

Torsion Construction Ltd

1280 Century Way
Thorpe Park
Leeds
LS15 8ZB

AG2906C-24let001

18th April 2024

For the attention of Michael Dunnigan

Dear Michael

Re: Saxton Lane, Leeds, LS9 8HE – Verification of Topsoil Cover Layer – Interim Report

An area of land adjacent to Saxton Lane, Leeds (the site), has been redeveloped by Torsion Group (the Client). The development comprised demolition of two former buildings and construction of a twenty-two-storey mixed residential/commercial building, across two separate Blocks (A and B), with associated areas of planting/landscaping. It is understood that Block A covers the western half of the site and Block B covers the eastern half of the site. The site layout is shown on the Landscape General Arrangement, Drawing No. TPM-00-DR-L-4214 101 RevP2 by TPM Chartered Landscape Architects, dated March 2023, a copy of which is enclosed with this interim letter report.

A Remediation Strategy and Verification Plan (Ref: AG2906A-19-AI03, dated May 2019) was prepared for the development by Applied Geology on behalf of the Client. This letter report has been prepared to summarise the Verification of Topsoil Cover Layers undertaken to date and should be read in conjunction with the Remediation Strategy and Verification Plan. At the time of writing, a topsoil cover layer had been placed in the vicinity of Block B across the eastern part of the site. It is understood that the topsoil cover layer relating to Block A on the western half of the site will be placed later in 2024.

As detailed within the Remediation Strategy and Verification Plan, a clean cover layer thickness of 450mm was required for the areas of communal landscaping/planting. The verification of the cover layer thickness once placed, would be via the excavation of hand dug pits, at a rate of 1 hand dug pit per 50m³.

The topsoil was sourced by the Client and obtained from Barnsdale Bar Quarry, Pontefract, WF8 3JX in February 2024 and comprised recycled/manufactured topsoil. The volume of imported topsoil totalled approximately 100m³ to date.

Applied Geology attended site on 19th February 2024 to inspect the cover layer thicknesses and sample the imported topsoil for laboratory testing in the vicinity of Block B. Three hand excavated pits (HDP1-3) were undertaken in the vicinity of Block B, alongside verification samples at each location (3No Samples in total).

The locations of the hand pits are shown on drawing AG2906C-24-01. Topsoil was encountered in all of the hand pits from ground level to 0.45m below ground level (bgl). The topsoil generally comprised dark brown slightly clayey slightly gravelly sand with occasional



Gold Member



rootlets. The gravel comprised fine to medium angular to rounded quartzite, sandstone and mudstone. Photographs of each pit are enclosed with this letter report

The soil samples were tested for the following determinands at UKAS accredited laboratory (i2 Analytical Ltd) in February 2024 to confirm that the soil was suitable for use in accordance with the imported topsoil acceptance criteria given in Appendix B of the Remediation Strategy and Verification Plan:

- Selected metals suite [arsenic, beryllium, boron, cadmium, chromium (total, trivalent and hexavalent), copper, mercury, nickel, lead, zinc, selenium, vanadium];
- Speciated (16 US EPA) Polycyclic Aromatic Hydrocarbons (PAH);
- Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG);
- BTEX & MTBE;
- Asbestos;
- Volatile Organic Compounds (VOCs);
- Organic matter.

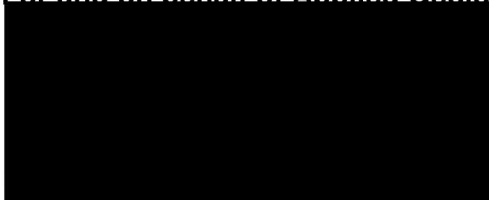
Following testing, all results were found to comply with the Imported Topsoil/Sub-Soil Acceptance Criteria. The results of the chemical testing are enclosed with this letter report. A summary comparison table showing the results against the Imported Topsoil/Sub-Soil Acceptance Criteria is also enclosed with this interim letter report.

A final verification report shall be prepared and issued separately once all topsoil has been placed across the landscaped areas at the site (including Block A) to assist with the discharge of the relevant Planning Conditions of Planning Application Ref. 19/01010/FU).

