ROLTON GROUP
ENGINEERING THE FUTURE™

Ben Williams
Fairy's Lodge Farm,
Covington,
Huntingdon
Cambridgeshire
PE28 0RT

Reference: 230174-RGL-ZZ-XX-CO-Z-0004
via email: office@brindlebayltd.com
Date: 25 February 2025

Dear Ben,

FAIRY'S LODGE FARM, COVINGTON

INVESTIGATION OF SOILS BENEATH BARN FOOTPRINT

1.0 INTRODUCTION

Brindlebay Ltd (the Client) are in the looking to develop five new properties at Fairy's Lodge Farm, Covington, Huntingdon PE28 0RT.

Following the issue of the Rolton Group Ltd (RGL) Ground Investigation Report (GIR), RGL were appointed by the client to undertake a supplementary investigation of the site in accordance with the recommendations outlined in Section 7.5, namely, to investigate beneath footprint of the former barn.

This report is supplementary to and should be read in conjunction with the original ground investigation report:

- RGL, Geotechnical and Geo-Environmental Report, report ref. 230174-RGL-ZZ-XX-RP-G-0002, S2-P01, Issued June 2024.

2.0 SITE DETAILS

The site is located off Church Lane, Covington, the site is approximately centred at National Grid Reference 505456 270986.

The site is of irregular shape, approximately 100m long north to south by 95m wide east to west.

3.0 FIELDWORK

The investigation positions were chosen to target specific features identified during the walkover (a fuel tank and some drums) and to provide representative coverage of the barn footprint. In advance of demolition, the concrete ground floor slab had been removed enabling suitable access.

Visual inspections of the soils beneath the potential sources of contamination did not reveal any visual or olfactory evince of contamination.

Prior to excavation a cable avoidance tool (CAT) was used to confirm each location was clear of detectable services.

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Four [4] mechanically excavated trial pits (TP's 05 to 08) were excavated on 15 January 2025 to depths in the range 0.60m to 0.70m below ground level (bgl). The excavations were recorded by an RGL engineer.

The trial pits logs and an updated Exploratory Hole Location Plan are attached.

4.0 ENCOUNTERED GROUND CONDITIONS

The encountered ground conditions are summarised and discussed below.

4.1 ENCOUNTERED GROUND CONDITIONS

The concrete ground floor slab had been broken up and removed in the days preceding the site visit. The concrete remained present around the edges of the barn and was measured to be 200mm thick. A polythene membrane was present directly beneath the concrete.

Beneath the floor slab, a layer of recycled aggregate, comprised of crushed concrete and brick (in sand to cobble sized fragments) was present across the whole footprint of the barn, between 200mm and 350mm thick.

An inspection of the surface was undertaken, to look for visual signs of spillages / contamination. None were noted.

Beneath the sub-base, natural deposits of Oadby Member were encountered in all exploratory holes as brown and grey slightly sandy locally slightly gravelly clays.

No groundwater seepages were noted in any of the exploratory holes.

Copies of the trial pit logs, and the supplementary ground investigation plan are attached.

5.0 GEO-ENVIRONMENTAL TESTING

Eight soil samples were tested for the same suite of potential contaminants as outlined in the original RGL Geotechnical and Geo-Environmental Report, issued June 2024.

5.1 LABORATORY TEST RESULTS

The results of the supplementary testing have been compared against the end uses of: Residential with homegrown produce.

Analysis has recorded marginally elevated concentrations of benzo(b)fluoranthene, Benzo(a)pyrene and dibenz(a,h)anthracene in three samples taken from the sub-base type materials recovered in trial pit TP05.

All other determinands were recorded at concentrations below their respective screening values for the end usage.

It should be noted that detectable concentrations of total petroleum hydrocarbons (TPH) were recorded in four samples, taken from trial pits TP05 (3 samples) and TP08 (1 sample). CWG speciated testing of these samples has confirmed that the detectable elements are from the heavy range (C12 to CC35) fractions and are below their assessment criteria values.

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5.2 INSITU RESULTS

A photoionization detector (PID) was used during the fieldwork to screen all samples. No elevated readings were recorded in any samples.

