



GEA

Geotechnical & Environmental Associates
www.gea-ltd.co.uk

Service Trench Photographs

Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Client The Prestwich Regeneration LLP

Engineer Civic Engineers

Job Number
J23254A

Sheet
41/ 50



TS10 - Prior to excavation looking northeast



TS10 - Excavation to a depth of 1.30 m looking northeast - cast iron pipe and BT duct encountered





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Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Client The Prestwich Regeneration LLP

Engineer Civic Engineers

Job Number
J23254A

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TS10 - Excavation to a depth of 1.30 m looking northeast - concrete encountered



TS10 - Excavation to a depth of 1.30 m looking northwest - cast iron pipe and BT duct encountered





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Job Number
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Engineer Civic Engineers



TS10 - Excavation to a depth of 1.30 m looking northwest - concrete encountered



TS10 - Closer view of cast iron pipe





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Engineer Civic Engineers



TS10 - Closer view of BT duct



TS10 - Spoil





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45/ 50

Engineer Civic Engineers



TS10 - Spoil



TS10 - Reinstated





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TS11 - Prior to excavation looking northeast



TS11 - Excavation to a depth of 1.00 m looking northeast - no services encountered





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Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Job Number
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Client The Prestwich Regeneration LLP

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Engineer Civic Engineers



TS11 - Excavation to a depth of 1.00 m looking northwest - no services encountered



TS11 - Reinstated





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Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Client The Prestwich Regeneration LLP

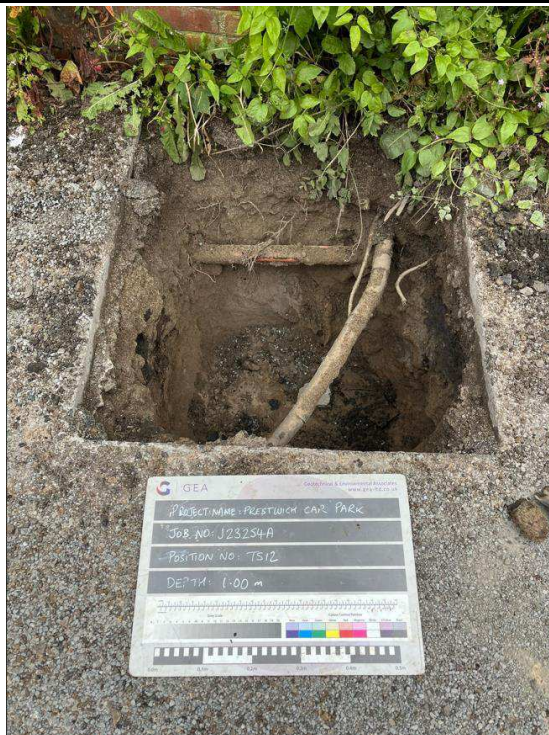
Engineer Civic Engineers

Job Number
J23254A

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TS12 - Prior to excavation looking southwest



TS12 - Excavation to a depth of 1.00 m looking southwest - low voltage and BT duct encountered





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Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Client The Prestwich Regeneration LLP

Engineer Civic Engineers

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J23254A

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TS12 - Excavation to a depth of 1.00 m looking northwest - low voltage and BT duct encountered



TS12 - Closer view of services





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Site Prestwich North Car Park, Fairfax Road, Prestwich, Manchester, M25 1BT

Job Number
J23254A

Client The Prestwich Regeneration LLP

Sheet
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Engineer Civic Engineers



TS12 - Reinstated





appendix b

Lab Testing

Geotechnical Test Results
SPT & Depth Graph
Chemical Test Results
Generic Risk Based Screening Values
Generic Risk Based Groundwater Screening Values



LABORATORY REPORT



Contract Number: PSL24/4986

Report Date: 01 August 2024

Client's Reference: J23254A

Client Name: GEA Ltd
Peter House
Oxford Road
Manchester
M1 5AN

For the attention of: Luke Montgomery

Contract Title: Prestwich North Car Park

Date Received: 11/7/2024

Date Commenced: 11/7/2024

Date Completed: 01/8/2024

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Managing Director)

R Berriman
(Associate Director)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

D Nicholson
(Senior Technician)

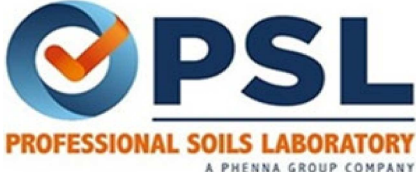
T Watkins
(Senior Technician)

5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

Page 1 of

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH101		D	1.80		Brown clayey SAND.
BH102		D	3.50		Brown slightly gravelly very sandy CLAY.
BH103		D	1.40		Dark brown clayey PEAT.
BH104		D	2.80		Brown clayey SAND.
BH105		D	3.70	4.00	Brown slightly gravelly clayey SAND.
BH109		D	2.80	3.00	Brown silty slightly clayey SAND.
BH110		D	1.40	1.60	Brown mottled grey sandy CLAY.
BH117		D	1.50	1.80	Brown slightly gravelly very sandy CLAY.
TP101		D	1.25		Brown slightly gravelly very clayey SAND.
TP104		D	1.00		Brown slightly gravelly very clayey SAND.
TP105		D	0.80		Brown slightly gravelly sandy CLAY.

 	Prestwich North Car Park	Contract No:
		PSL24/4986
		Client Ref:
		J23254A

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

[illegible]

SYMBOLS : NP : Non Plastic

*** : Liquid Limit and Plastic Limit Wet Sieved.**



Prestwich North Car Park

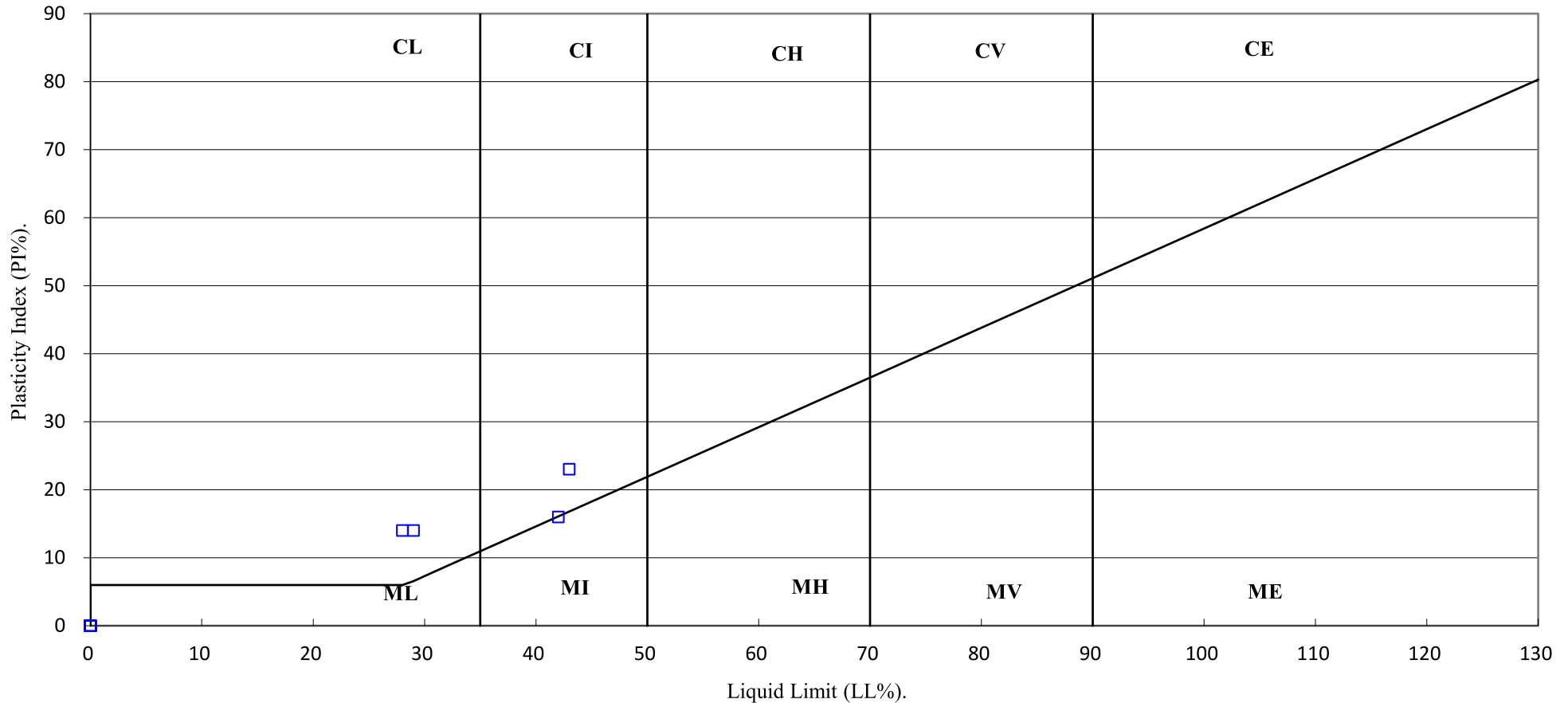
Contract No:

PSL24/4986

Client Ref:

J23254A

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



Prestwich North Car Park

Contract No:

PSL24/4986

Client Ref:

J23254A

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

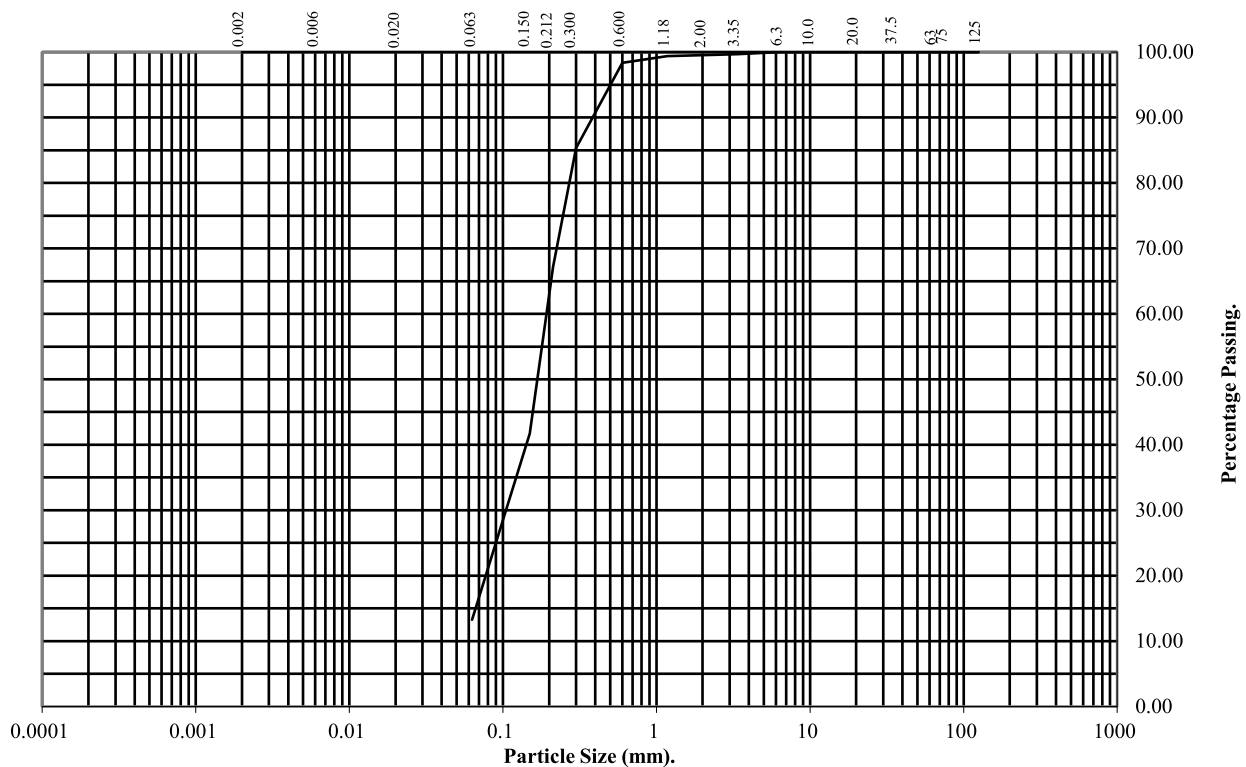
Hole Number: BH101

Top Depth (m): 1.80

Sample Number:

Base Depth(m):

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	99
0.6	98
0.3	85
0.212	67
0.15	42
0.063	13

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	87
Silt/Clay	13

Remarks:

See Summary of Soil Descriptions



PSLRF015

Issue No.1

Prestwich North Car Park

Approved by: L. Pavey

03/01/2023

Contract No:
PSL24/4986
Client Ref:
J23254A

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

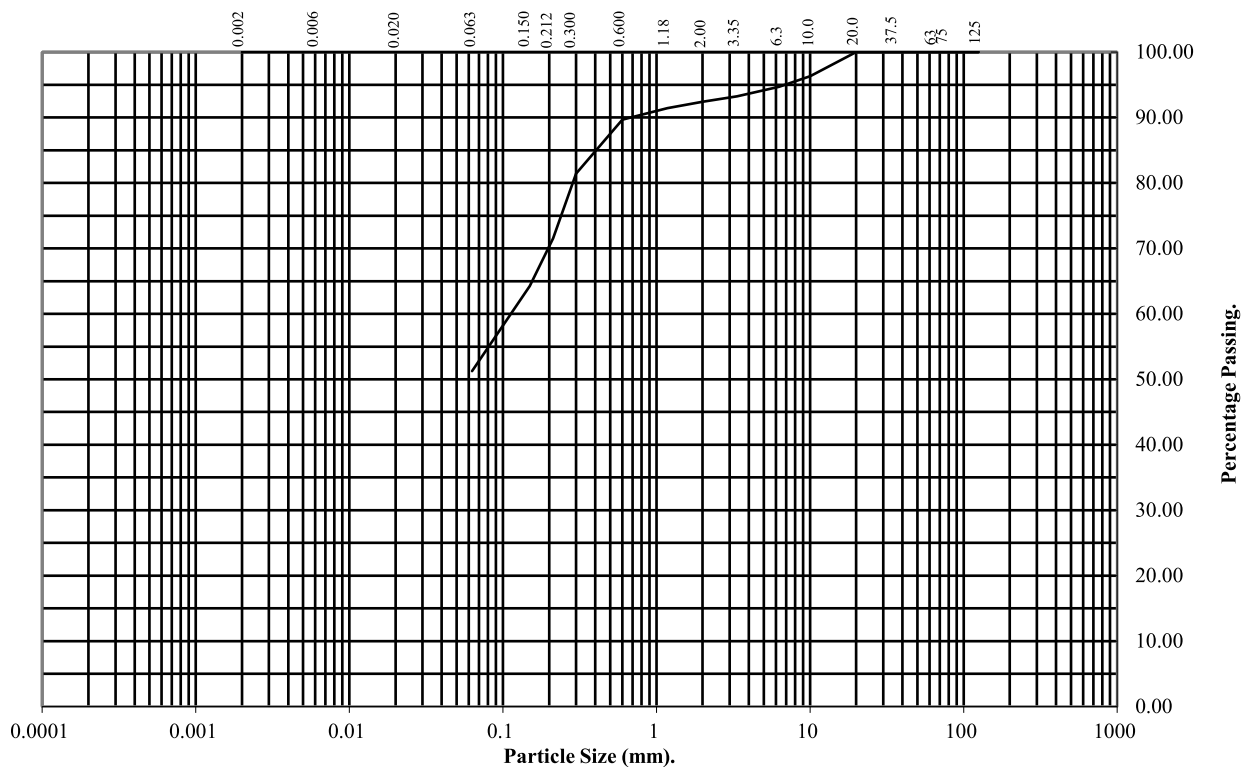
Hole Number: BH102

Top Depth (m): 3.50

Sample Number:

