	TM440	**73.42** 54.05 : 142.50	**81.29** 54.05 : 142.50	**75.8** 54.05 : 142.50
PFHxDA (Raw)	TM440	**65.95** 52.03 : 137.17	**83.84** 52.03 : 137.17	**62.36** 52.03 : 137.17
PFHxS (Raw)	TM440	**73.35** 53.56 : 141.19	**75.91** 53.56 : 141.19	**64.5** 53.56 : 141.19
PFMOBA (Raw)	TM440	**76.61** 52.73 : 139.02	**79.75** 52.73 : 139.02	**71.09** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**85.18** 52.57 : 138.58	**80.83** 52.57 : 138.58	**79.02** 52.57 : 138.58
PFNA (Raw)	TM440	**75.63** 52.94 : 139.56	**72.19** 52.94 : 139.56	**71.64** 52.94 : 139.56
PFNS (Raw)	TM440	**87.15** 54.38 : 143.37	**78.74** 54.38 : 143.37	**67.72** 54.38 : 143.37
PFOA (Raw)	TM440	**72.6** 53.80 : 141.85	**84.02** 53.80 : 141.85	**69.18** 53.80 : 141.85
PFODA (Raw)	TM440	**82.2** 56.03 : 147.72	**78.68** 56.03 : 147.72	**72.45** 56.03 : 147.72
PFOSA (Raw)	TM440	**68.52** 53.10 : 140.00	**80.85** 53.10 : 140.00	**67.84** 53.10 : 140.00
PFPA (Raw)	TM440	**81.28** 53.89 : 142.06	**85.65** 53.89 : 142.06	**81.17** 53.89 : 142.06
PFPeS (Raw)	TM440	**79.58** 54.30 : 143.15	**86.12** 54.30 : 143.15	**70.86** 54.30 : 143.15
PFTeA (Raw)	TM440	**70.2** 53.06 : 139.89	**85.73** 53.06 : 139.89	**81.51** 53.06 : 139.89
PFTrDA (Raw)	TM440	**76.38** 51.70 : 136.30	**86.23** 51.70 : 136.30	**86.41** 51.70 : 136.30
PFTrDS (Raw)	TM440	**95.47** 56.24 : 148.26	**78.21** 56.24 : 148.26	**77.73** 56.24 : 148.26
PFUnA (Raw)	TM440	**80.76** 53.35 : 140.65	**78.56** 53.35 : 140.65	**76.42** 53.35 : 140.65
PFUnDS (Raw)	TM440	**87.89** 53.60 : 141.30	**77.09** 53.60 : 141.30	**72.95** 53.60 : 141.30

pH

pH

Component	Method Code	QC 3187	QC 3191	QC 3189
pH	TM133	**97.97** 95.80 : 103.76	**97.61** 95.80 : 103.76	**97.61** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3116	QC 3104	QC 3166	QC 3167
Total Organic Carbon	TM132	**97.45** 93.61 : 106.00	**98.54** 93.61 : 106.00	**98.54** 93.61 : 106.00	**98.54** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
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Deeside
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WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250227-57
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760977
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 759739 in its entirety.

We received 51 samples on Thursday February 27, 2025 and 37 of these samples were scheduled for analysis which was completed on Tuesday March 11, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31135066	GR01-SP208	ES	0.00 - 0.10	27/02/2025
31135068	GR01-SP208	ES	0.30 - 0.40	27/02/2025
31135070	GR01-SP208	ES	0.40 - 0.50	27/02/2025
31135128	GR01-SP212	ES	0.00 - 0.10	27/02/2025
31135130	GR01-SP212	ES	0.30 - 0.40	27/02/2025
31135133	GR01-SP212	ES	0.40 - 0.50	27/02/2025
31135078	GR01-SP214	ES	0.00 - 0.10	27/02/2025
31135080	GR01-SP214	ES	0.30 - 0.40	27/02/2025
31135082	GR01-SP214	ES	0.40 - 0.50	27/02/2025
31135098	GR01-SP218	ES	0.00 - 0.10	27/02/2025
31135101	GR01-SP218	ES	0.30 - 0.40	27/02/2025
31135103	GR01-SP218	ES	0.40 - 0.50	27/02/2025
31135031	GR02-SP210	ES	0.00 - 0.10	27/02/2025
31135036	GR02-SP210	ES	0.30 - 0.40	27/02/2025
31135038	GR02-SP210	ES	0.40 - 0.50	27/02/2025
31135019	GR02-SP213	ES	0.00 - 0.10	27/02/2025
31135021	GR02-SP213	ES	0.20 - 0.30	27/02/2025
31135023	GR02-SP213	ES	0.40 - 0.50	27/02/2025
31135072	GR01-SP208A	ES	0.10 - 0.20	27/02/2025
31135074	GR01-SP208A	ES	0.20 - 0.30	27/02/2025
31135076	GR01-SP208A	ES	0.50 - 0.60	27/02/2025
31135011	GR01-SP212A	ES	0.10 - 0.20	27/02/2025
31135014	GR01-SP212A	ES	0.20 - 0.30	27/02/2025
31135017	GR01-SP212A	ES	0.50 - 0.60	27/02/2025
31135087	GR01-SP214A	ES	0.10 - 0.20	27/02/2025
31135094	GR01-SP214A	ES	0.20 - 0.30	27/02/2025
31135096	GR01-SP214A	ES	0.50 - 0.60	27/02/2025
31135105	GR01-SP218A	ES	0.00 - 0.10	27/02/2025
31135121	GR01-SP218A	EW	0.00 - 0.10	27/02/2025
31135107	GR01-SP218A	ES	0.20 - 0.30	27/02/2025
31135109	GR01-SP218A	ES	0.50 - 0.60	27/02/2025
31135040	GR02-SP210A	ES	0.00 - 0.10	27/02/2025
31135043	GR02-SP210A	ES	0.20 - 0.30	27/02/2025
31135045	GR02-SP210A	ES	0.50 - 0.60	27/02/2025
31135025	GR02-SP213A	ES	0.10 - 0.20	27/02/2025
31135027	GR02-SP213A	ES	0.30 - 0.40	27/02/2025
31135029	GR02-SP213A	ES	0.50 - 0.60	27/02/2025
31135009	POS-204	ES	0.00 - 0.10	27/02/2025
31135034	POS-204	ES	0.30 - 0.40	27/02/2025
31135061	POS-204	ES	0.40 - 0.50	27/02/2025
31135084	POS-204A	ES	0.10 - 0.20	27/02/2025
31135115	POS-204A	ES	0.20 - 0.30	27/02/2025
31135125	POS-204A	ES	0.40 - 0.50	27/02/2025
31135111	POS-SP204	EW	0.20 - 0.30	27/02/2025
31135047	POS-SP205	ES	0.00 - 0.10	27/02/2025
31135049	POS-SP205	ES	0.20 - 0.30	27/02/2025
31135052	POS-SP205	ES	0.40 - 0.50	27/02/2025
31135117	POS-SP205	EW	0.50 - 0.60	27/02/2025
31135055	POS-SP205A	ES	0.10 - 0.20	27/02/2025
31135057	POS-SP205A	ES	0.30 - 0.40	27/02/2025
31135063	POS-SP205A	ES	0.50 - 0.60	27/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 34	31135066	GR01-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31135068	GR01-SP208	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31135070	GR01-SP208	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31135130	GR01-SP212	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31135078	GR01-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31135080	GR01-SP214	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31135098	GR01-SP218	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31135103	GR01-SP218	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31135036	GR02-SP210	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31135038	GR02-SP210	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31135021	GR02-SP213	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31135023	GR02-SP213	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31135072	GR01-SP208A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31135076	GR01-SP208A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31135011	GR01-SP212A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31135017	GR01-SP212A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31135087	GR01-SP214A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31135096	GR01-SP214A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31135105	GR01-SP218A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 3																							
pH	All	NDPs: 0 Tests: 34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

31135063	POS-SP205A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135055	POS-SP205A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135117	POS-SP205	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW				X						
31135052	POS-SP205	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135047	POS-SP205	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135111	POS-SP204	EW	0.20 - 0.30	Digitube fo PFAS analysis.	PW				X						
31135125	POS-204A	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135115	POS-204A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135084	POS-204A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135034	POS-204	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135009	POS-204	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135029	GR02-SP213A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135025	GR02-SP213A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135043	GR02-SP210A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135040	GR02-SP210A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135109	GR01-SP218A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135107	GR01-SP218A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31135121	GR01-SP218A	EW	0.00 - 0.10	Digitube fo PFAS analysis.	PW				X						

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31135066	GR01-SP208	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	None
31135068	GR01-SP208	0.30 - 0.40	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135070	GR01-SP208	0.40 - 0.50	Dark Brown	Silty Clay Loam	Vegetation	Stones
31135130	GR01-SP212	0.30 - 0.40	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135078	GR01-SP214	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	None
31135080	GR01-SP214	0.30 - 0.40	Dark Brown	Silty Clay Loam	Vegetation	None
31135098	GR01-SP218	0.00 - 0.10	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135103	GR01-SP218	0.40 - 0.50	Light Brown	Silty Clay Loam	Stones	Vegetation
31135036	GR02-SP210	0.30 - 0.40	Light Brown	Silty Clay Loam	Stones	Brick
31135038	GR02-SP210	0.40 - 0.50	Light Brown	Silty Clay Loam	Stones	None
31135021	GR02-SP213	0.20 - 0.30	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135023	GR02-SP213	0.40 - 0.50	Dark Brown	Silty Clay Loam	Stones	Brick
31135072	GR01-SP208A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	Stones
31135076	GR01-SP208A	0.50 - 0.60	Dark Brown	Silty Clay Loam	Vegetation	None
31135011	GR01-SP212A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	None
31135017	GR01-SP212A	0.50 - 0.60	Light Brown	Silty Clay Loam	Vegetation	None
31135087	GR01-SP214A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	None
31135096	GR01-SP214A	0.50 - 0.60	Dark Brown	Silty Clay	None	None
31135105	GR01-SP218A	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135107	GR01-SP218A	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Brick	Concrete/Aggregate
31135109	GR01-SP218A	0.50 - 0.60	Light Brown	Sandy Clay Loam	Stones	Brick
31135040	GR02-SP210A	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135043	GR02-SP210A	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135025	GR02-SP213A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135029	GR02-SP213A	0.50 - 0.60	Dark Brown	Silty Clay Loam	Vegetation	None
31135009	POS-204	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135034	POS-204	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Vegetation	Brick
31135084	POS-204A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135115	POS-204A	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31135125	POS-204A	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Brick
31135047	POS-SP205	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	Stones
31135052	POS-SP205	0.40 - 0.50	Light Brown	Silt Loam	None	None
31135055	POS-SP205A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Stones	Vegetation
31135063	POS-SP205A	0.50 - 0.60	Dark Brown	Silty Clay Loam	Vegetation	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP208	GR01-SP208	GR01-SP208	GR01-SP212	GR01-SP214	GR01-SP214
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135066	31135068	31135070	31135130	31135078	31135080
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		29	22	22	25	36	25
Soil Organic Matter (SOM)	<0.35 %	TM132		6.41 #	3.97 #	2.95 #	2.91 #	4.19 #	2.33 #
pH	1 pH Units	TM133		6.02 M	7.09 M	7.4 M	6.44 M	5.74 M	5.91 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		1.04	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		3.87	3.95	3.71	4.73	4.27	4.26
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		2.94	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP208	GR01-SP208	GR01-SP208	GR01-SP212	GR01-SP214	GR01-SP214
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135066	31135068	31135070	31135130	31135078	31135080
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		2.94	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	-	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218	GR01-SP218	GR02-SP210	GR02-SP210	GR02-SP213	GR02-SP213
			Depth (m)	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135098	31135103	31135036	31135038	31135021	31135023
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		27	19	11	15	16	21
Soil Organic Matter (SOM)	<0.35 %	TM132		9.76 #	2.95 #	1.59 #	1.09 #	4.34 #	5.84 #
pH	1 pH Units	TM133		7.94 M	8.45 M	8.33 M	8.07 M	8.16 M	8.37 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		0.939	0.734	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		3.06	6.5	4.51	4.45	1.78	4.82
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	0.938	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218	GR01-SP218	GR02-SP210	GR02-SP210	GR02-SP213	GR02-SP213
			Depth (m)	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135098	31135103	31135036	31135038	31135021	31135023
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	0.938	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		-	-	-	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP208A	GR01-SP208A	GR01-SP212A	GR01-SP212A	GR01-SP214A	GR01-SP214A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135072	31135076	31135011	31135017	31135087	31135096
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		20	18	26	19	40	25
Soil Organic Matter (SOM)	<0.35 %	TM132		2.98 #	1.83 #	4.21 #	1.2 #	5.38 #	1.97 #
pH	1 pH Units	TM133		6.06 M	6.99 M	7.37 M	7.58 M	5.93 M	7.01 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		5.53	7.48	5.63	2.58	2.91	10.1
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	1.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP208A	GR01-SP208A	GR01-SP212A	GR01-SP212A	GR01-SP214A	GR01-SP214A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135072	31135076	31135011	31135017	31135087	31135096
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	1.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	-	<51	-	<51

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR02-SP210A	GR02-SP210A
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135105	31135121	31135107	31135109	31135040	31135043
			AGS Reference	ES	EW	ES	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002				
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001				
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002				
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001				
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001				
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001				
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003				
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001				
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001				
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002				
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001				
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001				
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001				
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005				
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001				
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001				
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001				
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065				
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001				
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001				
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001				
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001				
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002				
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005				
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002				
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦				
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005				
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065				
Branched PFOS	<0.00065 µg/l	TM434			<0.00065				
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦				
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002				
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001				
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001				

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR02-SP210A	GR02-SP210A
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135105	31135121	31135107	31135109	31135040	31135043
			AGS Reference	ES	EW	ES	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001				
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002				
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002				
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003				
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002				
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002				
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001				
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002				
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002				
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001				
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001				
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 ♦				
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001				
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 ♦				
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001				
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001				
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01				
Total PFOS	<0.00065 µg/l	TM434			<0.00065				
Moisture Content Ratio (% of as received sample)	%	PM024	22		14	12	9.6	16	
Soil Organic Matter (SOM)	<0.35 %	TM132	6.29 #		2.79 #	1.78 #	2.17 #	3.59 #	
pH	1 pH Units	TM133	7.77 M		8.32 M	8.86 M	7.7 M	7.87 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8		<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	0.659		<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8		<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1		<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR02-SP210A	GR02-SP210A
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135105	31135121	31135107	31135109	31135040	31135043
			AGS Reference	ES	EW	ES	ES	ES	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.16		3.21	4.62	0.852	2.12
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR01-SP218A	GR02-SP210A	GR02-SP210A
			Depth (m)	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135105	31135121	31135107	31135109	31135040	31135043
			AGS Reference	ES	EW	ES	ES	ES	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		-		-	-	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP213A	GR02-SP213A	POS-204	POS-204	POS-204A	POS-204A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.30 - 0.40	0.10 - 0.20	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135025	31135029	31135009	31135034	31135084	31135115
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		24	26	26	16	21	20
Soil Organic Matter (SOM)	<0.35 %	TM132		11.9 #	5.47 #	7.84 #	9.71 #	14.5 #	12.7 #
pH	1 pH Units	TM133		7.5 M	7.33 M	6.74 M	8.3 M	7.74 M	7.9 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	1.98	0.679	0.96	0.944
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	0.727	<0.5	0.65	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		3.67	8.21	4.9	4.12	4.8	4.16
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		0.829	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP213A	GR02-SP213A	POS-204	POS-204	POS-204A	POS-204A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.30 - 0.40	0.10 - 0.20	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135025	31135029	31135009	31135034	31135084	31135115
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		0.829	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	-	-	-	-

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-204A	POS-SP204	POS-SP205	POS-SP205	POS-SP205	POS-SP205A
			Depth (m)	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135125	31135111	31135047	31135052	31135117	31135055
			AGS Reference	ES	EW	ES	ES	EW	ES
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002			<0.002	
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001			<0.001	
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002			<0.002	
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001			<0.001	
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001			<0.001	
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001			<0.001	
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003			<0.003	
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001			<0.001	
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001			<0.001	
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002			<0.002	
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001			<0.001	
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001			<0.001	
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001			<0.001	
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005			<0.005	
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001			<0.001	
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001			<0.001	
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065			<0.00065	
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001			<0.001	
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001			<0.001	
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001			<0.001	
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002			<0.002	
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005			<0.005	
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002			<0.002	
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦			<0.002 ♦	
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005			<0.005	
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065			<0.00065	
Branched PFOS	<0.00065 µg/l	TM434			<0.00065			<0.00065	
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦			<0.002 ♦	
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002			<0.002	
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001			<0.001	

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-204A	POS-SP204	POS-SP205	POS-SP205	POS-SP205	POS-SP205A
			Depth (m)	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135125	31135111	31135047	31135052	31135117	31135055
			AGS Reference	ES	EW	ES	ES	EW	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002			<0.002	
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003			<0.003	
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002			<0.002	
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001			<0.001	
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002			<0.002	
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001			<0.001	
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 ♦			<0.01 ♦	
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001			<0.001	
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 ♦			<0.01 ♦	
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001			<0.001	
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001			<0.001	
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01			<0.01	
Total PFOS	<0.00065 µg/l	TM434			<0.00065			<0.00065	
Moisture Content Ratio (% of as received sample)	%	PM024		7.3		28	19		23
Soil Organic Matter (SOM)	<0.35 %	TM132		20 #		5.09 #	0.922 #		6.17 #
pH	1 pH Units	TM133		8.38 M		6.29 M	6.9 M		7.56 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8		<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8		<1.8	<1.8		<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1		<1	<1		<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-204A	POS-SP204	POS-SP205	POS-SP205	POS-SP205	POS-SP205A
			Depth (m)	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135125	31135111	31135047	31135052	31135117	31135055
			AGS Reference	ES	EW	ES	ES	EW	ES
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5		<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		4.75		1.86	1.1		2.38
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10		<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9		<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4		<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5		<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4		<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8		<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7		<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-204A	POS-SP204	POS-SP205	POS-SP205	POS-SP205	POS-SP205A
			Depth (m)	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			SDG Ref	250227-57	250227-57	250227-57	250227-57	250227-57	250227-57
			Lab Sample No.(s)	31135125	31135111	31135047	31135052	31135117	31135055
			AGS Reference	ES	EW	ES	ES	EW	ES
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5		<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9		<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5		<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
Total Identified PFAS	<51 µg/kg	TM440		-		<51	<51		<51

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.				
			POS-SP205A				
			Depth (m)	0.50 - 0.60			
			Sample Type	Soil/Solid (S)			
			Date Sampled	27/02/2025			
			Sample Time	.			
			Date Received	27/02/2025			
			SDG Ref	250227-57			
			Lab Sample No.(s)	31135063			
			AGS Reference	ES			
Moisture Content Ratio (% of as received sample)	%	PM024	18				
Soil Organic Matter (SOM)	<0.35 %	TM132	1.27 #				
pH	1 pH Units	TM133	8.3 M				
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5				
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5				
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8				
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5				
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5				
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5				
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8				
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5				
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5				
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1				
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5				
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440	<0.5				
PFPeS (2706-91-4)	<0.5 µg/kg	TM440	<0.5				
ADONA (919005-14-4)	<0.5 µg/kg	TM440	<0.5				
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440	<0.5				
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440	<2.5				
PFOA (335-67-1)	<0.5 µg/kg	TM440	2.68				
PFHxS (355-46-4)	<0.5 µg/kg	TM440	<0.5				
FBSA (30334-69-1)	<0.5 µg/kg	TM440	<0.5				
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440	<10				
PFNA (375-95-1)	<0.5 µg/kg	TM440	<0.5				
PFecHS (133201-07-7)	<0.5 µg/kg	TM440	<0.5				
PFHpS (375-92-8)	<0.6 µg/kg	TM440	<0.6				
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440	<0.9				
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440	<4.4				
PFDA (335-76-2)	<0.5 µg/kg	TM440	<0.5				
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440	<0.5				
Branched PFOS	<0.6 µg/kg	TM440	<0.6				
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440	<0.6				
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440	<2.5				

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend		Customer Sample Ref.	POS-SP205A
#	ISO17025 accredited.		
M	mCERTS accredited.		
aq	Aqueous / settled sample.		
diss.filt	Dissolved / filtered sample.		
tot.unfilt	Total / unfiltered sample.		
*	Subcontracted - refer to subcontractor report for accreditation status.		
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		
***	6:2 FTAB (see appendix)		
1-4+§@	Sample deviation (see appendix)		
		Depth (m)	0.50 - 0.60
		Sample Type	Soil/Solid (S)
		Date Sampled	27/02/2025
		Sample Time	.
		Date Received	27/02/2025
		SDG Ref	250227-57
		Lab Sample No.(s)	31135063
		AGS Reference	ES

Component	LOD/Units	Method	
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51

CERTIFICATE OF ANALYSIS

SDG: 250227-57 **Report Number:** 760977 **Superseded Report:** 759739
Client Ref.: 70100310 Thornton **Location:** Thornton

Data Amendment

Sample No. : 31135125 **Date of Amendment :** 11/03/2025 **Authorised:** Colin Murtagh **Origin:**

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
POS-204A	Analytical/Quality Issue	Total Organic Carbon	Soil Organic Matter (SOM)	%	23.4	20.0

Table of Results - Appendix

Method No	Description
TM434	Analysis of PFAS
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

Lab Sample No(s)	31135066	31135068	31135070	31135130	31135078	31135080	31135098	31135103	31135036	31135038
Customer Sample Ref.	GR01-SP208	GR01-SP208	GR01-SP208	GR01-SP212	GR01-SP214	GR01-SP214	GR01-SP218	GR01-SP218	GR02-SP210	GR02-SP210
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40	0.00 - 0.10	0.40 - 0.50	0.30 - 0.40	0.40 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	06-Mar-2025	06-Mar-2025	06-Mar-2025	05-Mar-2025	06-Mar-2025	06-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	06-Mar-2025
pH	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Sample description	01-Mar-2025	01-Mar-2025	01-Mar-2025	28-Feb-2025	01-Mar-2025	01-Mar-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025
Total Organic Carbon	04-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025

Lab Sample No(s)	31135021	31135023	31135072	31135076	31135011	31135017	31135087	31135096	31135105	31135107
Customer Sample Ref.	GR02-SP213	GR02-SP213	GR01-SP208A	GR01-SP208A	GR01-SP212A	GR01-SP212A	GR01-SP214A	GR01-SP214A	GR01-SP218A	GR01-SP218A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.20 - 0.30	0.40 - 0.50	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	06-Mar-2025	06-Mar-2025	05-Mar-2025	06-Mar-2025	05-Mar-2025	06-Mar-2025	05-Mar-2025	06-Mar-2025	05-Mar-2025	05-Mar-2025
pH	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Sample description	01-Mar-2025	01-Mar-2025	01-Mar-2025	01-Mar-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025	01-Mar-2025	28-Feb-2025	28-Feb-2025
Total Organic Carbon	05-Mar-2025	05-Mar-2025	05-Mar-2025	04-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025