Should you have any further queries please do not hesitate to contact us.

Yours sincerely

For and on behalf of Applied Geology Ltd




Peter Gabrielle BSc (Hons) FGS
Regional Director

Encs.



Key:

 Hand Dug Pit
HDP1

Drawing based on tpm landscape drawing No: TPM-00-DR-L-4214 101
Rev P2 dated 27.03.2023.

APPLIED GEOLOGY

Suite 19
Lowton Business Park
Newton Road
Lowton St. Mary's
Warrington
WA3 2AN

Tel: 01925 738599
email: admin@appliedgeology.co.uk

Client:
TORSION CONSTRUCTION

Project:
SAXTON LANE, LEEDS

Title:
LOCATION OF TOPSOIL VERIFICATION
PITS

Drawn by: KM	Checked by: HS	Paper Size: A3
-----------------	-------------------	-------------------

Scale: 1:500	Date: 20/02/2024
--------------	------------------

Drawing No: AG2906C-24-01	Revision: 0
------------------------------	----------------



- GENERAL NOTES**
- This drawing is the copyright of tpm landscape Ltd and cannot be reproduced in any form without the consent of the company.
 - This drawing is to be read in conjunction with detail landscape drawings, details and specification.
 - This drawing is to be read in conjunction with all relevant Architects', Engineers', Specialists, Bills of Quantities and Specifications.
 - The insertion of any firm or proprietary brand on this drawing is an indication of the class or quality required and does not exclude the use of alternative materials that are equal in performance, quality and appearance, provided that they have been approved in writing by the Landscape Architect.
 - The Contractor is responsible for accurately ascertaining the position of underground services and responding to all relevant service easement requirements.
 - All dimensions are in millimetres unless stated otherwise, for the purposes of construction this drawing must not be scaled and only written dimensions used. Written and scaled dimensions to be checked on site, any discrepancies reported prior to work commencing. IF IN DOUBT PLEASE ASK.
 - All work and materials are to be in accordance with the relevant British Standards and Code of Practice.
 - All Proprietary products are to be used strictly in accordance with the manufacturer's instructions and details.

REVISION NOTES

Rev	By	Description	Date
P2	MW	Changes to paving spec in line with client comments	21.08.23
P1	JS	First Issue	27.03.23

SOFT LANDSCAPE

- Proposed Artificial 'Trees'
- Proposed Semi-Mature Trees in POS Semi-Mature Standard, 30-35cm girth, 5.5-6m high to be planted with a double timber stake secured with a rubber tree tie.
- Proposed Extra Heavy Trees in POS Extra-Heavy Standard, 18-20cm girth, 4.5-5m high to be planted with a double timber stakes secured with a rubber tree tie.
- Proposed Heavy Standard Trees in POS Heavy Standard, 14-16cm girth, 4.25-5m high to be planted with a double timber stakes secured with a rubber tree tie.
- Proposed Multi-Stems Tree Multi-stems trees, 4m high, 3-4 stems min, clear stem 0.5m, umbrella shape, to be planted with a single timber stake secured with a rubber tree tie.
- Ornamental Shrub Planting Proposed shrubs and flowering herbaceous plants to be planted as 5-10L pots at 3-5 per sq.m. planted with feature specimen, 10-12L pots.
- Proposed Ornamental Hedge to Gardens Proposed ornamental hedge to be planted as 100cm/200cm height RB or 10L pots (depending on time of year planting) at 4 per lin.m to provide an instant impact.
- Proposed Grass - POS Grass within POS to be seeded with heard wearing grass mix.