6.0 CONCLUSIONS

It is considered that the sub-base type materials will not be suitable for re-use in areas of soft landscaping at the site, however, these will be suitable for re-use in areas beneath solid hardstanding (such as roads).

Care will need to be taken to ensure that the sub-base type materials (comprising crushed concrete and brick) are segregated from the soils to be used in areas of soft landscaping (topsoil) to ensure that there is no cross contamination. Furthermore, these materials should not be used as temporary materials, such as access tracks, where dust could be produced. If there is an excess of sub-base type materials on site, consideration may be given to removing these materials from site to prevent cross contamination.

Although the barn had not been fully demolished at the time of the works, it was possible to inspect the entire footprint of the building including the locations of the potential contamination sources identified during the walkover and previous phases of works. No further potential sources of contamination were identified. Although unexpected, if potentially contaminated soils are encountered the discovery strategy methodology outlined in Section 7.5 of the GIR should be followed.

Should you have any queries please do not hesitate to contact the undersigned.

Yours sincerely

Jim Poynton
Rolton Group | Senior Engineer (Geotechnical & Geo-Environmental)
BEng (Hons)

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Encs.

Exploratory Hole Location Plan
Trial Pit Logs
Chemical test results – I2 Ref 25-002179 & 25-003887

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Notes

1. This drawing is to be read in conjunction with all the relevant contract documentation.
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GENERAL NOTES

1. The developer is responsible for locating any existing services, for making provision for access to lay service to serve adjacent sites and for protecting any services to the satisfaction of the relevant utility company.
2. The developer is to obtain all necessary licenses/ permissions before making connecting to existing sewers.
3. Pipes to be connected soffit to soffit.
4. All invert levels are to be checked on site prior to work commencing and any discrepancies reported immediately.
5. Levels indicated are Invert levels unless noted otherwise and are of lowest connection in manhole.



KEY

- Existing Buildings Layout
- Site Boundary
- Trial Pit Location July 2024
- Trial Pit Location January 2025
- Point of Interest

N

DO NOT SCALE

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Standard construction hazards that a competent contractor would be aware of have not been identified on this drawing. Risks that may not be immediately apparent are listed below:

1. Groundwater
2. Unknown services

Status	Date	Description	Dwn	Eng	Chkd	Veri
S2-P01	05.06.24	Issued for information	AP	AP	JP	CH
S2-P02	25.02.25	Updated with supplementary trial pits	FKS	AP	JP	JP

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Project:
Fairy's Lodge Farm
Covington

Drawing Title:
Exploratory Hole Location Plan

RGL Project Ref: 23-0174
Scale@A1: 1:500
Scale@A3: 1:1000
Specification(s):

Drawing Number:
230174-RGL-ZZ-XX-DR-G-900-0001
Project-Originator-Zone-Level-Type-Role-Classification-Number

Issue Purpose: INFORMATION
Status: S2-P02
Suitability-Revision

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The Charles Parker Building
Midland Road
Higham Ferrers
Northants
NN10 8DN

Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name:	Fairy's Lodge Farm, Covington	Project No. 23-0174	Co-ords: - Level:	Date 15/01/2025
Location:	Covington	Dimensions (m): Depth 0.70	2.5 / 2.5	Scale 1:10
Client:	Ben Williams			Logged JWP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							CONCRETE Floor Slab (Now Removed) MADE GROUND
				0.20			Brown and grey sand to cobble sized fragments of crushed concrete, brick and sandstone. MADE GROUND - SUB-BASE
							0.50mx0.50m pocket of dark grey black sandy silt with humic odour between 0.30m and 0.45m in end of pit.
	0.40	ES					
	0.50	ES					
	0.50 - 0.60	ES					
	0.55 - 0.60	ES		0.55			Soft grey slightly sandy CLAY with rare flint gravels. OADBY MEMBER
	0.60	ES					
	0.60	ES		0.65			Stiff brown CLAY OADBY MEMBER
				0.70			End of pit at 0.70 m

Remarks: No groundwater encountered.

Stability: No collapse during excavation.