Lab Sample No(s)	31135109	31135121	31135040	31135043	31135025	31135029	31135009	31135034	31135084	31135115
Customer Sample Ref.	GR01-SP218A	GR01-SP218A	GR02-SP210A	GR02-SP210A	GR02-SP213A	GR02-SP213A	POS-204	POS-204	POS-204A	POS-204A
AGS Ref.	ES	EW	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.30 - 0.40	0.10 - 0.20	0.20 - 0.30
Type	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	05-Mar-2025		05-Mar-2025	05-Mar-2025	05-Mar-2025	06-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025
PFAS Liquids (Full Suite)		11-Mar-2025								
pH	06-Mar-2025		06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Sample description	28-Feb-2025		01-Mar-2025	01-Mar-2025	01-Mar-2025	01-Mar-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025	28-Feb-2025
Total Organic Carbon	05-Mar-2025		05-Mar-2025	05-Mar-2025	04-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025	05-Mar-2025

Lab Sample No(s)	31135125	31135111	31135047	31135052	31135117	31135055	31135063
Customer Sample Ref.	POS-204A	POS-SP204	POS-SP205	POS-SP205	POS-SP205	POS-SP205A	POS-SP205A
AGS Ref.	ES	EW	ES	ES	EW	ES	ES
Depth	0.40 - 0.50	0.20 - 0.30	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60
Type	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	05-Mar-2025		05-Mar-2025	06-Mar-2025		06-Mar-2025	06-Mar-2025
PFAS Liquids (Full Suite)		11-Mar-2025			11-Mar-2025		
pH	06-Mar-2025		06-Mar-2025	06-Mar-2025		06-Mar-2025	06-Mar-2025
Sample description	28-Feb-2025		01-Mar-2025	01-Mar-2025		01-Mar-2025	01-Mar-2025
Total Organic Carbon	11-Mar-2025		05-Mar-2025	05-Mar-2025		05-Mar-2025	05-Mar-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3138	QC 3120	QC 3123
10:2 FTS (Raw)	TM440	**83.89** 53.10 : 140.00	**71.96** 53.10 : 140.00	**61.03** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**71.85** 53.56 : 141.19	**71.92** 53.56 : 141.19	**64.07** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**73.61** 50.54 : 133.25	**82.32** 50.54 : 133.25	**43.03** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**85.02** 56.34 : 145.91	**85.86** 56.34 : 145.91	**65.76** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**15.43** 52.66 : 130.08	**14.08** 52.66 : 130.08	**11.05** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**25.29** 38.50 : 101.50	**23.78** 38.50 : 101.50	**23.97** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**79.11** 54.79 : 144.46	**76.4** 54.79 : 144.46	**66.05** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**13.53** 48.60 : 128.14	**14.04** 48.60 : 128.14	**11.65** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**74.16** 56.03 : 147.72	**79.99** 56.03 : 147.72	**67.55** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**82.14** 55.74 : 146.96	**80.58** 55.74 : 146.96	**63.68** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**76.53** 54.59 : 143.91	**75.08** 54.59 : 143.91	**65.03** 54.59 : 143.91
ADONA (Raw)	TM440	**72.99** 54.01 : 132.33	**70.55** 54.01 : 132.33	**59.29** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**74.46** 54.09 : 142.61	**76.67** 54.09 : 142.61	**62.28** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**71.71** 52.48 : 138.36	**68.84** 52.48 : 138.36	**76.61** 52.48 : 138.36
EtFOSE (Raw)	TM440	**72.14** 57.05 : 145.29	**69.78** 57.05 : 145.29	**63.01** 57.05 : 145.29
FBSA (Raw)	TM440	**66.57** 49.51 : 125.13	**70.3** 49.51 : 125.13	**57.86** 49.51 : 125.13
FHxSA (Raw)	TM440	**68.21** 50.38 : 132.82	**74.17** 50.38 : 132.82	**60.4** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**76.89** 53.47 : 140.98	**74.06** 53.47 : 140.98	**74.58** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**77.05** 54.77 : 144.39	**83.98** 54.77 : 144.39	**76.66** 54.77 : 144.39
L-PFOS (Raw)	TM440	**74.46** 54.09 : 142.61	**76.67** 54.09 : 142.61	**62.56** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**76.43** 53.02 : 139.78	**73.36** 53.02 : 139.78	**69.09** 53.02 : 139.78
MeFOSE (Raw)	TM440	**78.1** 54.99 : 144.97	**74.04** 54.99 : 144.97	**63.06** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**80.44** 59.56 : 132.93	**74.83** 59.56 : 132.93	**76.66** 59.56 : 132.93
NFDHA (Raw)	TM440	**95.19** 57.35 : 151.20	**79.5** 57.35 : 151.20	**57.17** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**71.63** 59.19 : 133.01	**70.05** 59.19 : 133.01	**84.06** 59.19 : 133.01
PFBA (Raw)	TM440	**75.37** 52.69 : 138.91	**73.52** 52.69 : 138.91	**61.37** 52.69 : 138.91

PFAS in soils

		QC 3138	QC 3120	QC 3123
PFBS (Raw)	TM440	**77.38** 53.31 : 140.54	**75.56** 53.31 : 140.54	**61.05** 53.31 : 140.54
PFDA (Raw)	TM440	**76.41** 53.39 : 140.76	**83.52** 53.39 : 140.76	**60.45** 53.39 : 140.76
PFDoA (Raw)	TM440	**77.3** 52.85 : 139.34	**74.12** 52.85 : 139.34	**57.03** 52.85 : 139.34
PFDoS (Raw)	TM440	**71.74** 55.29 : 145.76	**72.41** 55.29 : 145.76	**58.76** 55.29 : 145.76
PFDS (Raw)	TM440	**73.96** 52.94 : 139.56	**77.42** 52.94 : 139.56	**55.86** 52.94 : 139.56
PFecHS (Raw)	TM440	**71.64** 50.75 : 133.80	**75.84** 50.75 : 133.80	**59.86** 50.75 : 133.80
PFEESA (Raw)	TM440	**74.12** 50.87 : 134.12	**75.68** 50.87 : 134.12	**58.32** 50.87 : 134.12
PFHpA (Raw)	TM440	**80.66** 52.61 : 138.69	**76.14** 52.61 : 138.69	**61.76** 52.61 : 138.69
PFHpS (Raw)	TM440	**77.26** 55.29 : 145.76	**77.07** 55.29 : 145.76	**62.44** 55.29 : 145.76
PFHxA (Raw)	TM440	**78.02** 54.05 : 142.50	**74.79** 54.05 : 142.50	**56.56** 54.05 : 142.50
PFHxDA (Raw)	TM440	**70.24** 52.03 : 137.17	**69.42** 52.03 : 137.17	**55.87** 52.03 : 137.17
PFHxS (Raw)	TM440	**72.62** 53.56 : 141.19	**76.21** 53.56 : 141.19	**55.84** 53.56 : 141.19
PFMOBA (Raw)	TM440	**74.19** 52.73 : 139.02	**73.55** 52.73 : 139.02	**64.91** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**73.47** 52.57 : 138.58	**76.44** 52.57 : 138.58	**62.16** 52.57 : 138.58
PFNA (Raw)	TM440	**73.24** 52.94 : 139.56	**73.7** 52.94 : 139.56	**66.4** 52.94 : 139.56
PFNS (Raw)	TM440	**71.04** 54.38 : 143.37	**73.66** 54.38 : 143.37	**59.23** 54.38 : 143.37
PFOA (Raw)	TM440	**73.92** 53.80 : 141.85	**72.09** 53.80 : 141.85	**57.87** 53.80 : 141.85
PFODA (Raw)	TM440	**74.54** 56.03 : 147.72	**71.93** 56.03 : 147.72	**68.46** 56.03 : 147.72
PFOSA (Raw)	TM440	**72.53** 53.10 : 140.00	**69.74** 53.10 : 140.00	**70.61** 53.10 : 140.00
PFPA (Raw)	TM440	**79.36** 53.89 : 142.06	**81.6** 53.89 : 142.06	**63.86** 53.89 : 142.06
PFPeS (Raw)	TM440	**73.8** 54.30 : 143.15	**77.73** 54.30 : 143.15	**58.25** 54.30 : 143.15
PFTeA (Raw)	TM440	**72.92** 53.06 : 139.89	**80.78** 53.06 : 139.89	**64.72** 53.06 : 139.89
PFTrDA (Raw)	TM440	**81.43** 51.70 : 136.30	**81.01** 51.70 : 136.30	**65.92** 51.70 : 136.30
PFTrDS (Raw)	TM440	**73.82** 56.24 : 148.26	**75.0** 56.24 : 148.26	**56.12** 56.24 : 148.26
PFUnA (Raw)	TM440	**69.63** 53.35 : 140.65	**68.36** 53.35 : 140.65	**61.04** 53.35 : 140.65
PFUnDS (Raw)	TM440	**69.9** 53.60 : 141.30	**74.23** 53.60 : 141.30	**55.44** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3130
11Cl-PF3OUdS (763051-92-9)	TM434	**106.88** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**114.5** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**105.75** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**115.87** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**98.88** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**115.75** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**124.38** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**117.63** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**118.5** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**115.5** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**105.25** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**104.0** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**128.75** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**124.88** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**123.25** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**175.5** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**124.5** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**121.25** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**112.5** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**86.25** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**103.0** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**89.75** 62.71 : 118.96
PFBA (375-22-4)	TM434	**111.25** 67.84 : 130.39
PFBS (375-73-5)	TM434	**121.0** 90.25 : 126.25
PFDA (335-76-2)	TM434	**124.38** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**108.5** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**110.75** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3130
PFDS (335-77-3)	TM434	**101.5** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**126.25** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**127.5** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**117.75** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**115.13** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**118.88** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**107.75** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**119.25** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**130.0** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**116.13** 64.06 : 130.06
PFNA (375-95-1)	TM434	**108.63** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**119.0** 70.70 : 130.93
PFOA (335-67-1)	TM434	**125.0** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**116.37** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**117.13** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**117.0** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**111.25** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**115.38** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**105.75** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**111.88** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**112.63** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**104.5** 85.84 : 139.76

pH

Component	Method Code	QC 3152	QC 3158	QC 3156	QC 3154	QC 3160
pH	TM133	**97.79** 95.80 : 103.76	**97.79** 95.80 : 103.76	**97.97** 95.80 : 103.76	**98.34** 95.80 : 103.76	**98.16** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3152	QC 3118	QC 3199	QC 3116
Total Organic Carbon	TM132	**97.45** 93.61 : 106.00	**97.81** 93.61 : 106.00	**97.08** 93.61 : 106.00	**97.45** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250305-94
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760982
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 759666 in its entirety.

We received 40 samples on Wednesday March 05, 2025 and 34 of these samples were scheduled for analysis which was completed on Thursday March 20, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31166669	GR01-SP216	ES	0.00 - 0.10	03/03/2025
31166671	GR01-SP216	ES	0.30 - 0.40	03/03/2025
31166673	GR01-SP216	ES	0.40 - 0.50	03/03/2025
31166651	GR01-SP222	EW	0.00 - 0.10	04/03/2025
31166637	GR01-SP222	ES	0.00 - 0.10	04/03/2025
31166639	GR01-SP222	ES	0.30 - 0.40	04/03/2025
31166642	GR01-SP222	ES	0.40 - 0.50	04/03/2025
31166623	GR01-SP231	ES	0.00 - 0.10	03/03/2025
31166625	GR01-SP231	ES	0.20 - 0.30	03/03/2025
31166627	GR01-SP231	ES	0.40 - 0.50	03/03/2025
31166608	GR01-SP234	ES	0.00 - 0.10	03/03/2025
31166612	GR01-SP234	ES	0.30 - 0.40	03/03/2025
31166614	GR01-SP234	ES	0.40 - 0.50	03/03/2025
31166588	GR01-SP236	ES	0.00 - 0.10	03/03/2025
31166610	GR01-SP236	ES	0.30 - 0.40	03/03/2025
31166633	GR01-SP236	ES	0.40 - 0.50	03/03/2025
31166655	GR02-SP204	ES	0.10 - 0.20	04/03/2025
31166590	GR01-SP216A	ES	0.00 - 0.10	03/03/2025
31166592	GR01-SP216A	ES	0.20 - 0.30	03/03/2025
31166594	GR01-SP216A	ES	0.50 - 0.60	03/03/2025
31166644	GR01-SP222A	ES	0.00 - 0.10	04/03/2025
31166646	GR01-SP222A	ES	0.20 - 0.30	04/03/2025
31166648	GR01-SP222A	ES	0.50 - 0.60	04/03/2025
31166629	GR01-SP231A	ES	0.10 - 0.20	03/03/2025
31166631	GR01-SP231A	ES	0.30 - 0.40	03/03/2025
31166635	GR01-SP231A	ES	0.50 - 0.60	03/03/2025
31166616	GR01-SP234A	ES	0.10 - 0.20	03/03/2025
31166619	GR01-SP234A	ES	0.20 - 0.30	03/03/2025
31166621	GR01-SP234A	ES	0.50 - 0.60	03/03/2025
31166659	GR01-SP236A	ES	0.00 - 0.10	03/03/2025
31166665	GR01-SP236A	ES	0.20 - 0.30	03/03/2025
31166667	GR01-SP236A	ES	0.50 - 0.60	03/03/2025
31166661	GR02-SP204A	EW	0.00 - 0.10	04/03/2025
31166657	GR02-SP204A	ES	0.00 - 0.10	04/03/2025
31166596	POS-SP211B	ES	0.00 - 0.10	03/03/2025
31166598	POS-SP211B	ES	0.30 - 0.40	03/03/2025
31166600	POS-SP211B	ES	0.40 - 0.50	03/03/2025
31166602	POS-SP211C	ES	0.10 - 0.20	03/03/2025
31166604	POS-SP211C	ES	0.20 - 0.30	03/03/2025
31166606	POS-SP211C	ES	0.50 - 0.60	03/03/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 32	31166669	GR01-SP216	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31166671	GR01-SP216	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31166673	GR01-SP216	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31166651	GR01-SP222	EW	0.00 - 0.10	Digitube fo PFAS analysis.	PW
			31166637	GR01-SP222	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31166642	GR01-SP222	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31166623	GR01-SP231	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31166625	GR01-SP231	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31166627	GR01-SP231	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31166612	GR01-SP234	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31166588	GR01-SP236	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31166610	GR01-SP236	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31166633	GR01-SP236	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31166655	GR02-SP204	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31166592	GR01-SP216A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31166594	GR01-SP216A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31166646	GR01-SP222A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31166648	GR01-SP222A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31166629	GR01-SP231A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 2				X																				
pH	All	NDPs: 0 Tests: 32	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 32	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 32	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

31166606	POS-SP211C	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166604	POS-SP211C	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166602	POS-SP211C	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166600	POS-SP211B	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166598	POS-SP211B	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166596	POS-SP211B	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166657	GR02-SP204A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166661	GR02-SP204A	EW	0.00 - 0.10	Digitube fo PFAS analysis.	PW				X						
31166667	GR01-SP236A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166665	GR01-SP236A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166659	GR01-SP236A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166621	GR01-SP234A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166619	GR01-SP234A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166616	GR01-SP234A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31166635	GR01-SP231A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31166669	GR01-SP216	0.00 - 0.10	Dark Brown	Silt Loam	Stones	Vegetation
31166671	GR01-SP216	0.30 - 0.40	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166673	GR01-SP216	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31166637	GR01-SP222	0.00 - 0.10	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31166642	GR01-SP222	0.40 - 0.50	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31166623	GR01-SP231	0.00 - 0.10	Dark Brown	Silt Loam	Stones	Vegetation
31166625	GR01-SP231	0.20 - 0.30	Dark Brown	Silt Loam	Stones	Vegetation
31166627	GR01-SP231	0.40 - 0.50	Dark Brown	Sandy Clay	Brick	Stones
31166612	GR01-SP234	0.30 - 0.40	Dark Brown	Sandy Silt Loam	Crushed Brick	Vegetation
31166588	GR01-SP236	0.00 - 0.10	Dark Brown	Sandy Loam	Plastic	Vegetation
31166610	GR01-SP236	0.30 - 0.40	Dark Brown	Sandy Silt Loam	Crushed Brick	Vegetation
31166633	GR01-SP236	0.40 - 0.50	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166655	GR02-SP204	0.10 - 0.20	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166592	GR01-SP216A	0.20 - 0.30	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166594	GR01-SP216A	0.50 - 0.60	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166646	GR01-SP222A	0.20 - 0.30	Dark Brown	Sandy Loam	Crushed Brick	Vegetation
31166648	GR01-SP222A	0.50 - 0.60	Light Brown	Silty Clay Loam	None	None
31166629	GR01-SP231A	0.10 - 0.20	Dark Brown	Silty Clay Loam	Vegetation	Stones
31166635	GR01-SP231A	0.50 - 0.60	Dark Brown	Sandy Clay	Brick	Stones
31166616	GR01-SP234A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31166619	GR01-SP234A	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Crushed Brick	Vegetation
31166621	GR01-SP234A	0.50 - 0.60	Dark Brown	Silt Loam	Stones	Vegetation
31166659	GR01-SP236A	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31166665	GR01-SP236A	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31166667	GR01-SP236A	0.50 - 0.60	Dark Brown	Sandy Silt Loam	Vegetation	None
31166657	GR02-SP204A	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31166596	POS-SP211B	0.00 - 0.10	Dark Brown	Silty Clay Loam	Stones	Vegetation
31166598	POS-SP211B	0.30 - 0.40	Light Brown	Silt Loam	Vegetation	None
31166600	POS-SP211B	0.40 - 0.50	Light Brown	Silty Clay Loam	Vegetation	None
31166602	POS-SP211C	0.10 - 0.20	Dark Brown	Silty Clay Loam	Stones	Vegetation
31166604	POS-SP211C	0.20 - 0.30	Dark Brown	Silty Clay Loam	Stones	Vegetation
31166606	POS-SP211C	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP216	GR01-SP216	GR01-SP216	GR01-SP222	GR01-SP222	GR01-SP222
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166669	31166671	31166673	31166651	31166637	31166642
			AGS Reference	ES	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434					<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434					<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434					<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434					<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434					<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434					<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434					<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434					<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434					<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434					<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434					<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434					<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434					<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434					<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434					<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434					<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434					<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434					<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434					<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434					<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434					<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434					<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434					<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434					<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434					<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434					<0.002 ♦		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434					<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434					<0.00065		
Branched PFOS	<0.00065 µg/l	TM434					<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434					<0.002 ♦		
PFUnA (2058-94-8)	<0.002 µg/l	TM434					<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434					<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434					<0.001		

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP216	GR01-SP216	GR01-SP216	GR01-SP222	GR01-SP222	GR01-SP222
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166669	31166671	31166673	31166651	31166637	31166642
			AGS Reference	ES	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434					<0.001		
PFDoA (307-55-1)	<0.002 µg/l	TM434					<0.002		
PFDS (335-77-3)	<0.002 µg/l	TM434					<0.002		
PFTrDA (72629-94-8)	<0.003 µg/l	TM434					<0.003		
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434					<0.002		
PFUnDS (749786-16-1)	<0.002 µg/l	TM434					<0.002		
PFTeA (376-06-7)	<0.001 µg/l	TM434					<0.001		
PFOSA (754-91-6)	<0.002 µg/l	TM434					<0.002		
PFDoS (79780-39-5)	<0.002 µg/l	TM434					<0.002		
PFTrDS (174675-49-1)	<0.001 µg/l	TM434					<0.001		
PFHxDA (67905-19-5)	<0.001 µg/l	TM434					<0.001		
MeFOSE (24448-09-7)	<0.01 µg/l	TM434					<0.01 ♦		
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434					<0.001		
EtFOSE (1691-99-2)	<0.01 µg/l	TM434					<0.01 ♦		
PFODA (16517-11-6)	<0.001 µg/l	TM434					<0.001		
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434					<0.001		
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434					<0.01		
Total PFOS	<0.00065 µg/l	TM434					<0.00065		
Total PFAS DWI 47	<0.09 µg/l	TM434					<0.09		
Moisture Content Ratio (% of as received sample)	%	PM024		33	20	17		30	18
Soil Organic Matter (SOM)	<0.35 %	TM132		4.69 #	3.21 #	1.81 #		5.15 #	1.23 #
pH	1 pH Units	TM133		6.03 M	6.9 M	7.37 M		6.6 M	7.34 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		0.914	<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		1.26	<0.5	<0.5		<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP216	GR01-SP216	GR01-SP216	GR01-SP222	GR01-SP222	GR01-SP222
			Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166669	31166671	31166673	31166651	31166637	31166642
			AGS Reference	ES	ES	ES	EW	ES	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.82	5.29	4.4		1.86	2.48
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend								
# ISO17025 accredited.	Customer Sample Ref.	GR01-SP216	GR01-SP216	GR01-SP216	GR01-SP222	GR01-SP222	GR01-SP222
M mCERTS accredited.							
aq Aqueous / settled sample.	Depth (m)	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
diss.filt Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt Total / unfiltered sample.	Date Sampled	03/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025	04/03/2025
* Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
*** 6:2 FTAB (see appendix)	SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
1-4+§@ Sample deviation (see appendix)	Lab Sample No.(s)	31166669	31166671	31166673	31166651	31166637	31166642
	AGS Reference	ES	ES	ES	EW	ES	ES

Component	LOD/Units	Method						
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6		<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51		<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP231	GR01-SP231	GR01-SP231	GR01-SP234	GR01-SP236	GR01-SP236
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166623	31166625	31166627	31166612	31166588	31166610
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		32	19	18	13	26	17
Soil Organic Matter (SOM)	<0.35 %	TM132		5.48 #	1.71 #	1.01 #	1.69 #	6.76 #	1.42 #
pH	1 pH Units	TM133		6.93 M	8.35 M	8.42 M	8.46 M	8.11 M	8.48 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.12	0.89	0.933	0.882	3.66	2.73
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend								
# ISO17025 accredited.	Customer Sample Ref.	GR01-SP231	GR01-SP231	GR01-SP231	GR01-SP234	GR01-SP236	GR01-SP236
M mCERTS accredited.							
aq Aqueous / settled sample.	Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.30 - 0.40
diss.filt Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt Total / unfiltered sample.	Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025
* Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
*** 6:2 FTAB (see appendix)	SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
1-4+§@ Sample deviation (see appendix)	Lab Sample No.(s)	31166623	31166625	31166627	31166612	31166588	31166610
	AGS Reference	ES	ES	ES	ES	ES	ES