HARD LANDSCAPE

- Proposed Concrete Paving - Permeable Product: Hydropave Fusion 200x100x80mm Colour: Graphite and Silver Supplier: Tobermore or similar approved
- Proposed Concrete Paving Product: Fusion 200x100x80mm Colour: Graphite and Silver Supplier: Tobermore or similar approved
- Proposed Gravel Surfacing
- Proposed Tarmac Paving
- Proposed Tactile Paving
- Proposed Gravel Margin
- Proposed Steps
- Proposed Outdoor Picnic Table Sets
- Proposed Cycle Stand
- Proposed Bollard
- Proposed Handrail
- FURNITURE**
- Proposed Raised Planter to Podium
- Proposed Outdoor Benches

Client
Torsion Construction

Project
Saxton Lane

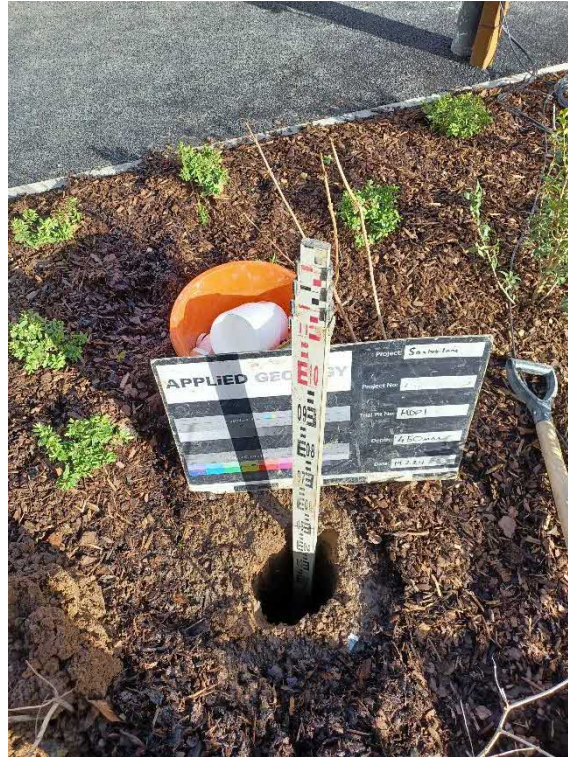
Description
Landscape General Arrangement

Status
For Approval

Scale @ A2 1:250
Drawn JS
Checked KH
Date 27.03.2023
Drawing number TPM-00-DR-L-4214 101
Revision P2

APPLIED GEOLOGY Verification Photos

Client	Torsion Construction	Job Number	AG2906C-24
Site	Saxton Lane, Leeds	Date	19 th February 2024
Engineer	Hannah Spencer	Pit Numbers	HDP1 - 3



HDP1 Topsoil thickness: 450mm



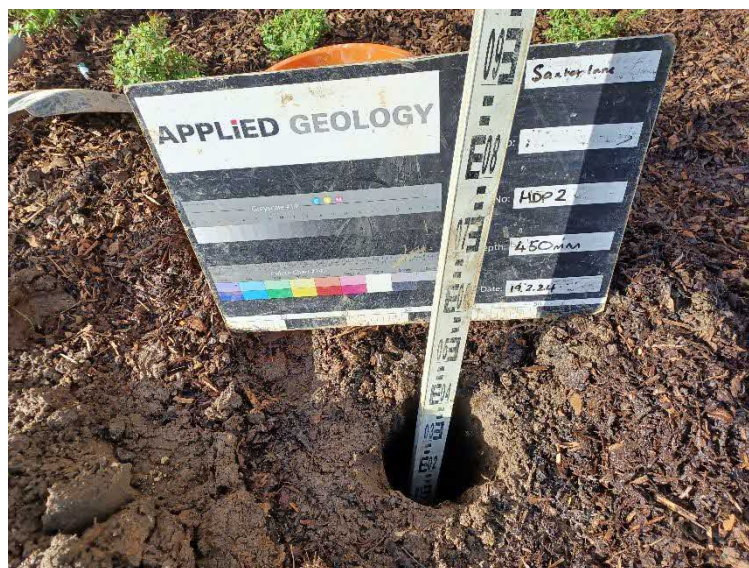
HDP1 overview

APPLIED GEOLOGY Verification Photos

Client	Torsion Construction	Job Number	AG2906C-24
Site	Saxton Lane, Leeds	Date	19 th February 2024
Engineer	Hannah Spencer	Pit Numbers	HDP1 - 3



