4047-02 / JH

12th May 2025

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COVER SYSTEM VALDIATION REPORT - PARKMOUNT ROAD, MANCHESTER – SOFT LANDSCAPING AROUND PLOTS 19-24

This Remediation Validation Report has been prepared at the request of John Southworth Builders Ltd. Instructions to proceed with this report were received in April 2025.

This report pertains to a c. 0.61 Ha site located to the south of Parkmount Road and east of Rochdale Road, Manchester at the approximate post code M9 8AH. The National Ordnance Survey Grid Reference for the centre of the site is 386028E, 402128N.

This report follows, and should be read in conjunction with, the following reports:

- Brownfield Solutions Ltd., *'Phase 2 Ground Investigation'* (Ref. MS/C4657/10658 + Rev A, January 2022).
- IGE Consulting Ltd., '*Parkmount Road, Manchester, Remedial Strategy* (ref: 4047-01/A, dated: May 24).

This Validation Report concerns the cover system validation of the soft landscaping around Plots 19-24 only.

Further validations for further plots will be produced as they become available. This report is to be used for submission to the building insurer, to achieve sign-off for the soft landscaping around Plots 19-24 only.

Ground gas protection measures are not required for this site.

Remedial Requirements

The above referenced IGE Consulting Remedial Strategy Report specified the installation of a clean cover system within private rear gardens and areas of soft landscaping in order to break any pathways

between the existing site soils and the end user due to GAC exceedances recorded in the existing site soils.

The following Landscaping Plan details the private rear gardens (red), private front gardens (blue) and POS soft landscaping (Public Open Space / POSresi – green) on site. This cover system validation report will refer to the landscaping designations detailed in the below extract.



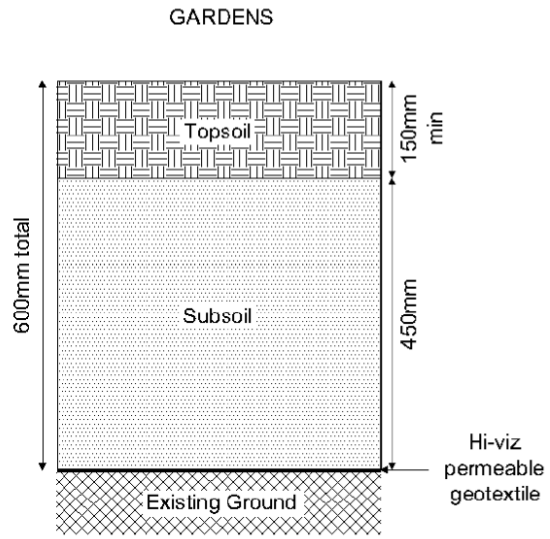
Figure 1: Extract of the landscape plan of the site (SI-02 Landscaping Plan, Mar 2024). Red = private rear gardens. Blue = private front gardens. Green = soft landscaping / public open space.

Cover System Requirements

Made Ground containing was present below finalised garden levels at depths shallower than 600mm (450mm in areas of soft landscaping) across the site. The following procedure was outlined for use in all private gardens and in areas of soft landscaping:

1. Excavate to 600mm bgl in private gardens (450mm in soft landscaping areas).
2. A <u>600mm clean cover system</u> is recommended to be added to the proposed private gardens (450mm in soft landscaping areas). This is to consist of:
    - No less than 150mm and no more than 300mm suitable topsoil, underlain by;
    - Suitable subsoil to a total (topsoil + subsoil) depth of 600mm (450mm in areas of soft landscaping), underlain by;
- A high vis geotextile marker;
- Validate in line with the below strategy.

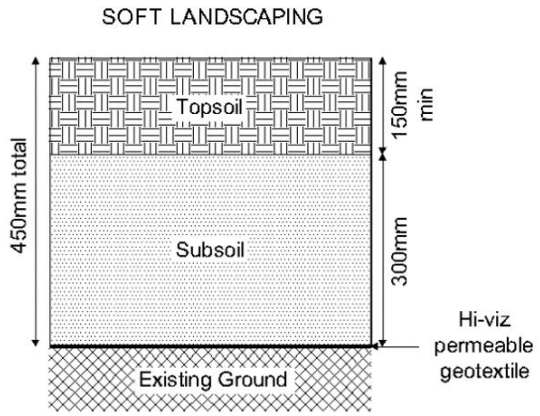
This is shown diagrammatically below:



The cover system for the soft landscaping is to be 450mm thick, due to the presence of asbestos on site, and consist of:

- A minimum of 150mm suitable topsoil, underlain by;
- Suitable subsoil, to a total thickness of 450mm.

This is shown diagrammatically below:



Soils for use in the above recommended cover system must be validated as detailed below to ensure their suitability for use.