Component	LOD/Units	Method						
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236	GR02-SP204	GR01-SP216A	GR01-SP216A	GR01-SP222A	GR01-SP222A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	04/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166633	31166655	31166592	31166594	31166646	31166648
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		14	21	14	22	20	17
Soil Organic Matter (SOM)	<0.35 %	TM132		1.22 #	7.53 #	3.33 #	3.67 #	2.48 #	1.12 #
pH	1 pH Units	TM133		8.57 M	7.86 M	9.18 M	8.38 M	7.52 M	7.74 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	0.925	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	2.58	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		6.99	3.24	1.09	2.14	11.4	5.95
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	1.46	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236	GR02-SP204	GR01-SP216A	GR01-SP216A	GR01-SP222A	GR01-SP222A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	04/03/2025	03/03/2025	03/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166633	31166655	31166592	31166594	31166646	31166648
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	1.46	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP231A	GR01-SP231A	GR01-SP234A	GR01-SP234A	GR01-SP234A	GR01-SP236A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166629	31166635	31166616	31166619	31166621	31166659
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		21	14	24	17	14	34
Soil Organic Matter (SOM)	<0.35 %	TM132		3.48 #	1.38 #	3.9 #	2.26 #	0.817 #	10.5 #
pH	1 pH Units	TM133		8.32 M	8.51 M	8.12 M	7.71 M	8.24 M	7.44 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.85	1.02	0.969	1.13	1.12	2.5
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP231A	GR01-SP231A	GR01-SP234A	GR01-SP234A	GR01-SP234A	GR01-SP236A
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166629	31166635	31166616	31166619	31166621	31166659
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236A	GR01-SP236A	GR02-SP204A	GR02-SP204A	POS-SP211B	POS-SP211B
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	04/03/2025	04/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166665	31166667	31166661	31166657	31166596	31166598
			AGS Reference	ES	ES	EW	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434				<0.002			
PFMOPrA (377-73-1)	<0.001 µg/l	TM434				<0.001			
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434				<0.002			
PFPA (2706-90-3)	<0.001 µg/l	TM434				<0.001			
PFMOBA (863090-89-5)	<0.001 µg/l	TM434				<0.001			
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434				<0.001			
NFDHA (151772-58-6)	<0.003 µg/l	TM434				<0.003			
PFBS (375-73-5)	<0.001 µg/l	TM434				<0.001			
PFHxA (307-24-4)	<0.001 µg/l	TM434				<0.001			
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434				<0.002			
PFEESA (113507-82-7)	<0.001 µg/l	TM434				<0.001			
PFHpA (375-85-9)	<0.001 µg/l	TM434				<0.001			
PFPeS (2706-91-4)	<0.001 µg/l	TM434				<0.001			
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434				<0.005			
ADONA (919005-14-4)	<0.001 µg/l	TM434				<0.001			
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434				<0.001			
FBSA (30334-69-1)	<0.001 µg/l	TM434				<0.001			
PFOA (335-67-1)	<0.00065 µg/l	TM434				<0.00065			
PFHxS (355-46-4)	<0.001 µg/l	TM434				<0.001			
PFNA (375-95-1)	<0.001 µg/l	TM434				<0.001			
PFecHS (133201-07-7)	<0.001 µg/l	TM434				<0.001			
PFHpS (375-92-8)	<0.001 µg/l	TM434				<0.001			
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434				<0.002			
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434				<0.005			
PFDA (335-76-2)	<0.002 µg/l	TM434				<0.002			
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434				<0.002 ♦			
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434				<0.005			
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434				<0.00065			
Branched PFOS	<0.00065 µg/l	TM434				<0.00065			
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434				<0.002 ♦			
PFUnA (2058-94-8)	<0.002 µg/l	TM434				<0.002			
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434				<0.001			
PFNS (68259-12-1)	<0.001 µg/l	TM434				<0.001			

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236A	GR01-SP236A	GR02-SP204A	GR02-SP204A	POS-SP211B	POS-SP211B
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	04/03/2025	04/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166665	31166667	31166661	31166657	31166596	31166598
			AGS Reference	ES	ES	EW	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434				<0.001			
PFDoA (307-55-1)	<0.002 µg/l	TM434				<0.002			
PFDS (335-77-3)	<0.002 µg/l	TM434				<0.002			
PFTrDA (72629-94-8)	<0.003 µg/l	TM434				<0.003			
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434				<0.002			
PFUnDS (749786-16-1)	<0.002 µg/l	TM434				<0.002			
PFTeA (376-06-7)	<0.001 µg/l	TM434				<0.001			
PFOSA (754-91-6)	<0.002 µg/l	TM434				<0.002			
PFDoS (79780-39-5)	<0.002 µg/l	TM434				<0.002			
PFTrDS (174675-49-1)	<0.001 µg/l	TM434				<0.001			
PFHxDA (67905-19-5)	<0.001 µg/l	TM434				<0.001			
MeFOSE (24448-09-7)	<0.01 µg/l	TM434				<0.01 ♦			
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434				<0.001			
EtFOSE (1691-99-2)	<0.01 µg/l	TM434				<0.01 ♦			
PFODA (16517-11-6)	<0.001 µg/l	TM434				<0.001			
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434				<0.001			
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434				<0.01			
Total PFOS	<0.00065 µg/l	TM434				<0.00065			
Total PFAS DWI 47	<0.09 µg/l	TM434				<0.09			
Moisture Content Ratio (% of as received sample)	%	PM024	27	18		17	22	18	
Soil Organic Matter (SOM)	<0.35 %	TM132	5.76 #	0.9 #		6.31 #	3.79 #	1.79 #	
pH	1 pH Units	TM133	7.92 M	8.7 M		7.99 M	8.22 M	8.34 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5	<0.5		0.795	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8	<0.8		<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5	<0.5		2.3	1.06	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8	<1.8		<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1	<1		<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5	<0.5		<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4◆§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236A	GR01-SP236A	GR02-SP204A	GR02-SP204A	POS-SP211B	POS-SP211B
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	04/03/2025	04/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166665	31166667	31166661	31166657	31166596	31166598
			AGS Reference	ES	ES	EW	ES	ES	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.37	3.8		2.66	1.58	1.16
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10		<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9		<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4		<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5		1.03	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6		0.799	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4		<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8		<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7		<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP236A	GR01-SP236A	GR02-SP204A	GR02-SP204A	POS-SP211B	POS-SP211B
			Depth (m)	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.00 - 0.10	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/03/2025	03/03/2025	04/03/2025	04/03/2025	03/03/2025	03/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			SDG Ref	250305-94	250305-94	250305-94	250305-94	250305-94	250305-94
			Lab Sample No.(s)	31166665	31166667	31166661	31166657	31166596	31166598
			AGS Reference	ES	ES	EW	ES	ES	ES
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5		<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9		<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5		<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6		0.799	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51		<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP211B	POS-SP211C	POS-SP211C	POS-SP211C		
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025		
			Sample Time	.	.	.	.		
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025		
			SDG Ref	250305-94	250305-94	250305-94	250305-94		
			Lab Sample No.(s)	31166600	31166602	31166604	31166606		
			AGS Reference	ES	ES	ES	ES		
Moisture Content Ratio (% of as received sample)	%	PM024		18	22	17	19		
Soil Organic Matter (SOM)	<0.35 %	TM132		1.63 #	3.43 #	3.57 #	3.22 #		
pH	1 pH Units	TM133		8.3 M	7.68 M	8.16 M	8.19 M		
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8		
PFPA (2706-90-3)	<0.5 µg/kg	TM440		0.606	<0.5	<0.5	<0.5		
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8		
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1		
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.62	1.16	1.03	2.17		
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10		
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9		
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4		
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	0.921		
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	1.29	1.17	2.93		
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		

CERTIFICATE OF ANALYSIS

SDG: 250305-94 **Report Number:** 760982 **Superseded Report:** 759666
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP211B	POS-SP211C	POS-SP211C	POS-SP211C		
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	03/03/2025	03/03/2025	03/03/2025	03/03/2025		
			Sample Time	.	.	.	.		
			Date Received	05/03/2025	05/03/2025	05/03/2025	05/03/2025		
			SDG Ref	250305-94	250305-94	250305-94	250305-94		
			Lab Sample No.(s)	31166600	31166602	31166604	31166606		
			AGS Reference	ES	ES	ES	ES		
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4		
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	1.82		
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8		
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	1.07	1.43	2.26		
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	1.85	1.46	4.69		
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7		
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	0.624	3.52		
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	1.71		
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5		
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	1.94		
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9		
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5		
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	0.698		
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	1.35		
Total PFOS	<0.6 µg/kg	TM440		<0.6	1.29	1.17	3.85		
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51		

Table of Results - Appendix

Method No	Description
TM440	
TM434	Analysis of PFAS
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Test Completion Dates

Lab Sample No(s)	31166669	31166671	31166673	31166637	31166642	31166651	31166623	31166625	31166627	31166612
Customer Sample Ref.	GR01-SP216	GR01-SP216	GR01-SP216	GR01-SP222	GR01-SP222	GR01-SP222	GR01-SP231	GR01-SP231	GR01-SP231	GR01-SP234
AGS Ref.	ES	ES	ES	ES	ES	EW	ES	ES	ES	ES
Depth	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		19-Mar-2025	19-Mar-2025	19-Mar-2025	11-Mar-2025
PFAS Liquids (Full Suite)						20-Mar-2025				
pH	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025
Sample description	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025		06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Total Organic Carbon	11-Mar-2025	10-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		11-Mar-2025	11-Mar-2025	10-Mar-2025	10-Mar-2025

Lab Sample No(s)	31166588	31166610	31166633	31166655	31166592	31166594	31166646	31166648	31166629	31166635
Customer Sample Ref.	GR01-SP236	GR01-SP236	GR01-SP236	GR02-SP204	GR01-SP216A	GR01-SP216A	GR01-SP222A	GR01-SP222A	GR01-SP231A	GR01-SP231A
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	12-Mar-2025	19-Mar-2025
pH	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025
Sample description	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Total Organic Carbon	11-Mar-2025	10-Mar-2025	11-Mar-2025	10-Mar-2025	11-Mar-2025	10-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	10-Mar-2025

Lab Sample No(s)	31166616	31166619	31166621	31166659	31166665	31166667	31166657	31166661	31166596	31166598
Customer Sample Ref.	GR01-SP234A	GR01-SP234A	GR01-SP234A	GR01-SP236A	GR01-SP236A	GR01-SP236A	GR02-SP204A	GR02-SP204A	POS-SP211B	POS-SP211B
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	EW	ES	ES
Depth	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.50 - 0.60	0.00 - 0.10	0.00 - 0.10	0.00 - 0.10	0.30 - 0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	12-Mar-2025	11-Mar-2025	12-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		12-Mar-2025	12-Mar-2025
PFAS Liquids (Full Suite)								20-Mar-2025		
pH	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		11-Mar-2025	11-Mar-2025
Sample description	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025		06-Mar-2025	06-Mar-2025
Total Organic Carbon	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025		11-Mar-2025	11-Mar-2025

Lab Sample No(s)	31166600	31166602	31166604	31166606
Customer Sample Ref.	POS-SP211B	POS-SP211C	POS-SP211C	POS-SP211C
AGS Ref.	ES	ES	ES	ES
Depth	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	12-Mar-2025	19-Mar-2025	12-Mar-2025	19-Mar-2025
pH	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025
Sample description	06-Mar-2025	06-Mar-2025	06-Mar-2025	06-Mar-2025
Total Organic Carbon	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3127	QC 3105	QC 3172
10:2 FTS (Raw)	TM440	**68.93** 53.10 : 140.00	**71.12** 69.12 : 115.30	**77.41** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**85.91** 53.56 : 141.19	**87.14** 79.22 : 118.67	**83.41** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**87.58** 50.54 : 133.25	**69.81** 81.64 : 134.09	**83.35** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**92.38** 56.34 : 145.91	**75.85** 96.00 : 113.87	**90.69** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**16.66** 52.66 : 130.08	**17.16** 88.17 : 103.13	**79.92** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**34.45** 38.50 : 101.50	**23.24** 34.25 : 41.78	**32.2** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**88.84** 54.79 : 144.46	**70.0** 96.12 : 113.63	**92.09** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**14.26** 48.60 : 128.14	**11.82** 80.55 : 94.02	**76.97** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**95.24** 56.03 : 147.72	**84.56** 76.45 : 130.33	**75.58** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**88.7** 55.74 : 146.96	**76.4** 80.26 : 121.48	**93.36** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**90.91** 54.59 : 143.91	**81.95** 88.62 : 103.18	**81.35** 54.59 : 143.91
ADONA (Raw)	TM440	**89.66** 54.01 : 132.33	**74.94** 90.38 : 104.47	**91.04** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**89.78** 54.09 : 142.61	**71.26** 83.54 : 113.52	**77.63** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**85.7** 52.48 : 138.36	**56.85** 72.66 : 114.90	**82.33** 52.48 : 138.36
EtFOSE (Raw)	TM440	**90.37** 57.05 : 145.29	**85.49** 89.21 : 107.99	**89.3** 57.05 : 145.29
FBSA (Raw)	TM440	**75.15** 49.51 : 125.13	**60.15** 82.24 : 99.75	**78.63** 49.51 : 125.13
FHxSA (Raw)	TM440	**85.59** 50.38 : 132.82	**68.82** 82.14 : 95.79	**78.3** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**86.1** 53.47 : 140.98	**70.5** 83.44 : 114.68	**103.49** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**88.07** 54.77 : 144.39	**72.06** 72.71 : 116.95	**72.99** 54.77 : 144.39
L-PFOS (Raw)	TM440	**85.2** 54.09 : 142.61	**73.16** 83.09 : 113.93	**75.95** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**85.02** 53.02 : 139.78	**69.69** 87.45 : 114.18	**95.7** 53.02 : 139.78
MeFOSE (Raw)	TM440	**88.21** 54.99 : 144.97	**74.41** 88.93 : 110.65	**83.21** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**74.55** 59.56 : 132.93	**74.29** 91.05 : 108.53	**95.01** 59.56 : 132.93
NFDHA (Raw)	TM440	**88.36** 57.35 : 151.20	**79.55** 82.43 : 133.30	**96.74** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**79.05** 59.19 : 133.01	**75.21** 91.51 : 105.32	**90.59** 59.19 : 133.01
PFBA (Raw)	TM440	**88.06** 52.69 : 138.91	**75.41** 87.40 : 124.25	**84.81** 52.69 : 138.91

PFAS in soils

		QC 3127	QC 3105	QC 3172
PFBS (Raw)	TM440	**85.0** 53.31 : 140.54	**72.86** 93.29 : 107.65	**82.91** 53.31 : 140.54
PFDA (Raw)	TM440	**87.63** 53.39 : 140.76	**65.7** 92.33 : 113.48	**102.91** 53.39 : 140.76
PFDoA (Raw)	TM440	**89.65** 52.85 : 139.34	**77.59** 84.40 : 142.93	**79.72** 52.85 : 139.34
PFDoS (Raw)	TM440	**102.33** 55.29 : 145.76	**92.55** 85.30 : 117.51	**86.2** 55.29 : 145.76
PFDS (Raw)	TM440	**95.41** 52.94 : 139.56	**83.03** 82.27 : 112.81	**78.47** 52.94 : 139.56
PFecHS (Raw)	TM440	**77.3** 50.75 : 133.80	**68.01** 86.01 : 104.03	**88.46** 50.75 : 133.80
PFEESA (Raw)	TM440	**81.87** 50.87 : 134.12	**70.87** 88.44 : 100.72	**81.99** 50.87 : 134.12
PFHpA (Raw)	TM440	**86.63** 52.61 : 138.69	**76.51** 99.04 : 109.40	**93.33** 52.61 : 138.69
PFHpS (Raw)	TM440	**102.31** 55.29 : 145.76	**85.23** 87.20 : 115.90	**85.56** 55.29 : 145.76
PFHxA (Raw)	TM440	**90.16** 54.05 : 142.50	**76.84** 94.18 : 115.40	**86.02** 54.05 : 142.50
PFHxDA (Raw)	TM440	**91.02** 52.03 : 137.17	**78.07** 90.69 : 108.37	**84.92** 52.03 : 137.17
PFHxS (Raw)	TM440	**90.5** 53.56 : 141.19	**73.87** 83.23 : 111.27	**84.89** 53.56 : 141.19
PFMOBA (Raw)	TM440	**88.58** 52.73 : 139.02	**74.74** 93.08 : 113.21	**84.68** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**87.66** 52.57 : 138.58	**74.04** 100.97 : 112.69	**88.9** 52.57 : 138.58
PFNA (Raw)	TM440	**91.2** 52.94 : 139.56	**62.57** 102.65 : 125.45	**84.96** 52.94 : 139.56
PFNS (Raw)	TM440	**92.05** 54.38 : 143.37	**73.11** 81.03 : 115.62	**81.74** 54.38 : 143.37
PFOA (Raw)	TM440	**90.46** 53.80 : 141.85	**73.78** 97.36 : 115.49	**87.93** 53.80 : 141.85
PFODA (Raw)	TM440	**51.4** 56.03 : 147.72	**51.11** 92.29 : 107.24	**96.37** 56.03 : 147.72
PFOSA (Raw)	TM440	**84.17** 53.10 : 140.00	**69.24** 91.31 : 100.88	**83.99** 53.10 : 140.00
PFPA (Raw)	TM440	**92.23** 53.89 : 142.06	**75.8** 95.52 : 114.09	**90.72** 53.89 : 142.06
PFPeS (Raw)	TM440	**95.77** 54.30 : 143.15	**71.18** 88.46 : 109.96	**87.26** 54.30 : 143.15
PFTeA (Raw)	TM440	**105.37** 53.06 : 139.89	**70.69** 104.38 : 115.57	**85.49** 53.06 : 139.89
PFTrDA (Raw)	TM440	**101.45** 51.70 : 136.30	**77.37** 94.31 : 108.63	**86.15** 51.70 : 136.30
PFTrDS (Raw)	TM440	**107.65** 56.24 : 148.26	**103.75** 87.20 : 118.34	**87.07** 56.24 : 148.26
PFUnA (Raw)	TM440	**92.62** 53.35 : 140.65	**76.75** 100.40 : 116.95	**86.36** 53.35 : 140.65
PFUnDS (Raw)	TM440	**95.6** 53.60 : 141.30	**83.28** 87.34 : 114.08	**82.11** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3196
11Cl-PF3OUdS (763051-92-9)	TM434	**77.75** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**110.88** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**99.13** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**107.62** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**91.13** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**109.0** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**117.88** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**106.75** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**89.13** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**108.38** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**103.13** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**81.25** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**120.62** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**117.0** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**98.38** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**78.0** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**97.75** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**104.5** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**104.38** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**91.63** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**102.63** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**79.5** 62.71 : 118.96
PFBA (375-22-4)	TM434	**105.38** 67.84 : 130.39
PFBS (375-73-5)	TM434	**114.63** 90.25 : 126.25
PFDA (335-76-2)	TM434	**110.25** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**107.38** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**96.63** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3196
PFDS (335-77-3)	TM434	**103.25** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**127.5** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**123.38** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**109.5** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**90.63** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**107.25** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**118.25** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**108.63** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**121.63** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**117.0** 64.06 : 130.06
PFNA (375-95-1)	TM434	**104.63** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**85.5** 70.70 : 130.93
PFOA (335-67-1)	TM434	**119.0** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**110.0** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**107.75** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**118.0** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**103.5** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**108.25** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**111.75** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**102.88** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**106.13** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**95.87** 85.84 : 139.76

pH

Component	Method Code	QC 3148	QC 3155	QC 3157	QC 3150	QC 3153
pH	TM133	**99.26** 95.80 : 103.76	**97.97** 95.80 : 103.76	**98.34** 95.80 : 103.76	**98.9** 95.80 : 103.76	**98.34** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3129	QC 3139	QC 3146
Total Organic Carbon	TM132	**98.54** 93.61 : 106.00	**96.35** 93.61 : 106.00	**98.18** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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Hawarden
Deeside
CH5 3US
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email: hawardencustomerservices@alsglobal.com
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WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	28 March 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250308-25
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760495
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 760270 in its entirety.