HDP1 down-hole view



HDP2 Topsoil thickness: 450mm

APPLIED GEOLOGY Verification Photos

Client	Torsion Construction	Job Number	AG2906C-24
Site	Saxton Lane, Leeds	Date	19 th February 2024
Engineer	Hannah Spencer	Pit Numbers	HDP1 - 3



HDP2 overview



HDP2 down-hole view

APPLIED GEOLOGY Verification Photos

Client	Torsion Construction	Job Number	AG2906C-24
Site	Saxton Lane, Leeds	Date	19 th February 2024
Engineer	Hannah Spencer	Pit Numbers	HDP1 - 3



HDP3 Topsoil thickness: 450mm



HDP3 overview

APPLIED GEOLOGY Verification Photos

Client	Torsion Construction	Job Number	AG2906C-24
Site	Saxton Lane, Leeds	Date	19 th February 2024
Engineer	Hannah Spencer	Pit Numbers	HDP1 - 3



HDP03 down-hole view

Imported Topsoil/Subsoil Acceptance Criteria

Site: Saxton Lane, Leeds
Job No: AG2906C-24
Land Use: Residential with plant uptake

Exploratory Hole Reference Depth (m) Strata	HDP1 0.3 TS	HDP2 0.3 TS	HDP3 0.3 TS	Units	Soil Screening Value (6% SOM)	Source/Justification
Arsenic	2.4	2.3	2.4	mg/kg	37	LQM/CIEH S4UL (2015)
Boron	5.9	8.5	9.1	mg/kg	290	LQM/CIEH S4UL (2015)
Cadmium	0.2	0.3	0.3	mg/kg	11	LQM/CIEH S4UL (2015)
Chromium	4.8	7.4	5.5	mg/kg	910	LQM/CIEH S4UL (2015)
Chromium (Hexavalent)	1.8	1.8	1.8	mg/kg	6	LQM/CIEH S4UL (2015)
Copper	13	16	18	mg/kg	2400	LQM/CIEH S4UL (2015) + BS3882: 2015
Lead	11	18	17	mg/kg	200	C4SL (2014)
Mercury	0.3	0.3	0.3	mg/kg	40	LQM/CIEH S4UL (2015)
Nickel	4.5	5.6	5.3	mg/kg	130	LQM/CIEH S4UL (2015)
Selenium	1.0	1.0	1.0	mg/kg	250	LQM/CIEH S4UL (2015)
Vanadium	4.9	6.3	6.1	mg/kg	410	LQM/CIEH S4UL (2015)
Zinc	31	42	41	mg/kg	3700	LQM/CIEH S4UL (2015) + BS3882: 2015
Naphthalene	0.05	0.05	0.05	mg/kg	13	LQM/CIEH S4UL (2015)
Acenaphthylene	0.05	0.05	0.05	mg/kg	*	LQM/CIEH S4UL (2015)
Acenaphthene	0.05	0.05	0.05	mg/kg	920	LQM/CIEH S4UL (2015)
Fluorene	0.05	0.05	0.05	mg/kg	860	LQM/CIEH S4UL (2015)
Phenanthrene	0.05	0.2	0.05	mg/kg	440	LQM/CIEH S4UL (2015)
Anthracene	0.05	0.05	0.05	mg/kg	*	-
Fluoranthene	0.05	0.25	0.08	mg/kg	890	LQM/CIEH S4UL (2015)
Pyrene	0.05	0.22	0.07	mg/kg	*	LQM/CIEH S4UL (2015)
Benzo[a]anthracene	0.05	0.13	0.05	mg/kg	13	LQM/CIEH S4UL (2015)