Base Depth(m):

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	96
6.3	95
3.35	93
2	92
1.18	91
0.6	90
0.3	81
0.212	72
0.15	64
0.063	51

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	41
Silt/Clay	51

Remarks:

See Summary of Soil Descriptions



Prestwich North Car Park

Contract No:
PSL24/4986
Client Ref:
J23254A

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

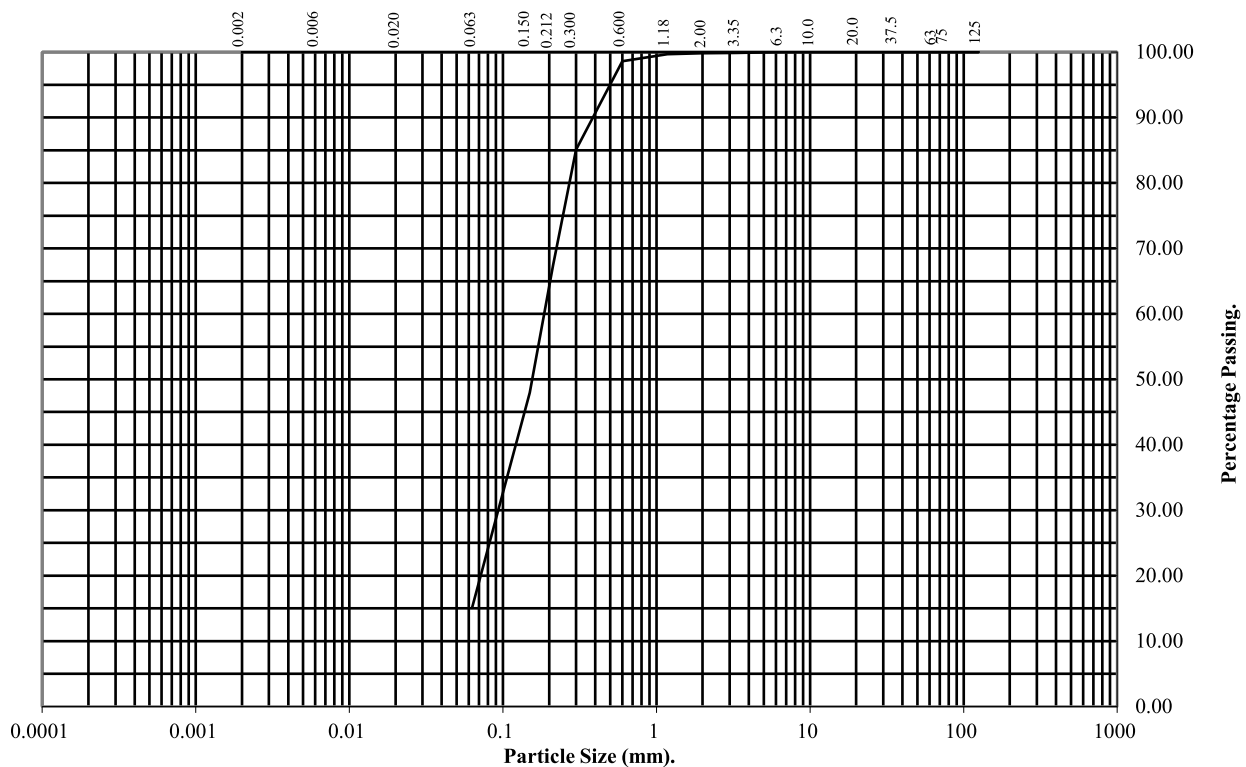
Hole Number: BH104

Top Depth (m): 2.80

Sample Number:

Base Depth(m):

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	99
0.3	85
0.212	67
0.15	48
0.063	15

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	85
Silt/Clay	15

Remarks:

See Summary of Soil Descriptions



PSLRF015

Issue No.1

Prestwich North Car Park

Approved by: L. Pavey

03/01/2023

Contract No:
PSL24/4986
Client Ref:
J23254A

PARTICLE SIZE DISTRIBUTION TEST

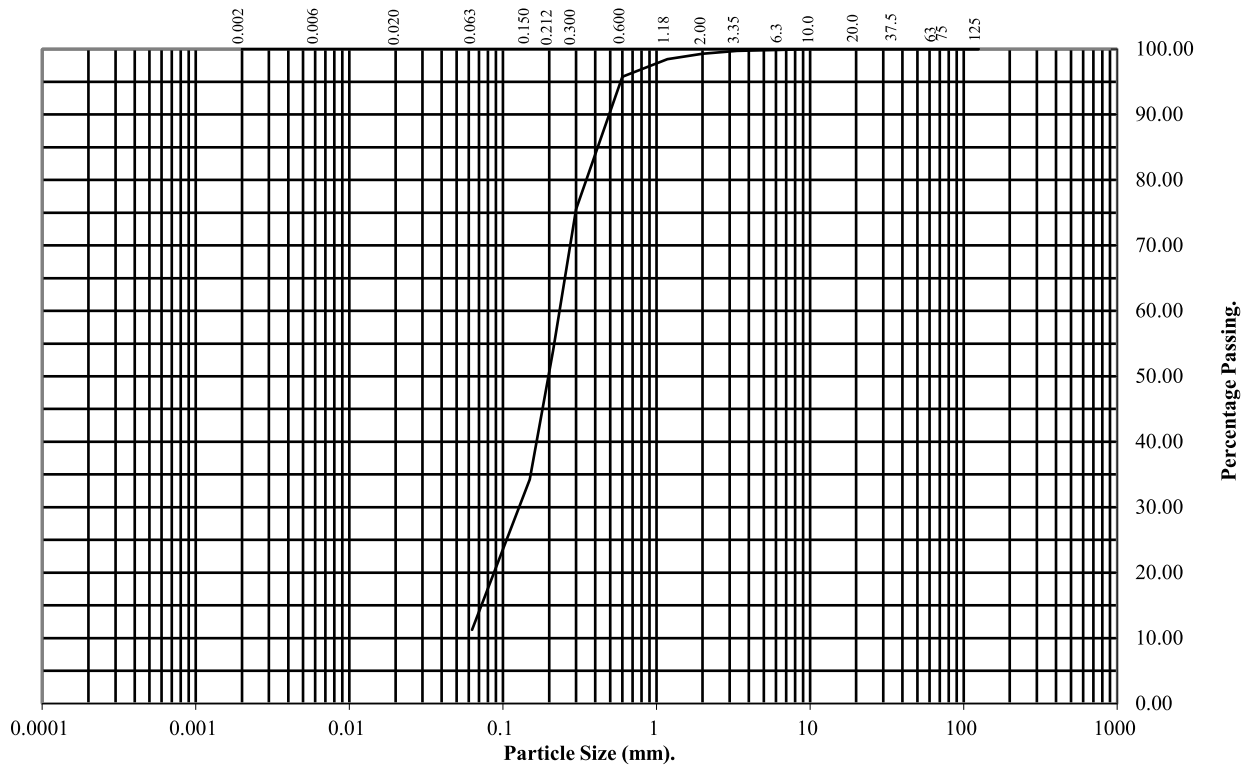
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH105 Top Depth (m): 3.70

Sample Number: Base Depth(m): 4.00

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	99
1.18	98
0.6	96
0.3	76
0.212	54
0.15	34
0.063	11

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	88
Silt/Clay	11

Remarks:

See Summary of Soil Descriptions



Prestwich North Car Park

Contract No:
PSL24/4986
Client Ref:
J23254A

PARTICLE SIZE DISTRIBUTION TEST

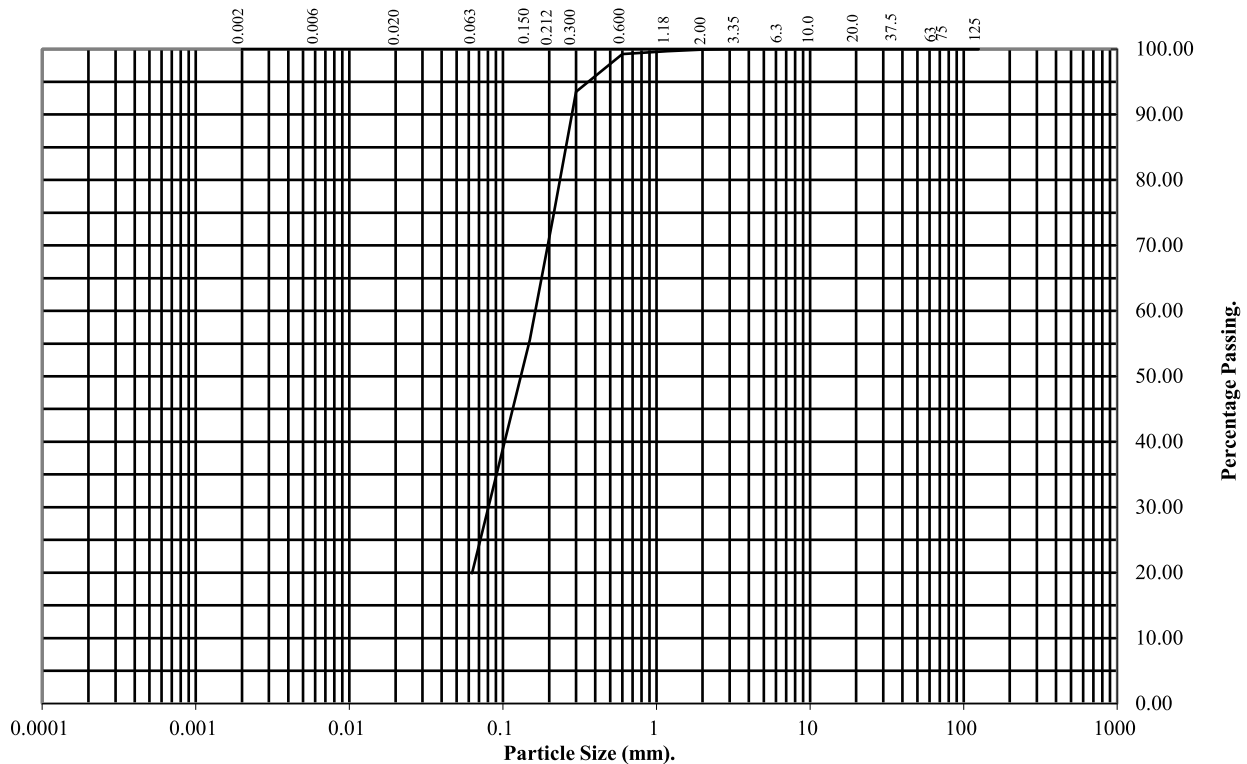
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH109 Top Depth (m): 2.80

Sample Number: Base Depth(m): 3.00

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	99
0.3	93
0.212	74
0.15	56
0.063	20

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	80
Silt/Clay	20

Remarks:

See Summary of Soil Descriptions



Prestwich North Car Park

Contract No:
PSL24/4986
Client Ref:
J23254A

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

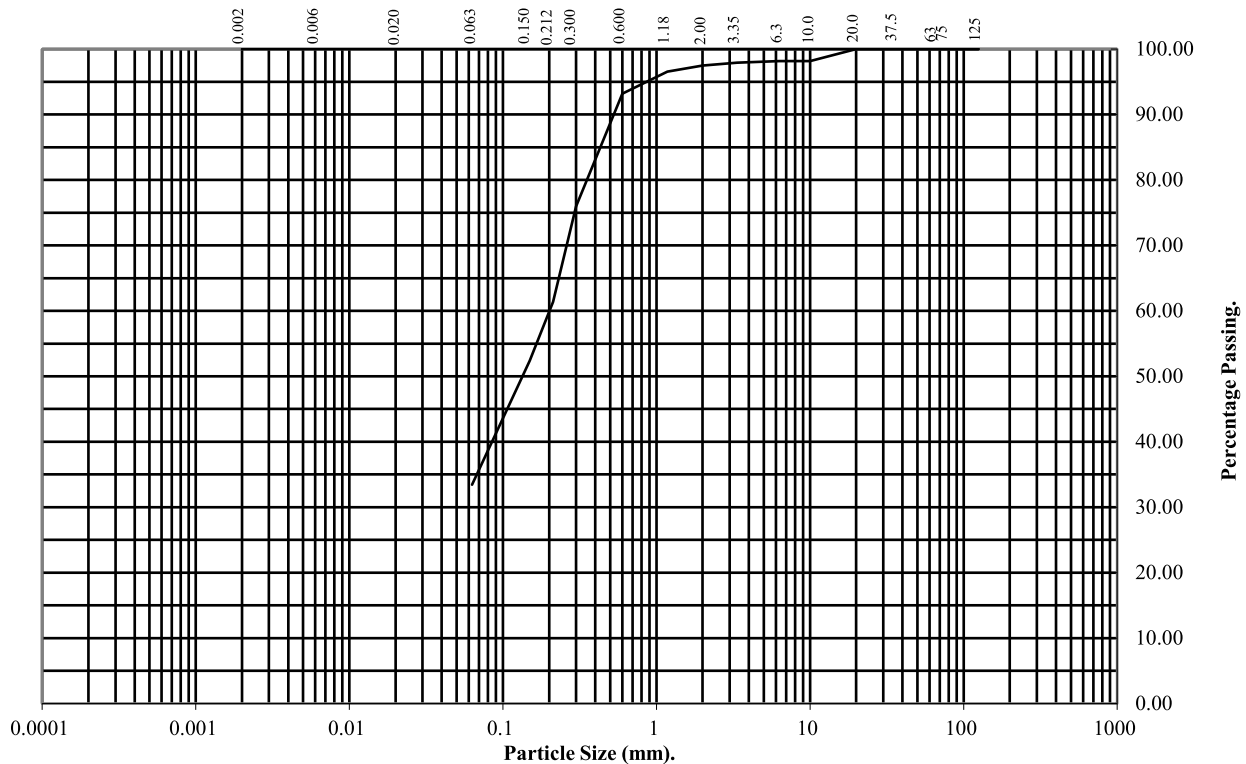
Hole Number: TP101

Top Depth (m): 1.25

Sample Number:

Base Depth(m):

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	98
6.3	98
3.35	98
2	97
1.18	97
0.6	93
0.3	76
0.212	61
0.15	52
0.063	33

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	64
Silt/Clay	33

Remarks:

See Summary of Soil Descriptions



PSLRF015

Issue No.1

Prestwich North Car Park

Approved by: L. Pavey

03/01/2023

Contract No:

PSL24/4986

Client Ref:

J23254A

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

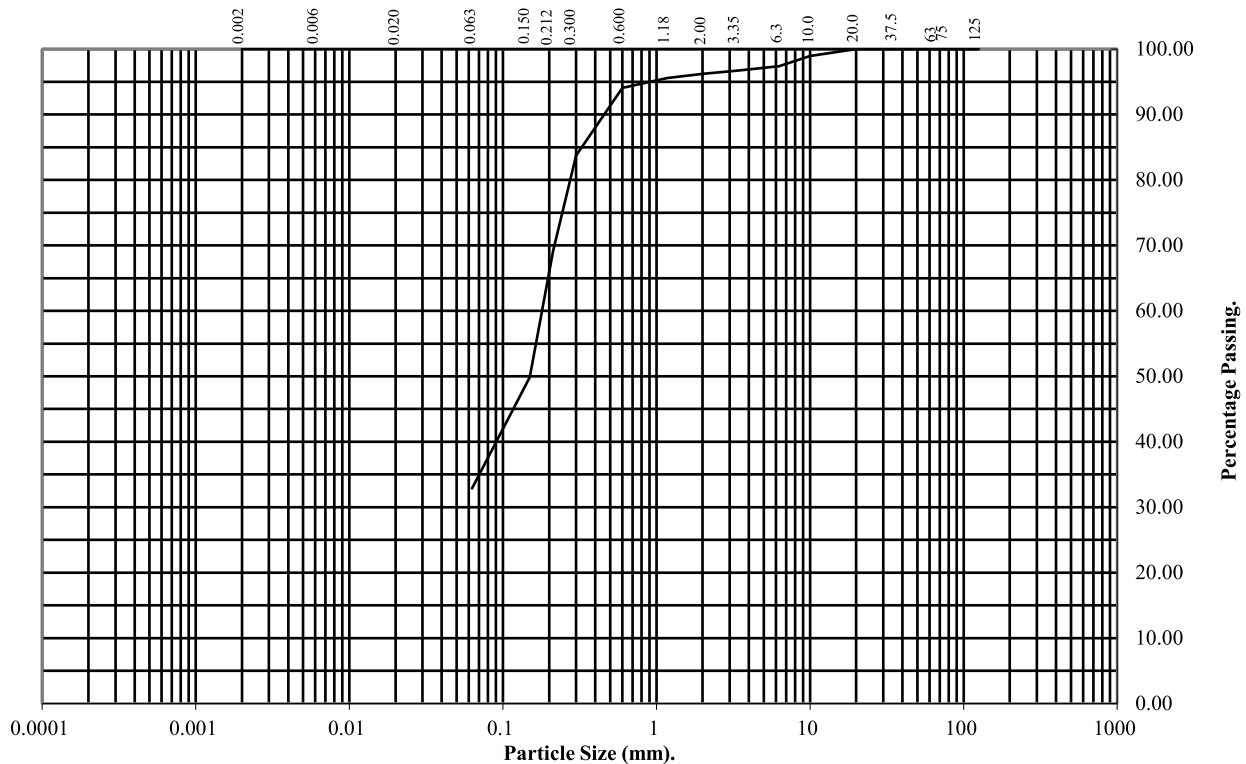
Hole Number: TP104

Top Depth (m): 1.00

Sample Number:

Base Depth(m):

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	97
3.35	97
2	96
1.18	96
0.6	94
0.3	84
0.212	69
0.15	50
0.063	33

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	63
Silt/Clay	33

Remarks:

See Summary of Soil Descriptions



Prestwich North Car Park

Contract No:
PSL24/4986
Client Ref:
J23254A



4161



7 - 11 Harding Street
Leicester
LE1 4DH

Professional Soils Laboratory

5/7 Hexthorpe Road
Hexthorpe
Doncaster
DN4 0AR

Analytical Test Report: L24/06657/PSL - 24-47760

Your Project Reference:	PSL24/4986 Prestwich North Car Park		
Your Order Number:	PSL24/4986	Samples Received / Instructed:	24/07/2024 / 24/07/2024
Report Issue Number:	1	Sample Tested:	24/07 to 30/07/2024
Samples Analysed:	13 soil samples	Report issued:	30/07/2024

Signed

James Gane
Analytical Services Manager
CTS Group

Notes:**General**

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

Date of Issue: 29.05.2024

Issued by: J. Gane

Issue No: 4

Rev No: 10



L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car Park

Analytical Test Results - Solid

Lab Reference			384119	384121	384122	384124	384128
Client Sample ID			-	-	-	-	-
Client Sample Location			BH102	BH103	BH104	BH105	BH110
Client Sample Type			D	D	D	D	D
Client Sample Number			-	-	-	-	-
Depth - Top (m)			1.20	1.40	1.50	1.30	2.30
Depth - Bottom (m)			1.20	1.40	1.50	1.50	2.50
Date of Sampling			-	-	-	-	-
Time of Sampling			-	-	-	-	-
Sample Matrix			Loam	Loam	Loam	Loam	Sand
Determinant	Units	Accreditation					
SOM (via TOC)	(%)	UKAS	12	60	73	57	3.8



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L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car
Park

Analytical Test Results - Chemical Analysis

Lab Reference			384118	384120	384123	384125	384126	384127
Client Sample ID			-	-	-	-	-	-
Client Sample Location			BH101	BH102	BH104	BH105	BH109	BH110
Client Sample Type			D	D	D	D	D	D
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			1.80	1.60	2.80	2.60	1.80	1.40
Depth - Bottom (m)			1.80	1.60	2.80	2.80	2.00	1.60
Date of Sampling			-	-	-	-	-	-
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Sand	Sand	Sand	Sand	Sand	Clay
Determinant	Units	Accreditation						
Water soluble sulphate (as SO ₄)	(mg/l)	u	940	830	520	16	27	63
pH Value	pH Units	MCERTS	8.6	3.2	2.9	6.1	5.8	6.3



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LE1 4DH

L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car
Park

Analytical Test Results - Chemical Analysis

Lab Reference			384129	384130
Client Sample ID			-	-
Client Sample Location			BH110	BH117
Client Sample Type			D	D
Client Sample Number			-	-
Depth - Top (m)			3.70	1.50
Depth - Bottom (m)			4.00	1.80
Date of Sampling			-	-
Time of Sampling			-	-
Sample Matrix			Sand	Clay
Determinant	Units	Accreditation		
Water soluble sulphate (as SO ₄)	(mg/l)	u	93	57
pH Value	pH Units	MCERTS	5.2	7.4



4161



7 - 11 Harding Street
Leicester
LE1 4DH

L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car Park

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
384118	-	BH101	D	-	Greyish brown slightly gravelly silty sand	-	-	100
384119	-	BH102	D	-	Mottled brown slightly sandy slightly clayey silty loam	50	< 0.1	-
384120	-	BH102	D	-	Greyish brown slightly gravelly silty sand	-	-	100
384121	-	BH103	D	-	Dark brown slightly clayey silty loam	170	< 0.1	-
384122	-	BH104	D	-	Dark brown slightly clayey silty loam	200	< 0.1	-
384123	-	BH104	D	-	Greyish brown slightly gravelly silty sand	-	-	100
384124	-	BH105	D	-	Dark brown slightly clayey silty loam	200	< 0.1	-
384125	-	BH105	D	-	Greyish brown slightly gravelly silty sand	-	-	100
384126	-	BH109	D	-	Brown slightly gravelly silty sand	-	-	100
384127	-	BH110	D	-	Brownish grey slightly gravelly slightly sandy silty clay	-	-	100
384128	-	BH110	D	-	Greyish brown slightly gravelly silty sand	17	12	-
384129	-	BH110	D	-	Greyish brown gravelly silty sand	-	-	79
384130	-	BH117	D	-	Greyish brown slightly gravelly slightly sandy silty clay	-	-	100



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L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car Park

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
384118	-	BH101	D	-	
384119	-	BH102	D	-	
384120	-	BH102	D	-	
384121	-	BH103	D	-	
384122	-	BH104	D	-	
384123	-	BH104	D	-	
384124	-	BH105	D	-	
384125	-	BH105	D	-	
384126	-	BH109	D	-	
384127	-	BH110	D	-	
384128	-	BH110	D	-	
384129	-	BH110	D	-	
384130	-	BH117	D	-	



7 - 11 Harding Street
Leicester
LE1 4DH

L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car Park

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis

L24/06657/PSL - 24-47760

Project Reference - PSL24/4986 Prestwich North Car Park

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

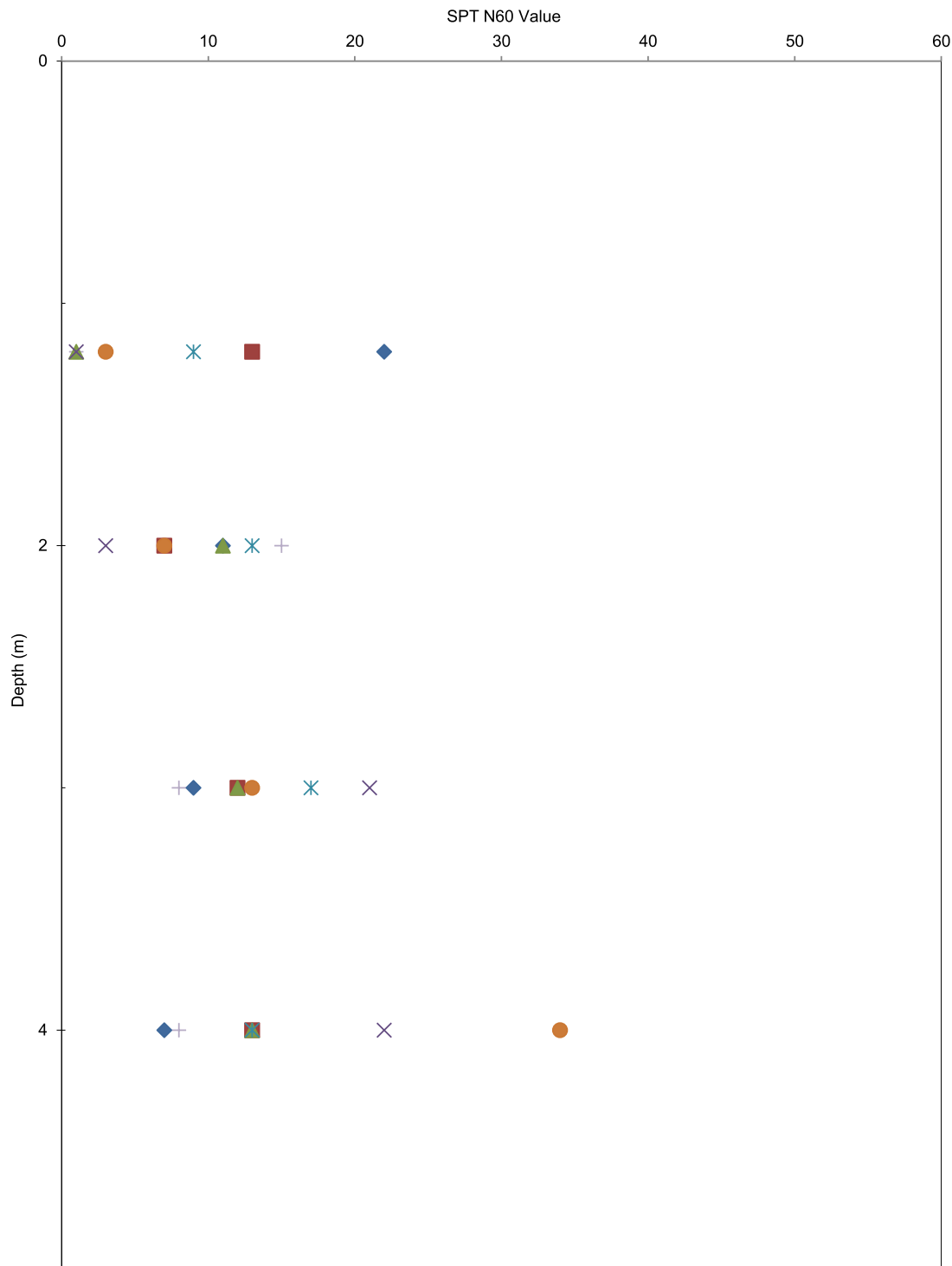
Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
384118	-	BH101	D	-		A
384119	-	BH102	D	-		A
384120	-	BH102	D	-		A
384121	-	BH103	D	-		A
384122	-	BH104	D	-		A
384123	-	BH104	D	-		A
384124	-	BH105	D	-		A
384125	-	BH105	D	-		A
384126	-	BH109	D	-		A
384127	-	BH110	D	-		A
384128	-	BH110	D	-		A
384129	-	BH110	D	-		A
384130	-	BH117	D	-		A

Site Prestwich North Car Park, Fairfax Road, Prestwich, M25 1BT

Job Number
 J23254A

Client The Prestwich Regeneration LLP

Sheet
 1 / 1

Engineer Civic Engineers




Geotechnical & Environmental Associates
Unit 1 Church
Gotham Rod
Kingston on Soar
NG11

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

e: luke@gea-ltd.co.uk

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

Analytical Report Number : 24-029112

Project / Site name:	Preswich Northern Car Park	Samples received on:	28/06/2024
Your job number:	J23254A	Samples instructed on/ Analysis started on:	05/07/2024
Your order number:		Analysis completed by:	16/07/2024
Report Issue Number:	1	Report issued on:	16/07/2024
Samples Analysed:	11 soil samples - 1 water sample		

Signed: _____

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

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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: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248491	248492	248493	248494	248495
Sample Reference				BH118	BH119	BH121	BH128	BH133
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.10	1.40	0.93	0.15
Date Sampled				25/06/2024	25/06/2024	27/06/2024	26/06/2024	27/06/2024
Time Taken				None Supplied	None Supplied	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	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	49	17	54	< 0.01
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1.5	1.5	1.5

Asbestos

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

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	-	-	-	-	8
pH (L099)	pH Units	N/A	MCERTS	7	7.1	7.3	5.3	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.7	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	4200	1500	430	1700	U/S ^{*U/SF}
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	2300	820	280	310	U/S ^{*U/SF}
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.17	0.41	0.138	0.155	U/S ^{*U/SF}
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1170	410	138	155	U/S ^{*U/SF}
Sulphide	mg/kg	1	MCERTS	130	14	23	< 1.0	U/S ^{*U/S}
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	43	100	20	78	U/S ^{*U/S}
Organic Matter	%	0.1	MCERTS	-	27	-	37	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	5	-	1.3	-	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	16	-	22	11