We received 67 samples on Friday March 07, 2025 and 57 of these samples were scheduled for analysis which was completed on Friday March 28, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Justin Keeton
Business Unit Leader - Land

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31183332	GR01-SP206	ES	0.00 - 0.10	04/03/2025
31183360	GR01-SP206	ES	0.30 - 0.40	04/03/2025
31183487	GR01-SP206	EW	0.30 - 0.40	04/03/2025
31183385	GR01-SP206	ES	0.40 - 0.50	04/03/2025
31183431	GR01-SP225	ES	0.00 - 0.10	06/03/2025
31183439	GR01-SP225	EW	0.00 - 0.10	06/03/2025
31183435	GR01-SP225	ES	0.20 - 0.30	06/03/2025
31183437	GR01-SP225	ES	0.40 - 0.50	06/03/2025
31183354	GR01-SP233	ES	0.00 - 0.10	04/03/2025
31183356	GR01-SP233	ES	0.20 - 0.30	04/03/2025
31183358	GR01-SP233	ES	0.30 - 0.40	04/03/2025
31183419	GR02-SP205	ES	0.00 - 0.10	05/03/2025
31183421	GR02-SP205	ES	0.20 - 0.30	05/03/2025
31183423	GR02-SP205	ES	0.40 - 0.50	05/03/2025
31183383	GR02-SP208	ES	0.00 - 0.10	05/03/2025
31183387	GR02-SP208	ES	0.30 - 0.40	05/03/2025
31183391	GR02-SP208	EW	0.30 - 0.40	05/03/2025
31183389	GR02-SP208	ES	0.40 - 0.50	05/03/2025
31183495	GR02-SP214	ES	0.00 - 0.10	04/03/2025
31183335	GR02-SP214	ES	0.30 - 0.40	04/03/2025
31183337	GR02-SP214	ES	0.40 - 0.50	04/03/2025
31183345	GR02-SP214	EW	0.40 - 0.50	04/03/2025
31183411	GR01-SP206A	ES	0.10 - 0.20	04/03/2025
31183433	GR01-SP206A	ES	0.20 - 0.30	04/03/2025
31183461	GR01-SP206A	ES	0.50 - 0.60	04/03/2025
31183491	GR01-SP206A	EW	0.50 - 0.60	04/03/2025
31183444	GR01-SP225A	ES	0.10 - 0.20	06/03/2025
31183446	GR01-SP225A	ES	0.30 - 0.40	06/03/2025
31183448	GR01-SP225A	ES	0.50 - 0.60	06/03/2025
31183362	GR01-SP233A	ES	0.10 - 0.20	04/03/2025
31183364	GR01-SP233A	ES	0.20 - 0.30	04/03/2025
31183425	GR02-SP205A	ES	0.10 - 0.20	05/03/2025
31183427	GR02-SP205A	ES	0.30 - 0.40	05/03/2025
31183429	GR02-SP205A	ES	0.50 - 0.60	05/03/2025
31183395	GR02-SP208A	ES	0.00 - 0.10	05/03/2025
31183397	GR02-SP208A	ES	0.20 - 0.30	05/03/2025
31183399	GR02-SP208A	ES	0.50 - 0.60	05/03/2025
31183339	GR02-SP214A	ES	0.00 - 0.10	04/03/2025
31183341	GR02-SP214A	ES	0.20 - 0.30	04/03/2025
31183343	GR02-SP214A	ES	0.50 - 0.60	04/03/2025
31183350	GR02-SP214A	EW	0.50 - 0.60	04/03/2025
31183366	POS-SP207	ES	0.00 - 0.10	05/03/2025
31183368	POS-SP207	ES	0.20 - 0.30	05/03/2025
31183370	POS-SP207	ES	0.40 - 0.50	05/03/2025
31183401	POS-SP209	ES	0.00 - 0.10	05/03/2025
31183403	POS-SP209	ES	0.20 - 0.30	05/03/2025
31183405	POS-SP209	ES	0.40 - 0.50	05/03/2025
31183407	POS-SP209	EW	0.40 - 0.50	05/03/2025
31183470	POS-SP212	ES	0.00 - 0.10	06/03/2025
31183472	POS-SP212	ES	0.20 - 0.30	06/03/2025
31183475	POS-SP212	ES	0.40 - 0.50	06/03/2025
31183450	POS-SP213	ES	0.00 - 0.10	06/03/2025
31183452	POS-SP213	ES	0.20 - 0.30	06/03/2025
31183454	POS-SP213	ES	0.40 - 0.50	06/03/2025
31183373	POS-SP207A	ES	0.10 - 0.20	05/03/2025
31183375	POS-SP207A	ES	0.30 - 0.40	05/03/2025
31183377	POS-SP207A	ES	0.50 - 0.60	05/03/2025

31183379	POS-SP207A	EW	0.50 - 0.60	05/03/2025
31183413	POS-SP209A	ES	0.10 - 0.20	05/03/2025
31183415	POS-SP209A	ES	0.30 - 0.40	05/03/2025
31183417	POS-SP209A	ES	0.50 - 0.60	05/03/2025
31183477	POS-SP212A	ES	0.10 - 0.20	06/03/2025
31183481	POS-SP212A	ES	0.30 - 0.40	06/03/2025
31183485	POS-SP212A	ES	0.50 - 0.60	06/03/2025
31183456	POS-SP213A	ES	0.10 - 0.20	06/03/2025
31183465	POS-SP213A	ES	0.30 - 0.40	06/03/2025
31183468	POS-SP213A	ES	0.50 - 0.60	06/03/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 49	31183360	GR01-SP206	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183487	GR01-SP206	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183385	GR01-SP206	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183431	GR01-SP225	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183439	GR01-SP225	EW	0.00 - 0.10	Digitube fo PFAS analysis.	PW
			31183437	GR01-SP225	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183354	GR01-SP233	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183356	GR01-SP233	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31183358	GR01-SP233	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183419	GR02-SP205	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183423	GR02-SP205	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183383	GR02-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183387	GR02-SP208	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183391	GR02-SP208	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183389	GR02-SP208	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183495	GR02-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183335	GR02-SP214	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183337	GR02-SP214	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183345	GR02-SP214	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 8						
				X				
				X				
				X				
pH	All	NDPs: 0 Tests: 49						
			X					
			31183360	GR01-SP206	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183487	GR01-SP206	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183385	GR01-SP206	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183431	GR01-SP225	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183439	GR01-SP225	EW	0.00 - 0.10	Digitube fo PFAS analysis.	PW
			31183437	GR01-SP225	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183354	GR01-SP233	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183356	GR01-SP233	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31183358	GR01-SP233	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183419	GR02-SP205	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183423	GR02-SP205	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183383	GR02-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183387	GR02-SP208	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183391	GR02-SP208	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183389	GR02-SP208	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183495	GR02-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183335	GR02-SP214	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183337	GR02-SP214	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183345	GR02-SP214	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW
Sample description	All	NDPs: 0 Tests: 48						
			X					
			31183360	GR01-SP206	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183385	GR01-SP206	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183431	GR01-SP225	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183437	GR01-SP225	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183354	GR01-SP233	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183356	GR01-SP233	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31183358	GR01-SP233	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183419	GR02-SP205	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183423	GR02-SP205	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183383	GR02-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183387	GR02-SP208	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183391	GR02-SP208	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183389	GR02-SP208	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183495	GR02-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183335	GR02-SP214	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183337	GR02-SP214	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183345	GR02-SP214	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW
Total Organic Carbon	All	NDPs: 0 Tests: 49						
			X					
			31183360	GR01-SP206	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183385	GR01-SP206	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183431	GR01-SP225	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183437	GR01-SP225	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183354	GR01-SP233	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183356	GR01-SP233	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31183358	GR01-SP233	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183419	GR02-SP205	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183423	GR02-SP205	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183383	GR02-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183387	GR02-SP208	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183391	GR02-SP208	EW	0.30 - 0.40	Digitube fo PFAS analysis.	PW
			31183389	GR02-SP208	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183495	GR02-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183335	GR02-SP214	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183337	GR02-SP214	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183345	GR02-SP214	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW

31183403	POS-SP209	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183401	POS-SP209	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183370	POS-SP207	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183368	POS-SP207	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183366	POS-SP207	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183350	GR02-SP214A	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW				X						
31183343	GR02-SP214A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183341	GR02-SP214A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183399	GR02-SP208A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183395	GR02-SP208A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183429	GR02-SP205A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X				X
31183427	GR02-SP205A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183425	GR02-SP205A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183364	GR01-SP233A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183362	GR01-SP233A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183448	GR01-SP225A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183446	GR01-SP225A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183444	GR01-SP225A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183491	GR01-SP206A	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW				X						
31183433	GR01-SP206A	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S		X				X		X		X
31183411	GR01-SP206A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S		X				X		X		X

Validated

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 49	31183405	POS-SP209	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 8	31183407	POS-SP209	EW	0.40 - 0.50	Digitube fo PFAS analysis.	PW
			X					
pH	All	NDPs: 0 Tests: 49	31183470	POS-SP212	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
Sample description	All	NDPs: 0 Tests: 48	31183472	POS-SP212	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
Total Organic Carbon	All	NDPs: 0 Tests: 49	31183475	POS-SP212	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183450	POS-SP213	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			X					
			31183452	POS-SP213	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			X					
			31183454	POS-SP213	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			X					
			31183375	POS-SP207A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183377	POS-SP207A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			X					
			31183379	POS-SP207A	EW	0.50 - 0.60	Digitube fo PFAS analysis.	PW
			X					
			31183415	POS-SP209A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183417	POS-SP209A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			X					
			31183481	POS-SP212A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					
			31183485	POS-SP212A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			X					
			31183456	POS-SP213A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			X					
			31183465	POS-SP213A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			X					

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31183360	GR01-SP206	0.30 - 0.40	Light Brown	Sandy Clay Loam	Crushed Brick	Stones
31183385	GR01-SP206	0.40 - 0.50	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183431	GR01-SP225	0.00 - 0.10	Light Brown	Silty Clay Loam	Stones	Vegetation
31183437	GR01-SP225	0.40 - 0.50	Light Brown	Clay Loam	Stones	Vegetation
31183354	GR01-SP233	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31183356	GR01-SP233	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31183358	GR01-SP233	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	None
31183419	GR02-SP205	0.00 - 0.10	Dark Brown	Loamy Sand	Stones	Vegetation
31183423	GR02-SP205	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31183383	GR02-SP208	0.00 - 0.10	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183387	GR02-SP208	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31183389	GR02-SP208	0.40 - 0.50	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183335	GR02-SP214	0.30 - 0.40	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183337	GR02-SP214	0.40 - 0.50	Dark Brown	Silty Clay Loam	Stones	Vegetation
31183495	GR02-SP214	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31183411	GR01-SP206A	0.10 - 0.20	Light Brown	Sandy Clay Loam	Crushed Brick	Stones
31183433	GR01-SP206A	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31183444	GR01-SP225A	0.10 - 0.20	Light Brown	Clay Loam	Stones	Vegetation
31183446	GR01-SP225A	0.30 - 0.40	Light Brown	Clay Loam	Stones	Vegetation
31183448	GR01-SP225A	0.50 - 0.60	Light Brown	Clay Loam	Stones	Vegetation
31183362	GR01-SP233A	0.10 - 0.20	Dark Brown	Loamy Sand	Stones	Vegetation
31183364	GR01-SP233A	0.20 - 0.30	Dark Brown	Sandy Loam	Stones	Vegetation
31183425	GR02-SP205A	0.10 - 0.20	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183427	GR02-SP205A	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Brick
31183429	GR02-SP205A	0.50 - 0.60	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183395	GR02-SP208A	0.00 - 0.10	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183399	GR02-SP208A	0.50 - 0.60	Dark Brown	Sandy Loam	Stones	Vegetation
31183341	GR02-SP214A	0.20 - 0.30	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183343	GR02-SP214A	0.50 - 0.60	Dark Brown	Sandy Silt Loam	Vegetation	None
31183366	POS-SP207	0.00 - 0.10	Dark Brown	Sandy Loam	Vegetation	None
31183368	POS-SP207	0.20 - 0.30	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183370	POS-SP207	0.40 - 0.50	Light Brown	Clay Loam	Stones	Vegetation
31183401	POS-SP209	0.00 - 0.10	Dark Brown	Sandy Loam	Vegetation	None
31183403	POS-SP209	0.20 - 0.30	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183405	POS-SP209	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31183470	POS-SP212	0.00 - 0.10	Dark Brown	Silt Loam	Vegetation	None
31183472	POS-SP212	0.20 - 0.30	Dark Brown	Silty Clay Loam	Vegetation	None
31183475	POS-SP212	0.40 - 0.50	Light Brown	Silt Loam	Vegetation	None
31183450	POS-SP213	0.00 - 0.10	Dark Brown	Sandy Silt Loam	Vegetation	None

			Colour	Description	Inclusions	Inclusions 2
31183452	POS-SP213	0.20 - 0.30	Light Brown	Sandy Clay Loam	Stones	Vegetation
31183454	POS-SP213	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Brick
31183375	POS-SP207A	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31183377	POS-SP207A	0.50 - 0.60	Light Brown	Sandy Loam	Vegetation	Stones
31183415	POS-SP209A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31183417	POS-SP209A	0.50 - 0.60	Light Brown	Sandy Silt Loam	Stones	Vegetation
31183481	POS-SP212A	0.30 - 0.40	Dark Brown	Sandy Silt Loam	Vegetation	None
31183485	POS-SP212A	0.50 - 0.60	Dark Brown	Silt Loam	Vegetation	None
31183456	POS-SP213A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31183465	POS-SP213A	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP206	GR01-SP206	GR01-SP206	GR01-SP225	GR01-SP225	GR01-SP225
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183360	31183487	31183385	31183431	31183439	31183437
			AGS Reference	ES	EW	ES	ES	EW	ES
PFBA (375-22-4)	<0.002 µg/l	TM434		<0.002			<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434		<0.001			<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434		<0.002			<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434		<0.001			<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434		<0.001			<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434		<0.001			<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434		<0.003			<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434		<0.001			<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434		<0.002			<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434		<0.001			<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434		<0.001			<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434		<0.005			<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434		<0.001			<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434		<0.001			<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434		<0.00065			<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434		<0.001			<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434		<0.001			<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434		<0.002			<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434		<0.005			<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434		<0.002			<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434		<0.002 @			<0.002 ♦		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434		<0.005			<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434		<0.00065			<0.00065		
Branched PFOS	<0.00065 µg/l	TM434		<0.00065			<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434		<0.002 @			<0.002 ♦		
PFUnA (2058-94-8)	<0.002 µg/l	TM434		<0.002			<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434		<0.001			<0.001		

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP206	GR01-SP206	GR01-SP206	GR01-SP225	GR01-SP225	GR01-SP225
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183360	31183487	31183385	31183431	31183439	31183437
			AGS Reference	ES	EW	ES	ES	EW	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002			<0.002	
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003			<0.003	
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002			<0.002	
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001			<0.001	
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002			<0.002	
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002			<0.002	
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001			<0.001	
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001			<0.001	
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 @			<0.01 ♦	
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001			<0.001	
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 @			<0.01 ♦	
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001			<0.001	
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001			<0.001	
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01			<0.01	
Total PFOS	<0.00065 µg/l	TM434			<0.00065			<0.00065	
Total PFAS DWI 47	<0.09 µg/l	TM434			<0.09			<0.09	
Moisture Content Ratio (% of as received sample)	%	PM024	20		21	32		17	
Soil Organic Matter (SOM)	<0.35 %	TM132	3.64 #		5.67 #	4.88 #		1.07 #	
pH	1 pH Units	TM133	8.28 M		8.03 M	6.82 M		8.15 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8		<0.8	<0.8		<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8		<1.8	<1.8		<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1		<1	<1		<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5		<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP206	GR01-SP206	GR01-SP206	GR01-SP225	GR01-SP225	GR01-SP225
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183360	31183487	31183385	31183431	31183439	31183437
			AGS Reference	ES	EW	ES	ES	EW	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5		<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		4.82		5	1.39		1.75
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10		<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9		<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4		<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5		<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4		<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8		<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7		<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
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- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP206	GR01-SP206	GR01-SP206	GR01-SP225	GR01-SP225	GR01-SP225
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183360	31183487	31183385	31183431	31183439	31183437
			AGS Reference	ES	EW	ES	ES	EW	ES
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5		<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9		<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5		<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5		<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6		<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51		<51	<51		<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP233	GR01-SP233	GR01-SP233	GR02-SP205	GR02-SP205	GR02-SP208
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.30 - 0.40	0.00 - 0.10	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183354	31183356	31183358	31183419	31183423	31183383
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		29	25	22	22	19	31
Soil Organic Matter (SOM)	<0.35 %	TM132		11.3 #	6 #	3.1 #	6.43 #	7.07 #	6.59 #
pH	1 pH Units	TM133		7.39 M	7.48 M	7.55 M	7.77 M	7.9 M	6.65 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	0.724	<0.5	1.38	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.732	1.36	1.5	1.45	3.44	2.91
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	1.04
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP233	GR01-SP233	GR01-SP233	GR02-SP205	GR02-SP205	GR02-SP208
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.30 - 0.40	0.00 - 0.10	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183354	31183356	31183358	31183419	31183423	31183383
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	1.04
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP214	GR02-SP214	GR02-SP214
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183387	31183391	31183389	31183495	31183335	31183337
			AGS Reference	ES	EW	ES	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434			<0.002				
PFMOPrA (377-73-1)	<0.001 µg/l	TM434			<0.001				
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434			<0.002				
PFPA (2706-90-3)	<0.001 µg/l	TM434			<0.001				
PFMOBA (863090-89-5)	<0.001 µg/l	TM434			<0.001				
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434			<0.001				
NFDHA (151772-58-6)	<0.003 µg/l	TM434			<0.003				
PFBS (375-73-5)	<0.001 µg/l	TM434			<0.001				
PFHxA (307-24-4)	<0.001 µg/l	TM434			<0.001				
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434			<0.002				
PFEESA (113507-82-7)	<0.001 µg/l	TM434			<0.001				
PFHpA (375-85-9)	<0.001 µg/l	TM434			<0.001				
PFPeS (2706-91-4)	<0.001 µg/l	TM434			<0.001				
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434			<0.005				
ADONA (919005-14-4)	<0.001 µg/l	TM434			<0.001				
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434			<0.001				
FBSA (30334-69-1)	<0.001 µg/l	TM434			<0.001				
PFOA (335-67-1)	<0.00065 µg/l	TM434			<0.00065				
PFHxS (355-46-4)	<0.001 µg/l	TM434			<0.001				
PFNA (375-95-1)	<0.001 µg/l	TM434			<0.001				
PFecHS (133201-07-7)	<0.001 µg/l	TM434			<0.001				
PFHpS (375-92-8)	<0.001 µg/l	TM434			<0.001				
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434			<0.002				
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434			<0.005				
PFDA (335-76-2)	<0.002 µg/l	TM434			<0.002				
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434			<0.002 ♦				
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434			<0.005				
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434			<0.00065				
Branched PFOS	<0.00065 µg/l	TM434			<0.00065				
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434			<0.002 ♦				
PFUnA (2058-94-8)	<0.002 µg/l	TM434			<0.002				
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434			<0.001				
PFNS (68259-12-1)	<0.001 µg/l	TM434			<0.001				

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP214	GR02-SP214	GR02-SP214
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183387	31183391	31183389	31183495	31183335	31183337
			AGS Reference	ES	EW	ES	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434			<0.001				
PFDoA (307-55-1)	<0.002 µg/l	TM434			<0.002				
PFDS (335-77-3)	<0.002 µg/l	TM434			<0.002				
PFTrDA (72629-94-8)	<0.003 µg/l	TM434			<0.003				
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434			<0.002				
PFUnDS (749786-16-1)	<0.002 µg/l	TM434			<0.002				
PFTeA (376-06-7)	<0.001 µg/l	TM434			<0.001				
PFOSA (754-91-6)	<0.002 µg/l	TM434			<0.002				
PFDoS (79780-39-5)	<0.002 µg/l	TM434			<0.002				
PFTrDS (174675-49-1)	<0.001 µg/l	TM434			<0.001				
PFHxDA (67905-19-5)	<0.001 µg/l	TM434			<0.001				
MeFOSE (24448-09-7)	<0.01 µg/l	TM434			<0.01 ♦				
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434			<0.001				
EtFOSE (1691-99-2)	<0.01 µg/l	TM434			<0.01 ♦				
PFODA (16517-11-6)	<0.001 µg/l	TM434			<0.001				
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434			<0.001				
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434			<0.01				
Total PFOS	<0.00065 µg/l	TM434			<0.00065				
Total PFAS DWI 47	<0.09 µg/l	TM434			<0.09				
Moisture Content Ratio (% of as received sample)	%	PM024	20		22	30	24	19	
Soil Organic Matter (SOM)	<0.35 %	TM132	2.84 #		2.91 #	7.78 #	5.43 #	1.79 #	
pH	1 pH Units	TM133	7.28 M		7.73 M	6.4 M	7.06 M	7.7 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8		<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8		<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1		<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5		<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP214	GR02-SP214	GR02-SP214
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183387	31183391	31183389	31183495	31183335	31183337
			AGS Reference	ES	EW	ES	ES	ES	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		4.17		2.25	4.14	7.36	6.3
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10		<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4		<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5		<2.5	<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4		<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8		<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7		<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP214	GR02-SP214	GR02-SP214
			Depth (m)	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183387	31183391	31183389	31183495	31183335	31183337
			AGS Reference	ES	EW	ES	ES	ES	ES
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9		<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5		<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5		<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6		<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51		<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP214	GR01-SP206A	GR01-SP206A	GR01-SP206A	GR01-SP225A	GR01-SP225A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183345	31183411	31183433	31183491	31183444	31183446
			AGS Reference	EW	ES	ES	EW	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434		<0.002			<0.002		
PFMOPrA (377-73-1)	<0.001 µg/l	TM434		<0.001			<0.001		
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434		<0.002			<0.002		
PFPA (2706-90-3)	<0.001 µg/l	TM434		<0.001			<0.001		
PFMOBA (863090-89-5)	<0.001 µg/l	TM434		<0.001			<0.001		
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434		<0.001			<0.001		
NFDHA (151772-58-6)	<0.003 µg/l	TM434		<0.003			<0.003		
PFBS (375-73-5)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHxA (307-24-4)	<0.001 µg/l	TM434		<0.001			<0.001		
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434		<0.002			<0.002		
PFEESA (113507-82-7)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHpA (375-85-9)	<0.001 µg/l	TM434		<0.001			<0.001		
PFPeS (2706-91-4)	<0.001 µg/l	TM434		<0.001			<0.001		
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434		<0.005			<0.005		
ADONA (919005-14-4)	<0.001 µg/l	TM434		<0.001			<0.001		
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434		<0.001			<0.001		
FBSA (30334-69-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFOA (335-67-1)	<0.00065 µg/l	TM434		<0.00065			<0.00065		
PFHxS (355-46-4)	<0.001 µg/l	TM434		<0.001			<0.001		
PFNA (375-95-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFecHS (133201-07-7)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHpS (375-92-8)	<0.001 µg/l	TM434		<0.001			<0.001		
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434		<0.002			<0.002		
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434		<0.005			<0.005		
PFDA (335-76-2)	<0.002 µg/l	TM434		<0.002			<0.002		
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434		<0.002 @			<0.002 @		
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434		<0.005			<0.005		
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434		<0.00065			<0.00065		
Branched PFOS	<0.00065 µg/l	TM434		<0.00065			<0.00065		
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434		<0.002 @			<0.002 @		
PFUnA (2058-94-8)	<0.002 µg/l	TM434		<0.002			<0.002		
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFNS (68259-12-1)	<0.001 µg/l	TM434		<0.001			<0.001		