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Trial Pit Log

Trialpit No
TP06
Sheet 1 of 1

Project Name:	Fairy's Lodge Farm, Covington	Project No. 23-0174	Co-ords: - Level:	Date 15/01/2025
Location:	Covington	Dimensions (m): Depth 0.70	1 / 0.6	Scale 1:10
Client:	Ben Williams			Logged JWP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							CONCRETE Floor Slab (Now Removed) MADE GROUND
				0.20			
	0.30	ES					Brown sand to cobble sized fragments of crushed concrete, brick and sandstone. MADE GROUND - SUB-BASE
				0.50			
	0.55	ES					Firm grey slightly sandy CLAY. OADBY MEMBER
				0.60			Stiff brown CLAY OADBY MEMBER
				0.70			End of pit at 0.70 m

Remarks: No groundwater encountered.

Stability: No collapse during excavation.

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Trial Pit Log

Trialpit No
TP07
Sheet 1 of 1

Project Name:	Fairy's Lodge Farm, Covington	Project No. 23-0174	Co-ords: - Level:	Date 15/01/2025
Location:	Covington	Dimensions (m): Depth 0.60	1 / 0.6	Scale 1:10
Client:	Ben Williams			Logged JWP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							CONCRETE Floor Slab (Now Removed) MADE GROUND
				0.20			Light brown / grey sand to cobble sized fragments of crushed concrete and brick. MADE GROUND - SUB-BASE
	0.40	ES					
				0.50			Stiff brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded chalk and flint. OADBY MEMBER
	0.55	ES		0.60			End of pit at 0.60 m

1

2

Remarks: No groundwater encountered.

Stability: No collapse during excavation.

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Trial Pit Log

Trialpit No
TP08
Sheet 1 of 1

Project Name:	Fairy's Lodge Farm, Covington	Project No. 23-0174	Co-ords: - Level:	Date 15/01/2025
Location:	Covington	Dimensions (m): Depth 0.60 — 1 × 0.6		Scale 1:10
Client:	Ben Williams			Logged JWP

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							CONCRETE Floor Slab (Now Removed) MADE GROUND
				0.20			
	0.30	ES					Light brown / grey sand to cobble sized fragments of crushed concrete and brick. MADE GROUND - SUB-BASE
				0.40			
	0.45	ES					Stiff brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded chalk and flint. OADBY MEMBER
				0.60			End of pit at 0.60 m

1

2

Remarks: No groundwater encountered.

Stability: No collapse during excavation.

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Analytical Report Number : 25-002179

Replaces Analytical Report Number: 25-002179, issue no. 1
Additional analysis undertaken.
TPHCWG added to samples 428231 & 233 as per client's request.

Project / Site name:	Covington	**Samples received on:**	17/01/2025
Your job number:	23-0174	**Samples instructed on/ Analysis started on:**	17/01/2025
Your order number:	32142	**Analysis completed by:**	03/02/2025
Report Issue Number:	2	**Report issued on:**	04/02/2025
Samples Analysed:	4 soil samples		

Signed:

Trevor Hill
Customer Service Advisor
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-002179
Project / Site name: Covington
Your Order No: 32142

Lab Sample Number				428231	428232	428233	428234
Sample Reference				TP05	TP05	TP08	TP08
Sample Number				ES1	ES2	ES1	ES2
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.50	0.60	0.30	0.20
Date Sampled				16/01/2025	16/01/2025	16/01/2025	16/01/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	20	8.6	23
Total mass of sample received	kg	0.1	NONE	1	1	1	1
Asbestos							
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-	KWB	-
General Inorganics							
pH (L099)	pH Units	N/A	MCERTS	7.9	8.4	8.3	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	530	130	1300	320
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	265	65.9	663	158
Organic Matter (automated)	%	0.1	MCERTS	5.9	2	1.1	4.3
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.06	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.5	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	2	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	7.5	0.15	0.14	< 0.05
Anthracene	mg/kg	0.05	MCERTS	1.7	< 0.05	0.07	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	8.4	0.42	0.45	< 0.05
Pyrene	mg/kg	0.05	MCERTS	7.2	0.38	0.54	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8	0.2	0.2	< 0.05
Chrysene	mg/kg	0.05	MCERTS	3	0.22	0.32	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.4	0.29	0.49	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4	0.13	0.15	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.3	0.25	0.31	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	0.16	0.19	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.4	< 0.05	0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.8	0.19	0.22	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	47.5	2.38	3.19	< 0.80