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	1.5	< 1.0	< 1.0	1.4	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	23	< 0.05	8.7	0.67	2.2
Acenaphthylene	mg/kg	0.05	MCERTS	0.94	< 0.05	0.11	0.17	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	26	0.34	16	2.3	9.1
Fluorene	mg/kg	0.05	MCERTS	26	0.17	13	1.7	12
Phenanthrene	mg/kg	0.05	MCERTS	59	0.3	25	7.7	9.6
Anthracene	mg/kg	0.05	MCERTS	24	< 0.05	2.2	2.7	11
Fluoranthene	mg/kg	0.05	MCERTS	62	0.2	6.7	13	17
Pyrene	mg/kg	0.05	MCERTS	45	0.12	4.5	12	17
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11	0.09	0.97	6.1	7.1
Chrysene	mg/kg	0.05	MCERTS	12	0.15	0.9	6.1	8
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	9.3	0.24	0.78	8	8.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	3.3	< 0.05	0.19	2.3	2.8
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.5	< 0.05	0.64	7.1	7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.9	< 0.05	0.25	3.1	3.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.06	0.72	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.5	< 0.05	0.3	3.4	3.7

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	319	1.61	80.4	77	118
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Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248491	248492	248493	248494	248495
Sample Reference				BH118	BH119	BH121	BH128	BH133
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.10	1.40	0.93	0.15
Date Sampled				25/06/2024	25/06/2024	27/06/2024	26/06/2024	27/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	58	18	8.7	7.1	U/S ^{*U/SF}
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	U/S ^{*U/SF}
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	10	17	3.6	U/S ^{*U/SF}
Copper (aqua regia extractable)	mg/kg	1	MCERTS	330	22	21	10	U/S ^{*U/SF}
Lead (aqua regia extractable)	mg/kg	1	MCERTS	590	48	26	13	U/S ^{*U/SF}
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	3.2	< 0.3	< 0.3	< 0.3	U/S ^{*U/SF}
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	50	14	14	5.9	U/S ^{*U/SF}
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1	< 1.0	< 1.0	< 1.0	U/S ^{*U/SF}
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	30	42	16	U/S ^{*U/SF}

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	-	-	-	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	-	-	-	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	-	-	-	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	5	-	-	-	34
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	48	-	-	-	240
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	46	-	-	-	610
TPHCWG - Aliphatic >EC16 - EC35 _{EH_CU_1D_AL}	mg/kg	10	MCERTS	82	-	-	-	5400
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	36	-	-	-	4800
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	130	-	-	-	5700

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	-	-	-	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	-	-	-	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	-	-	-	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	6.6	-	-	-	80
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	100	-	-	-	1100
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	280	-	-	-	1600
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	160	-	-	-	7100
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	550	-	-	-	9800

TPH (>EC8 - EC10) _{HS_1D_TOTAL}	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (>EC10 - EC12) _{EH_CU_1D_TOTAL}	mg/kg	2	MCERTS	12	< 2.0	4.5	< 2.0	110
TPH (>EC10 - EC35) _{EH_CU_1D_TOTAL}	mg/kg	10	NONE	680	45	140	190	16000
TPH (>EC12 - EC16) _{EH_CU_1D_TOTAL}	mg/kg	4	MCERTS	150	< 4.0	46	13	1300
TPH (>EC16 - EC21) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	320	< 10	57	46	2200
TPH (>EC21 - EC35) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	200	45	34	130	12000

TPH Total >EC8 - EC35 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	NONE	680	45	140	190	16000
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TPH (EC10 - EC40) _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	700	58	140	200	21000
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VOCs

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	5	MCERTS	< 5.0	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	< 5.0

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

Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number	248497	248498	248499	248500	248501
Sample Reference	BH202	BH204	BH208	BH211	BH213
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	0.40	0.50	0.30	2.00
Date Sampled	24/06/2024	24/06/2024	25/06/2024	26/06/2024	26/06/2024
Time Taken	None Supplied	None Supplied	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	54.6	34.5	< 0.1
Moisture Content	%	0.01	NONE	8	5.9	7.7	7.3	8.2
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.5	1.5	1.5

Asbestos

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

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	-	-	-	-	-
pH (L099)	pH Units	N/A	MCERTS	8.1	8	8.6	8	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1600	620	970	820	< 50
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	870	240	520	300	18
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.435	0.12	0.261	0.15	0.00896
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	435	120	261	150	8.96
Sulphide	mg/kg	1	MCERTS	36	32	67	30	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	32	35	69	23	14
Organic Matter	%	0.1	MCERTS	-	19	25	20	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	5	-	-	-	0.1
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	11	15	11	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.7	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	23	240	390	220	0.07
Acenaphthylene	mg/kg	0.05	MCERTS	4.8	10	11	7.2	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	51	710	920	490	0.08
Fluorene	mg/kg	0.05	MCERTS	49	590	760	420	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	310	2900 [§]	3200 [§]	2600 [§]	0.07
Anthracene	mg/kg	0.05	MCERTS	110	990	1100 [§]	780	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	460	2900 [§]	3100 [§]	2800 [§]	0.07
Pyrene	mg/kg	0.05	MCERTS	430	2600 [§]	2700 [§]	2500 [§]	0.06
Benzo(a)anthracene	mg/kg	0.05	MCERTS	200	1200 [§]	1300 [§]	1100 [§]	< 0.05
Chrysene	mg/kg	0.05	MCERTS	200	1300 [§]	1400 [§]	1200 [§]	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	210	1200 [§]	1300 [§]	1200 [§]	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	100	490	540	490	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	190	1100 [§]	1300 [§]	1100 [§]	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	98	510	610	570	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	27	160	170	190	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	98	520	640	610	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2550	17300	19500	16200	< 0.80
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Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248497	248498	248499	248500	248501
Sample Reference				BH202	BH204	BH208	BH211	BH213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.40	0.50	0.30	2.00
Date Sampled				24/06/2024	24/06/2024	25/06/2024	26/06/2024	26/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	16	25	18	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.7	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	13	14	13	3.9
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40	67	93	70	6.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	72	86	120	91	3.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	18	25	23	3.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	1	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	93	160	230	180	9.8

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	5.9	5.6	2.8	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	29	45	48	40	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	89	120	130	110	-
TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL	mg/kg	10	MCERTS	500	590	630	670	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	410	470	500	560	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	520	640	690	710	-

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	11	130	120	84	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	250	2500	1600 ^{SS}	750	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	1500	5200 ^{SS}	5000 ^{SS}	5000 ^{SS}	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	3900	6800 ^{SS}	6500 ^{SS}	6500	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	5700	15000	13000	12000	-

TPH (>EC8 - EC10) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (>EC10 - EC12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	16	140	130	87	< 2.0
TPH (>EC10 - EC35) EH_CU_1D_TOTAL	mg/kg	10	NONE	6000	15000	14000	13000	< 10
TPH (>EC12 - EC16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	210	2500	1600	790	5.2
TPH (>EC16 - EC21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	1600	5400	5100	5200	< 10
TPH (>EC21 - EC35) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	4100	7300	7000	7100	< 10

TPH Total >EC8 - EC35 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	6000	15000	14000	13000	< 10
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TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	6300	16000	14000	14000	< 10
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VOCs

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	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
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

Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248502
Sample Reference				BH214
Sample Number				None Supplied
Depth (m)				0.82
Date Sampled				26/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.1	NONE	1.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	121

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	-
pH (L099)	pH Units	N/A	MCERTS	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	130
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	47
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0237
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	23.7
Sulphide	mg/kg	1	MCERTS	1.4
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	15
Organic Matter	%	0.1	MCERTS	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.4
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	0.27
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.39
Fluorene	mg/kg	0.05	MCERTS	0.27
Phenanthrene	mg/kg	0.05	MCERTS	1.4
Anthracene	mg/kg	0.05	MCERTS	0.42
Fluoranthene	mg/kg	0.05	MCERTS	1.6
Pyrene	mg/kg	0.05	MCERTS	1.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.62
Chrysene	mg/kg	0.05	MCERTS	0.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.79
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.26
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.69
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.35
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.38

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	9.71
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Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248502
Sample Reference				BH214
Sample Number				None Supplied
Depth (m)				0.82
Date Sampled				26/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	10
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	5.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	21

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.02	NONE	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.02	NONE	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.05	NONE	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL	mg/kg	10	MCERTS	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	NONE	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	NONE	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.05	NONE	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-

TPH (>EC8 - EC10) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0
TPH (>EC10 - EC12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0
TPH (>EC10 - EC35) EH_CU_1D_TOTAL	mg/kg	10	NONE	41
TPH (>EC12 - EC16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	5
TPH (>EC16 - EC21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	12
TPH (>EC21 - EC35) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	24

TPH Total >EC8 - EC35 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	41
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TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	42
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VOCs

Benzene	µg/kg	5	MCERTS	-
Toluene	µg/kg	5	MCERTS	-
Ethylbenzene	µg/kg	5	MCERTS	-
p & m-Xylene	µg/kg	5	MCERTS	-
o-Xylene	µg/kg	5	MCERTS	-

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

Analytical Report Number: 24-029112

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248496
Sample Reference				BH133
Sample Number				None Supplied
Depth (m)				0.15
Date Sampled				27/06/2024
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (L099)	pH Units	N/A	ISO 17025	7.4
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	470
Sulphate as SO ₄	mg/l	0.045	ISO 17025	22.1
Sulphide	µg/l	5	NONE	< 5.0
Chloride	mg/l	0.15	ISO 17025	7.7
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	440
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	8.84
Nitrate as N	mg/l	0.01	ISO 17025	0.01
Nitrate as NO ₃	mg/l	0.05	ISO 17025	0.05
Redox Potential	mV	-800	NONE	195.9

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.19
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.13
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.68
Pyrene	µg/l	0.01	ISO 17025	0.58
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.5
Chrysene	µg/l	0.01	ISO 17025	0.52
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.63
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.34
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.64
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.32
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	0.37

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	4.9
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.44
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.8
Lead (dissolved)	µg/l	0.2	ISO 17025	0.4
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2



Analytical Report Number: 24-029112
 Project / Site name: Preswich Northern Car Park

Lab Sample Number				248496
Sample Reference				BH133
Sample Number				None Supplied
Depth (m)				0.15
Date Sampled				27/06/2024
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH (>EC8 - EC10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10
TPH (>EC10 - EC12) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10
TPH (>EC12 - EC16) EH_1D_TOTAL_MS	µg/l	10	NONE	23
TPH (>EC16 - EC21) EH_1D_TOTAL_MS	µg/l	10	NONE	15
TPH (>EC21 - EC35) EH_1D_TOTAL_MS	µg/l	10	NONE	< 10

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

Analytical Report Number : 24-029112

Project / Site name: Preswich Northern Car Park

* 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 *
248491	BH118	None Supplied	1	Brown loam and clay with gravel
248492	BH119	None Supplied	1.1	Brown loam and clay
248493	BH121	None Supplied	1.4	Brown clay and sand with gravel
248494	BH128	None Supplied	0.93	Brown loam and clay with gravel
248495	BH133	None Supplied	0.15	Non Soil. ^{nb}
248497	BH202	None Supplied	0.5	Brown loam with gravel
248498	BH204	None Supplied	0.4	Brown loam with gravel
248499	BH208	None Supplied	0.5	Brown loam with gravel and stones
248500	BH211	None Supplied	0.3	Brown loam with gravel and stones
248501	BH213	None Supplied	2	Brown sand
248502	BH214	None Supplied	0.82	Brown sandy clay with gravel

Analytical Report Number : 24-029112

Project / Site name: Preswich Northern Car Park

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
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
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
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010	D	MCERTS
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
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
Organic matter 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	L023B	D	MCERTS
Total organic carbon 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	L023B	D	MCERTS
Sulphide in water	Determination of sulphide in water by ion selective electrode	In-house method	L029	W	NONE
Electrical conductivity at 20°C of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031B	W	ISO 17025
Total organic carbon in water	Determination of total organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	ISO 17025
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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	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

Analytical Report Number : 24-029112

Project / Site name: Preswich Northern Car Park

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
Total petroleum hydrocarbons by GC-MS in water	Determination of total petroleum hydrocarbons in water by GC-MS/GC-MS	In-house method	L070B	W	NONE
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
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	D/W	MCERTS
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazine 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
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
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	W	MCERTS
Chloride in water	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW,PW, GW,FSE,LL	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH ₃ in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Redox Potential of water	Determination of conductivity of water by conductivity meter	In-house method	L084	W	NONE
Total petroleum hydrocarbons by GC-MS HS in water	Determination of total petroleum hydrocarbons in water by GC-MS HS	In-house method	L088B	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

Analytical Report Number : 24-029112

Project / Site name: Preswich Northern Car Park

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
pH at 20°C in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method	L099	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAH) in leachate by extraction in dichloromethane followed by GC-MS	In-house method based on USEPA 8270	L102B	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

*U/Sf - Unsuitable for analysis due to sample matrix (sample details.....)

*U/S - Unsuitable for analysis due to sample matrix.

\$ - Concentration has been determined by extrapolated calibration as analyte concentration is above the concentration range for the procedure after dilution. The result should be considered as deviating and should be interpreted with caution. The result is not accredited.

\$\$ - Result was reported from high dilution. The result should be interpreted with caution.

*b - Unaccredited sample matrix.