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP214	GR01-SP206A	GR01-SP206A	GR01-SP206A	GR01-SP225A	GR01-SP225A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183345	31183411	31183433	31183491	31183444	31183446
			AGS Reference	EW	ES	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFDoA (307-55-1)	<0.002 µg/l	TM434		<0.002			<0.002		
PFDS (335-77-3)	<0.002 µg/l	TM434		<0.002			<0.002		
PFTrDA (72629-94-8)	<0.003 µg/l	TM434		<0.003			<0.003		
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434		<0.002			<0.002		
PFUnDS (749786-16-1)	<0.002 µg/l	TM434		<0.002			<0.002		
PFTeA (376-06-7)	<0.001 µg/l	TM434		<0.001			<0.001		
PFOSA (754-91-6)	<0.002 µg/l	TM434		<0.002			<0.002		
PFDoS (79780-39-5)	<0.002 µg/l	TM434		<0.002			<0.002		
PFTrDS (174675-49-1)	<0.001 µg/l	TM434		<0.001			<0.001		
PFHxDA (67905-19-5)	<0.001 µg/l	TM434		<0.001			<0.001		
MeFOSE (24448-09-7)	<0.01 µg/l	TM434		<0.01 @			<0.01 @		
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434		<0.001			<0.001		
EtFOSE (1691-99-2)	<0.01 µg/l	TM434		<0.01 @			<0.01 @		
PFODA (16517-11-6)	<0.001 µg/l	TM434		<0.001			<0.001		
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434		<0.001			<0.001		
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434		<0.01			<0.01		
Total PFOS	<0.00065 µg/l	TM434		<0.00065			<0.00065		
Total PFAS DWI 47	<0.09 µg/l	TM434		<0.09			<0.09		
Moisture Content Ratio (% of as received sample)	%	PM024			24	23		19	16
Soil Organic Matter (SOM)	<0.35 %	TM132			5.6 #	4.69 #		2.55 #	1.01 #
pH	1 pH Units	TM133			8.28 M	8.07 M		8.14 M	8.59 M
PFBA (375-22-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440			<0.8	<0.8		<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440			<1.8	<1.8		<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440			<1	<1		<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP214	GR01-SP206A	GR01-SP206A	GR01-SP206A	GR01-SP225A	GR01-SP225A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183345	31183411	31183433	31183491	31183444	31183446
			AGS Reference	EW	ES	ES	EW	ES	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440			<2.5	<2.5		<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440			3.19	4.86		2.25	1.13
PFHxS (355-46-4)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440			<10	<10		<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440			<0.9	<0.9		<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440			<4.4	<4.4		<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440			<2.5	<2.5		<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440			<1.4	<1.4		<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440			<0.8	<0.8		<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440			<0.7	<0.7		<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP214	GR01-SP206A	GR01-SP206A	GR01-SP206A	GR01-SP225A	GR01-SP225A
			Depth (m)	0.40 - 0.50	0.10 - 0.20	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
			Sample Type	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183345	31183411	31183433	31183491	31183444	31183446
			AGS Reference	EW	ES	ES	EW	ES	ES
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440			<5	<5		<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440			<0.9	<0.9		<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440			<5	<5		<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440			<0.5	<0.5		<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440			<0.6	<0.6		<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440			<51	<51		<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP225A	GR01-SP233A	GR01-SP233A	GR02-SP205A	GR02-SP205A	GR02-SP205A
			Depth (m)	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/03/2025	04/03/2025	04/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183448	31183362	31183364	31183425	31183427	31183429
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		16	34	28	19	19	19
Soil Organic Matter (SOM)	<0.35 %	TM132		0.984 #	13.2 #	8.19 #	5.53 #	3.97 #	11.9 #
pH	1 pH Units	TM133		8.48 M	7.52 M	7.49 M	8.28 M	8.12 M	8.22 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	0.931	0.931	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	1.57	1.64	0.618	0.928	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	2.7	3.6	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.55	1.13	0.996	0.74	2.9	3.35
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend	Customer Sample Ref.	GR01-SP225A	GR01-SP233A	GR01-SP233A	GR02-SP205A	GR02-SP205A	GR02-SP205A
# ISO17025 accredited.	Depth (m)	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
M mCERTS accredited.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq Aqueous / settled sample.	Date Sampled	06/03/2025	04/03/2025	04/03/2025	05/03/2025	05/03/2025	05/03/2025
diss.filt Dissolved / filtered sample.	Sample Time	.	.	.	.	.	.
tot.unfilt Total / unfiltered sample.	Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	31183448	31183362	31183364	31183425	31183427	31183429
*** 6:2 FTAB (see appendix)	AGS Reference	ES	ES	ES	ES	ES	ES
1-4+§@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208A	GR02-SP208A	GR02-SP214A	GR02-SP214A	GR02-SP214A	POS-SP207
			Depth (m)	0.00 - 0.10	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183395	31183399	31183341	31183343	31183350	31183366
			AGS Reference	ES	ES	ES	ES	EW	ES
PFBA (375-22-4)	<0.002 µg/l	TM434						<0.002	
PFMOPrA (377-73-1)	<0.001 µg/l	TM434						<0.001	
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434						<0.002	
PFPA (2706-90-3)	<0.001 µg/l	TM434						<0.001	
PFMOBA (863090-89-5)	<0.001 µg/l	TM434						<0.001	
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434						<0.001	
NFDHA (151772-58-6)	<0.003 µg/l	TM434						<0.003	
PFBS (375-73-5)	<0.001 µg/l	TM434						<0.001	
PFHxA (307-24-4)	<0.001 µg/l	TM434						<0.001	
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434						<0.002	
PFEESA (113507-82-7)	<0.001 µg/l	TM434						<0.001	
PFHpA (375-85-9)	<0.001 µg/l	TM434						<0.001	
PFPeS (2706-91-4)	<0.001 µg/l	TM434						<0.001	
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434						<0.005	
ADONA (919005-14-4)	<0.001 µg/l	TM434						<0.001	
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434						<0.001	
FBSA (30334-69-1)	<0.001 µg/l	TM434						<0.001	
PFOA (335-67-1)	<0.00065 µg/l	TM434						<0.00065	
PFHxS (355-46-4)	<0.001 µg/l	TM434						<0.001	
PFNA (375-95-1)	<0.001 µg/l	TM434						<0.001	
PFecHS (133201-07-7)	<0.001 µg/l	TM434						<0.001	
PFHpS (375-92-8)	<0.001 µg/l	TM434						<0.001	
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434						<0.002	
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434						<0.005	
PFDA (335-76-2)	<0.002 µg/l	TM434						<0.002	
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434						<0.002 @	
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434						<0.005	
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434						<0.00065	
Branched PFOS	<0.00065 µg/l	TM434						<0.00065	
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434						<0.002 @	
PFUnA (2058-94-8)	<0.002 µg/l	TM434						<0.002	
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434						<0.001	
PFNS (68259-12-1)	<0.001 µg/l	TM434						<0.001	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208A	GR02-SP208A	GR02-SP214A	GR02-SP214A	GR02-SP214A	POS-SP207
			Depth (m)	0.00 - 0.10	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183395	31183399	31183341	31183343	31183350	31183366
			AGS Reference	ES	ES	ES	ES	EW	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434						<0.001	
PFDoA (307-55-1)	<0.002 µg/l	TM434						<0.002	
PFDS (335-77-3)	<0.002 µg/l	TM434						<0.002	
PFTrDA (72629-94-8)	<0.003 µg/l	TM434						<0.003	
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434						<0.002	
PFUnDS (749786-16-1)	<0.002 µg/l	TM434						<0.002	
PFTeA (376-06-7)	<0.001 µg/l	TM434						<0.001	
PFOSA (754-91-6)	<0.002 µg/l	TM434						<0.002	
PFDoS (79780-39-5)	<0.002 µg/l	TM434						<0.002	
PFTrDS (174675-49-1)	<0.001 µg/l	TM434						<0.001	
PFHxDA (67905-19-5)	<0.001 µg/l	TM434						<0.001	
MeFOSE (24448-09-7)	<0.01 µg/l	TM434						<0.01 @	
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434						<0.001	
EtFOSE (1691-99-2)	<0.01 µg/l	TM434						<0.01 @	
PFODA (16517-11-6)	<0.001 µg/l	TM434						<0.001	
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434						<0.001	
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434						<0.01	
Total PFOS	<0.00065 µg/l	TM434						<0.00065	
Total PFAS DWI 47	<0.09 µg/l	TM434						<0.09	
Moisture Content Ratio (% of as received sample)	%	PM024	24	16	26	23		33	
Soil Organic Matter (SOM)	<0.35 %	TM132	6.03 #	1.23 #	6.81 #	3.12 #		10 #	
pH	1 pH Units	TM133	7.05 M	7.02 M	7.8 M	7.83 M		7.19 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		1.43	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8	<0.8		<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		0.858	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440	<1.8	<1.8	<1.8	<1.8		<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440	<1	<1	<1	<1		<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP208A	GR02-SP208A	GR02-SP214A	GR02-SP214A	GR02-SP214A	POS-SP207
			Depth (m)	0.00 - 0.10	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.50 - 0.60	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183395	31183399	31183341	31183343	31183350	31183366
			AGS Reference	ES	ES	ES	ES	EW	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.79	1.94	7.09	9.26		9.08
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10		<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9		<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4		<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4		<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8		<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7		<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend								
# ISO17025 accredited.	**Customer Sample Ref.**	GR02-SP208A	GR02-SP208A	GR02-SP214A	GR02-SP214A	GR02-SP214A	POS-SP207
M mCERTS accredited.							
aq Aqueous / settled sample.	**Depth (m)**	0.00 - 0.10	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.50 - 0.60	0.00 - 0.10
diss.filt Dissolved / filtered sample.	**Sample Type**	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)
tot.unfilt Total / unfiltered sample.	**Date Sampled**	05/03/2025	05/03/2025	04/03/2025	04/03/2025	04/03/2025	05/03/2025
* Subcontracted - refer to subcontractor report for accreditation status.	**Sample Time**	.	.	.	.	.	.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	**Date Received**	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
*** 6:2 FTAB (see appendix)	**SDG Ref**	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
1-4+§@ Sample deviation (see appendix)	**Lab Sample No.(s)**	31183395	31183399	31183341	31183343	31183350	31183366
	AGS Reference	ES	ES	ES	ES	EW	ES

Component	LOD/Units	Method						
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5		<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9		<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5		<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5		<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6		<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51		<51

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207	POS-SP207	POS-SP209	POS-SP209	POS-SP209	POS-SP209
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183368	31183370	31183401	31183403	31183405	31183407
			AGS Reference	ES	ES	ES	ES	ES	EW
PFBA (375-22-4)	<0.002 µg/l	TM434							<0.002
PFMOPrA (377-73-1)	<0.001 µg/l	TM434							<0.001
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434							<0.002
PFPA (2706-90-3)	<0.001 µg/l	TM434							<0.001
PFMOBA (863090-89-5)	<0.001 µg/l	TM434							<0.001
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434							<0.001
NFDHA (151772-58-6)	<0.003 µg/l	TM434							<0.003
PFBS (375-73-5)	<0.001 µg/l	TM434							<0.001
PFHxA (307-24-4)	<0.001 µg/l	TM434							<0.001
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434							<0.002
PFEESA (113507-82-7)	<0.001 µg/l	TM434							<0.001
PFHpA (375-85-9)	<0.001 µg/l	TM434							<0.001
PFPeS (2706-91-4)	<0.001 µg/l	TM434							<0.001
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434							<0.005
ADONA (919005-14-4)	<0.001 µg/l	TM434							<0.001
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434							<0.001
FBSA (30334-69-1)	<0.001 µg/l	TM434							<0.001
PFOA (335-67-1)	<0.00065 µg/l	TM434							<0.00065
PFHxS (355-46-4)	<0.001 µg/l	TM434							<0.001
PFNA (375-95-1)	<0.001 µg/l	TM434							<0.001
PFecHS (133201-07-7)	<0.001 µg/l	TM434							<0.001
PFHpS (375-92-8)	<0.001 µg/l	TM434							<0.001
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434							<0.002
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434							<0.005
PFDA (335-76-2)	<0.002 µg/l	TM434							<0.002
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434							<0.002 ♦
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434							<0.005
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434							<0.00065
Branched PFOS	<0.00065 µg/l	TM434							<0.00065
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434							<0.002 ♦
PFUnA (2058-94-8)	<0.002 µg/l	TM434							<0.002
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434							<0.001
PFNS (68259-12-1)	<0.001 µg/l	TM434							<0.001

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
*** 6:2 FTAB (see appendix)
1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207	POS-SP207	POS-SP209	POS-SP209	POS-SP209	POS-SP209
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183368	31183370	31183401	31183403	31183405	31183407
			AGS Reference	ES	ES	ES	ES	ES	EW
FHxSA (41997-13-1)	<0.001 µg/l	TM434							<0.001
PFDoA (307-55-1)	<0.002 µg/l	TM434							<0.002
PFDS (335-77-3)	<0.002 µg/l	TM434							<0.002
PFTrDA (72629-94-8)	<0.003 µg/l	TM434							<0.003
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434							<0.002
PFUnDS (749786-16-1)	<0.002 µg/l	TM434							<0.002
PFTeA (376-06-7)	<0.001 µg/l	TM434							<0.001
PFOSA (754-91-6)	<0.002 µg/l	TM434							<0.002
PFDoS (79780-39-5)	<0.002 µg/l	TM434							<0.002
PFTrDS (174675-49-1)	<0.001 µg/l	TM434							<0.001
PFHxDA (67905-19-5)	<0.001 µg/l	TM434							<0.001
MeFOSE (24448-09-7)	<0.01 µg/l	TM434							<0.01 ♦
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434							<0.001
EtFOSE (1691-99-2)	<0.01 µg/l	TM434							<0.01 ♦
PFODA (16517-11-6)	<0.001 µg/l	TM434							<0.001
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434							<0.001
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434							<0.01
Total PFOS	<0.00065 µg/l	TM434							<0.00065
Total PFAS DWI 47	<0.09 µg/l	TM434							<0.09
Moisture Content Ratio (% of as received sample)	%	PM024		24	19	30	20	18	
Soil Organic Matter (SOM)	<0.35 %	TM132		5.79 #	2.47 #	4.98 #	2.83 #	2.67 #	
pH	1 pH Units	TM133		7.48 M	7.49 M	7.16 M	8.15 M	8.36 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207	POS-SP207	POS-SP209	POS-SP209	POS-SP209	POS-SP209
			Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183368	31183370	31183401	31183403	31183405	31183407
			AGS Reference	ES	ES	ES	ES	ES	EW
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
PFOA (335-67-1)	<0.5 µg/kg	TM440		5.24	6.96	2.4	2.34	2.84	
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend								
# ISO17025 accredited.	Customer Sample Ref.	POS-SP207	POS-SP207	POS-SP209	POS-SP209	POS-SP209	POS-SP209
M mCERTS accredited.							
aq Aqueous / settled sample.	Depth (m)	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.40 - 0.50
diss.filt Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
tot.unfilt Total / unfiltered sample.	Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
* Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.	.	.	.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
*** 6:2 FTAB (see appendix)	SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
1-4+§@ Sample deviation (see appendix)	Lab Sample No.(s)	31183368	31183370	31183401	31183403	31183405	31183407
	AGS Reference	ES	ES	ES	ES	ES	EW

Component	LOD/Units	Method						
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9	<0.9	
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51	<51	

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP212	POS-SP212	POS-SP212	POS-SP213	POS-SP213	POS-SP213
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183470	31183472	31183475	31183450	31183452	31183454
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		36	22	24	37	17	17
Soil Organic Matter (SOM)	<0.35 %	TM132		5.79 #	1.57 #	1.72 #	7.96 #	1.62 #	1.27 #
pH	1 pH Units	TM133		6.5 M	7.82 M	8.31 M	7.15 M	8.5 M	8.46 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.27	2.98	2.71	2.7	1.07	1.65
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP212	POS-SP212	POS-SP212	POS-SP213	POS-SP213	POS-SP213
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183470	31183472	31183475	31183450	31183452	31183454
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207A	POS-SP207A	POS-SP207A	POS-SP209A	POS-SP209A	POS-SP212A
			Depth (m)	0.30 - 0.40	0.50 - 0.60	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183375	31183377	31183379	31183415	31183417	31183481
			AGS Reference	ES	ES	EW	ES	ES	ES
PFBA (375-22-4)	<0.002 µg/l	TM434				<0.002			
PFMOPrA (377-73-1)	<0.001 µg/l	TM434				<0.001			
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434				<0.002			
PFPA (2706-90-3)	<0.001 µg/l	TM434				<0.001			
PFMOBA (863090-89-5)	<0.001 µg/l	TM434				<0.001			
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434				<0.001			
NFDHA (151772-58-6)	<0.003 µg/l	TM434				<0.003			
PFBS (375-73-5)	<0.001 µg/l	TM434				<0.001			
PFHxA (307-24-4)	<0.001 µg/l	TM434				<0.001			
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434				<0.002			
PFEESA (113507-82-7)	<0.001 µg/l	TM434				<0.001			
PFHpA (375-85-9)	<0.001 µg/l	TM434				<0.001			
PFPeS (2706-91-4)	<0.001 µg/l	TM434				<0.001			
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434				<0.005			
ADONA (919005-14-4)	<0.001 µg/l	TM434				<0.001			
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434				<0.001			
FBSA (30334-69-1)	<0.001 µg/l	TM434				<0.001			
PFOA (335-67-1)	<0.00065 µg/l	TM434				<0.00065			
PFHxS (355-46-4)	<0.001 µg/l	TM434				<0.001			
PFNA (375-95-1)	<0.001 µg/l	TM434				<0.001			
PFecHS (133201-07-7)	<0.001 µg/l	TM434				<0.001			
PFHpS (375-92-8)	<0.001 µg/l	TM434				<0.001			
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434				<0.002			
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434				<0.005			
PFDA (335-76-2)	<0.002 µg/l	TM434				<0.002			
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434				<0.002 ♦			
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434				<0.005			
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434				<0.00065			
Branched PFOS	<0.00065 µg/l	TM434				<0.00065			
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434				<0.002 ♦			
PFUnA (2058-94-8)	<0.002 µg/l	TM434				<0.002			
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434				<0.001			
PFNS (68259-12-1)	<0.001 µg/l	TM434				<0.001			

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207A	POS-SP207A	POS-SP207A	POS-SP209A	POS-SP209A	POS-SP212A
			Depth (m)	0.30 - 0.40	0.50 - 0.60	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183375	31183377	31183379	31183415	31183417	31183481
			AGS Reference	ES	ES	EW	ES	ES	ES
FHxSA (41997-13-1)	<0.001 µg/l	TM434				<0.001			
PFDoA (307-55-1)	<0.002 µg/l	TM434				<0.002			
PFDS (335-77-3)	<0.002 µg/l	TM434				<0.002			
PFTrDA (72629-94-8)	<0.003 µg/l	TM434				<0.003			
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434				<0.002			
PFUnDS (749786-16-1)	<0.002 µg/l	TM434				<0.002			
PFTeA (376-06-7)	<0.001 µg/l	TM434				<0.001			
PFOSA (754-91-6)	<0.002 µg/l	TM434				<0.002			
PFDoS (79780-39-5)	<0.002 µg/l	TM434				<0.002			
PFTrDS (174675-49-1)	<0.001 µg/l	TM434				<0.001			
PFHxDA (67905-19-5)	<0.001 µg/l	TM434				<0.001			
MeFOSE (24448-09-7)	<0.01 µg/l	TM434				<0.01 ♦			
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434				<0.001			
EtFOSE (1691-99-2)	<0.01 µg/l	TM434				<0.01 ♦			
PFODA (16517-11-6)	<0.001 µg/l	TM434				<0.001			
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434				<0.001			
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434				<0.01			
Total PFOS	<0.00065 µg/l	TM434				<0.00065			
Total PFAS DWI 47	<0.09 µg/l	TM434				<0.09			
Moisture Content Ratio (% of as received sample)	%	PM024		23	22		14	17	22
Soil Organic Matter (SOM)	<0.35 %	TM132		4.4 #	4.19 #		0.971 #	1.62 #	1.59 #
pH	1 pH Units	TM133		6.88 M	6.81 M		8.5 M	8.42 M	8.23 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8		<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8		<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1		<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207A	POS-SP207A	POS-SP207A	POS-SP209A	POS-SP209A	POS-SP212A
			Depth (m)	0.30 - 0.40	0.50 - 0.60	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183375	31183377	31183379	31183415	31183417	31183481
			AGS Reference	ES	ES	EW	ES	ES	ES
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		11.7	4.68		1.8	7.75	2.96
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10		<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9		<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4		<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5		<2.5	<2.5	<2.5
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4		<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8		<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7		<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP207A	POS-SP207A	POS-SP207A	POS-SP209A	POS-SP209A	POS-SP212A
			Depth (m)	0.30 - 0.40	0.50 - 0.60	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025	06/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			SDG Ref	250308-25	250308-25	250308-25	250308-25	250308-25	250308-25
			Lab Sample No.(s)	31183375	31183377	31183379	31183415	31183417	31183481
			AGS Reference	ES	ES	EW	ES	ES	ES
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5		<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9		<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5		<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5		<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6		<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440		<51	<51		<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP212A	POS-SP213A	POS-SP213A			
			Depth (m)	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	06/03/2025	06/03/2025	06/03/2025			
			Sample Time	.	.	.			
			Date Received	07/03/2025	07/03/2025	07/03/2025			
			SDG Ref	250308-25	250308-25	250308-25			
			Lab Sample No.(s)	31183485	31183456	31183465			
			AGS Reference	ES	ES	ES			
Moisture Content Ratio (% of as received sample)	%	PM024		21	15	18			
Soil Organic Matter (SOM)	<0.35 %	TM132		1.41 #	1.59 #	2 #			
pH	1 pH Units	TM133		8.33 M	8.37 M	8.35 M			
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8			
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8			
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1			
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			
PFOA (335-67-1)	<0.5 µg/kg	TM440		1.44	1.13	1.02			
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10			
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9			
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4			
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			

CERTIFICATE OF ANALYSIS

SDG: 250308-25 **Report Number:** 760495 **Superseded Report:** 760270
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend									
# ISO17025 accredited.	**Customer Sample Ref.**	POS-SP212A	POS-SP213A	POS-SP213A					
M mCERTS accredited.									
aq Aqueous / settled sample.	**Depth (m)**	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40					
diss.filt Dissolved / filtered sample.	**Sample Type**	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)					
tot.unfilt Total / unfiltered sample.	**Date Sampled**	06/03/2025	06/03/2025	06/03/2025					
* Subcontracted - refer to subcontractor report for accreditation status.	**Sample Time**	.	.	.					
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	**Date Received**	07/03/2025	07/03/2025	07/03/2025					
*** 6:2 FTAB (see appendix)	**SDG Ref**	250308-25	250308-25	250308-25					
1-4+§@ Sample deviation (see appendix)	**Lab Sample No.(s)**	31183485	31183456	31183465					
	AGS Reference	ES	ES	ES					

Component	LOD/Units	Method						
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4	<1.4	<1.4			
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8			
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6			
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6			
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6			
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7	<0.7	<0.7			
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5			
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9			
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5			
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5			
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6			
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51			

Table of Results - Appendix

Method No	Description
TM434	Analysis of PFAS
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 250308-25 Report Number: 760495 Superseded Report: 760270
Client Ref.: 70100310 Thornton Location: Thornton

Test Completion Dates

Lab Sample No(s)	31183360	31183385	31183487	31183431	31183437	31183439	31183354	31183356	31183358	31183419
Customer Sample Ref.	GR01-SP206	GR01-SP206	GR01-SP206	GR01-SP225	GR01-SP225	GR01-SP225	GR01-SP233	GR01-SP233	GR01-SP233	GR02-SP205
AGS Ref.	ES	ES	EW	ES	ES	EW	ES	ES	ES	ES
Depth	0.30 - 0.40	0.40 - 0.50	0.30 - 0.40	0.00 - 0.10	0.40 - 0.50	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.30 - 0.40	0.00 - 0.10
Type	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	18-Mar-2025	22-Mar-2025		22-Mar-2025	21-Mar-2025		22-Mar-2025	21-Mar-2025	22-Mar-2025	22-Mar-2025
PFAS Liquids (Full Suite)			27-Mar-2025			27-Mar-2025				
pH	14-Mar-2025	14-Mar-2025		14-Mar-2025	14-Mar-2025		14-Mar-2025	14-Mar-2025	14-Mar-2025	13-Mar-2025
Sample description	10-Mar-2025	10-Mar-2025		10-Mar-2025	10-Mar-2025		10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025
Total Organic Carbon	12-Mar-2025	13-Mar-2025		14-Mar-2025	13-Mar-2025		13-Mar-2025	13-Mar-2025	14-Mar-2025	13-Mar-2025