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Analytical Report Number: 25-002179
Project / Site name: Covington
Your Order No: 32142

Lab Sample Number				428231	428232	428233	428234
Sample Reference				TP05	TP05	TP08	TP08
Sample Number				ES1	ES2	ES1	ES2
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.50	0.60	0.30	0.20
Date Sampled				16/01/2025	16/01/2025	16/01/2025	16/01/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	19	28	18
Boron (water soluble)	mg/kg	0.2	MCERTS	3.6	1.8	1.8	2.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	43	50	38
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	15	33	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	16	20	25
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	33	28	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	80	83	77	80
Petroleum Hydrocarbons							
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	2.2	-	2.3	-
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	-	8.8	-
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	12	-	40	-
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	15	-	51	-
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	-	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	2.9	-	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	12	-	2.4	-
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	31	-	< 10	-
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	28	-	< 10	-
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	74	-	< 10	-
TPH (EC10 - EC40) $_{EH_CU_1D_TOTAL}$	mg/kg	10	MCERTS	91	< 10	68	< 10
VOCs							
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	-	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 25-002179
Project / Site name: Covington

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
428231	TP05	ES1	0.5	Brown clay
428232	TP05	ES2	0.6	Brown clay
428233	TP08	ES1	0.3	Brown sand with gravel
428234	TP08	ES2	0.2	Brown clay

Analytical Report Number : 25-002179
Project / Site name: Covington

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS

Analytical Report Number : 25-002179
Project / Site name: Covington

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

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

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

Sample Deviation Report

Analytical Report Number : 25-002179

Project / Site name: Covington

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP08	ES1	S	428233	b	BTEX and/or Volatile organic compounds in soil	L073B	b
TP08	ES1	S	428233	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b

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Analytical Report Number : 25-003887

Project / Site name:	Covington	**Samples received on:**	28/01/2025
Your job number:	23 0174	**Samples instructed on/ Analysis started on:**	28/01/2025
Your order number:		**Analysis completed by:**	05/02/2025
Report Issue Number:	1	**Report issued on:**	06/02/2025
Samples Analysed:	4 soil samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-003887
Project / Site name: Covington

Lab Sample Number				436530	436531	436532	436533
Sample Reference				TP05	TP05	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.50	0.55-0.60	0.50-0.60	0.60
Date Sampled				27/01/2025	27/01/2025	27/01/2025	27/01/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	25	25	23
Total mass of sample received	kg	0.1	NONE	0.6	0.5	0.5	0.8
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	0.34	0.17	0.06	0.22
Acenaphthylene	mg/kg	0.05	MCERTS	0.82	0.19	0.07	0.09
Acenaphthene	mg/kg	0.05	MCERTS	2.6	1.5	0.68	0.33
Fluorene	mg/kg	0.05	MCERTS	2.1	1.1	0.39	0.29
Phenanthrene	mg/kg	0.05	MCERTS	15	4.6	1.5	2
Anthracene	mg/kg	0.05	MCERTS	4.3	1.3	0.38	0.54
Fluoranthene	mg/kg	0.05	MCERTS	22	8.2	3.3	3.5
Pyrene	mg/kg	0.05	MCERTS	19	7.1	3.1	3.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.5	3.1	1.4	1.4
Chrysene	mg/kg	0.05	MCERTS	8.9	3.2	1.5	1.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	11	4	1.8	1.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.3	1.8	0.98	0.99
Benzo(a)pyrene	mg/kg	0.05	MCERTS	10	4	1.9	1.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.3	1.7	0.81	0.82
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.83	0.36	0.16	0.18
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.7	1.8	0.88	0.94
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	119	44	19	19.9
Petroleum Hydrocarbons							
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	230	150	16	35

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 25-003887
Project / Site name: Covington

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
436530	TP05	None Supplied	0.5	Brown sandy clay
436531	TP05	None Supplied	0.55-0.60	Brown sandy clay with gravel
436532	TP05	None Supplied	0.50-0.60	Brown sandy clay with gravel
436533	TP05	None Supplied	0.6	Brown sandy clay with gravel

Analytical Report Number : 25-003887
Project / Site name: Covington

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Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS

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