Analytical Report Number : 24-029112

Project / Site name: Preswich Northern Car Park

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
BH118	N/A	S	248491	c	Sulphide in soil	L010	c
BH118	N/A	S	248491	c	Total cyanide in soil	L080	c
BH119	N/A	S	248492	c	Sulphide in soil	L010	c
BH119	N/A	S	248492	c	Total cyanide in soil	L080	c
BH121	N/A	S	248493	c	Total cyanide in soil	L080	c
BH128	N/A	S	248494	c	Sulphide in soil	L010	c
BH128	N/A	S	248494	c	Total cyanide in soil	L080	c
BH133	N/A	S	248495	c	Total cyanide in soil	L080	c
BH133	N/A	W	248496	c	Ammonia as NH3 in water	L082B	c
BH133	N/A	W	248496	c	Electrical conductivity at 20°C of water	L031B	c
BH133	N/A	W	248496	c	Metals in water by ICP-MS (dissolved)	L012B	c
BH133	N/A	W	248496	c	Nitrate as N in water	L078	c
BH133	N/A	W	248496	c	Nitrate in water	L078	c
BH133	N/A	W	248496	c	Redox Potential of water	L084	c
BH133	N/A	W	248496	c	Sulphate in water	L039B	c
BH133	N/A	W	248496	c	Sulphide in water	L029	c
BH133	N/A	W	248496	c	Total petroleum hydrocarbons by GC-MS HS in water	L088B	c
BH133	N/A	W	248496	c	pH at 20°C in water (automated)	L099	c
BH202	N/A	S	248497	c	Sulphide in soil	L010	c
BH202	N/A	S	248497	c	Total cyanide in soil	L080	c
BH204	N/A	S	248498	c	Sulphide in soil	L010	c
BH204	N/A	S	248498	c	Total cyanide in soil	L080	c
BH208	N/A	S	248499	c	Sulphide in soil	L010	c
BH208	N/A	S	248499	c	Total cyanide in soil	L080	c
BH211	N/A	S	248500	c	Sulphide in soil	L010	c
BH211	N/A	S	248500	c	Total cyanide in soil	L080	c
BH213	N/A	S	248501	c	Sulphide in soil	L010	c
BH213	N/A	S	248501	c	Total cyanide in soil	L080	c
BH214	N/A	S	248502	c	Sulphide in soil	L010	c
BH214	N/A	S	248502	c	Total cyanide in soil	L080	c



Geotechnical & Environmental Associates
Unit 1 Church
Gotham Rod
Kingston on Soar
NG11

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

e: luke@gea-ltd.co.uk

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

Analytical Report Number : 24-029114

Project / Site name:	Preswich Northern Car Park	Samples received on:	28/06/2024
Your job number:	J23254A	Samples instructed on/ Analysis started on:	05/07/2024
Your order number:		Analysis completed by:	16/07/2024
Report Issue Number:	1	Report issued on:	16/07/2024
Samples Analysed:	11 10:1 WAC 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

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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: 24-029114

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248504	248505	248506	248507	248508
Sample Reference				BH118	BH119	BH121	BH128	BH133
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.10	1.40	0.93	0.15
Date Sampled				25/06/2024	25/06/2024	27/06/2024	26/06/2024	27/06/2024
Time Taken				None Supplied	None Supplied	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	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	21	49	17	54	< 0.01
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1.5	1.5	1.5

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	6.9	7.3	7.2	5.6	7.3
Organic Matter	%	0.1	MCERTS	-	27	-	37	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	5	-	1.3	-	-
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	16	-	22	11
Loss on Ignition @ 450°C	%	0.2	MCERTS	13	27	3.2	55	5.3
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	-0.65	2.3	1	-31	0.44

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	23	0.18	8.5	0.69	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.93	< 0.05	0.11	0.17	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	27	0.3	15	2.1	9.1
Fluorene	mg/kg	0.05	MCERTS	26	0.18	13	1.7	12
Phenanthrene	mg/kg	0.05	MCERTS	59	0.32	25	7.7	8.9
Anthracene	mg/kg	0.05	MCERTS	23	< 0.05	2.2	2.7	11
Fluoranthene	mg/kg	0.05	MCERTS	62	0.21	6.6	13	17
Pyrene	mg/kg	0.05	MCERTS	43	0.13	4.4	13	16
Benzo(a)anthracene	mg/kg	0.05	MCERTS	12	0.08	0.95	5.9	6.6
Chrysene	mg/kg	0.05	MCERTS	12	0.15	0.93	6.3	7.8
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	9.5	< 0.05	0.78	7.4	8.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	3.3	< 0.05	0.21	2.8	3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	7.5	< 0.05	0.63	7.2	6.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.9	< 0.05	0.27	3.1	2.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.7	< 0.05	0.06	0.69	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.5	< 0.05	0.28	3.3	3.1
Coronene	mg/kg	0.05	NONE	1.3	< 0.05	< 0.05	1.2	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	318	1.56	-	-	112
Total WAC-17 PAHs	mg/kg	0.85	NONE	319	1.56	78.9	78.4	112

Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	140	17	< 10	15	7000
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Total BTEX	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
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Analytical Report Number: 24-029114

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248504	248505	248506	248507	248508
Sample Reference				BH118	BH119	BH121	BH128	BH133
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	1.10	1.40	0.93	0.15
Date Sampled				25/06/2024	25/06/2024	27/06/2024	26/06/2024	27/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-029114

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248509	248510	248511	248512	248513
Sample Reference				BH202	BH204	BH208	BH211	BH213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.40	0.50	0.30	2.00
Date Sampled				24/06/2024	24/06/2024	25/06/2024	26/06/2024	26/06/2024
Time Taken				None Supplied	None Supplied	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	54.6	34.5	< 0.1
Moisture Content	%	0.01	NONE	8	5.9	7.7	7.3	8.2
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.5	1.5	1.5

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	7.9	7.5	7.8	7.5	7.7
Organic Matter	%	0.1	MCERTS	-	19	25	20	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	5	-	-	-	0.1
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	11	15	11	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	8.1	14	19	18	0.3
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	6.6	6.3	2.5	2.1	0.48

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	22	240	400	230	0.07
Acenaphthylene	mg/kg	0.05	MCERTS	3.6	10	12	7.5	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	53	710	910	510	0.09
Fluorene	mg/kg	0.05	MCERTS	49	600	780	440	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	310	2900 ^{\$}	3200 ^{\$}	2500 ^{\$}	0.07
Anthracene	mg/kg	0.05	MCERTS	110	990	1200 ^{\$}	760	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	460	2900 ^{\$}	3100 ^{\$}	2800 ^{\$}	< 0.05
Pyrene	mg/kg	0.05	MCERTS	440	2500 ^{\$}	2800 ^{\$}	2500 ^{\$}	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	200	1200 ^{\$}	1200 ^{\$}	1200 ^{\$}	< 0.05
Chrysene	mg/kg	0.05	MCERTS	200	1200 ^{\$}	1300 ^{\$}	1100 ^{\$}	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	190	1100 ^{\$}	1200 ^{\$}	1100 ^{\$}	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	90	500	530	530	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	190	1100 ^{\$}	1200 ^{\$}	1100 ^{\$}	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	110	540	600	560	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	41	200	170	160	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	130	550	620	600	< 0.05
Coronene	mg/kg	0.05	NONE	120	140	180	220	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2590	17200	19300	16200	-
Total WAC-17 PAHs	mg/kg	0.85	NONE	2700	17300	19500	16400	< 0.85

Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) _{EH_CU_1D_AL}	mg/kg	10	NONE	420	660	770	820	< 10
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	48	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	54	< 5.0	< 5.0

Total BTEX	µg/kg	5	MCERTS	< 5.0	< 5.0	100	< 5.0	< 5.0
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Analytical Report Number: 24-029114

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248509	248510	248511	248512	248513
Sample Reference				BH202	BH204	BH208	BH211	BH213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.40	0.50	0.30	2.00
Date Sampled				24/06/2024	24/06/2024	25/06/2024	26/06/2024	26/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-029114

Project / Site name: Preswich Northern Car Park

Lab Sample Number				248514
Sample Reference				BH214
Sample Number				None Supplied
Depth (m)				0.82
Date Sampled				26/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.1	NONE	1.5

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	7.4
Organic Matter	%	0.1	MCERTS	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.4
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.5
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	0.51

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.27
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.39
Fluorene	mg/kg	0.05	MCERTS	0.27
Phenanthrene	mg/kg	0.05	MCERTS	1.4
Anthracene	mg/kg	0.05	MCERTS	0.41
Fluoranthene	mg/kg	0.05	MCERTS	1.6
Pyrene	mg/kg	0.05	MCERTS	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.63
Chrysene	mg/kg	0.05	MCERTS	0.74
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.81
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.28
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.68
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.31
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.36
Coronene	mg/kg	0.05	NONE	0.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	9.55
Total WAC-17 PAHs	mg/kg	0.85	NONE	9.75

Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	12
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

Total BTEX	µg/kg	5	MCERTS	< 5.0
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Analytical Report Number: 24-029114
 Project / Site name: Preswich Northern Car Park

Lab Sample Number				248514
Sample Reference				BH214
Sample Number				None Supplied
Depth (m)				0.82
Date Sampled				26/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007

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

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248504				Landfill Waste Acceptance Criteria		
Sampling Date	25/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH118						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	5.0				3%	5%	6%
Loss on Ignition (%) **	13				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	140				500	--	--
Total PAH (WAC-17) (mg/kg)	319				100	--	--
pH (units)**	6.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-0.65				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00192			0.0192	0.5	2	25
Barium *	0.0789			0.789	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.011			0.11	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0101			0.101	0.5	10	30
Nickel *	0.0036			0.036	0.4	10	40
Lead *	0.0034			0.034	0.5	10	50
Antimony *	0.0054			0.054	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.024			0.24	4	50	200
Chloride *	1.2			12	800	15000	25000
Fluoride*	0.24			2.4	10	150	500
Sulphate *	160			1600	1000	20000	50000
TDS*	210			2100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.51			75.1	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	79						
Moisture (%)	21						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248505				Landfill Waste Acceptance Criteria		
Sampling Date	25/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH119						
Depth (m)	1.10						
Solid Waste Analysis							
TOC (%)**	16				3%	5%	6%
Loss on Ignition (%) **	27				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	17				500	--	--
Total PAH (WAC-17) (mg/kg)	1.56				100	--	--
pH (units)**	7.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	2.3				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0140			0.140	0.5	2	25
Barium *	0.0565			0.565	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0048			0.048	0.5	10	70
Copper *	0.12			1.2	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0470			0.470	0.5	10	30
Nickel *	0.0087			0.087	0.4	10	40
Lead *	0.015			0.15	0.5	10	50
Antimony *	0.0028			0.028	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.037			0.37	4	50	200
Chloride *	12			120	800	15000	25000
Fluoride*	0.60			6.0	10	150	500
Sulphate *	24			240	1000	20000	50000
TDS*	92			920	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	123			1230	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	51						
Moisture (%)	49						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
* = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = MCERTS accredited							
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.							
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248506				Landfill Waste Acceptance Criteria		
Sampling Date	27/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH121						
Depth (m)	1.40						
Solid Waste Analysis							
TOC (%)**	1.3				3%	5%	6%
Loss on Ignition (%) **	3.2				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	78.9				100	--	--
pH (units)**	7.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	1.0				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00292			0.0292	0.5	2	25
Barium *	0.00617			0.0617	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0013			0.013	0.5	10	70
Copper *	0.038			0.38	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0126			0.126	0.5	10	30
Nickel *	0.0027			0.027	0.4	10	40
Lead *	0.0034			0.034	0.5	10	50
Antimony *	0.0053			0.053	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0041			0.041	4	50	200
Chloride *	4.8			48	800	15000	25000
Fluoride*	0.37			3.7	10	150	500
Sulphate *	17			170	1000	20000	50000
TDS*	45			450	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	29.3			293	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	83						
Moisture (%)	17						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248507				Landfill Waste Acceptance Criteria		
Sampling Date	26/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH128						
Depth (m)	0.93						
Solid Waste Analysis							
TOC (%)**	22				3%	5%	6%
Loss on Ignition (%) **	55				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	15				500	--	--
Total PAH (WAC-17) (mg/kg)	78.4				100	--	--
pH (units)**	5.6				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-31				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00110			0.0110	0.5	2	25
Barium *	0.0390			0.390	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0024			0.024	0.5	10	70
Copper *	0.15			1.5	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000610			0.00610	0.5	10	30
Nickel *	0.0037			0.037	0.4	10	40
Lead *	0.0029			0.029	0.5	10	50
Antimony *	0.0023			0.023	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.021			0.21	4	50	200
Chloride *	7.8			78	800	15000	25000
Fluoride*	0.21			2.1	10	150	500
Sulphate *	11			110	1000	20000	50000
TDS*	44			440	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	61.9			619	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	46						
Moisture (%)	54						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
* = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = MCERTS accredited							
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended and EA Guidance WM3.							
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Environmental Science

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248508				Landfill Waste Acceptance Criteria		
Sampling Date	27/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH133						
Depth (m)	0.15						
Solid Waste Analysis							
TOC (%)	11				3%	5%	6%
Loss on Ignition (%)	5.3				--	--	10%
BTEX (µg/kg)	< 5.0				6000	--	--
Sum of PCBs (mg/kg)	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	7000				500	--	--
Total PAH (WAC-17) (mg/kg)	112				100	--	--
pH (units)	7.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.44				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
	(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.0211			0.211	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0017			0.017	0.5	10	70
Copper *	0.018			0.18	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00289			0.0289	0.5	10	30
Nickel *	0.0033			0.033	0.4	10	40
Lead *	0.0084			0.084	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.024			0.24	4	50	200
Chloride *	1.3			13	800	15000	25000
Fluoride*	0.12			1.2	10	150	500
Sulphate *	13			130	1000	20000	50000
TDS*	43			430	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	11.1			111	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	#ARG!						
Moisture (%)	< 0.01						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248509				Landfill Waste Acceptance Criteria		
Sampling Date	24/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH202						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	5.0				3%	5%	6%
Loss on Ignition (%) **	8.1				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	420				500	--	--
Total PAH (WAC-17) (mg/kg)	2700				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.6				--	To be evaluated	To be evaluated
Eluate Analysis					Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00205			0.0205	0.5	2	25
Barium *	0.0257			0.257	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.015			0.15	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00756			0.0756	0.5	10	30
Nickel *	0.0018			0.018	0.4	10	40
Lead *	0.0020			0.020	0.5	10	50
Antimony *	0.0074			0.074	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0048			0.048	4	50	200
Chloride *	3.3			33	800	15000	25000
Fluoride*	0.42			4.2	10	150	500
Sulphate *	39			390	1000	20000	50000
TDS*	98			980	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	12.2			122	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	92						
Moisture (%)	8.0						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248510				Landfill Waste Acceptance Criteria		
Sampling Date	24/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH204						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	11				3%	5%	6%
Loss on Ignition (%) **	14				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	660				500	--	--
Total PAH (WAC-17) (mg/kg)	17300				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.3				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00376			0.0376	0.5	2	25
Barium *	0.0287			0.287	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00048			0.0048	0.5	10	70
Copper *	0.011			0.11	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00433			0.0433	0.5	10	30
Nickel *	0.00089			0.0089	0.4	10	40
Lead *	0.0035			0.035	0.5	10	50
Antimony *	0.010			0.10	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0061			0.061	4	50	200
Chloride *	2.4			24	800	15000	25000
Fluoride*	0.35			3.5	10	150	500
Sulphate *	9.0			90	1000	20000	50000
TDS*	66			660	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	16.6			166	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	94						
Moisture (%)	5.9						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248511				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	25/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH208						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	15				3%	5%	6%
Loss on Ignition (%) **	19				--	--	10%
BTEX (µg/kg) **	100				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	770				500	--	--
Total PAH (WAC-17) (mg/kg)	19500				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	2.5				--	To be evaluated	To be evaluated
Eluate Analysis					Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00320			0.0320	0.5	2	25
Barium *	0.0510			0.510	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00043			0.0043	0.5	10	70
Copper *	0.011			0.11	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0213			0.213	0.5	10	30
Nickel *	0.0019			0.019	0.4	10	40
Lead *	0.0011			0.011	0.5	10	50
Antimony *	0.011			0.11	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0074			0.074	4	50	200
Chloride *	2.2			22	800	15000	25000
Fluoride*	0.43			4.3	10	150	500
Sulphate *	26			260	1000	20000	50000
TDS*	100			1000	4000	60000	100000
Phenol Index (Monohydric Phenols) *	0.026			0.26	1	-	-
DOC	20.0			200	500	800	1000
Leach Test Information							
Stone Content (%)	54.6						
Sample Mass (kg)	1.5						
Dry Matter (%)	92						
Moisture (%)	7.7						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248512				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	26/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH211						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	11				3%	5%	6%
Loss on Ignition (%) **	18				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	820				500	--	--
Total PAH (WAC-17) (mg/kg)	16400				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	2.1				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00255			0.0255	0.5	2	25
Barium *	0.0584			0.584	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	< 0.00040			< 0.0040	0.5	10	70
Copper *	0.010			0.10	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00999			0.0999	0.5	10	30
Nickel *	0.0020			0.020	0.4	10	40
Lead *	0.0025			0.025	0.5	10	50
Antimony *	0.011			0.11	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0089			0.089	4	50	200
Chloride *	1.6			16	800	15000	25000
Fluoride*	0.45			4.5	10	150	500
Sulphate *	20			200	1000	20000	50000
TDS*	99			990	4000	60000	100000
Phenol Index (Monohydric Phenols) *	0.013			0.13	1	-	-
DOC	14.3			143	500	800	1000
Leach Test Information							
Stone Content (%)	34.5						
Sample Mass (kg)	1.5						
Dry Matter (%)	93						
Moisture (%)	7.3						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248513				Landfill Waste Acceptance Criteria		
Sampling Date	26/06/2024				Limits		
Sample ID	BH213				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	2.00						
Solid Waste Analysis							
TOC (%)**	0.1				3%	5%	6%
Loss on Ignition (%) **	0.3				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) ^{EH_1D_CU_AL}	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.48				--	To be evaluated	To be evaluated
Eluate Analysis					Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00233			0.0233	0.5	2	25
Barium *	0.00699			0.0699	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0013			0.013	0.5	10	70
Copper *	0.011			0.11	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.000986			0.00986	0.5	10	30
Nickel *	0.00059			0.0059	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	0.0068			0.068	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0020			0.020	4	50	200
Chloride *	4.1			41	800	15000	25000
Fluoride*	0.19			1.9	10	150	500
Sulphate *	2.9			29	1000	20000	50000
TDS*	21			210	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	23.4			234	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	92						
Moisture (%)	8.2						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
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i2 Analytical