Lab Sample No(s)	31183423	31183383	31183387	31183389	31183391	31183335	31183337	31183345	31183495	31183411
Customer Sample Ref.	GR02-SP205	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP208	GR02-SP214	GR02-SP214	GR02-SP214	GR02-SP214	GR01-SP206A
AGS Ref.	ES	ES	ES	ES	EW	ES	ES	EW	ES	ES
Depth	0.40 - 0.50	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.30 - 0.40	0.30 - 0.40	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	21-Mar-2025	21-Mar-2025	18-Mar-2025	22-Mar-2025		21-Mar-2025	18-Mar-2025		21-Mar-2025	22-Mar-2025
PFAS Liquids (Full Suite)					28-Mar-2025			28-Mar-2025		
pH	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025		14-Mar-2025	13-Mar-2025		14-Mar-2025	14-Mar-2025
Sample description	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025		10-Mar-2025	10-Mar-2025		10-Mar-2025	10-Mar-2025
Total Organic Carbon	14-Mar-2025	13-Mar-2025	13-Mar-2025	14-Mar-2025		13-Mar-2025	13-Mar-2025		13-Mar-2025	13-Mar-2025

Lab Sample No(s)	31183433	31183491	31183444	31183446	31183448	31183362	31183364	31183425	31183427	31183429
Customer Sample Ref.	GR01-SP206A	GR01-SP206A	GR01-SP225A	GR01-SP225A	GR01-SP225A	GR01-SP233A	GR01-SP233A	GR02-SP205A	GR02-SP205A	GR02-SP205A
AGS Ref.	ES	EW	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.20 - 0.30	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
Type	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	21-Mar-2025		22-Mar-2025	22-Mar-2025	23-Mar-2025	21-Mar-2025	22-Mar-2025	22-Mar-2025	23-Mar-2025	18-Mar-2025
PFAS Liquids (Full Suite)		27-Mar-2025								
pH	14-Mar-2025		14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	13-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025
Sample description	10-Mar-2025		10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025
Total Organic Carbon	14-Mar-2025		13-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	13-Mar-2025	13-Mar-2025	12-Mar-2025	14-Mar-2025

Lab Sample No(s)	31183395	31183399	31183341	31183343	31183350	31183366	31183368	31183370	31183401	31183403
Customer Sample Ref.	GR02-SP208A	GR02-SP208A	GR02-SP214A	GR02-SP214A	GR02-SP214A	POS-SP207	POS-SP207	POS-SP207	POS-SP209	POS-SP209
AGS Ref.	ES	ES	ES	ES	EW	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.50 - 0.60	0.20 - 0.30	0.50 - 0.60	0.50 - 0.60	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	21-Mar-2025	22-Mar-2025	22-Mar-2025	21-Mar-2025		21-Mar-2025	22-Mar-2025	21-Mar-2025	21-Mar-2025	18-Mar-2025
PFAS Liquids (Full Suite)					28-Mar-2025					
pH	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025		14-Mar-2025	14-Mar-2025	14-Mar-2025	13-Mar-2025	14-Mar-2025
Sample description	11-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025		10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025
Total Organic Carbon	13-Mar-2025	12-Mar-2025	13-Mar-2025	13-Mar-2025		14-Mar-2025	13-Mar-2025	14-Mar-2025	13-Mar-2025	14-Mar-2025

Lab Sample No(s)	31183405	31183407	31183470	31183472	31183475	31183450	31183452	31183454	31183375	31183377
Customer Sample Ref.	POS-SP209	POS-SP209	POS-SP212	POS-SP212	POS-SP212	POS-SP213	POS-SP213	POS-SP213	POS-SP207A	POS-SP207A
AGS Ref.	ES	EW	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.40 - 0.50	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.30 - 0.40	0.50 - 0.60
Type	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	21-Mar-2025		18-Mar-2025	18-Mar-2025	18-Mar-2025	21-Mar-2025	22-Mar-2025	21-Mar-2025	21-Mar-2025	22-Mar-2025
PFAS Liquids (Full Suite)		28-Mar-2025								
pH	14-Mar-2025		14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025
Sample description	10-Mar-2025		10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025
Total Organic Carbon	14-Mar-2025		13-Mar-2025	13-Mar-2025	13-Mar-2025	12-Mar-2025	14-Mar-2025	12-Mar-2025	13-Mar-2025	12-Mar-2025

Lab Sample No(s)	31183379	31183415	31183417	31183481	31183485	31183456	31183465
Customer Sample Ref.	POS-SP207A	POS-SP209A	POS-SP209A	POS-SP212A	POS-SP212A	POS-SP213A	POS-SP213A
AGS Ref.	EW	ES	ES	ES	ES	ES	ES
Depth	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.30 - 0.40	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40
Type	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils		18-Mar-2025	23-Mar-2025	21-Mar-2025	22-Mar-2025	21-Mar-2025	22-Mar-2025
PFAS Liquids (Full Suite)	28-Mar-2025						
pH		13-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025
Sample description		10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025	10-Mar-2025
Total Organic Carbon		13-Mar-2025	14-Mar-2025	13-Mar-2025	14-Mar-2025	14-Mar-2025	12-Mar-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3135	QC 3187	QC 3128	QC 3143
10:2 FTS (Raw)	TM440	**76.42** 53.10 : 140.00	**69.81** 53.10 : 140.00	**73.13** 53.10 : 140.00	**78.42** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**88.25** 53.56 : 141.19	**90.38** 53.56 : 141.19	**92.34** 53.56 : 141.19	**92.23** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**78.56** 50.54 : 133.25	**77.18** 50.54 : 133.25	**82.46** 50.54 : 133.25	**92.79** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**84.22** 56.34 : 145.91	**88.62** 56.34 : 145.91	**84.82** 56.34 : 145.91	**99.53** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**81.61** 52.66 : 130.08	**83.55** 52.66 : 130.08	**83.37** 52.66 : 130.08	**105.36** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**29.77** 38.50 : 101.50	**29.42** 38.50 : 101.50	**29.17** 38.50 : 101.50	**31.64** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**85.22** 54.79 : 144.46	**85.69** 54.79 : 144.46	**83.27** 54.79 : 144.46	**92.41** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**72.28** 48.60 : 128.14	**71.4** 48.60 : 128.14	**81.89** 48.60 : 128.14	**88.95** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**76.31** 56.03 : 147.72	**86.92** 56.03 : 147.72	**70.96** 56.03 : 147.72	**71.56** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**88.91** 55.74 : 146.96	**80.69** 55.74 : 146.96	**94.14** 55.74 : 146.96	**101.22** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**86.26** 54.59 : 143.91	**91.32** 54.59 : 143.91	**95.66** 54.59 : 143.91	**92.46** 54.59 : 143.91
ADONA (Raw)	TM440	**83.03** 54.01 : 132.33	**86.98** 54.01 : 132.33	**82.93** 54.01 : 132.33	**91.57** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**81.9** 54.09 : 142.61	**85.96** 54.09 : 142.61	**87.59** 54.09 : 142.61	**94.72** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**78.62** 52.48 : 138.36	**90.06** 52.48 : 138.36	**86.01** 52.48 : 138.36	**81.87** 52.48 : 138.36
EtFOSE (Raw)	TM440	**82.48** 57.05 : 145.29	**86.49** 57.05 : 145.29	**87.82** 57.05 : 145.29	**92.1** 57.05 : 145.29
FBSA (Raw)	TM440	**80.05** 49.51 : 125.13	**80.28** 49.51 : 125.13	**88.92** 49.51 : 125.13	**92.4** 49.51 : 125.13
FHxSA (Raw)	TM440	**80.38** 50.38 : 132.82	**79.61** 50.38 : 132.82	**87.32** 50.38 : 132.82	**89.29** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**100.3** 53.47 : 140.98	**85.3** 53.47 : 140.98	**101.17** 53.47 : 140.98	**86.49** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**68.61** 54.77 : 144.39	**65.11** 54.77 : 144.39	**74.97** 54.77 : 144.39	**75.56** 54.77 : 144.39
L-PFOS (Raw)	TM440	**82.67** 54.09 : 142.61	**85.96** 54.09 : 142.61	**87.59** 54.09 : 142.61	**94.72** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**91.04** 53.02 : 139.78	**93.4** 53.02 : 139.78	**91.21** 53.02 : 139.78	**118.09** 53.02 : 139.78
MeFOSE (Raw)	TM440	**85.33** 54.99 : 144.97	**89.05** 54.99 : 144.97	**81.94** 54.99 : 144.97	**91.05** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**88.2** 59.56 : 132.93	**98.6** 59.56 : 132.93	**89.54** 59.56 : 132.93	**101.02** 59.56 : 132.93
NFDHA (Raw)	TM440	**95.76** 57.35 : 151.20	**91.62** 57.35 : 151.20	**93.94** 57.35 : 151.20	**113.58** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**89.87** 59.19 : 133.01	**84.46** 59.19 : 133.01	**84.95** 59.19 : 133.01	**91.26** 59.19 : 133.01
PFBA (Raw)	TM440	**83.24** 52.69 : 138.91	**84.85** 52.69 : 138.91	**84.82** 52.69 : 138.91	**98.52** 52.69 : 138.91

PFAS in soils

		QC 3135	QC 3187	QC 3128	QC 3143
PFBS (Raw)	TM440	**90.23** 53.31 : 140.54	**89.06** 53.31 : 140.54	**83.51** 53.31 : 140.54	**98.54** 53.31 : 140.54
PFDA (Raw)	TM440	**95.09** 53.39 : 140.76	**96.71** 53.39 : 140.76	**87.44** 53.39 : 140.76	**103.14** 53.39 : 140.76
PFDoA (Raw)	TM440	**78.28** 52.85 : 139.34	**79.77** 52.85 : 139.34	**91.34** 52.85 : 139.34	**90.14** 52.85 : 139.34
PFDoS (Raw)	TM440	**92.75** 55.29 : 145.76	**90.74** 55.29 : 145.76	**90.62** 55.29 : 145.76	**99.6** 55.29 : 145.76
PFDS (Raw)	TM440	**80.87** 52.94 : 139.56	**87.83** 52.94 : 139.56	**86.43** 52.94 : 139.56	**87.58** 52.94 : 139.56
PFecHS (Raw)	TM440	**92.17** 50.75 : 133.80	**92.82** 50.75 : 133.80	**87.64** 50.75 : 133.80	**108.78** 50.75 : 133.80
PFEESA (Raw)	TM440	**84.72** 50.87 : 134.12	**86.4** 50.87 : 134.12	**79.96** 50.87 : 134.12	**95.05** 50.87 : 134.12
PFHpA (Raw)	TM440	**87.09** 52.61 : 138.69	**96.3** 52.61 : 138.69	**90.38** 52.61 : 138.69	**103.48** 52.61 : 138.69
PFHpS (Raw)	TM440	**93.93** 55.29 : 145.76	**103.42** 55.29 : 145.76	**95.15** 55.29 : 145.76	**100.81** 55.29 : 145.76
PFHxA (Raw)	TM440	**85.95** 54.05 : 142.50	**89.36** 54.05 : 142.50	**83.72** 54.05 : 142.50	**104.08** 54.05 : 142.50
PFHxDA (Raw)	TM440	**89.69** 52.03 : 137.17	**83.02** 52.03 : 137.17	**92.06** 52.03 : 137.17	**96.41** 52.03 : 137.17
PFHxS (Raw)	TM440	**84.62** 53.56 : 141.19	**89.84** 53.56 : 141.19	**83.97** 53.56 : 141.19	**100.4** 53.56 : 141.19
PFMOBA (Raw)	TM440	**83.2** 52.73 : 139.02	**84.61** 52.73 : 139.02	**85.95** 52.73 : 139.02	**94.28** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**84.04** 52.57 : 138.58	**93.61** 52.57 : 138.58	**89.38** 52.57 : 138.58	**103.03** 52.57 : 138.58
PFNA (Raw)	TM440	**83.02** 52.94 : 139.56	**88.86** 52.94 : 139.56	**89.18** 52.94 : 139.56	**100.82** 52.94 : 139.56
PFNS (Raw)	TM440	**76.33** 54.38 : 143.37	**80.64** 54.38 : 143.37	**85.98** 54.38 : 143.37	**85.06** 54.38 : 143.37
PFOA (Raw)	TM440	**86.76** 53.80 : 141.85	**89.23** 53.80 : 141.85	**87.03** 53.80 : 141.85	**100.29** 53.80 : 141.85
PFODA (Raw)	TM440	**84.03** 56.03 : 147.72	**100.65** 56.03 : 147.72	**94.56** 56.03 : 147.72	**129.94** 56.03 : 147.72
PFOSA (Raw)	TM440	**81.91** 53.10 : 140.00	**85.96** 53.10 : 140.00	**81.87** 53.10 : 140.00	**89.73** 53.10 : 140.00
PFPA (Raw)	TM440	**89.19** 53.89 : 142.06	**92.07** 53.89 : 142.06	**88.98** 53.89 : 142.06	**105.55** 53.89 : 142.06
PFPeS (Raw)	TM440	**88.51** 54.30 : 143.15	**96.08** 54.30 : 143.15	**88.63** 54.30 : 143.15	**104.36** 54.30 : 143.15
PFTeA (Raw)	TM440	**94.31** 53.06 : 139.89	**90.06** 53.06 : 139.89	**92.62** 53.06 : 139.89	**99.53** 53.06 : 139.89
PFTrDA (Raw)	TM440	**88.11** 51.70 : 136.30	**84.56** 51.70 : 136.30	**91.98** 51.70 : 136.30	**94.21** 51.70 : 136.30
PFTrDS (Raw)	TM440	**89.78** 56.24 : 148.26	**97.53** 56.24 : 148.26	**98.14** 56.24 : 148.26	**105.48** 56.24 : 148.26
PFUnA (Raw)	TM440	**86.77** 53.35 : 140.65	**96.66** 53.35 : 140.65	**88.17** 53.35 : 140.65	**104.23** 53.35 : 140.65
PFUnDS (Raw)	TM440	**86.4** 53.60 : 141.30	**90.28** 53.60 : 141.30	**92.05** 53.60 : 141.30	**92.35** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3129	QC 3190	QC 3184
11Cl-PF3OUdS (763051-92-9)	TM434	**94.75** 71.39 : 130.11	**120.38** 62.16 : 138.51	**118.5** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**85.0** 53.44 : 140.89	**103.25** 89.89 : 130.69	**100.63** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**88.13** 80.71 : 134.26	**101.63** 66.54 : 140.56	**103.25** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**89.13** 64.44 : 139.44	**95.87** 60.34 : 133.39	**103.13** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**82.13** 58.31 : 142.44	**99.13** 58.31 : 142.44	**94.13** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**84.75** 73.93 : 134.90	**96.0** 67.48 : 129.58	**95.87** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**87.63** 61.23 : 140.88	**109.62** 79.83 : 133.08	**130.0** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**88.5** 82.68 : 128.35	**100.25** 81.70 : 132.18	**98.88** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**97.88** 69.20 : 147.13	**117.38** 71.98 : 136.03	**115.25** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**88.5** 73.23 : 135.10	**107.75** 70.14 : 142.14	**118.13** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**91.25** 72.95 : 133.93	**100.75** 67.04 : 131.16	**103.13** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**87.88** 67.47 : 136.89	**97.75** 67.92 : 135.38	**88.5** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**86.75** 63.70 : 143.28	**112.12** 58.08 : 137.20	**123.63** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**89.62** 63.00 : 139.73	**112.38** 71.81 : 148.16	**121.88** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**90.5** 67.58 : 142.95	**90.75** 57.03 : 123.70	**93.13** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**106.5** 69.04 : 147.42	**99.75** 55.94 : 147.48	**104.25** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**88.63** 70.63 : 141.88	**101.63** 69.95 : 145.18	**106.5** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**85.38** 75.64 : 130.69	**93.13** 68.44 : 128.29	**97.38** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**90.75** 72.41 : 131.62	**90.88** 70.83 : 132.00	**90.13** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**87.63** 57.83 : 132.08	**94.75** 59.26 : 122.86	**86.13** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**109.62** 57.60 : 134.40	**93.38** 59.99 : 133.56	**106.63** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**96.0** 61.69 : 135.49	**94.63** 62.71 : 118.96	**87.88** 62.71 : 118.96
PFBA (375-22-4)	TM434	**86.63** 74.68 : 133.63	**96.38** 67.84 : 130.39	**97.88** 67.84 : 130.39
PFBS (375-73-5)	TM434	**89.62** 74.09 : 133.79	**119.13** 90.25 : 126.25	**118.88** 90.25 : 126.25
PFDA (335-76-2)	TM434	**88.13** 72.39 : 135.76	**100.75** 68.94 : 132.99	**103.0** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**93.38** 58.06 : 148.21	**99.25** 66.19 : 135.04	**105.75** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**81.0** 74.76 : 130.94	**113.75** 65.90 : 146.45	**112.25** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3129	QC 3190	QC 3184
PFDS (335-77-3)	TM434	**96.5** 58.61 : 140.44	**118.63** 64.84 : 138.49	**117.25** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**93.88** 76.93 : 133.25	**117.88** 81.53 : 139.35	**124.5** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**95.75** 62.25 : 138.08	**113.13** 67.24 : 129.19	**116.13** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**90.5** 75.71 : 136.46	**104.5** 72.89 : 141.36	**105.13** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**90.87** 76.13 : 132.38	**120.75** 65.33 : 128.85	**124.75** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**89.13** 78.16 : 133.89	**96.63** 71.79 : 135.84	**100.0** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**98.5** 71.24 : 136.49	**117.13** 89.96 : 128.14	**114.5** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**91.38** 73.25 : 135.20	**105.0** 84.41 : 134.44	**106.38** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**89.25** 76.41 : 130.26	**107.13** 84.99 : 139.74	**101.37** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**87.25** 65.74 : 128.74	**109.75** 64.06 : 130.06	**114.63** 64.06 : 130.06
PFNA (375-95-1)	TM434	**87.38** 75.01 : 133.06	**101.75** 68.61 : 128.99	**99.75** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**95.0** 74.74 : 129.26	**117.75** 70.70 : 130.93	**119.0** 70.70 : 130.93
PFOA (335-67-1)	TM434	**89.0** 74.76 : 136.11	**122.75** 74.09 : 143.61	**120.88** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**88.87** 53.58 : 141.25	**132.5** 68.93 : 138.30	**140.0** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**89.25** 76.54 : 135.04	**99.0** 67.59 : 130.51	**96.13** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**95.0** 77.89 : 134.66	**104.38** 74.20 : 140.58	**106.63** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**94.13** 69.49 : 132.71	**104.13** 76.19 : 137.91	**109.5** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**102.0** 61.66 : 143.71	**121.13** 66.36 : 144.96	**119.75** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**96.75** 67.04 : 136.04	**121.0** 71.98 : 130.25	**111.63** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**84.62** 76.88 : 133.35	**116.88** 68.38 : 157.48	**114.5** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**93.63** 70.21 : 138.54	**96.63** 65.55 : 141.45	**94.38** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**84.5** 71.45 : 127.25	**119.5** 85.84 : 139.76	**115.13** 85.84 : 139.76

pH

Component	Method Code	QC 3170	QC 3104	QC 3102	QC 3110	QC 3106	QC 3114
pH	TM133	**98.53** 95.80 : 103.76	**98.9** 95.80 : 103.76	**99.26** 95.80 : 103.76	**98.9** 95.80 : 103.76	**100.37** 95.80 : 103.76	**98.16** 95.80 : 103.76

pH

Component	Method Code	QC 3108	QC 3112
pH	TM133	**98.53** 95.80 : 103.76	**98.71** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3122	QC 3106	QC 3115	QC 3185	QC 3193	QC 3195
Total Organic Carbon	TM132	**97.45** 93.61 : 106.00	**97.81** 93.61 : 106.00	**98.54** 93.61 : 106.00	**97.45** 93.61 : 106.00	**97.81** 93.61 : 106.00	**98.54** 93.61 : 106.00

Component	Method Code	QC 3156
Total Organic Carbon	TM132	**97.45** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	01 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250308-39
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	760875
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 760269 in its entirety.