Chrysene	0.05	0.11	0.05	mg/kg	27	LQM/CIEH S4UL (2015)
Benzo[b]fluoranthene	0.05	0.14	0.05	mg/kg	3.7	LQM/CIEH S4UL (2015)
Benzo[k]fluoranthene	0.05	0.06	0.05	mg/kg	100	LQM/CIEH S4UL (2015)
Benzo[a]pyrene	0.05	0.1	0.05	mg/kg	3.0	LQM/CIEH S4UL (2015)
Dibenzo[a,h]anthracene	0.05	0.05	0.05	mg/kg	0.30	LQM/CIEH S4UL (2015)
Indeno[1,2,3-cd]pyrene	0.05	0.05	0.05	mg/kg	41	LQM/CIEH S4UL (2015)
Benzo[g,h,i]perylene	0.05	0.05	0.05	mg/kg	350	LQM/CIEH S4UL (2015)
Total PAH	0.8	1.3	0.8	mg/kg	1000	-
Phenols	1.0	1.0	1.0	mg/kg	380	LQM/CIEH S4UL (2015)
Benzene	0.005	0.005	0.005	mg/kg	0.37	LQM/CIEH S4UL (2015)
Toluene	0.005	0.005	0.005	mg/kg	660	LQM/CIEH S4UL (2015)
Ethylbenzene	0.005	0.005	0.005	mg/kg	260	LQM/CIEH S4UL (2015)
m&p Xylene	0.01	0.01	0.01	mg/kg	310	LQM/CIEH S4UL (2015)
o-Xylene	0.005	0.005	0.005	mg/kg	330	LQM/CIEH S4UL (2015)
Aliphatic TPH >C5-C6	0.02	0.02	0.02	mg/kg	160	LQM/CIEH S4UL (2015)
Aliphatic TPH >C6-C8	0.02	0.02	0.02	mg/kg	530	LQM/CIEH S4UL (2015)
Aliphatic TPH >C8-C10	0.05	0.05	0.05	mg/kg	150	LQM/CIEH S4UL (2015)
Aliphatic TPH >C10-C12	1.0	1.0	1.0	mg/kg	760	LQM/CIEH S4UL (2015)
Aliphatic TPH >C12-C16	2.0	2.0	2.0	mg/kg	*	-
Aliphatic TPH >C16-C21	8.0	8.0	8.0	mg/kg	*	-
Aliphatic TPH >C21-C35	8.0	14	8.0	mg/kg	*	-
Aliphatic TPH >C35-C44	8.4	8.4	8.4	mg/kg	*	-
Aromatic TPH >C5-C7	0.01	0.01	0.01	mg/kg	300	LQM/CIEH S4UL (2015)
Aromatic TPH >C7-C8	0.01	0.01	0.01	mg/kg	660	LQM/CIEH S4UL (2015)
Aromatic TPH >C8-C10	0.05	0.05	0.05	mg/kg	190	LQM/CIEH S4UL (2015)
Aromatic TPH >C10-C12	1.0	1.0	1.0	mg/kg	380	LQM/CIEH S4UL (2015)
Aromatic TPH >C12-C16	2.0	2.0	2.0	mg/kg	660	LQM/CIEH S4UL (2015)
Aromatic TPH >C16-C21	10	10	10	mg/kg	930	LQM/CIEH S4UL (2015)
Aromatic TPH >C21-C35	10	10	10	mg/kg	*	-
Aromatic TPH >C35-C44	8.4	8.4	8.4	mg/kg	*	-
Total Petroleum Hydrocarbons	10	14	10	mg/kg	1000	-
Asbestos	ND	ND	ND		Below Detection Limit of Test	-
VOCs (other than BTEX)	5.0	5.0	5.0	µg/kg	Below Detection Limit of Test	Any values above detection to be assessed in more detail to determine suitability for end use. Ideally VOCs to be below detection.