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Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-029114						
					Client: GEA		
Location	Preswich Northern Car Park						
Lab Reference (Sample Number)	248514				Landfill Waste Acceptance Criteria		
Sampling Date	26/06/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH214						
Depth (m)	0.82						
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	2.5				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	12				500	--	--
Total PAH (WAC-17) (mg/kg)	9.75				100	--	--
pH (units)**	7.4				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.51				--	To be evaluated	To be evaluated
Eluate Analysis					Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00141			0.0141	0.5	2	25
Barium *	0.00610			0.0610	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0039			0.039	0.5	10	70
Copper *	0.081			0.81	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00101			0.0101	0.5	10	30
Nickel *	0.0030			0.030	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	0.0036			0.036	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0068			0.068	4	50	200
Chloride *	4.6			46	800	15000	25000
Fluoride*	0.28			2.8	10	150	500
Sulphate *	5.0			50	1000	20000	50000
TDS*	34			340	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	35.5			355	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	84						
Moisture (%)	16						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

Analytical Report Number : 24-029114

Project / Site name: Preswich Northern Car Park

* 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 *
248504	BH118	None Supplied	1	Brown loam and clay with gravel
248505	BH119	None Supplied	1.1	Brown loam and clay
248506	BH121	None Supplied	1.4	Brown clay and sand with gravel
248507	BH128	None Supplied	0.93	Brown loam and clay with gravel
248508	BH133	None Supplied	0.15	Non Soil. ^{nb}
248509	BH202	None Supplied	0.5	Brown loam with gravel
248510	BH204	None Supplied	0.4	Brown loam with gravel
248511	BH208	None Supplied	0.5	Brown loam with gravel and stones
248512	BH211	None Supplied	0.3	Brown loam with gravel and stones
248513	BH213	None Supplied	2	Brown sand
248514	BH214	None Supplied	0.82	Brown sandy clay with gravel

Analytical Report Number : 24-029114

Project / Site name: Preswich Northern Car Park

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
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
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
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
Organic matter 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	L023B	D	MCERTS
Total organic carbon 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	L023B	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	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 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	D/W	NONE

Analytical Report Number : 24-029114

Project / Site name: Preswich Northern Car Park

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
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

\$ - Concentration has been determined by extrapolated calibration as analyte concentration is above the concentration range for the procedure after dilution.

The result should be considered as deviating and should be interpreted with caution. The result is not accredited.

*b - Unaccredited sample matrix.



Geotechnical & Environmental Associates
Unit 1 Church
Gotham Rod
Kingston on Soar
NG11

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: luke@gea-ltd.co.uk

Analytical Report Number : 24-027010

Project / Site name:	Prestwich Northern Car Park	Samples received on:	21/06/2024
Your job number:	J23254A	Samples instructed on/ Analysis started on:	25/06/2024
Your order number:	640	Analysis completed by:	04/07/2024
Report Issue Number:	1	Report issued on:	12/07/2024
Samples Analysed:	10 soil samples - 1 bulk sample		

Signed:

Izabela Wójcik
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

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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: 24-027010
Project / Site name: Prestwich Northern Car Park
Your Order No: 640

Lab Sample Number				237730	237731	237732	237733	237734
Sample Reference				BH101	BH104	BH105	BH107A	BH108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.22	1.50	0.80	0.40
Date Sampled				19/06/2024	19/06/2024	20/06/2024	20/06/2024	20/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Stone Content	%	0.1	NONE	3.5	19.4	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.8	12	76	9.5	5.9
Total mass of sample received	kg	0.1	NONE	2	1.9	1.7	2	1.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	JSW	JSW	JSW
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	Not-detected

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	< 0.001
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	Loose Fibres
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	7.6	U/S ^{U/S}	8.4	9.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	1.5	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	440	750	2300	120	1000
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	56	180	460	30	330
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.028	0.0924	0.228	0.0148	0.163
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	28	92.4	228	14.8	163
Sulphide	mg/kg	1	MCERTS	26	30	42	< 1.0	25
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	9.1	14	140	3.5	32
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.4	3.3	-	1.2	3.4
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	21	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	2.1	< 1.0	< 1.0
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Analytical Report Number: 24-027010
Project / Site name: Prestwich Northern Car Park
Your Order No: 640

Lab Sample Number				237730	237731	237732	237733	237734
Sample Reference				BH101	BH104	BH105	BH107A	BH108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.22	1.50	0.80	0.40
Date Sampled				19/06/2024	19/06/2024	20/06/2024	20/06/2024	20/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.55	0.97	260	< 0.05	1.5
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05	< 0.05	0.47
Acenaphthene	mg/kg	0.05	MCERTS	0.43	0.46	100	0.44	5.7
Fluorene	mg/kg	0.05	MCERTS	0.34	0.38	47	0.3	4.4
Phenanthrene	mg/kg	0.05	MCERTS	3.2	3.3	36	2.2	36
Anthracene	mg/kg	0.05	MCERTS	0.82	0.9	5.2	0.73	13
Fluoranthene	mg/kg	0.05	MCERTS	4.1	4.9	3	4.6	88
Pyrene	mg/kg	0.05	MCERTS	3.8	4.9	1.6	4.3	81
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.8	2.3	< 0.05	1.7	35
Chrysene	mg/kg	0.05	MCERTS	2.2	2.6	< 0.05	1.8	39
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2	3	< 0.05	2.3	44
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.75	1.1	< 0.05	0.88	16
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	2.7	< 0.05	2	37
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.82	1.3	< 0.05	0.98	17
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.34	< 0.05	0.29	4.6
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.95	1.6	< 0.05	1.3	20

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	23.5	30.9	450	23.8	442
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	20	33	3.7	12
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	14	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	3	< 0.2	0.9
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	14	22	8.3	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	58	64	33	17	64
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	190	9.1	13	190
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	26	19	9.4	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.9	< 1.0	1.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	84	95	190	33	240

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS, 1D, AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	-	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS, 1D, AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	-	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS, 1D, AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	-	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH, CU, 1D, AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	6.2	-	3.6
TPHCWG - Aliphatic >EC12 - EC16 _{EH, CU, 1D, AL}	mg/kg	2	MCERTS	4.2	< 2.0	31	-	47
TPHCWG - Aliphatic >EC16 - EC21 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	15	< 8.0	58	-	160
TPHCWG - Aliphatic >EC16 - EC35 _{EH, CU, 1D, AL}	mg/kg	10	MCERTS	280	160	170	-	990
TPHCWG - Aliphatic >EC21 - EC35 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	270	160	110	-	830
TPHCWG - Aliphatic >EC5 - EC35 _{EH, CU+HS, 1D, AL}	mg/kg	10	NONE	290	160	210	-	1000

Analytical Report Number: 24-027010
Project / Site name: Prestwich Northern Car Park
Your Order No: 640

Lab Sample Number				237730	237731	237732	237733	237734
Sample Reference				BH101	BH104	BH105	BH107A	BH108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.22	1.50	0.80	0.40
Date Sampled				19/06/2024	19/06/2024	20/06/2024	20/06/2024	20/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPHCWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	-	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	-	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	-	< 0.050
TPHCWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	150	-	1.2
TPHCWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	MCERTS	3.6	5.7	430	-	63
TPHCWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	MCERTS	39	35	150	-	540
TPHCWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	MCERTS	480	310	270	-	1700
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_ID_AR	mg/kg	10	NONE	530	350	1000	-	2300

TPH (>EC8 - EC10) HS_ID_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (>EC10 - EC12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	160	< 2.0	4.8
TPH (>EC10 - EC35) EH_CU_ID_TOTAL	mg/kg	10	NONE	810	520	1200	320	3400
TPH (>EC12 - EC16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	7.8	6.1	460	5.8	110
TPH (>EC16 - EC21) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	54	42	200	42	700
TPH (>EC21 - EC35) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	750	470	390	270	2600

TPH Total >EC8 - EC35 EH_CU+HS_ID_TOTAL	mg/kg	10	NONE	810	520	1200	320	3400
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TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	1200	770	1300	440	4500
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VOCS

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	5	MCERTS	< 5.0	< 5.0	< 5.0	-	< 5.0
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

Analytical Report Number: 24-027010

Project / Site name: Prestwich Northern Car Park

Your Order No: 640

Lab Sample Number				237736	237737	237738	237739	237740
Sample Reference				BH110	TS03	TS06	TS09	TS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.20	0.25	0.55	0.80
Date Sampled				21/06/2024	18/06/2024	19/06/2024	18/06/2024	19/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	19.3	22.6	< 0.1	32.8
Moisture Content	%	0.01	NONE	18	4.2	2.7	28	7.5
Total mass of sample received	kg	0.1	NONE	2	1.9	2	0.7	2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	MBI	PDO	MBI
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	< 0.001	-	0.003
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibres	-	Loose Fibrous Debris
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.6	8.1	8.4	6.4	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	740	610	690	1400	710
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	590	130	160	1000	74
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.296	0.0674	0.0795	0.508	0.0369
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	296	67.4	79.5	508	36.9
Sulphide	mg/kg	1	MCERTS	23	38	40	7.8	22
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	150	17	23	31	8.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	1.5	1.1	-	2.6
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	15	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Analytical Report Number: 24-027010
Project / Site name: Prestwich Northern Car Park
Your Order No: 640

Lab Sample Number				237736	237737	237738	237739	237740
Sample Reference				BH110	TS03	TS06	TS09	TS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.20	0.25	0.55	0.80
Date Sampled				21/06/2024	18/06/2024	19/06/2024	18/06/2024	19/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.91	0.65	4.1	0.4
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.47	0.08	< 0.05	0.11
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.86	1.2	0.73	0.43
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.96	0.9	0.32	0.32
Phenanthrene	mg/kg	0.05	MCERTS	0.12	5.3	5.7	1.3	3.5
Anthracene	mg/kg	0.05	MCERTS	< 0.05	2.2	1.9	0.31	0.84
Fluoranthene	mg/kg	0.05	MCERTS	0.21	14	12	1.6	7.6
Pyrene	mg/kg	0.05	MCERTS	0.21	13	10	1.4	7.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.09	7.4	4.8	0.73	3.7
Chrysene	mg/kg	0.05	MCERTS	0.11	7.5	5.3	0.8	4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13	10	6.4	0.79	5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	3.1	2.7	0.37	2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	9	5.8	0.7	4.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	3.9	2.7	0.36	2.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.1	0.73	0.08	0.54
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.06	4.3	3	0.39	2.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	0.93	85	63.8	14	44.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.8	4.7	3.9	14	17
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	0.4	< 0.2	1.9
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	U/S ^{*U/S}	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	8.4	9.1	7	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	13	10	36	93
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	28	27	130	170
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.4	0.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	12	13	13	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	33	65	69	38	220

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS 1D AL}	mg/kg	0.02	NONE	-	< 0.020	-	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.02	NONE	-	< 0.020	-	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.05	NONE	-	< 0.050	-	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH CU 1D AL}	mg/kg	1	MCERTS	-	3.2	-	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH CU 1D AL}	mg/kg	2	MCERTS	-	12	-	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	MCERTS	-	24	-	-	-
TPHCWG - Aliphatic >EC16 - EC35 _{EH CU 1D AL}	mg/kg	10	MCERTS	-	140	-	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH CU 1D AL}	mg/kg	8	MCERTS	-	110	-	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH CU+HS 1D AL}	mg/kg	10	NONE	-	150	-	-	-

Analytical Report Number: 24-027010
 Project / Site name: Prestwich Northern Car Park
 Your Order No: 640

Lab Sample Number				237736	237737	237738	237739	237740
Sample Reference				BH110	TS03	TS06	TS09	TS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.20	0.25	0.55	0.80
Date Sampled				21/06/2024	18/06/2024	19/06/2024	18/06/2024	19/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
TPHCWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.01	NONE	-	< 0.010	-	-	-
TPHCWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.01	NONE	-	< 0.010	-	-	-
TPHCWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.05	NONE	-	< 0.050	-	-	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	MCERTS	-	9.7	-	-	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	MCERTS	-	73	-	-	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	MCERTS	-	270	-	-	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_ID_AR	mg/kg	10	NONE	-	350	-	-	-

TPH (>EC8 - EC10) HS_ID_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (>EC10 - EC12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0	3.9	< 2.0	< 2.0	< 2.0
TPH (>EC10 - EC35) EH_CU_ID_TOTAL	mg/kg	10	NONE	< 10	500	240	280	140
TPH (>EC12 - EC16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	< 4.0	21	8	7.3	4.6
TPH (>EC16 - EC21) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10	97	64	24	32
TPH (>EC21 - EC35) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10	380	170	250	110

TPH Total >EC8 - EC35 EH_CU+HS_ID_TOTAL	mg/kg	10	NONE	< 10	500	240	280	140
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TPH (EC10 - EC40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	< 10	650	290	300	180
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VOCS

Benzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Toluene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	< 5.0	-	-	-

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



Analytical Report Number: 24-027010
Project / Site name: Prestwich Northern Car Park
Your Order No: 640

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
237734	BH108	0.40	167	Loose Fibres	Chrysotile	< 0.001	< 0.001
237738	TS06	0.25	160	Loose Fibres	Chrysotile	< 0.001	< 0.001
237740	TS11	0.80	166	Loose Fibrous Debris	Chrysotile	0.003	0.003

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



Analytical Report Number: 24-027010
 Project / Site name: Prestwich Northern Car Park
 Your Order No: 640

Lab Sample Number				237735
Sample Reference				BH108A
Sample Number				None Supplied
Depth (m)				0.60
Date Sampled				20/06/2024
Time Taken				None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection	Accreditation Status	

Asbestos

Asbestos in bulks	Type	N/A	ISO 17025	Detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW
Actinolite detected	Type	N/A	ISO 17025	Not-detected
Amosite detected	Type	N/A	ISO 17025	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	Detected
Crocidolite detected	Type	N/A	ISO 17025	Not-detected
Tremolite detected	Type	N/A	ISO 17025	Not-detected

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Asbestos Cement
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 24-027010

Project / Site name: Prestwich Northern Car Park

* 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 *
237730	BH101	None Supplied	0.1	Brown loam and sand with gravel and vegetation
237731	BH104	None Supplied	0.22	Brown loam and sand with gravel and stones
237732	BH105	None Supplied	1.5	Brown loam with vegetation and peat
237733	BH107A	None Supplied	0.8	Brown sandy clay with gravel
237734	BH108	None Supplied	0.4	Brown loam and sand with gravel and brick
237736	BH110	None Supplied	1	Brown clay
237737	TS03	None Supplied	0.2	Brown loam and sand with gravel and stones
237738	TS06	None Supplied	0.25	Brown loam and sand with gravel and stones
237739	TS09	None Supplied	0.55	Brown clay with gravel
237740	TS11	None Supplied	0.8	Brown loam and sand with gravel and stones

Analytical Report Number : 24-027010
Project / Site name: Prestwich Northern Car Park

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
Asbestos identification in Bunks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	W	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
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
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010	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
Total organic carbon 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	L023B	D	MCERTS
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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	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	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	D/W	MCERTS



Analytical Report Number : 24-027010
Project / Site name: Prestwich Northern Car Park

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
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
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	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS



Analytical Report Number : 24-027010
Project / Site name: Prestwich Northern Car Park

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
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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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

*U/S I - Unsuitable for analysis, sample absorbed all water used for extraction.