We received 18 samples on Saturday March 08, 2025 and 15 of these samples were scheduled for analysis which was completed on Tuesday April 01, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Justin Keeton
Business Unit Leader - Land

1291

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31183822	GR01-SP211	ES	0.00 - 0.10	07/03/2025
31183825	GR01-SP211	ES	0.20 - 0.30	07/03/2025
31183827	GR01-SP211	ES	0.40 - 0.50	07/03/2025
31183785	GR02-SP218	ES	0.00 - 0.10	07/03/2025
31183813	GR02-SP218	ES	0.30 - 0.40	07/03/2025
31183816	GR02-SP218	ES	0.40 - 0.50	07/03/2025
31183792	GR01-SP211A	EW	0.10 - 0.20	07/03/2025
31183830	GR01-SP211A	ES	0.10 - 0.20	07/03/2025
31183788	GR01-SP211A	ES	0.30 - 0.40	07/03/2025
31183790	GR01-SP211A	ES	0.50 - 0.60	07/03/2025
31183818	GR02-SP218A	ES	0.00 - 0.10	07/03/2025
31183820	GR02-SP218A	ES	0.10 - 0.20	07/03/2025
31183796	POS-SP214	ES	0.00 - 0.10	07/03/2025
31183800	POS-SP214	ES	0.20 - 0.30	07/03/2025
31183803	POS-SP214	ES	0.40 - 0.50	07/03/2025
31183806	POS-SP214A	ES	0.10 - 0.20	07/03/2025
31183808	POS-SP214A	ES	0.30 - 0.40	07/03/2025
31183810	POS-SP214A	ES	0.50 - 0.60	07/03/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 14	31183822	GR01-SP211	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31183825	GR01-SP211	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31183785	GR02-SP218	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31183813	GR02-SP218	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31183816	GR02-SP218	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31183792	GR01-SP211A	EW	0.10 - 0.20	Digitube fo PFAS analysis.	PW
			31183830	GR01-SP211A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31183790	GR01-SP211A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31183818	GR02-SP218A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31183820	GR02-SP218A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31183796	POS-SP214	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31183800	POS-SP214	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31183806	POS-SP214A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31183808	POS-SP214A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31183810	POS-SP214A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			X	X	X	X	X	
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 1						
			X	X	X	X	X	X
pH	All	NDPs: 0 Tests: 14						
			X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 11						
			X	X		X	X	
Total Organic Carbon	All	NDPs: 0 Tests: 14						
			X	X	X	X	X	X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31183822	GR01-SP211	0.00 - 0.10	Light Brown	Sandy Loam	Stones	Vegetation
31183825	GR01-SP211	0.20 - 0.30	Light Brown	Sandy Loam	Stones	Brick
31183785	GR02-SP218	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31183813	GR02-SP218	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31183816	GR02-SP218	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
31183790	GR01-SP211A	0.50 - 0.60	Light Brown	Sandy Clay Loam	Stones	Brick
31183830	GR01-SP211A	0.10 - 0.20	Light Brown	Sandy Loam	Vegetation	Brick
31183818	GR02-SP218A	0.00 - 0.10	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183820	GR02-SP218A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31183796	POS-SP214	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31183800	POS-SP214	0.20 - 0.30	Dark Brown	Silty Clay Loam	Stones	Vegetation
31183806	POS-SP214A	0.10 - 0.20	Dark Brown	Sandy Silt Loam	Stones	Vegetation
31183808	POS-SP214A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31183810	POS-SP214A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Brick

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211	GR01-SP211	GR02-SP218	GR02-SP218	GR02-SP218	GR01-SP211A
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183822	31183825	31183785	31183813	31183816	31183792
			AGS Reference	ES	ES	ES	ES	ES	EW
PFBA (375-22-4)	<0.002 µg/l	TM434							<0.002
PFMOPrA (377-73-1)	<0.001 µg/l	TM434							<0.001
3:3 FTCA (356-02-5)	<0.002 µg/l	TM434							<0.002
PFPA (2706-90-3)	<0.001 µg/l	TM434							<0.001
PFMOBA (863090-89-5)	<0.001 µg/l	TM434							<0.001
4:2 FTS (757124-72-4)	<0.001 µg/l	TM434							<0.001
NFDHA (151772-58-6)	<0.003 µg/l	TM434							<0.003
PFBS (375-73-5)	<0.001 µg/l	TM434							<0.001
PFHxA (307-24-4)	<0.001 µg/l	TM434							<0.001
HFPO-DA (13252-13-6)	<0.002 µg/l	TM434							<0.002
PFEESA (113507-82-7)	<0.001 µg/l	TM434							<0.001
PFHpA (375-85-9)	<0.001 µg/l	TM434							<0.001
PFPeS (2706-91-4)	<0.001 µg/l	TM434							<0.001
5:3 FTCA (914637-49-3)	<0.005 µg/l	TM434							<0.005
ADONA (919005-14-4)	<0.001 µg/l	TM434							<0.001
6:2 FTS (27619-97-2)	<0.001 µg/l	TM434							<0.001
FBSA (30334-69-1)	<0.001 µg/l	TM434							<0.001
PFOA (335-67-1)	<0.00065 µg/l	TM434							<0.00065
PFHxS (355-46-4)	<0.001 µg/l	TM434							<0.001
PFNA (375-95-1)	<0.001 µg/l	TM434							<0.001
PFecHS (133201-07-7)	<0.001 µg/l	TM434							<0.001
PFHpS (375-92-8)	<0.001 µg/l	TM434							<0.001
8:2 FTS (39108-34-4)	<0.002 µg/l	TM434							<0.002
HFPO-TA (13252-14-7)	<0.005 µg/l	TM434							<0.005
PFDA (335-76-2)	<0.002 µg/l	TM434							<0.002
MeFOSAA (2355-31-9)	<0.002 µg/l	TM434							<0.002 ♦
7:3 FTCA (812-70-4)	<0.005 µg/l	TM434							<0.005
Linear PFOS (1763-23-1)	<0.00065 µg/l	TM434							<0.00065
Branched PFOS	<0.00065 µg/l	TM434							<0.00065
EtFOSAA (2991-50-6)	<0.002 µg/l	TM434							<0.002 ♦
PFUnA (2058-94-8)	<0.002 µg/l	TM434							<0.002
9Cl-PF3ONS (756426-58-1)	<0.001 µg/l	TM434							<0.001
PFNS (68259-12-1)	<0.001 µg/l	TM434							<0.001

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211	GR01-SP211	GR02-SP218	GR02-SP218	GR02-SP218	GR01-SP211A
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183822	31183825	31183785	31183813	31183816	31183792
			AGS Reference	ES	ES	ES	ES	ES	EW
FHxSA (41997-13-1)	<0.001 µg/l	TM434							<0.001
PFDoA (307-55-1)	<0.002 µg/l	TM434							<0.002
PFDS (335-77-3)	<0.002 µg/l	TM434							<0.002
PFTrDA (72629-94-8)	<0.003 µg/l	TM434							<0.003
11Cl-PF3OUdS (763051-92-9)	<0.002 µg/l	TM434							<0.002
PFUnDS (749786-16-1)	<0.002 µg/l	TM434							<0.002
PFTeA (376-06-7)	<0.001 µg/l	TM434							<0.001
PFOSA (754-91-6)	<0.002 µg/l	TM434							<0.002
PFDoS (79780-39-5)	<0.002 µg/l	TM434							<0.002
PFTrDS (174675-49-1)	<0.001 µg/l	TM434							<0.001
PFHxDA (67905-19-5)	<0.001 µg/l	TM434							<0.001
MeFOSE (24448-09-7)	<0.01 µg/l	TM434							<0.01 ♦
N-MeFOSA (31506-32-8)	<0.001 µg/l	TM434							<0.001
EtFOSE (1691-99-2)	<0.01 µg/l	TM434							<0.01 ♦
PFODA (16517-11-6)	<0.001 µg/l	TM434							<0.001
N-EtFOSA (4151-50-2)	<0.001 µg/l	TM434							<0.001
6:2 FTAB (34455-29-3)	<0.01 µg/l	TM434							<0.01
Total PFOS	<0.00065 µg/l	TM434							<0.00065
Total PFAS DWI 47	<0.09 µg/l	TM434							<0.09
Moisture Content Ratio (% of as received sample)	%	PM024		19	12	20	22	20	
Soil Organic Matter (SOM)	<0.35 %	TM132		5.98 #	3.29 #	4.93 #	6.34 #	4.12 #	
pH	1 pH Units	TM133		7.91 M	8.71 M	7.87 M	7.93 M	7.81 M	
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211	GR01-SP211	GR02-SP218	GR02-SP218	GR02-SP218	GR01-SP211A
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183822	31183825	31183785	31183813	31183816	31183792
			AGS Reference	ES	ES	ES	ES	ES	EW
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.974	1.43	2.1	4.66	4.2	
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		0.807	<0.6	<0.6	0.849	<0.6	
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211	GR01-SP211	GR02-SP218	GR02-SP218	GR02-SP218	GR01-SP211A
			Depth (m)	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process Water (PR)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183822	31183825	31183785	31183813	31183816	31183792
			AGS Reference	ES	ES	ES	ES	ES	EW
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	
Total PFOS	<0.6 µg/kg	TM440		0.807	<0.6	<0.6	0.849	<0.6	
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	

CERTIFICATE OF ANALYSIS

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Results Legend
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- aq Aqueous / settled sample.
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- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211A	GR01-SP211A	GR02-SP218A	GR02-SP218A	POS-SP214	POS-SP214
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.10 - 0.20	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183830	31183790	31183818	31183820	31183796	31183800
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		14	14	27	22	22	25
Soil Organic Matter (SOM)	<0.35 %	TM132		3.9 #	2.17 #	7.91 #	12.8 #	10.9 #	12.7 #
pH	1 pH Units	TM133		8.41 M	8.47 M	6.95 M	7.42 M	7.87 M	7.74 M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	0.894	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		0.644	<0.5	<0.5	0.758	2.39	1.15
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		0.993	1.51	2.04	4.93	5.76	4.48
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		0.725	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	1.23	2	0.987
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
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- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP211A	GR01-SP211A	GR02-SP218A	GR02-SP218A	POS-SP214	POS-SP214
			Depth (m)	0.10 - 0.20	0.50 - 0.60	0.00 - 0.10	0.10 - 0.20	0.00 - 0.10	0.20 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025	07/03/2025
			Sample Time	.	.	.	.	.	.
			Date Received	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025	08/03/2025
			SDG Ref	250308-39	250308-39	250308-39	250308-39	250308-39	250308-39
			Lab Sample No.(s)	31183830	31183790	31183818	31183820	31183796	31183800
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		0.722	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	1.23	2	0.987
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP214A	POS-SP214A	POS-SP214A			
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	07/03/2025	07/03/2025	07/03/2025			
			Sample Time	.	.	.			
			Date Received	08/03/2025	08/03/2025	08/03/2025			
			SDG Ref	250308-39	250308-39	250308-39			
			Lab Sample No.(s)	31183806	31183808	31183810			
			AGS Reference	ES	ES	ES			
Moisture Content Ratio (% of as received sample)	%	PM024		27	20	21			
Soil Organic Matter (SOM)	<0.35 %	TM132		17.4 #	17.8 #	9.33 #			
pH	1 pH Units	TM133		7.67 M	8.02 M	8.04 M			
PFBA (375-22-4)	<0.5 µg/kg	TM440		0.86	<0.5	<0.5			
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8			
PFPA (2706-90-3)	<0.5 µg/kg	TM440		2.53	1.83	1.01			
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8			
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	0.968			
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1			
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.69	3.06	10.2			
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10			
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9			
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4			
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
Branched PFOS	<0.6 µg/kg	TM440		<0.6	1.11	0.978			
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		5.45	2.28	<0.6			
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5			

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP214A	POS-SP214A	POS-SP214A			
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	07/03/2025	07/03/2025	07/03/2025			
			Sample Time	.	.	.			
			Date Received	08/03/2025	08/03/2025	08/03/2025			
			SDG Ref	250308-39	250308-39	250308-39			
			Lab Sample No.(s)	31183806	31183808	31183810			
			AGS Reference	ES	ES	ES			
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4			
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8			
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6			
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7			
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5			
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9			
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5			
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5			
Total PFOS	<0.6 µg/kg	TM440		5.45	3.39	0.978			
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51			

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM434	Analysis of PFAS
TM440	

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 250308-39 **Report Number:** 760875 **Superseded Report:** 760269
Client Ref.: 70100310 Thornton **Location:** Thornton

Test Completion Dates

Lab Sample No(s)	31183822	31183825	31183785	31183813	31183816	31183790	31183792	31183830	31183818	31183820
Customer Sample Ref.	GR01-SP211	GR01-SP211	GR02-SP218	GR02-SP218	GR02-SP218	GR01-SP211A	GR01-SP211A	GR01-SP211A	GR02-SP218A	GR02-SP218A
AGS Ref.	ES	ES	ES	ES	ES	ES	EW	ES	ES	ES
Depth	0.00 - 0.10	0.20 - 0.30	0.00 - 0.10	0.30 - 0.40	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20	0.10 - 0.20	0.00 - 0.10	0.10 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Process	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	23-Mar-2025	23-Mar-2025	23-Mar-2025	23-Mar-2025	23-Mar-2025	23-Mar-2025		25-Mar-2025	25-Mar-2025	23-Mar-2025
PFAS Liquids (Full Suite)							01-Apr-2025			
pH	17-Mar-2025	17-Mar-2025	17-Mar-2025	17-Mar-2025	17-Mar-2025	17-Mar-2025		17-Mar-2025	17-Mar-2025	17-Mar-2025
Sample description	11-Mar-2025	12-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	12-Mar-2025		11-Mar-2025	11-Mar-2025	12-Mar-2025
Total Organic Carbon	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025		14-Mar-2025	14-Mar-2025	14-Mar-2025

Lab Sample No(s)	31183796	31183800	31183806	31183808	31183810
Customer Sample Ref.	POS-SP214	POS-SP214	POS-SP214A	POS-SP214A	POS-SP214A
AGS Ref.	ES	ES	ES	ES	ES
Depth	0.00 - 0.10	0.20 - 0.30	0.10 - 0.20	0.30 - 0.40	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	23-Mar-2025	25-Mar-2025	23-Mar-2025	25-Mar-2025	23-Mar-2025
pH	17-Mar-2025	17-Mar-2025	17-Mar-2025	17-Mar-2025	17-Mar-2025
Sample description	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025	11-Mar-2025
Total Organic Carbon	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025	14-Mar-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3143	QC 3101
10:2 FTS (Raw)	TM440	**78.42** 53.10 : 140.00	**91.68** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**92.23** 53.56 : 141.19	**92.73** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**92.79** 50.54 : 133.25	**95.01** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**99.53** 56.34 : 145.91	**110.42** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**105.36** 52.66 : 130.08	**99.17** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**31.64** 38.50 : 101.50	**37.78** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**92.41** 54.79 : 144.46	**104.68** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**88.95** 48.60 : 128.14	**92.46** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**71.56** 56.03 : 147.72	**74.88** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**101.22** 55.74 : 146.96	**105.38** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**92.46** 54.59 : 143.91	**99.85** 54.59 : 143.91
ADONA (Raw)	TM440	**91.57** 54.01 : 132.33	**98.81** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**94.72** 54.09 : 142.61	**100.22** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**81.87** 52.48 : 138.36	**95.8** 52.48 : 138.36
EtFOSE (Raw)	TM440	**92.1** 57.05 : 145.29	**102.85** 57.05 : 145.29
FBSA (Raw)	TM440	**92.4** 49.51 : 125.13	**92.87** 49.51 : 125.13
FHxSA (Raw)	TM440	**89.29** 50.38 : 132.82	**96.42** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**86.49** 53.47 : 140.98	**101.06** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**75.56** 54.77 : 144.39	**87.65** 54.77 : 144.39
L-PFOS (Raw)	TM440	**94.72** 54.09 : 142.61	**100.22** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**118.09** 53.02 : 139.78	**106.95** 53.02 : 139.78
MeFOSE (Raw)	TM440	**91.05** 54.99 : 144.97	**101.99** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**101.02** 59.56 : 132.93	**99.51** 59.56 : 132.93
NFDHA (Raw)	TM440	**113.58** 57.35 : 151.20	**99.35** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**91.26** 59.19 : 133.01	**83.24** 59.19 : 133.01
PFBA (Raw)	TM440	**98.52** 52.69 : 138.91	**104.69** 52.69 : 138.91

PFAS in soils

		QC 3143	QC 3101
PFBS (Raw)	TM440	**98.54** 53.31 : 140.54	**101.33** 53.31 : 140.54
PFDA (Raw)	TM440	**103.14** 53.39 : 140.76	**102.46** 53.39 : 140.76
PFDoA (Raw)	TM440	**90.14** 52.85 : 139.34	**97.85** 52.85 : 139.34
PFDoS (Raw)	TM440	**99.6** 55.29 : 145.76	**104.18** 55.29 : 145.76
PFDS (Raw)	TM440	**87.58** 52.94 : 139.56	**101.08** 52.94 : 139.56
PFecHS (Raw)	TM440	**108.78** 50.75 : 133.80	**107.35** 50.75 : 133.80
PFEESA (Raw)	TM440	**95.05** 50.87 : 134.12	**96.95** 50.87 : 134.12
PFHpA (Raw)	TM440	**103.48** 52.61 : 138.69	**111.05** 52.61 : 138.69
PFHpS (Raw)	TM440	**100.81** 55.29 : 145.76	**112.41** 55.29 : 145.76
PFHxA (Raw)	TM440	**104.08** 54.05 : 142.50	**102.56** 54.05 : 142.50
PFHxDA (Raw)	TM440	**96.41** 52.03 : 137.17	**106.96** 52.03 : 137.17
PFHxS (Raw)	TM440	**100.4** 53.56 : 141.19	**101.63** 53.56 : 141.19
PFMOBA (Raw)	TM440	**94.28** 52.73 : 139.02	**102.88** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**103.03** 52.57 : 138.58	**105.38** 52.57 : 138.58
PFNA (Raw)	TM440	**100.82** 52.94 : 139.56	**95.25** 52.94 : 139.56
PFNS (Raw)	TM440	**85.06** 54.38 : 143.37	**92.79** 54.38 : 143.37
PFOA (Raw)	TM440	**100.29** 53.80 : 141.85	**107.72** 53.80 : 141.85
PFODA (Raw)	TM440	**129.94** 56.03 : 147.72	**102.71** 56.03 : 147.72
PFOSA (Raw)	TM440	**89.73** 53.10 : 140.00	**93.79** 53.10 : 140.00
PFPA (Raw)	TM440	**105.55** 53.89 : 142.06	**108.71** 53.89 : 142.06
PFPeS (Raw)	TM440	**104.36** 54.30 : 143.15	**104.22** 54.30 : 143.15
PFTeA (Raw)	TM440	**99.53** 53.06 : 139.89	**104.73** 53.06 : 139.89
PFTrDA (Raw)	TM440	**94.21** 51.70 : 136.30	**97.01** 51.70 : 136.30
PFTrDS (Raw)	TM440	**105.48** 56.24 : 148.26	**104.62** 56.24 : 148.26
PFUnA (Raw)	TM440	**104.23** 53.35 : 140.65	**103.57** 53.35 : 140.65
PFUnDS (Raw)	TM440	**92.35** 53.60 : 141.30	**104.49** 53.60 : 141.30

PFAS Liquids (Full Suite)

PFAS Liquids (Full Suite)

Component	Method Code	QC 3136
11Cl-PF3OUdS (763051-92-9)	TM434	**131.25** 62.16 : 138.51
3:3 FTCA (356-02-5)	TM434	**90.63** 89.89 : 130.69
4:2 FTS (757124-72-4)	TM434	**109.75** 66.54 : 140.56
5:3 FTCA (914637-49-3)	TM434	**83.75** 60.34 : 133.39
6:2 FTAB (34455-29-3)	TM434	**83.63** 58.31 : 142.44
6:2 FTS (27619-97-2)	TM434	**101.25** 67.48 : 129.58
7:3 FTCA (812-70-4)	TM434	**102.5** 79.83 : 133.08
8:2 FTS (39108-34-4)	TM434	**101.87** 81.70 : 132.18
9Cl-PF3ONS (756426-58-1)	TM434	**123.38** 71.98 : 136.03
ADONA (919005-14-4)	TM434	**116.75** 70.14 : 142.14
EtFOSAA (2991-50-6)	TM434	**105.13** 67.04 : 131.16
EtFOSE (1691-99-2)	TM434	**100.25** 67.92 : 135.38
FBSA (30334-69-1)	TM434	**87.88** 58.08 : 137.20
FHxSA (41997-13-1)	TM434	**91.38** 71.81 : 148.16
HFPO-DA (13252-13-6)	TM434	**107.38** 57.03 : 123.70
HFPO-TA (13252-14-7)	TM434	**97.0** 55.94 : 147.48
Linear PFOS (1763-23-1)	TM434	**116.5** 69.95 : 145.18
MeFOSAA (2355-31-9)	TM434	**104.88** 68.44 : 128.29
MeFOSE (24448-09-7)	TM434	**96.13** 70.83 : 132.00
N-EtFOSA (4151-50-2)	TM434	**102.13** 59.26 : 122.86
NFDHA (151772-58-6)	TM434	**91.5** 59.99 : 133.56
N-MeFOSA (31506-32-8)	TM434	**102.75** 62.71 : 118.96
PFBA (375-22-4)	TM434	**102.5** 67.84 : 130.39
PFBS (375-73-5)	TM434	**119.38** 90.25 : 126.25
PFDA (335-76-2)	TM434	**109.5** 68.94 : 132.99
PFDoA (307-55-1)	TM434	**108.88** 66.19 : 135.04
PFDoS (79780-39-5)	TM434	**126.25** 65.90 : 146.45

PFAS Liquids (Full Suite)

		QC 3136
PFDS (335-77-3)	TM434	**130.0** 64.84 : 138.49
PFecHS (133201-07-7)	TM434	**95.12** 81.53 : 139.35
PFEESA (113507-82-7)	TM434	**122.0** 67.24 : 129.19
PFHpA (375-85-9)	TM434	**106.38** 72.89 : 141.36
PFHpS (375-92-8)	TM434	**99.25** 65.33 : 128.85
PFHxA (307-24-4)	TM434	**101.87** 71.79 : 135.84
PFHxDA (67905-19-5)	TM434	**121.25** 89.96 : 128.14
PFHxS (355-46-4)	TM434	**111.75** 84.41 : 134.44
PFMOBA (863090-89-5)	TM434	**113.38** 84.99 : 139.74
PFMOPrA (377-73-1)	TM434	**112.88** 64.06 : 130.06
PFNA (375-95-1)	TM434	**107.62** 68.61 : 128.99
PFNS (68259-12-1)	TM434	**128.75** 70.70 : 130.93
PFOA (335-67-1)	TM434	**121.63** 74.09 : 143.61
PFODA (16517-11-6)	TM434	**128.75** 68.93 : 138.30
PFOSA (754-91-6)	TM434	**101.0** 67.59 : 130.51
PFPA (2706-90-3)	TM434	**113.87** 74.20 : 140.58
PFPeS (2706-91-4)	TM434	**123.0** 76.19 : 137.91
PFTeA (376-06-7)	TM434	**120.12** 66.36 : 144.96
PFTrDA (72629-94-8)	TM434	**124.75** 71.98 : 130.25
PFTrDS (174675-49-1)	TM434	**122.25** 68.38 : 157.48
PFUnA (2058-94-8)	TM434	**104.75** 65.55 : 141.45
PFUnDS (749786-16-1)	TM434	**126.25** 85.84 : 139.76

pH

Component	Method Code	QC 3116	QC 3114	QC 3118
pH	TM133	**98.53** 95.80 : 103.76	**98.16** 95.80 : 103.76	**98.16** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3193	QC 3124	QC 3145
Total Organic Carbon	TM132	**97.81** 93.61 : 106.00	**97.81** 93.61 : 106.00	**98.18** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP UK Limited
8 First Street
Main
Manchester
M15 4RP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date of report Generation:	11 April 2025
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	250326-32
Your Reference:	70100310 Thornton
Location:	Thornton
Report No:	762041
Order Number:	uk-70100310-313

This report has been revised and directly supersedes 760911 in its entirety.