Clean Cover System Validation

Once the 600mm clean cover system is installed to break contaminative linkages (450mm in areas of soft landscaping), validation requirements include:

- Details of the source of the cover material;
- Chemical test results to demonstrate that the soil is free from contamination and 'suitable for use' in-line with the below chemical testing suites and rates.
- Waste transfer notes to provide evidence of source;
- Confirmation of cover depth by either measurement tape or topographical survey with photographs at a frequency of one pit per three plots.

No topsoil or subsoil was present on-site therefore all topsoil and subsoil has been imported and this has been validated as detailed below to ensure its suitability for use (i.e., no glass or plastic is to be included and meets chemical testing acceptability criteria).

Imported topsoil and subsoil is required to be tested at source prior to import to confirm suitability. All topsoil and subsoil, whether site-won or imported is required to be tested at the following frequency:

End-Use	Greenfield Soils	Remediated Soils	Brownfield Soils	Unknown Soil Source
Residential Gardens	1:200m^3	1:100m^3	1:50m^3	1:50m^3
Soft Landscaping	1:200m^3	1:150m^3	1:150m^3	1:150m^3
Other	1:200m^3	1:200m^3	1:200m^3	1:200m^3

- *Inline with Manchester City council chemical testing guidance*

Suitability of Imported Topsoil

The topsoil for the clean cover system was imported from R Draper Ltd, a topsoil supplier. The material is Grade 1 topsoil excavated from agricultural land. Chemical testing of the imported topsoil was provided by the supplier and assessed by IGE Consulting.

No exceedances above human health criteria were detected. On this basis, the soils were deemed acceptable for import and suitable for use on residential development sites. The chemical test results at source are contained in Appendix 2.

The topsoil was visually assessed and found to contain no plastics, glass, metals, or other deleterious anthropogenic materials and appeared to be a suitable growing medium. The material was sampled for chemical testing at site by IGE and was analysed by i2 Analytical and subsequently assessed by IGE Consulting. The area of the soft landscaping around Plots 19-24 equates to approximately 248m^2. Utilising a conservative average of 0.30m depth of topsoil this equates to a volume of 74m^3, consequently 2 No. soil samples were tested, which exceeds the above requirements – 1 per 200m^3. Chemical testing at site was analysed by i2 analytical and assessed by IGE Consulting and an appropriate suite of contaminants were analysed for comparison to GACs for a '*residential with plant uptake'* end use.

No concentrations were present in exceedance of their respective GACs. Therefore, the topsoil was deemed suitable for use. The chemical test results at site are included in Appendix 3.

Suitability of Imported Subsoil

The subsoil for the clean cover system comprises quarried sand.

The subsoil was visually assessed on site and found to contain no plastics, glass, metals, or other deleterious anthropogenic materials. The material was sampled for chemical testing at site by IGE and was analysed by i2 Analytical and subsequently assessed by IGE Consulting. The area of the soft landscaping around Plots 19-24 equates to approximately 248m^2. Utilising an average of 0.30m depth of subsoil this equates to a volume of 74m^3, consequently 2 No. soil samples were tested, which exceeds the above requirements – 1 per 200m^3. Chemical testing at site was analysed by i2 analytical and assessed by IGE Consulting and an appropriate suite of contaminants were analysed for comparison to GACs for a '*residential with plant uptake'* end use.

No exceedances above human health criteria were detected. Therefore, the subsoil was deemed suitable for use. The chemical test results are contained in Appendix 3.

All transfer notes, providing evidence of source and import, will be provided in the final validation report when clean cover system installation is complete.

Thickness of Clean Cover

Three small holes were dug within the soft landscaping around Plots 19-24. Photographs were taken of the cover system thickness in these areas, which was found to be equal or greater than the required thickness with the exception to the soft landscaping directly west of Plots 19-24 where the pavement is yet to be installed. Therefore, a minimum of 50mm of additional topsoil will be added once the installation of the hardstanding surrounding the soft landscaping is complete. Photographs showing the current condition of the soft landscaping directly west of Plots 19-24 are included below. The photographs and confirmation of cover depth for the soft landscaping around Plots 19-24 are contained in the Verification Logs in Appendix 4.



Figure 2 – Soft landscaping directly west of Plots 19-24 showing void awaiting installation of the adjacent pavement and subsequent additional topsoil.

A development site layout plan, showing the locations of the gardens and soft landscaping areas, is contained in Appendix 1.

Cover System Validation Summary

On the basis of the information provided, it is confirmed that the clean cover system remediation objectives have been met for the soft landscaping around Plots 19-24. Further validations are required for further plots as they are completed before the site as a whole can be validated.

Conclusion

The remedial objectives for the soft landscaping around Plots 19-24 have been met. No further recommendations are made for these plots. Further validations are required for further plots as they are

completed before the site as a whole can be validated. These will be included in a revision or addendum to this report once complete.