*U/S - Unsuitable for analysis due to sample matrix.



Sample Deviation Report



Analytical Report Number : 24-027010

Project / Site name: Prestwich Northern Car Park

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
TS03	N/A	S	237737	c	Total cyanide in soil	L080	c
TS09	N/A	S	237739	c	Total cyanide in soil	L080	c



Geotechnical & Environmental Associates
Unit 1 Church
Gotham Rod
Kingston on Soar
NG11

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

e: luke@gea-ltd.co.uk

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

Analytical Report Number : 24-027013

Project / Site name:	Prestwich Northern Car Park	Samples received on:	21.06.2024
Your job number:	J23254A	Samples instructed on/ Analysis started on:	25.06.2024
Your order number:	640	Analysis completed by:	01.07.2024
Report Issue Number:	1	Report issued on:	03.07.2024
Samples Analysed:	10 10:1 WAC samples		

Signed: _____

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

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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: 24-027013

Project / Site name: Prestwich Northern Car Park

Your Order No: 640

Lab Sample Number				237743	237744	237745	237746	237747
Sample Reference				BH101	BH104	BH105	BH107A	BH108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.22	1.50	0.80	0.40
Date Sampled				19/06/2024	19/06/2024	20/06/2024	20/06/2024	20/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	3.5	19.4	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.8	12	76	9.5	5.9
Total mass of sample received	kg	0.1	NONE	2	1.9	1.7	2	1.9

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	8	8.1	7.2	8.3	7.9
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.4	3.3	-	1.2	3.4
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	21	-	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	6.3	6.8	77	2.3	6
Acid Neutralisation Capacity	mmol/kg +/-	-9999	NONE	9.2	11	0.78	2.8	12

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.56	0.92	230	< 0.05	1.2
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.41
Acenaphthene	mg/kg	0.05	MCERTS	0.41	0.44	91	0.36	5.5
Fluorene	mg/kg	0.05	MCERTS	0.32	0.37	45	0.27	4.3
Phenanthrene	mg/kg	0.05	MCERTS	3.4	3.3	32	2	35
Anthracene	mg/kg	0.05	MCERTS	0.8	0.86	4.7	0.71	11
Fluoranthene	mg/kg	0.05	MCERTS	4.2	4.5	2.3	4.2	66
Pyrene	mg/kg	0.05	MCERTS	4	4.4	1.3	3.8	60
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	2.1	0.28	1.6	31
Chrysene	mg/kg	0.05	MCERTS	2.2	2.5	< 0.05	1.8	37
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.9	2.3	< 0.05	2.2	39
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.9	1.2	< 0.05	0.69	17
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	2.3	< 0.05	1.8	35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.76	1.1	< 0.05	0.82	15
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.2	< 0.05	< 0.05	< 0.05	3.3
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.97	1.4	< 0.05	1.1	18
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	6.8

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	23.9	-	408	-	379
Total WAC-17 PAHs	mg/kg	0.85	NONE	23.9	27.5	408	21.2	386

Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	400	270	220	110	1400
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	69	< 5.0	< 5.0

Total BTEX	µg/kg	5	MCERTS	< 5.0	< 5.0	69	< 5.0	< 5.0
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Analytical Report Number: 24-027013

Project / Site name: Prestwich Northern Car Park

Your Order No: 640

Lab Sample Number				237743	237744	237745	237746	237747
Sample Reference				BH101	BH104	BH105	BH107A	BH108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.22	1.50	0.80	0.40
Date Sampled				19/06/2024	19/06/2024	20/06/2024	20/06/2024	20/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.087
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.019
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.006
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.008
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.006
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	0.13

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

Analytical Report Number: 24-027013

Project / Site name: Prestwich Northern Car Park

Your Order No: 640

Lab Sample Number				237748	237749	237750	237751	237752
Sample Reference				BH110	TS03	TS06	TS09	TS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.20	0.25	0.55	0.80
Date Sampled				21/06/2024	18/06/2024	19/06/2024	18/06/2024	19/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	19.3	22.6	< 0.1	32.8
Moisture Content	%	0.01	NONE	18	4.2	2.7	28	7.5
Total mass of sample received	kg	0.1	NONE	2	1.9	2	0.7	2

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	4.9	7.9	8.2	7.1	8
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	1.8	1.1	-	2.6
Total Organic Carbon (TOC) - Manual	%	0.1	MCERTS	-	-	-	15	-
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.8	3.3	2.2	28	5.6
Acid Neutralisation Capacity	mmol/kg +/-	-9999	NONE	-35	13	17	0.94	5.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.84	0.66	0.57	0.62
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.36	< 0.05	< 0.05	0.1
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.8	1.1	0.41	0.52
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.94	0.94	0.28	0.38
Phenanthrene	mg/kg	0.05	MCERTS	0.13	5.2	5.6	2.1	4.5
Anthracene	mg/kg	0.05	MCERTS	< 0.05	2.1	1.9	0.5	1
Fluoranthene	mg/kg	0.05	MCERTS	0.2	13	11	2.5	9.1
Pyrene	mg/kg	0.05	MCERTS	0.18	12	9.4	2.2	8.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	7	4.5	0.97	4
Chrysene	mg/kg	0.05	MCERTS	0.12	7.5	5.4	1.2	4.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	8.5	5.9	1.1	5.4
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	3.9	2.6	0.42	2.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	7.9	5.1	0.93	4.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.06	3.4	2.1	< 0.05	2.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.68	0.41	< 0.05	0.69
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	3.6	2.5	< 0.05	2.8
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	1.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	-	13.2	51.6
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	77.3	59.2	13.2	52.7

Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	< 10	190	48	95	18
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~

Total BTEX	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 ~
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Analytical Report Number: 24-027013

Project / Site name: Prestwich Northern Car Park

Your Order No: 640

Lab Sample Number				237748	237749	237750	237751	237752
Sample Reference				BH110	TS03	TS06	TS09	TS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.20	0.25	0.55	0.80
Date Sampled				21/06/2024	18/06/2024	19/06/2024	18/06/2024	19/06/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.025
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.015
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.025
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.03
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.034
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.024
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	0.011
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	0.16

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

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237743				Landfill Waste Acceptance Criteria		
Sampling Date	19.06.2024				Limits		
Sample ID	BH101				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	3.4				3%	5%	6%
Loss on Ignition (%) **	6.3				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH, LD, CU, AL	400				500	--	--
Total PAH (WAC-17) (mg/kg)	23.9				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	9.2				--	To be evaluated	To be evaluated
Eluate Analysis		10:1		10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)		mg/l			mg/kg		
					using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00396			0.0396	0.5	2	25
Barium *	0.0275			0.275	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0031			0.031	0.5	10	70
Copper *	0.0098			0.098	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00127			0.0127	0.5	10	30
Nickel *	0.0016			0.016	0.4	10	40
Lead *	0.020			0.20	0.5	10	50
Antimony *	0.0026			0.026	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.011			0.11	4	50	200
Chloride *	0.54			5.4	800	15000	25000
Fluoride*	0.33			3.3	10	150	500
Sulphate *	2.7			27	1000	20000	50000
TDS*	45			450	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.50			65.0	500	800	1000
Leach Test Information							
Stone Content (%)	3.5						
Sample Mass (kg)	2.0						
Dry Matter (%)	94						
Moisture (%)	5.8						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited		

*= UKAS accredited (liquid eluate analysis only)

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237744				Landfill Waste Acceptance Criteria		
Sampling Date	19.06.2024				Limits		
Sample ID	BH104				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.22						
Solid Waste Analysis							
TOC (%)**	3.3				3%	5%	6%
Loss on Ignition (%) **	6.8				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) BH_1D_CU_AL	270				500	--	--
Total PAH (WAC-17) (mg/kg)	27.5				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00279			0.0279	0.5	2	25
Barium *	0.0455			0.455	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0017			0.017	0.5	10	70
Copper *	0.022			0.22	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0253			0.253	0.5	10	30
Nickel *	0.0035			0.035	0.4	10	40
Lead *	0.019			0.19	0.5	10	50
Antimony *	0.0032			0.032	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.012			0.12	4	50	200
Chloride *	1.2			12	800	15000	25000
Fluoride*	0.66			6.6	10	150	500
Sulphate *	13			130	1000	20000	50000
TDS*	87			870	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	11.8			118	500	800	1000
Leach Test Information							
Stone Content (%)	19.4						
Sample Mass (kg)	1.9						
Dry Matter (%)	88						
Moisture (%)	12						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited		

*= UKAS accredited (liquid eluate analysis only)

** = MCERTS accredited

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7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
				Client: GEA			
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237745			Landfill Waste Acceptance Criteria			
				Limits			
Sampling Date	20.06.2024			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	BH105						
Depth (m)	1.50						
Solid Waste Analysis							
TOC (%)**	21				3%	5%	6%
Loss on Ignition (%) **	77				--	--	10%
BTEX (µg/kg) **	69				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) BH_1D_CU_AL	220				500	--	--
Total PAH (WAC-17) (mg/kg)	408				100	--	--
pH (units)**	7.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.78				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)		10:1		10:1	Limit values for compliance leaching test		
					using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
		mg/l			mg/kg		
Arsenic *	0.00343			0.0343	0.5	2	25
Barium *	0.0255			0.255	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00052			0.0052	0.5	10	70
Copper *	0.054			0.54	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0306			0.306	0.5	10	30
Nickel *	0.0016			0.016	0.4	10	40
Lead *	0.0024			0.024	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.016			0.16	4	50	200
Chloride *	8.4			84	800	15000	25000
Fluoride*	0.21			2.1	10	150	500
Sulphate *	18			180	1000	20000	50000
TDS*	44			440	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	46.9			469	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.7						
Dry Matter (%)	24						
Moisture (%)	76						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				* = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCFRTS accredited			

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	24-027013			
				Client: GEA
Location	Prestwich Northern Car Park			
Lab Reference (Sample Number)	237746			Landfill Waste Acceptance Criteria
Sampling Date	20.06.2024			Limits
Sample ID	BH107A			
Depth (m)	0.80			Inert Waste Landfill
				Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill
				Hazardous Waste Landfill
Solid Waste Analysis				
TOC (%)**	1.2			3%
Loss on Ignition (%) **	2.3			5%
BTEX (µg/kg) **	< 5.0			6%
Sum of PCBs (mg/kg) **	< 0.007			10%
Mineral Oil (mg/kg) BH, LD, CU, AL	110			6000
Total PAH (WAC-17) (mg/kg)	21.2			1
pH (units)**	8.3			500
Acid Neutralisation Capacity (mmol / kg)	2.8			100
				--
				To be evaluated
				To be evaluated
Eluate Analysis				
	10:1		10:1	Limit values for compliance leaching test
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)
Arsenic *	< 0.00100		< 0.0100	0.5
Barium *	0.0481		0.481	2
Cadmium *	< 0.000100		< 0.00100	25
Chromium *	0.00076		0.0076	0.5
Copper *	0.0094		0.094	10
Mercury *	< 0.000500		< 0.00500	50
Molybdenum *	0.00229		0.0229	2
Nickel *	0.00085		0.0085	0.4
Lead *	< 0.0010		< 0.010	10
Antimony *	< 0.0017		< 0.017	50
Selenium *	< 0.0040		< 0.040	0.5
Zinc *	0.0043		0.043	0.1
Chloride *	1.3		13	4
Fluoride*	0.88		8.8	800
Sulphate *	2.8		28	15000
TDS*	48		480	25000
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	100000
DOC	14.5		145	1
				-
				-
Leach Test Information				
Stone Content (%)	< 0.1			
Sample Mass (kg)	2.0			
Dry Matter (%)	91			
Moisture (%)	9.5			
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				
* = UKAS accredited (liquid eluate analysis only)				
** = MCERTS accredited				

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237747				Landfill Waste Acceptance Criteria		
Sampling Date	20.06.2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH108						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	3.4				3%	5%	6%
Loss on Ignition (%) **	6.0				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	0.13				1	--	--
Mineral Oil (mg/kg) BH, LD, CU, AL	1400				500	--	--
Total PAH (WAC-17) (mg/kg)	386				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	12				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00448			0.0448	0.5	2	25
Barium *	0.0444			0.444	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0042			0.042	0.5	10	70
Copper *	0.020			0.20	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00491			0.0491	0.5	10	30
Nickel *	0.0019			0.019	0.4	10	40
Lead *	0.027			0.27	0.5	10	50
Antimony *	0.0059			0.059	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.033			0.33	4	50	200
Chloride *	2.0			20	800	15000	25000
Fluoride*	0.66			6.6	10	150	500
Sulphate *	16			160	1000	20000	50000
TDS*	64			640	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.78			77.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.9						
Dry Matter (%)	94						
Moisture (%)	5.9						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				* = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCERTS accredited			