We received 28 samples on Saturday March 01, 2025 and 16 of these samples were scheduled for analysis which was completed on Friday April 11, 2025. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31276727	GR01-SP230	ES	0.00 - 0.10	27/02/2025
31276730	GR01-SP230	ES	0.30 - 0.40	27/02/2025
31276732	GR01-SP230	ES	0.40 - 0.50	27/02/2025
31276691	GR02-SP215	ES	0.00 - 0.10	27/02/2025
31276696	GR02-SP215	ES	0.20 - 0.30	27/02/2025
31276702	GR02-SP215	ES	0.40 - 0.50	27/02/2025
31276716	GR02-SP216	ES	0.00 - 0.10	27/02/2025
31276736	GR01-SP230A	ES	0.10 - 0.20	27/02/2025
31276740	GR01-SP230A	ES	0.20 - 0.30	27/02/2025
31276744	GR01-SP230A	ES	0.50 - 0.60	27/02/2025
31276708	GR02-SP215A	ES	0.10 - 0.20	27/02/2025
31276712	GR02-SP215A	ES	0.30 - 0.40	27/02/2025
31276714	GR02-SP215A	ES	0.50 - 0.60	27/02/2025
31276720	GR02-SP216A	ES	0.00 - 0.10	27/02/2025
31276722	GR02-SP216B	ES	0.00 - 0.10	27/02/2025
31276724	GR02-SP216C	ES	0.00 - 0.10	27/02/2025
31276678	POS-SP203	ES	0.00 - 0.10	27/02/2025
31276718	POS-SP203	ES	0.20 - 0.30	27/02/2025
31276749	POS-SP203	ES	0.40 - 0.50	27/02/2025
31276760	POS-SP208	ES	0.00 - 0.10	27/02/2025
31276762	POS-SP208	ES	0.30 - 0.40	27/02/2025
31276765	POS-SP208	ES	0.40 - 0.50	27/02/2025
31276752	POS-SP203A	ES	0.10 - 0.20	27/02/2025
31276756	POS-SP203A	ES	0.30 - 0.40	27/02/2025
31276758	POS-SP203A	ES	0.50 - 0.60	27/02/2025
31276680	POS-SP208A	ES	0.10 - 0.20	27/02/2025
31276682	POS-SP208A	ES	0.20 - 0.30	27/02/2025
31276686	POS-SP208A	ES	0.50 - 0.60	27/02/2025

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
PFAS in soils	All	NDPs: 0 Tests: 16	31276730	GR01-SP230	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31276732	GR01-SP230	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31276691	GR02-SP215	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31276702	GR02-SP215	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31276744	GR01-SP230A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			31276708	GR02-SP215A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31276712	GR02-SP215A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31276720	GR02-SP216A	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31276724	GR02-SP216C	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31276718	POS-SP203	ES	0.20 - 0.30	1kg TUB with Handle (ALE260)	S
			31276749	POS-SP203	ES	0.40 - 0.50	1kg TUB with Handle (ALE260)	S
			31276760	POS-SP208	ES	0.00 - 0.10	1kg TUB with Handle (ALE260)	S
			31276752	POS-SP203A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31276756	POS-SP203A	ES	0.30 - 0.40	1kg TUB with Handle (ALE260)	S
			31276680	POS-SP208A	ES	0.10 - 0.20	1kg TUB with Handle (ALE260)	S
			31276686	POS-SP208A	ES	0.50 - 0.60	1kg TUB with Handle (ALE260)	S
			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pH	All	NDPs: 0 Tests: 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
31276730	GR01-SP230	0.30 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
31276732	GR01-SP230	0.40 - 0.50	Dark Brown	Sandy Loam	Stones	Concrete/Aggregate
31276691	GR02-SP215	0.00 - 0.10	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276702	GR02-SP215	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276744	GR01-SP230A	0.50 - 0.60	Dark Brown	Sandy Clay Loam	Stones	Plastic
31276708	GR02-SP215A	0.10 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
31276712	GR02-SP215A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276720	GR02-SP216A	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31276724	GR02-SP216C	0.00 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
31276718	POS-SP203	0.20 - 0.30	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276749	POS-SP203	0.40 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276760	POS-SP208	0.00 - 0.10	Dark Brown	Silty Clay Loam	Vegetation	Stones
31276752	POS-SP203A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276756	POS-SP203A	0.30 - 0.40	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276680	POS-SP208A	0.10 - 0.20	Dark Brown	Sandy Clay Loam	Stones	Vegetation
31276686	POS-SP208A	0.50 - 0.60	Dark Brown	Clay Loam	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP230	GR01-SP230	GR02-SP215	GR02-SP215	GR01-SP230A	GR02-SP215A
			Depth (m)	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025
			SDG Ref	250326-32	250326-32	250326-32	250326-32	250326-32	250326-32
			Lab Sample No.(s)	31276730	31276732	31276691	31276702	31276744	31276708
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		35	11	25	41	33	43
Soil Organic Matter (SOM)	<0.35 %	TM132		7.88 @ #	4.64 @ #	16.7 @ #	8.45 @ #	3.22 @ #	18.4 @ #
pH	1 pH Units	TM133		8.48 @ M	8.62 @ M	7.19 @ M	7.69 @ M	8.5 @ M	7.5 @ M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	0.889	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	1.82	<0.5	<0.5	1.75
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.06	0.952	3.89	4.4	4.92	3.73
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	0.683	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	4.92	2.19	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	12	2.03	<0.6	1.48
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR01-SP230	GR01-SP230	GR02-SP215	GR02-SP215	GR01-SP230A	GR02-SP215A
			Depth (m)	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025
			SDG Ref	250326-32	250326-32	250326-32	250326-32	250326-32	250326-32
			Lab Sample No.(s)	31276730	31276732	31276691	31276702	31276744	31276708
			AGS Reference	ES	ES	ES	ES	ES	ES
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	0.823	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	16.9	4.22	<0.6	1.48
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GR02-SP215A	GR02-SP216A	GR02-SP216C	POS-SP203	POS-SP203	POS-SP208
			Depth (m)	0.30 - 0.40	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
			Sample Time	.	.	.	.	.	.
			Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025
			SDG Ref	250326-32	250326-32	250326-32	250326-32	250326-32	250326-32
			Lab Sample No.(s)	31276712	31276720	31276724	31276718	31276749	31276760
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		41	46	46	37	13	26
Soil Organic Matter (SOM)	<0.35 %	TM132		10.1 @ #	7.98 @ #	9.55 @ #	3.36 @ #	0.819 @ #	3.91 @ #
pH	1 pH Units	TM133		7.61 @ M	7.38 @ M	7.64 @ M	6.1 @ M	6.59 @ M	6.66 @ M
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	1.05	<0.5	<0.5	<0.5
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PFPA (2706-90-3)	<0.5 µg/kg	TM440		1.33	1.17	1.49	<0.5	<0.5	<0.5
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
PFOA (335-67-1)	<0.5 µg/kg	TM440		3.18	3.92	2.86	5.26	2.15	4.31
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10	<10	<10
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

Validated

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911

Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend	Customer Sample Ref.	GR02-SP215A	GR02-SP216A	GR02-SP216C	POS-SP203	POS-SP203	POS-SP208
# ISO17025 accredited.							
M mCERTS accredited.							
aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample.							
tot.unfilt Total / unfiltered sample.							
* Subcontracted - refer to subcontractor report for accreditation status.							
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
*** 6:2 FTAB (see appendix)							
1-4+§@ Sample deviation (see appendix)							
	Depth (m)	0.30 - 0.40	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30	0.40 - 0.50	0.00 - 0.10
	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
	Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025	27/02/2025
	Sample Time	.	.	.	.	.	.
	Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025	01/03/2025
	SDG Ref	250326-32	250326-32	250326-32	250326-32	250326-32	250326-32
	Lab Sample No.(s)	31276712	31276720	31276724	31276718	31276749	31276760
	AGS Reference	ES	ES	ES	ES	ES	ES

Component	LOD/Units	Method						
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
PFUnA (2058-94-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
FHxSA (41997-13-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFNS (68259-12-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoA (307-55-1)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFDS (335-77-3)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTeA (376-06-7)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFOSA (754-91-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFDoS (79780-39-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MeFOSE (24448-09-7)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9
EtFOSE (1691-99-2)	<5 µg/kg	TM440	<5	<5	<5	<5	<5	<5
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PFODA (16517-11-6)	<0.5 µg/kg	TM440	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PFOS	<0.6 µg/kg	TM440	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Total Identified PFAS	<51 µg/kg	TM440	<51	<51	<51	<51	<51	<51

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP203A	POS-SP203A	POS-SP208A	POS-SP208A		
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.50 - 0.60		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025		
			Sample Time	.	.	.	.		
			Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025		
			SDG Ref	250326-32	250326-32	250326-32	250326-32		
			Lab Sample No.(s)	31276752	31276756	31276680	31276686		
			AGS Reference	ES	ES	ES	ES		
Moisture Content Ratio (% of as received sample)	%	PM024		21	17	42	39		
Soil Organic Matter (SOM)	<0.35 %	TM132		6.55 @ #	2.95 @ #	2.65 @ #	2.21 @ #		
pH	1 pH Units	TM133		6.29 @ M	6.49 @ M	8.14 @ M	7.92 @ M		
PFBA (375-22-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFMOPrA (377-73-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
3:3 FTCA (356-02-5)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8		
PFPA (2706-90-3)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFMOBA (863090-89-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
4:2 FTS (757124-72-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
NFDHA (151772-58-6)	<1.8 µg/kg	TM440		<1.8	<1.8	<1.8	<1.8		
PFHxA (307-24-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFBS (375-73-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
HFPO-DA (13252-13-6)	<1 µg/kg	TM440		<1	<1	<1	<1		
PFEESA (113507-82-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFHpA (375-85-9) (18)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFPeS (2706-91-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
ADONA (919005-14-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
6:2 FTS (27619-97-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
5:3 FTCA (914637-49-3)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		
PFOA (335-67-1)	<0.5 µg/kg	TM440		2.8	2.58	5.35	18.3		
PFHxS (355-46-4)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
FBSA (30334-69-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
6:2 FTAB (34455-29-3)***	<10 µg/kg	TM440		<10	<10	<10	<10		
PFNA (375-95-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFecHS (133201-07-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFHpS (375-92-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
8:2 FTS (39108-34-4)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9		
HFPO-TA (13252-14-7)	<4.4 µg/kg	TM440		<4.4	<4.4	<4.4	<4.4		
PFDA (335-76-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
MeFOSAA (2355-31-9)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
Branched PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
Linear PFOS (1763-23-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
7:3 FTCA (812-70-4)	<2.5 µg/kg	TM440		<2.5	<2.5	<2.5	<2.5		

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	POS-SP203A	POS-SP203A	POS-SP208A	POS-SP208A		
			Depth (m)	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.50 - 0.60		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	27/02/2025	27/02/2025	27/02/2025	27/02/2025		
			Sample Time	.	.	.	.		
			Date Received	01/03/2025	01/03/2025	01/03/2025	01/03/2025		
			SDG Ref	250326-32	250326-32	250326-32	250326-32		
			Lab Sample No.(s)	31276752	31276756	31276680	31276686		
			AGS Reference	ES	ES	ES	ES		
EtFOSAA (2991-50-6)	<1.4 µg/kg	TM440		<1.4	<1.4	<1.4	<1.4		
PFUnA (2058-94-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
9Cl-PF3ONS (756426-58-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
10:2 FTS (120226-60-0)	<0.8 µg/kg	TM440		<0.8	<0.8	<0.8	<0.8		
FHxSA (41997-13-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFNS (68259-12-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFDoA (307-55-1)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
PFDS (335-77-3)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
PFTrDA (72629-94-8)	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
11Cl-PF3OUdS (763051-92-9)	<0.7 µg/kg	TM440		<0.7	<0.7	<0.7	<0.7		
PFUnDS (749786-16-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFTeA (376-06-7)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFOSA (754-91-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFDoS (79780-39-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFTrDS (174675-49-1)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
MeFOSE (24448-09-7)	<5 µg/kg	TM440		<5	<5	<5	<5		
PFHxDA (67905-19-5)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
N-MeFOSA (31506-32-8)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
8:2 diPAP (678-41-1)	<0.9 µg/kg	TM440		<0.9	<0.9	<0.9	<0.9		
EtFOSE (1691-99-2)	<5 µg/kg	TM440		<5	<5	<5	<5		
N-EtFOSA (4151-50-2)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
PFODA (16517-11-6)	<0.5 µg/kg	TM440		<0.5	<0.5	<0.5	<0.5		
Total PFOS	<0.6 µg/kg	TM440		<0.6	<0.6	<0.6	<0.6		
Total Identified PFAS	<51 µg/kg	TM440		<51	<51	<51	<51		

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM440	

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 250326-32 **Report Number:** 762041 **Superseded Report:** 760911
Client Ref.: 70100310 Thornton **Location:** Thornton

Test Completion Dates

Lab Sample No(s)	31276730	31276732	31276691	31276702	31276744	31276708	31276712	31276720	31276724	31276718
Customer Sample Ref.	GR01-SP230	GR01-SP230	GR02-SP215	GR02-SP215	GR01-SP230A	GR02-SP215A	GR02-SP215A	GR02-SP216A	GR02-SP216C	POS-SP203
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.30 - 0.40	0.40 - 0.50	0.00 - 0.10	0.40 - 0.50	0.50 - 0.60	0.10 - 0.20	0.30 - 0.40	0.00 - 0.10	0.00 - 0.10	0.20 - 0.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025
pH	02-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	02-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	02-Apr-2025
Sample description	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025
Total Organic Carbon	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025

Lab Sample No(s)	31276749	31276760	31276752	31276756	31276680	31276686
Customer Sample Ref.	POS-SP203	POS-SP208	POS-SP203A	POS-SP203A	POS-SP208A	POS-SP208A
AGS Ref.	ES	ES	ES	ES	ES	ES
Depth	0.40 - 0.50	0.00 - 0.10	0.10 - 0.20	0.30 - 0.40	0.10 - 0.20	0.50 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
PFAS in soils	10-Apr-2025	11-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025	10-Apr-2025
pH	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025
Sample description	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025	26-Mar-2025
Total Organic Carbon	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025	01-Apr-2025

ASSOCIATED AQC DATA

PFAS in soils

Component	Method Code	QC 3105	QC 3198
10:2 FTS (Raw)	TM440	**95.94** 53.10 : 140.00	**79.08** 53.10 : 140.00
11Cl-PF3OUdS (Raw)	TM440	**105.85** 53.56 : 141.19	**80.88** 53.56 : 141.19
3:3 FTCA (Raw)	TM440	**96.92** 50.54 : 133.25	**83.25** 50.54 : 133.25
4:2 FTS (Raw)	TM440	**108.18** 56.34 : 145.91	**95.53** 56.34 : 145.91
5:3 FTCA (Raw)	TM440	**106.72** 52.66 : 130.08	**88.63** 52.66 : 130.08
6:2 FTAB (Raw)	TM440	**37.85** 38.50 : 101.50	**29.81** 38.50 : 101.50
6:2 FTS (Raw)	TM440	**107.51** 54.79 : 144.46	**87.0** 54.79 : 144.46
7:3 FTCA (Raw)	TM440	**110.95** 48.60 : 128.14	**89.34** 48.60 : 128.14
8:2 diPAP (Raw)	TM440	**108.43** 56.03 : 147.72	**71.57** 56.03 : 147.72
8:2 FTS (Raw)	TM440	**102.74** 55.74 : 146.96	**87.27** 55.74 : 146.96
9Cl-PF3ONS (Raw)	TM440	**107.35** 54.59 : 143.91	**82.06** 54.59 : 143.91
ADONA (Raw)	TM440	**105.72** 54.01 : 132.33	**91.41** 54.01 : 132.33
Branched PFOS (Raw)	TM440	**113.29** 54.09 : 142.61	**90.82** 54.09 : 142.61
EtFOSAA (Raw)	TM440	**105.14** 52.48 : 138.36	**90.43** 52.48 : 138.36
EtFOSE (Raw)	TM440	**85.08** 57.05 : 145.29	**78.28** 57.05 : 145.29
FBSA (Raw)	TM440	**112.7** 49.51 : 125.13	**90.02** 49.51 : 125.13
FHxSA (Raw)	TM440	**105.37** 50.38 : 132.82	**82.2** 50.38 : 132.82
HFPO-DA (Raw)	TM440	**90.28** 53.47 : 140.98	**106.63** 53.47 : 140.98
HFPO-TA (Raw)	TM440	**69.03** 54.77 : 144.39	**75.57** 54.77 : 144.39
L-PFOS (Raw)	TM440	**113.27** 54.09 : 142.61	**90.79** 54.09 : 142.61
MeFOSAA (Raw)	TM440	**103.31** 53.02 : 139.78	**95.59** 53.02 : 139.78
MeFOSE (Raw)	TM440	**97.32** 54.99 : 144.97	**75.33** 54.99 : 144.97
N-EtFOSA (Raw)	TM440	**91.43** 59.56 : 132.93	**90.21** 59.56 : 132.93
NFDHA (Raw)	TM440	**137.29** 57.35 : 151.20	**99.44** 57.35 : 151.20
N-MeFOSA (Raw)	TM440	**82.78** 59.19 : 133.01	**78.3** 59.19 : 133.01
PFBA (Raw)	TM440	**105.41** 52.69 : 138.91	**89.76** 52.69 : 138.91

PFAS in soils

		QC 3105	QC 3198
PFBS (Raw)	TM440	**102.09** 53.31 : 140.54	**91.12** 53.31 : 140.54
PFDA (Raw)	TM440	**106.2** 53.39 : 140.76	**95.89** 53.39 : 140.76
PFDoA (Raw)	TM440	**107.26** 52.85 : 139.34	**86.13** 52.85 : 139.34
PFDoS (Raw)	TM440	**98.95** 55.29 : 145.76	**85.05** 55.29 : 145.76
PFDS (Raw)	TM440	**100.36** 52.94 : 139.56	**77.54** 52.94 : 139.56
PFecHS (Raw)	TM440	**110.76** 50.75 : 133.80	**90.48** 50.75 : 133.80
PFEESA (Raw)	TM440	**96.79** 50.87 : 134.12	**90.71** 50.87 : 134.12
PFHpA (Raw)	TM440	**108.57** 52.61 : 138.69	**97.58** 52.61 : 138.69
PFHpS (Raw)	TM440	**109.99** 55.29 : 145.76	**91.94** 55.29 : 145.76
PFHxA (Raw)	TM440	**107.34** 54.05 : 142.50	**86.96** 54.05 : 142.50
PFHxDA (Raw)	TM440	**101.51** 52.03 : 137.17	**94.45** 52.03 : 137.17
PFHxS (Raw)	TM440	**110.08** 53.56 : 141.19	**88.85** 53.56 : 141.19
PFMOBA (Raw)	TM440	**108.26** 52.73 : 139.02	**95.55** 52.73 : 139.02
PFMOPrA (Raw)	TM440	**100.12** 52.57 : 138.58	**90.08** 52.57 : 138.58
PFNA (Raw)	TM440	**101.65** 52.94 : 139.56	**90.68** 52.94 : 139.56
PFNS (Raw)	TM440	**98.3** 54.38 : 143.37	**77.22** 54.38 : 143.37
PFOA (Raw)	TM440	**115.93** 53.80 : 141.85	**90.52** 53.80 : 141.85
PFODA (Raw)	TM440	**116.66** 56.03 : 147.72	**104.9** 56.03 : 147.72
PFOSA (Raw)	TM440	**100.14** 53.10 : 140.00	**86.5** 53.10 : 140.00
PFPA (Raw)	TM440	**109.49** 53.89 : 142.06	**100.29** 53.89 : 142.06
PFPeS (Raw)	TM440	**108.56** 54.30 : 143.15	**90.42** 54.30 : 143.15
PFTeA (Raw)	TM440	**109.67** 53.06 : 139.89	**89.94** 53.06 : 139.89
PFTrDA (Raw)	TM440	**114.48** 51.70 : 136.30	**88.95** 51.70 : 136.30
PFTrDS (Raw)	TM440	**105.01** 56.24 : 148.26	**82.58** 56.24 : 148.26
PFUnA (Raw)	TM440	**96.8** 53.35 : 140.65	**76.12** 53.35 : 140.65
PFUnDS (Raw)	TM440	**102.94** 53.60 : 141.30	**82.1** 53.60 : 141.30

pH

pH

Component	Method Code	QC 3160	QC 3160
pH	TM133	**101.84** 95.80 : 103.76	**99.26** 95.80 : 103.76

Total Organic Carbon

Component	Method Code	QC 3134
Total Organic Carbon	TM132	**97.81** 93.61 : 106.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised.
This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur -
e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis.
The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l.
Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only.
It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Appendix H

ANALYTICAL RESULTS

Official Sensitive

Thornton Phase 2 - Residential Grid Laboratory Results

Feburary - March 2025

All results expressed on a dry weight basis

Test	Method	Units	LOD
Carbon			
Soil Organic Matter (SOM)	TM132	%	<0.35
Inorganics			
pH	TM133	pH Units	<1
PFAS			
PFBA (375-22-4)	TM440	ug/kg	<0.5
PFMOPrA (377-73-1)	TM440	ug/kg	<0.5
3:3 FTCA (356-02-5)	TM440	ug/kg	<0.8
PFPA (2706-90-3)	TM440	ug/kg	<0.5
PFMOBA (863090-89-5)	TM440	ug/kg	<0.5
4:2 FTS (757124-72-4)	TM440	ug/kg	<0.5
NFDHA (151772-58-6)	TM440	ug/kg	<1.8
PFHxA (307-24-4)	TM440	ug/kg	<0.5
PFBS (375-73-5)	TM440	ug/kg	<0.5
HFPO-DA (13252-13-6)	TM440	ug/kg	<1.0
PFEESA (113507-82-7)	TM440	ug/kg	<0.5
PFHpA (375-85-9)	TM440	ug/kg	<0.5
PFPeS (2706-91-4)	TM440	ug/kg	<0.5
ADONA (919005-14-4)	TM440	ug/kg	<0.5
6:2 FTS (27619-97-2)	TM440	ug/kg	<0.5
5:3 FTCA (914637-49-3)	TM440	ug/kg	<2.5
PFOA (335-67-1)	TM440	ug/kg	<0.5
PFHxS (355-46-4)	TM440	ug/kg	<0.5
FBSA (30334-69-1)	TM440	ug/kg	<0.5
6:2 FTAB (34455-29-3)***	TM440	ug/kg	<10.0
PFNA (375-95-1)	TM440	ug/kg	<0.5
PFecHS (133201-07-7)	TM440	ug/kg	<0.5
PFHpS (375-92-8)	TM440	ug/kg	<0.6
8:2 FTS (39108-34-4)	TM440	ug/kg	<0.9
HFPO-TA (13252-14-7)	TM440	ug/kg	<4.4
PFDA (335-76-2)	TM440	ug/kg	<0.5
MeFOSAA (2355-31-9)	TM440	ug/kg	<0.5
Branched PFOS	TM440	ug/kg	<0.6
Linear PFOS (1763-23-1)	TM440	ug/kg	<0.6
7:3 FTCA (812-70-4)	TM440	ug/kg	<2.5
EtFOSAA (2991-50-6)	TM440	ug/kg	<1.4
PFUnA (2058-94-8)	TM440	ug/kg	<0.5
9Cl-PF3ONS (756426-58-1)	TM440	ug/kg	<0.5
10:2 FTS (120226-60-0)	TM440	ug/kg	<0.8
FHxSA (41997-13-1)	TM440	ug/kg	<0.5
PFNS (68259-12-1)	TM440	ug/kg	<0.5
PFDoA (307-55-1)	TM440	ug/kg	<0.6
PFDS (335-77-3)	TM440	ug/kg	<0.6
PFTrDA (72629-94-8)	TM440	ug/kg	<0.6
11Cl-PF3OUdS (763051-92-9)	TM440	ug/kg	<0.7
PFUnDS (749786-16-1)	TM440	ug/kg	<0.5
PFTeA (376-06-7)	TM440	ug/kg	<0.5
PFOSA (754-91-6)	TM440	ug/kg	<0.5
PFDoS (79780-39-5)	TM440	ug/kg	<0.5
PFTrDS (174675-49-1)	TM440	ug/kg	<0.5
MeFOSE (24448-09-7)	TM440	ug/kg	<5.0
PFHxDA (67905-19-5)	TM440	ug/kg	<0.5
N-MeFOSA (31506-32-8)	TM440	ug/kg	<0.5
8:2 diPAP (678-41-1)	TM440	ug/kg	<0.9
EtFOSE (1691-99-2)	TM440	ug/kg	<5.0
N-EtFOSA (4151-50-2)	TM440	ug/kg	<0.5
PFODA (16517-11-6)	TM440	ug/kg	<0.5
Total PFOS	TM440	ug/kg	<0.6
Total Identified PFAS	TM440	ug/kg	<51.0



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