If any additional information is needed, do not hesitate to ask.

Yours sincerely,

James Harley MSci SGPV FGS
Geo-Environmental Engineer

Appendix 1 – Site Layout Plan
Appendix 2 – Chemical test results at source
Appendix 3 – Chemical test results at site
Appendix 4 – Verification Logs

APPENDIX 1

NOTES

- All dimensions and levels are to be checked on site.
- Any discrepancies are to be reported to the architect before any work commences
- This drawing shall not be scaled to ascertain any dimensions. Work to figured dimensions only.
- This drawing shall not be reproduced without express written permission from AEW.
- Title overlay drawings and ownership boundaries are produced using all reasonable endeavors. AEW cannot be responsible for the accuracy or scale discrepancy of base plans supplied to them.
- All works are to be undertaken in accordance with Building Regulations and the latest British Standards.
- All proprietary materials and products are to be used strictly in accordance with the manufacturers recommendations.

This drawing contains the following model files: -

12191-XX-XX-M3-A-0001 [P0.1] [S0]

CDM 2015

Client notified of duties:

Principal Designer:

Unless noted below, all known hazards have been highlighted on the drawing:

N

0 5 10 20 30m

Scale @ 1:500

Layout subject to comments by LPA, acoustic consultant design, tree survey, ecological surveys, statuatory infrastructure layouts, drainage easement confirmation, title deeds etc.



Site Layout - Proposed

Scale @ 1 : 500

Schedule Of Accommodation

Type	Area	Count
3B5P 2 Storey Townhouse	95.7m²	9
4B7P 3 Storey Townhouse	123.2m²	9
1B1P Walk Up Apartments	41m² GF 51m² 1F	3 3
	Total	24

Key

Indicative trees removed, to be confirmed by arboriculutral survey and report. Refer to seperate report

Drainage easement, exactl location to be confirmed by CCTV survey, easement size to be confirmed by drainage engineer

Site Boundary

Note: Dimensions from proposed proerties to existing based on topographical survey provided by Redbox Surveys Dec 2020

REV	Date	Drawn by: -	Checked by: -
P06	10.07.23	KJ	DAL
Rescaled to A1			
P05	15.06.23	BA	DS
Issued for planning			
P04	05.06.23	BA	DAL
Revised for amended access road to include homezone			
P03	22.05.23	DS	RH
Revised for Co-ordination pre planning			
P02	22.11.21	DAL	CS
Boundary Treatments shown on seperate drawing			
P01	17.11.21	DAL	CS
Initial Issue			

Status: S2 — Purpose of Issue: For Information

drawing stage: **Stage 3**

client: **Mosscare St Vincent's**

project: **Parkmount Street**

drawing title: **Proposed Site Layout - Presentation**

date: 26.11.21 drawn: DAL

scale @ A1: 1 : 500 checked: BR

Rev **P06**

Dwg No **12191-AEW-XX-XX-DR-A-0503**

aew architects
0161 214 4370
www.aewarchitects.com

APPENDIX 2

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

R Draper Ltd

Alan Draper
R. Draper Ltd
Barrow Nook Lane
Bickerstaffe
Nr. Ormskirk
Lancashire
L39 0ET

25th February 2025
Our Ref: TOHA/25/1730/1/SS
Your Ref: as below

Dear Sirs

Topsoil Analysis Report – Grade 1 Topsoil

We have completed the analysis of the topsoil sample recently submitted, referenced *Grade 1 Topsoil,* and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 Specification for Topsoil – Multipurpose Topsoil)*.

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the R Draper Ltd site.

SAMPLE EXAMINATION

The sample was described as a black (Munsell Colour 10YR 2/1), dry, friable, non-calcareous LOAMY SAND with a weakly developed, fine to medium granular structure*. The sample was slightly stony and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis (sand, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class, which is usually considered suitable for general landscape applications provided the soil's physical condition is satisfactory.

The sample was low and, as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was neutral in reaction (pH 7.0), with a pH value that would be considered ideal for general landscape purposes.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by CaSO4 extract (BS3882 requirement) fell below the maximum specified value (3300 µS/cm) given in BS3882:2015 – Table 1.

Organic Matter and Fertility Status

The sample was adequate to well supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to *BS3882:2015 - Table 1*: Notes 3 and 4, there is a recommendation to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with home grown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none exceeded their respective guideline values.

R Draper Ltd

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 Specification for Topsoil – Multipurpose Topsoil)*.

From the soil examination and laboratory analysis, the sample was described as a neutral, non-saline, slightly calcareous *loamy sand* with a weakly developed structure and a low stone content. The sample was adequate to well supplied with organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided the physical condition of the topsoil is satisfactory.

The topsoil was fully compliant with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil)*.