Testing should be based on the donor site and its historical use.
 * Individual PAH compounds and TPH fractions have S4UL's in excess of 1000mg/kg, therefore no specific limits are proposed as overall limits of 1000mg/kg TPH and 1000mg/kg PAH are to be adhered to.
 LQM/CIEH S4UL Reference No. S4UL3159 (2015)



Applied Geology Ltd
First Floor
Lowton Business Park
WS3 2AN

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

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: hannah.spencer@appliedgeology.co.uk

Analytical Report Number : 24-004416

Project / Site name:	Saxton Lane, Leeds	Samples received on:	20/02/2024
Your job number:	AG2906C-23	Samples instructed on/ Analysis started on:	20/02/2024
Your order number:	20199	Analysis completed by:	27/02/2024
Report Issue Number:	1	Report issued on:	27/02/2024
Samples Analysed:	3 soil samples		

Signed: _____

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

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

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

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

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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

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

Analytical Report Number: 24-004416
 Project / Site name: Saxton Lane, Leeds
 Your Order No: 20199

Lab Sample Number		123286	123287	123288
Sample Reference		HDP1	HDP2	HDP3
Sample Number		None Supplied	None Supplied	None Supplied
Depth (m)		0.30	0.30	0.30
Date Sampled		19/02/2024	19/02/2024	19/02/2024
Time Taken		None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	22	21
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MLO	MLO	MLO

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.7	8.6	8.3
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	190	230	330
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	94.9	113	167
Organic Matter (automated)	%	0.1	MCERTS	2.3	4.1	2.7

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.24	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.06	0.25	0.08
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.22	0.07
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.13	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.14	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.06	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.1	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	1.3	< 0.80
-----------------------------	-------	-----	-----------	--------	-----	--------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	2.4	2.3	2.4
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.4	0.42	0.42
Boron (total)	mg/kg	1	MCERTS	5.9	8.5	9.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	0.3	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	4.8	7.4	5.5
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.8	7.4	5.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	16	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	18	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3

Analytical Report Number: 24-004416
 Project / Site name: Saxton Lane, Leeds
 Your Order No: 20199

Lab Sample Number				123286	123287	123288
Sample Reference				HDP1	HDP2	HDP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.30
Date Sampled				19/02/2024	19/02/2024	19/02/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.5	5.6	5.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	4.9	6.3	6.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	31	42	41

Magnesium (water soluble)	mg/kg	5	NONE	31	38	29
---------------------------	-------	---	------	----	----	----

Petroleum Hydrocarbons

TPHCWG - Aliphatic >C5 - C6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C6 - C8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >C8 - C10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >C10 - C12 EH_CU_1D_AL_#1_#2	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >C12 - C16 EH_CU_1D_AL_#1_#2	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >C16 - C21 EH_CU_1D_AL_#1_#2	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >C21 - C35 EH_CU_1D_AL_#1_#2	mg/kg	8	MCERTS	< 8.0	14	< 8.0
TPHCWG - Aliphatic >C35 - C44 EH_CU_1D_AL_#1_#2	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >C5 - C35 EH_CU+HS_1D_AL_#1_#2	mg/kg	10	NONE	< 10	14	< 10
TPHCWG - Aliphatic >C5 - C44 EH_CU+HS_1D_AL_#1_#2	mg/kg	10	NONE	< 10	14	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR_#1_#2	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR_#1_#2	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR_#1_#2	mg/kg	10	MCERTS	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR_#1_#2	mg/kg	10	MCERTS	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR_#1_#2	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR_#1_#2	mg/kg	10	NONE	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR_#1_#2	mg/kg	10	NONE	< 10	< 10	< 10

TPH Total >C5 - C44 EH_CU+HS_1D_TOTAL_#1_#2	mg/kg	10	NONE	< 10	14	< 10
---	-------	----	------	------	----	------

VOCS

Chloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-004416
 Project / Site name: Saxton Lane, Leeds
 Your Order No: 20199

Lab Sample Number				123286	123287	123288
Sample Reference				HDP1	HDP2	HDP3
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.30
Date Sampled				19/02/2024	19/02/2024	19/02/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

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



Analytical Report Number : 24-004416
 Project / Site name: Saxton Lane, Leeds

* 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 *
123286	HDP1	None Supplied	0.3	Brown sandy clay with gravel and vegetation
123287	HDP2	None Supplied	0.3	Brown loam and sand with gravel and vegetation
123288	HDP3	None Supplied	0.3	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-004416
Project / Site name: Saxton Lane, Leeds

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (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
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated EPA-16 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	D/W	MCERTS
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	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	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	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 30°C.

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