RECOMMENDATIONS

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, respreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is sufficiently dry to be non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015.*

R Draper Ltd

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully





Ebony Gheorghe
BSc MSc
Soil Scientist

Tim White
BSc MSc MISoilSci CSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

R Draper Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**R Draper Ltd**
Project	**Grade 1 Topsoil**
Job:	**Topsoil Analysis - BS3882:2015**
Date:	**25/02/2025**
Job Ref No:	**TOHA/25/1730/1/SS**

Sample Reference			**Grade 1 Topsoil**
		Accreditation	
Clay (<0.002mm)	%	UKAS	8
Silt (0.002-0.063mm)	%	UKAS	8
Sand (0.063-2.0mm)	%	UKAS	84
Texture Class (UK Classification)	--	UKAS	LS
Stones (2-20mm)	% DW	GLP	2
Stones (20-50mm)	% DW	GLP	3
Stones (>50mm)	% DW	GLP	0
pH Value (1:2.5 water extract)	units	UKAS	7.0
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	1461
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	3197
Exchangeable Sodium Percentage	%	UKAS	3.5
Organic Matter (LOI)	%	UKAS	4.1
Total Nitrogen (Dumas)	%	UKAS	0.20
C : N Ratio	ratio	UKAS	12
Extractable Phosphorus	mg/l	UKAS	64
Extractable Potassium	mg/l	UKAS	700
Extractable Magnesium	mg/l	UKAS	78
Total Arsenic (As)	mg/kg	MCERTS	10
Total Cadmium (Cd)	mg/kg	MCERTS	0.4
Total Chromium (Cr)	mg/kg	MCERTS	14
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	< 1.8
Total Copper (Cu)	mg/kg	MCERTS	41
Total Lead (Pb)	mg/kg	MCERTS	60
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	12
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	72
Water Soluble Boron (B)	mg/kg	MCERTS	0.5
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	0.18
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	0.40
Pyrene	mg/kg	MCERTS	0.37
Benzo(a)anthracene	mg/kg	MCERTS	0.21
Chrysene	mg/kg	MCERTS	0.20
Benzo(b)fluoranthene	mg/kg	MCERTS	0.22
Benzo(k)fluoranthene	mg/kg	MCERTS	0.08
Benzo(a)pyrene	mg/kg	MCERTS	0.26
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	0.13
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	0.18
Total PAHs (sum USEPA16)	mg/kg	MCERTS	2.2
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.010
Aromatic TPH >C7 - C8	mg/kg	MCERTS	0.01
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.020
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 0.005
Toluene	mg/kg	MCERTS	0.01
Ethylbenzene	mg/kg	MCERTS	< 0.005
p & m-xylene	mg/kg	MCERTS	< 0.008
Xylene	mg/kg	MCERTS	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.005
Asbestos Screen	N/ND	ISO 17025	Not-detected

LS = LOAMY SAND

Visual Examination

The sample was described as a black (Munsell Colour 10YR 2/1), dry, friable, non-calcareous LOAMY SAND with a weakly developed, fine to medium granular structure. The sample was slightly stony and contained a moderate proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.



Ebony Gheorghe
BSc MSc
Soil Scientist

Results of analysis should be read in conjunction with the report they were issued with.

The contents of this certificate shall not be reproduced without the express written permission of Tim O'Hare Associates LLP

R Draper Ltd

APPENDIX 3

IGE Consulting
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e: llawless@igeconsulting.co.uk
Admin@igeconsulting.co.uk

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

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

Analytical Report Number : 25-022763

Project / Site name:	Parkmount	**Samples received on:**	02/05/2025
Your job number:	4047	**Samples instructed on/ Analysis started on:**	02/05/2025
Your order number:	4047 02052025	**Analysis completed by:**	12/05/2025
Report Issue Number:	1	**Report issued on:**	12/05/2025
Samples Analysed:	4 soil samples		

Signed: [redacted]

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-022763
Project / Site name: Parkmount
Your Order No: 4047 02052025

Lab Sample Number				534069	534070	534071	534072
Sample Reference				TS01	TS02	SS01	SS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/05/2025	01/05/2025	01/05/2025	01/05/2025
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	21	18	8.4	9
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.1	1.1
Asbestos							
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA
Analysis completed	N/A	N/A	N/A	09/05/2025	09/05/2025	09/05/2025	09/05/2025
General Inorganics							
pH (L099)	pH Units	N/A	MCERTS	7.3	7.6	7.6	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Free 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	460	410	120	100
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	231	203	59.5	51.2
Organic Matter (automated)	%	0.1	MCERTS	9.2	6.9	0.4	0.6
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	0.2	0.3
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	43	36	7.2	6
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	22	18	< 5.0	< 5.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.06	0.06	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.42	0.29	< 0.05	0.25
Anthracene	mg/kg	0.05	MCERTS	0.08	0.06	< 0.05	0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.65	0.54	0.1	0.28
Pyrene	mg/kg	0.05	MCERTS	0.58	0.53	0.09	0.26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.32	0.28	< 0.05	0.12
Chrysene	mg/kg	0.05	MCERTS	0.32	0.29	< 0.05	0.13
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.32	0.3	< 0.05	0.12
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.16	0.13	< 0.05	0.07
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.32	0.3	0.05	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.16	0.15	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.2	0.19	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.65	3.13	< 0.80	1.4
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.2	3.9	1.3	1.4
Barium (aqua regia extractable)	mg/kg	1	MCERTS	35	37	19	18
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.26	0.23	0.14	0.21
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.6	0.3	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	0.2	< 0.2	< 0.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	2.1	1.9	< 1.2	< 1.2

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

Analytical Report Number: 25-022763
Project / Site name: Parkmount
Your Order No: 4047 02052025

Lab Sample Number				534069	534070	534071	534072
Sample Reference				TS01	TS02	SS01	SS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				01/05/2025	01/05/2025	01/05/2025	01/05/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	7.5	7.5	3.7	4.9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	20	4.9	7.1
Lead (aqua regia extractable)	mg/kg	1	MCERTS	30	28	3.6	3.8
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	6.4	6.2	3.4	4.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	8.4	7.8	4.3	5.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40	36	8.2	11
Petroleum Hydrocarbons							
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0 ##	< 1.0 ##	< 1.0 ##
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0 ##	< 2.0 ##	< 2.0 ##
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0 ##	< 8.0 ##	< 8.0 ##
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	8.9	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	31	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	14	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	31	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	45	< 10	< 10	< 10
VOCs							
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0

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

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Analytical Report Number : 25-022763
Project / Site name: Parkmount

* 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 *
534069	TS01	None Supplied	None Supplied	Brown sand with gravel
534070	TS02	None Supplied	None Supplied	Brown sand with gravel
534071	SS01	None Supplied	None Supplied	Brown sand with gravel
534072	SS02	None Supplied	None Supplied	Brown sand with gravel

Analytical Report Number : 25-022763
Project / Site name: Parkmount

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
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

Analytical Report Number : 25-022763
Project / Site name: Parkmount

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 organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS

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

##- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Project: Parkmount

Job No: 4047

Lab Sample Number			534069	534070	534071	534072	Statistical Analysis					GAC - S4UL unless stated			
Sample Reference			TS01	TS02	SS01	SS02						Statistical Results			
Sample Number			None Supplied	None Supplied	None Supplied	None Supplied									
Depth (m)			None Supplied	None Supplied	None Supplied	None Supplied									
Date Sampled			01/05/2025	01/05/2025	01/05/2025	01/05/2025	Count	Standard Deviation	Minimum	Maximum	Average	Maximum	**2.5% Residential with Home Grown Produce**	Pass/ Fail	Exceedances
Analytical Parameter (Soil Analysis)	**Units**	**LoD**													
Stone Content	%	0.1	0.10	0.10	0.10	0.10	4	0.00	0.1	0.1	0.1	0.1			
Moisture Content	%	0.01	21.00	18.00	8.40	9.00	4	6.36	8.40	21.00	14.10	21.00			
Total mass of sample received	kg	0.1	1.10	1.10	1.10	1.10	4	0.00	1.100	1.100	1.100	1.100			
Asbestos															
Asbestos in Soil Screen	Type	N/A	Not-detected	Not-detected	Not-detected	Not-detected	4	-	-	-	-				
General Inorganics															
pH - Automated	pH Units	N/A	7.30	7.60	7.60	8.00	4	0.29	7.30	8.00	7.63				
Total Cyanide	mg/kg	1	1.00	1.00	1.00	1.00	4	0.00	1.00	1.00	1.00	1.00	**60**	Pass	0
Free Cyanide	mg/kg	1	1.00	1.00	1.00	1.00	4	0.00	1.00	1.00	1.00	1.00	**60**	Pass	0
Water Soluble Sulfate as SO4 16hr extraction (2:1)	mg/kg	2.5	460.00	410.00	120.00	100.00	4	188.92	100.00	460.00	272.50				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	231.00	203.00	59.50	51.20	4	94.09	51.20	231.00	136.18				
Organic Matter (automated)	%	0.1	9.20	6.90	0.40	0.60	4	4.46	0.40	9.20	**4.28**				
Total Organic Carbon (automated)	%	0.1	-	-	0.20	0.30	2	0.07	0.20	0.30	**0.25**				
Water Soluble Nitrate (2:1) as NO3	mg/kg	2	43.00	36.00	7.20	6.00	4	19.21	6.00	43.00	23.05				
Water Soluble Nitrate (2:1) as NO3 (leachate equivalent)	mg/l	5	22.00	18.00	5.00	5.00	4	8.81	5.00	22.00	12.50				
Speciated PAHs															
Naphthalene	mg/kg	0.05	0.05	0.05	0.05	0.05	4	0.00	0.05	0.05	0.05	0.05	**5.60**	Pass	0
Acenaphthylene	mg/kg	0.05	0.05	0.05	0.05	0.05	4	0.00	0.05	0.05	0.05	0.05	**420**	Pass	0
Acenaphthene	mg/kg	0.05	0.06	0.06	0.05	0.05	4	0.01	0.05	0.06	0.06	0.06	**510**	Pass	0
Fluorene	mg/kg	0.05	0.05	0.05	0.05	0.05	4	0.00	0.05	0.05	0.05	0.05	**400**	Pass	0
Phenanthrene	mg/kg	0.05	0.42	0.29	0.05	0.25	4	0.15	0.05	0.42	0.25	0.42	**220**	Pass	0
Anthracene	mg/kg	0.05	0.08	0.06	0.05	0.05	4	0.01	0.05	0.08	0.06	0.08	**5400**	Pass	0
Fluoranthene	mg/kg	0.05	0.65	0.54	0.10	0.28	4	0.25	0.10	0.65	0.39	0.65	**560**	Pass	0
Pyrene	mg/kg	0.05	0.58	0.53	0.09	0.26	4	0.23	0.09	0.58	0.37	0.58	**1200**	Pass	0
Benzo(a)anthracene	mg/kg	0.05	0.32	0.28	0.05	0.12	4	0.13	0.05	0.32	0.19	0.32	**11.00**	Pass	0
Chrysene	mg/kg	0.05	0.32	0.29	0.05	0.13	4	0.13	0.05	0.32	0.20	0.32	**22**	Pass	0
Benzo(b)fluoranthene	mg/kg	0.05	0.32	0.30	0.05	0.12	4	0.13	0.05	0.32	0.20	0.32	**3.30**	Pass	0
Benzo(k)fluoranthene	mg/kg	0.05	0.16	0.13	0.05	0.07	4	0.05	0.05	0.16	0.10	0.16	**93**	Pass	0
Benzo(a)pyrene	mg/kg	0.05	0.32	0.30	0.05	0.13	4	0.13	0.05	0.32	0.20	0.32	**2.70**	Pass	0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	0.16	0.15	0.05	0.05	4	0.06	0.05	0.16	0.10	0.16	**36**	Pass	0
Dibenz(a,h)anthracene	mg/kg	0.05	0.05	0.05	0.05	0.05	4	0.00	0.05	0.05	0.05	0.05	**0.28**	Pass	0
Benzo(ghi)perylene	mg/kg	0.05	0.20	0.19	0.05	0.05	4	0.08	0.05	0.20	0.12	0.20	**340**	Pass	0
Total PAH															
Speciated Total EPA-16 PAHs	mg/kg	0.8	3.65	3.13	0.80	1.40	4	1.36	0.80	3.65	2.25				
Heavy Metals / Metalloids															
Arsenic (aqua regia extractable)	mg/kg	1	4.20	3.90	1.30	1.40	4	1.56	1.30	4.20	2.70	4.20	**37**	Pass	0
Barium (aqua regia extractable)	mg/kg	1	35.00	37.00	19.00	18.00	4	10.14	18.00	37.00	27.25	37.00	**-**	Pass	0
Boron (water soluble)	mg/kg	0.2	0.90	0.60	0.30	0.20	4	0.32	0.20	0.90	0.50	0.90	**290**	Pass	0
Cadmium (aqua regia extractable)	mg/kg	0.2	0.20	0.20	0.20	0.20	4	0.00	0.20	0.20	0.20	0.20	**11**	Pass	0
Chromium (hexavalent)	mg/kg	1.2	2.10	1.90	1.20	1.20	4	0.47	1.20	2.10	1.60	2.10	**6**	Pass	0
Chromium (aqua regia extractable)	mg/kg	1	7.50	7.50	3.70	4.90	4	1.91	3.70	7.50	5.90	7.50	**910**	Pass	0
Copper (aqua regia extractable)	mg/kg	1	19.00	20.00	4.90	7.10	4	7.86	4.90	20.00	12.75	20.00	**2400**	Pass	0
Lead (aqua regia extractable)	mg/kg	1	30.00	28.00	3.60	3.80	4	14.63	3.60	30.00	16.35	30.00	**200**	Pass	0
Mercury (aqua regia extractable)	mg/kg	0.3	0.30	0.30	0.30	0.30	4	0.00	0.30	0.30	0.30	0.30	**40**	Pass	0
Nickel (aqua regia extractable)	mg/kg	1	6.40	6.20	3.40	4.60	4	1.42	3.40	6.40	5.15	6.40	**130**	Pass	0
Selenium (aqua regia extractable)	mg/kg	1	1.00	1.00	1.00	1.00	4	0.00	1.00	1.00	1.00	1.00	**250**	Pass	0
Vanadium (aqua regia extractable)	mg/kg	1	8.40	7.80	4.30	5.90	4	1.87	4.30	8.40	6.60	8.40	**410**	Pass	0
Zinc (aqua regia extractable)	mg/kg	1	40.00	36.00	8.20	11.00	4	16.52	8.20	40.00	23.80	40.00	**3700**	Pass	0
Monoaromatics & Oxygenates															
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	5.00	5.00	5.00	5.00	4	0.00	5	5	5.00		**-**		
Benzene	µg/kg	5	5.00	5.00	5.00	5.00	4	0.00	5	5	5.00	5	**170**	Pass	0
Toluene	µg/kg	5	5.00	5.00	5.00	5.00	4	0.00	5	5	5.00	5	**290000**	Pass	0
Ethylbenzene	µg/kg	5	5.00	5.00	5.00	5.00	4	0.00	5	5	5.00	5	**110000**	Pass	0
p & m-xylene	µg/kg	8	8.00	8.00	8.00	8.00	4	0.00	8	8	8.00	8	**130000**	Pass	0
o-xylene	µg/kg	5	5.00	5.00	5.00	5.00	4	0.00	5	5	5.00	5	**140000**	Pass	0
Petroleum Hydrocarbons															
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.01	0.01	0.01	0.01	0.01	4	0.000	0.010	0.010	0.010	0.010	**78**	Pass	0
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.01	0.01	0.01	0.01	0.01	4	0.000	0.010	0.010	0.010	0.010	**230**	Pass	0
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.01	0.01	0.01	0.01	0.01	4	0.000	0.010	0.010	0.010	0.010	**65**	Pass	0
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	1.00	1.00	1.00	1.00	4	0.00	1.00	1.00	1.00	1.00	**330**	Pass	0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	2.00	2.00	2.00	2.00	4	0.00	2.00	2.00	2.00	2.00	**2400**	Pass	0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	8.00	8.00	8.00	8.00	4	0.00	8.00	8.00	8.00	8.00	**-**		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	8.90	8.00	8.00	8.00	4	0.45	8.00	8.90	8.23	8.90	**92000**	Pass	0
TPH-CWG - Aliphatic >EC35 - EC44	mg/kg	8.4	8.40	8.40	8.40	8.40	4	0.00	8.40	8.40	8.40	8.40	**92000**	Pass	0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	10.00	10.00	10.00	10.00	4	0.00	10.00	10.00	10.00		**-**		
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	10.00	10.00	10.00	10.00	4	0.00	10.00	10.00	10.00		**-**		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.01	0.01	0.01	0.01	0.01	4	0.000	0.010	0.010	0.010	0.010	**140**	Pass	0
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.01	0.01	0.01	0.01	0.01	4	0.000	0.010	0.010	0.010	0.010	**290**	Pass	0
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.02	0.02	0.02	0.02	0.02	4	0.000	0.020	0.020	0.020	0.020	**83**	Pass	0
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	1.00	1.00	1.00	1.00	4	0.00	1.00	1.00	1.00	1.00	**180**	Pass	0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	2.00	2.00	2.00	2.00	4	0.00	2.00	2.00	2.00	2.00	**330**	Pass	0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	10.00	10.00	10.00	10.00	4	0.00	10.00	10.00	10.00	10.00	**540**	Pass	0
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	31.00	10.00	10.00	10.00	4	10.50	10.00	31.00	15.25	31.00	**1500**	Pass	0
TPH-CWG - Aromatic >EC35 - EC44	mg/kg	8.4	14.00	8.40	8.40	8.40	4	2.80	8.40	14.00	9.80	14.00	**1500**	Pass	0
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	31.00	10.00	10.00	10.00	4	10.50	10.00	31.00	15.25		**-**		
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	45.00	10.00	10.00	10.00	4	17.50	10.00	45.00	18.75		**-**		

GAC used: LQM/CIEH Suitable 4 Use Levels for Human Health Risk Assessment (3rd edition, 2015)

Category 4 Screening Levels (March 2014) used for Arsenic

In-house methodology used for Cyanide - no GAC currently available

Exceeded GAC & C4SL

Exceeded GAC but not C4SL

Recorded below laboratory detection limit

This spreadsheet has been developed by IGE Consulting Ltd

APPENDIX 4

1st floor, 15 Oxford Court, Manchester, M2 3WQ
email: contact@igeconsulting.co.uk
web: www.igeconsulting.co.uk
tel: 0161 914 9170

Verification Log

Project Name:	Parkmount
Project Number:	4047
Location:	Parkmount Road, Manchester
Client:	John Southworth Builders Ltd

Remediation Requirements:

150mm-300mm 'clean' topsoil, underlain by up to 450mm 'clean' subsoil, to a total of 600mm depth, underlain by a hi viz permeable geotextile in private gardens
150mm-300mm 'clean' topsoil, underlain by up to 300mm 'clean' subsoil, to a total of 450mm depth, underlain by a hi viz permeable geotextile in areas of soft landscaping

Validation Requirements:

Plot thickness validation photographs at a rate of 1 pit per three plot and associated chemical testing.

Plot Number:	Soft Landscaping associated with Apartments 19-24: 1 of 3
Inspection date:	1st May 2025
Engineer:	LL

Photographs:





Photographs show 200mm of topsoil; underlain by 600mm subsoil; underlain by hi-vis membrane and plot context.

This plot has PASSED / ~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~ / IS NOT required for this plot

1st floor, 15 Oxford Court, Manchester, M2 3WQ
email: contact@igeconsulting.co.uk
web: www.igeconsulting.co.uk
tel: 0161 914 9170

Verification Log

Project Name:	Parkmount
Project Number:	4047
Location:	Parkmount Road, Manchester
Client:	John Southworth Builders Ltd

Remediation Requirements:

150mm-300mm 'clean' topsoil, underlain by up to 450mm 'clean' subsoil, to a total of 600mm depth, underlain by a hi viz permeable geotextile in private gardens
150mm-300mm 'clean' topsoil, underlain by up to 300mm 'clean' subsoil, to a total of 450mm depth, underlain by a hi viz permeable geotextile in areas of soft landscaping

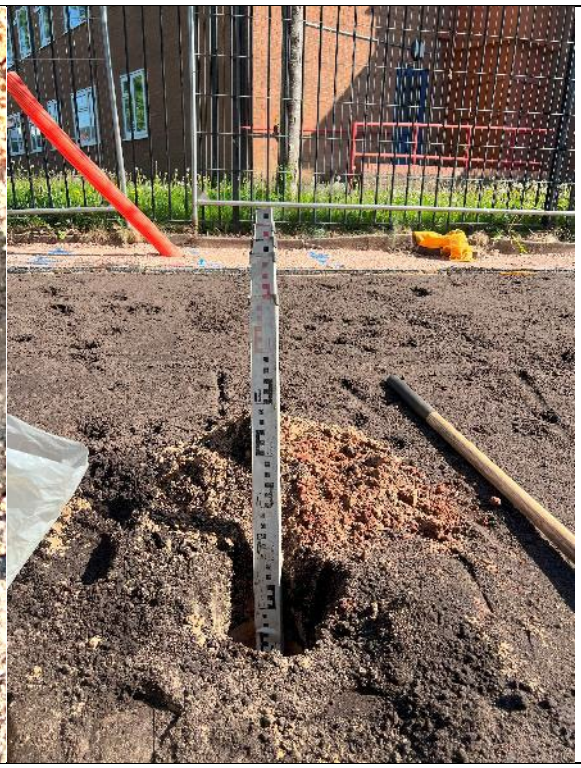
Validation Requirements:

Plot thickness validation photographs at a rate of 1 pit per three plot and associated chemical testing.

Plot Number:	Soft Landscaping associated with Apartments 19-24: 2 of 3
Inspection date:	1st May 2025
Engineer:	LL

Photographs:





Photographs show 150mm of topsoil; underlain by 500mm subsoil; underlain by hi-vis membrane and plot context.

This plot has PASSED / ~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~ / IS NOT required for this plot

1st floor, 15 Oxford Court, Manchester, M2 3WQ
email: contact@igeconsulting.co.uk
web: www.igeconsulting.co.uk
tel: 0161 914 9170

Verification Log

Project Name:	Parkmount
Project Number:	4047
Location:	Parkmount Road, Manchester
Client:	John Southworth Builders Ltd

Remediation Requirements:

150mm-300mm 'clean' topsoil, underlain by up to 450mm 'clean' subsoil, to a total of 600mm depth, underlain by a hi viz permeable geotextile in private gardens
150mm-300mm 'clean' topsoil, underlain by up to 300mm 'clean' subsoil, to a total of 450mm depth, underlain by a hi viz permeable geotextile in areas of soft landscaping

Validation Requirements:

Plot thickness validation photographs at a rate of 1 pit per three plot and associated chemical testing.

Plot Number:	Soft Landscaping associated with Apartments 19-24: 3 of 3
Inspection date:	20st May 2025
Engineer:	LL

Photographs:





Photographs show 100mm of topsoil; underlain by 300mm subsoil; underlain by hi-vis membrane and plot context. A minimum of 50mm of additional topsoil to be added in order to achieve proposed garden level.

This plot has PASSED / ~~FAILED~~* verification

*Proposed further remedial works (if FAILED):

An additional inspection ~~IS~~ / IS NOT required for this plot