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	24-027013			
				Client: GEA
Location	Prestwich Northern Car Park			
Lab Reference (Sample Number)	237748			Landfill Waste Acceptance Criteria
Sampling Date	21.06.2024			Limits
Sample ID	BH110			
Depth (m)	1.00			Inert Waste Landfill
				Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill
				Hazardous Waste Landfill
Solid Waste Analysis				
TOC (%)**	1.0			3%
Loss on Ignition (%) **	2.8			5%
BTEX (µg/kg) **	< 5.0			6%
Sum of PCBs (mg/kg) **	< 0.007			10%
Mineral Oil (mg/kg) BH, ID, CU, AL	< 10			6000
Total PAH (WAC-17) (mg/kg)	< 0.85			1
pH (units)**	4.9			500
Acid Neutralisation Capacity (mmol / kg)	-35			100
				--
				To be evaluated
				To be evaluated
Eluate Analysis				
	10:1		10:1	Limit values for compliance leaching test
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)
Arsenic *	0.00103		0.0103	0.5
Barium *	0.0123		0.123	2
Cadmium *	< 0.000100		< 0.00100	25
Chromium *	0.0011		0.011	0.5
Copper *	0.022		0.22	10
Mercury *	< 0.000500		< 0.00500	50
Molybdenum *	< 0.000400		< 0.00400	2
Nickel *	0.0020		0.020	0.1
Lead *	< 0.0010		< 0.010	0.5
Antimony *	< 0.0017		< 0.017	0.7
Selenium *	< 0.0040		< 0.040	5
Zinc *	0.023		0.23	7
Chloride *	16		160	4
Fluoride*	< 0.050		< 0.50	50
Sulphate *	38		380	15000
TDS*	88		880	25000
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	60000
DOC	15.9		159	100000
				1
				-
				-
				500
				800
				1000
Leach Test Information				
Stone Content (%)	< 0.1			
Sample Mass (kg)	2.0			
Dry Matter (%)	82			
Moisture (%)	18			
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				
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** = MCERTS accredited				

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	24-027013			
				Client: GEA
Location	Prestwich Northern Car Park			
Lab Reference (Sample Number)	237749			Landfill Waste Acceptance Criteria
Sampling Date	18.06.2024			Limits
Sample ID	TS03			
Depth (m)	0.20			Inert Waste Landfill
				Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill
				Hazardous Waste Landfill
Solid Waste Analysis				
TOC (%)**	1.8			3%
Loss on Ignition (%) **	3.3			5%
BTEX (µg/kg) **	< 5.0			6%
Sum of PCBs (mg/kg) **	< 0.007			10%
Mineral Oil (mg/kg) BH, LD, CU, AL	190			6000
Total PAH (WAC-17) (mg/kg)	77.3			1
pH (units)**	7.9			500
Acid Neutralisation Capacity (mmol / kg)	13			100
				--
				To be evaluated
				To be evaluated
Eluate Analysis				
	10:1		10:1	Limit values for compliance leaching test
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)
Arsenic *	< 0.00100		< 0.0100	0.5
Barium *	0.00960		0.0960	2
Cadmium *	< 0.000100		< 0.00100	25
Chromium *	0.00068		0.0068	0.5
Copper *	0.0081		0.081	10
Mercury *	< 0.000500		< 0.00500	50
Molybdenum *	0.00139		0.0139	2
Nickel *	0.0011		0.011	0.5
Lead *	< 0.0010		< 0.010	10
Antimony *	< 0.0017		< 0.017	50
Selenium *	< 0.0040		< 0.040	0.5
Zinc *	0.0029		0.029	10
Chloride *	1.3		13	0.7
Fluoride*	0.17		1.7	5
Sulphate *	4.4		44	0.1
TDS*	42		420	0.5
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	4
DOC	8.15		81.5	50
				800
				1000
Leach Test Information				
Stone Content (%)	19.3			
Sample Mass (kg)	1.9			
Dry Matter (%)	96			
Moisture (%)	4.2			
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				
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** = MCERTS accredited				

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237750				Landfill Waste Acceptance Criteria		
Sampling Date	19.06.2024				Limits		
Sample ID	TS06				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.25						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	2.2				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) BH, LD, CU, AL	48				500	--	--
Total PAH (WAC-17) (mg/kg)	59.2				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	17				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00254			0.0254	0.5	2	25
Barium *	0.0257			0.257	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0017			0.017	0.5	10	70
Copper *	0.0068			0.068	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00141			0.0141	0.5	10	30
Nickel *	0.0022			0.022	0.4	10	40
Lead *	0.0019			0.019	0.5	10	50
Antimony *	0.0041			0.041	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.010			0.10	4	50	200
Chloride *	0.96			9.6	800	15000	25000
Fluoride*	0.24			2.4	10	150	500
Sulphate *	6.4			64	1000	20000	50000
TDS*	43			430	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.14			61.4	500	800	1000
Leach Test Information							
Stone Content (%)	22.6						
Sample Mass (kg)	2.0						
Dry Matter (%)	97						
Moisture (%)	2.7						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					*= UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited		

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7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237751				Landfill Waste Acceptance Criteria		
Sampling Date	18.06.2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TS09						
Depth (m)	0.55						
Solid Waste Analysis							
TOC (%)**	15				3%	5%	6%
Loss on Ignition (%) **	28				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_ID_CU_AL	95				500	--	--
Total PAH (WAC-17) (mg/kg)	13.2				100	--	--
pH (units)**	7.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.94				--	To be evaluated	To be evaluated
Eluate Analysis		10:1		10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)		mg/l			mg/kg		
					using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00896			0.0896	0.5	2	25
Barium *	0.0804			0.804	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0012			0.012	0.5	10	70
Copper *	0.047			0.47	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.0231			0.231	0.5	10	30
Nickel *	0.0034			0.034	0.4	10	40
Lead *	0.0031			0.031	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.029			0.29	4	50	200
Chloride *	5.2			52	800	15000	25000
Fluoride*	0.41			4.1	10	150	500
Sulphate *	70			700	1000	20000	50000
TDS*	130			1300	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	47.3			473	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.7						
Dry Matter (%)	72						
Moisture (%)	28						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

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i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Waste Acceptance Criteria Analytical Results							
Report No:	24-027013						
					Client: GEA		
Location	Prestwich Northern Car Park						
Lab Reference (Sample Number)	237752				Landfill Waste Acceptance Criteria		
Sampling Date	19.06.2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TS11						
Depth (m)	0.80						
Solid Waste Analysis							
TOC (%)**	2.6				3%	5%	6%
Loss on Ignition (%) **	5.6				--	--	10%
BTEX (µg/kg) **	< 5.0 ~				6000	--	--
Sum of PCBs (mg/kg) **	0.16				1	--	--
Mineral Oil (mg/kg) EH, ID, CU, AL	18				500	--	--
Total PAH (WAC-17) (mg/kg)	52.7				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	5.2				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.00202			0.0202	0.5	2	25
Barium *	0.0451			0.451	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0030			0.030	0.5	10	70
Copper *	0.025			0.25	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00142			0.0142	0.5	10	30
Nickel *	0.0026			0.026	0.4	10	40
Lead *	0.011			0.11	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.027			0.27	4	50	200
Chloride *	0.87			8.7	800	15000	25000
Fluoride*	0.39			3.9	10	150	500
Sulphate *	3.0			30	1000	20000	50000
TDS*	55			550	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.31			93.0	500	800	1000
Leach Test Information							
Stone Content (%)	32.8						
Sample Mass (kg)	2.0						
Dry Matter (%)	93						
Moisture (%)	7.5						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

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Analytical Report Number : 24-027013
Project / Site name: Prestwich Northern Car Park

* 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 *
237743	BH101	None Supplied	0.1	Brown loam and sand with gravel and vegetation
237744	BH104	None Supplied	0.22	Brown loam and sand with gravel and stones
237745	BH105	None Supplied	1.5	Brown loam with vegetation and peat
237746	BH107A	None Supplied	0.8	Brown sandy clay with gravel
237747	BH108	None Supplied	0.4	Brown loam and sand with gravel and brick
237748	BH110	None Supplied	1	Brown clay
237749	TS03	None Supplied	0.2	Brown loam and sand with gravel and stones
237750	TS06	None Supplied	0.25	Brown loam and sand with gravel and stones
237751	TS09	None Supplied	0.55	Brown clay with gravel
237752	TS11	None Supplied	0.8	Brown loam and sand with gravel and stones

Analytical Report Number : 24-027013

Project / Site name: Prestwich Northern Car Park

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
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
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
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
Total organic carbon 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	L023B	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047	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 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	D/W	NONE

Analytical Report Number : 24-027013

Project / Site name: Prestwich Northern Car Park

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
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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 surrogate recovery outside of limits, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



Sample Deviation Report



Analytical Report Number : 24-027013

Project / Site name: Prestwich Northern Car Park

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
TS09	N/A	S	237751	b	BTEX and/or Volatile organic compounds in soil	L073B	b

 GEA		Geotechnical & Environmental Associates www.gea-ltd.co.uk		Generic Risk-Based Soil Screening Values																																																																																																																																																																																																																																					
Site Prestwich North Car Park, Fairfax Road, Prestwich, M25 1BT				Job Number J23254A																																																																																																																																																																																																																																					
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(%)</td><td>10</td><td>Methanogenic potential</td></tr><tr><td>Total Cyanide</td><td>12000</td><td>WRAS</td></tr><tr><td>Total Mono Phenols</td><td>3200</td><td>SGV</td></tr><tr><td colspan="3">PAH</td></tr><tr><td>Naphthalene</td><td>1,100.00</td><td>S4UL</td></tr><tr><td>Acenaphthylene</td><td>100,000</td><td>S4UL</td></tr><tr><td>Acenaphthene</td><td>100,000</td><td>S4UL</td></tr><tr><td>Fluorene</td><td>71,000</td><td>S4UL</td></tr><tr><td>Phenanthrene</td><td>23,000</td><td>S4UL</td></tr><tr><td>Anthracene</td><td>540,000</td><td>S4UL</td></tr><tr><td>Fluoranthene</td><td>23,000</td><td>S4UL</td></tr><tr><td>Pyrene</td><td>54,000</td><td>S4UL</td></tr><tr><td>Benzo(a)anthracene</td><td>180.0</td><td>S4UL</td></tr><tr><td>Chrysene</td><td>350</td><td>S4UL</td></tr><tr><td>Benzo(b)fluoranthene</td><td>45.0</td><td>S4UL</td></tr><tr><td>Benzo(k)fluoranthene</td><td>1,200.0</td><td>S4UL</td></tr><tr><td>Benzo(a)pyrene</td><td>76.00</td><td>C4SL</td></tr><tr><td>Indeno(1 2 3 cd)pyrene</td><td>510.0</td><td>S4UL</td></tr><tr><td>Dibenz(a h)anthracene</td><td>3.60</td><td>S4UL</td></tr><tr><td>Benzo (g h i)perylene</td><td>4,000</td><td>S4UL</td></tr><tr><td>Total PAH Screen</td><td>1,085.7</td><td>B(a)P / 0.15</td></tr></table>			Contaminant	Screening Value mg/kg	Data Source	Metals			Arsenic	640	C4SL	Cadmium	410	C4SL	Chromium (III)	8600	S4UL	Chromium (VI)	49	C4SL	Copper	68,000	S4UL	Lead	2330	C4SL	Elemental Mercury	26	S4UL	Inorganic Mercury	1100	S4UL	Nickel	980	S4UL	Selenium	13000	SGV	Zinc	730,000	S4UL	Anions			Soluble Sulphate	500 mg/l	Structures	Sulphide	50	Structures	Chloride	400	Structures	Others			Organic Carbon (%)	10	Methanogenic potential	Total Cyanide	12000	WRAS	Total Mono Phenols	3200	SGV	PAH			Naphthalene	1,100.00	S4UL	Acenaphthylene	100,000	S4UL	Acenaphthene	100,000	S4UL	Fluorene	71,000	S4UL	Phenanthrene	23,000	S4UL	Anthracene	540,000	S4UL	Fluoranthene	23,000	S4UL	Pyrene	54,000	S4UL	Benzo(a)anthracene	180.0	S4UL	Chrysene	350	S4UL	Benzo(b)fluoranthene	45.0	S4UL	Benzo(k)fluoranthene	1,200.0	S4UL	Benzo(a)pyrene	76.00	C4SL	Indeno(1 2 3 cd)pyrene	510.0	S4UL	Dibenz(a h)anthracene	3.60	S4UL	Benzo (g h i)perylene	4,000	S4UL	Total PAH Screen	1,085.7	B(a)P / 0.15	<table><tr><th>Contaminant</th><th>Screening Value mg/kg</th><th>Data Source</th></tr><tr><td colspan="3">Hydrocarbons</td></tr><tr><td>Banded TPH (8-10)</td><td>26154</td><td>Calc1</td></tr><tr><td>Banded TPH (10-12)</td><td>52308</td><td>Calc1</td></tr><tr><td>Banded TPH (12-16)</td><td>58154</td><td>Calc1</td></tr><tr><td>Banded TPH (16-21)</td><td>43077</td><td>Calc1</td></tr><tr><td>Banded TPH 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C16-C21</td><td>28000</td><td>S4UL</td></tr><tr><td>Aromatic C21-C35</td><td>28000</td><td>S4UL</td></tr><tr><td>PRO (C₅ –C₁₀)</td><td>84498</td><td>Calc2</td></tr><tr><td>DRO (C₁₂ –C₂₈)</td><td>1,955,800</td><td>Calc2</td></tr><tr><td>Lube Oil (C₂₈ –C₄₄)</td><td>1,828,000</td><td>Calc2</td></tr><tr><td>TPH</td><td>750</td><td>Trigger to consider speciated testing</td></tr><tr><td colspan="3">Chlorinated Solvents</td></tr><tr><td>1,1,1 trichloroethane (TCA)</td><td>3000</td><td>S4UL</td></tr><tr><td>tetrachloroethane (PCA)</td><td>560</td><td>S4UL</td></tr><tr><td>tetrachloroethene (PCE)</td><td>130</td><td>C4SL</td></tr><tr><td>trichloroethene (TCE)</td><td>3.4</td><td>C4SL</td></tr><tr><td>1,2-dichloroethane (DCA)</td><td>29</td><td>C4SL</td></tr><tr><td>vinyl chloride (Chloroethene)</td><td>2.2</td><td>C4SL</td></tr><tr><td>tetrachloromethane (Carbon tetra</td><td>14</td><td>S4UL</td></tr><tr><td>trichloromethane 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Anthracene	540,000	S4UL																																																																																																																																																																																																																																							
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Notes Concentrations measured below these screening values may be considered to represent 'uncontaminated conditions' which pose a 'LOW' risk to human health. Concentrations measured in excess of these values indicate a potential risk which require further, site specific risk assessment. C4SL - Defra Category 4 Screening value based on Low Level of Toxicological Risk SGV - Soil Guideline Value, derived from the CLEA model and published by Environment Agency 2009 - where not superseded by C4SL S4UL - LQM/CIEH Suitable for use Level (2015) based on 'minimal' level of risk Calc1 - sum of thresholds for Ali & Aro fractions - assuming a 35% Aro:65% Ali ratio as is commonly encountered in the soil Calc2 - sum of nearest available carbon range specified including BTEX for PRO fraction Total PAH based on B(a)P / 0.15 - GEA experience indicates that Benzo(a) pyrene rarely exceeds 15% of the total PAH concentration																																																																																																																																																																																																																																									



GEA

Geotechnical & Environmental Associates

www.gea-ltd.co.uk

Generic Risk-Based Soil Screening Values

Site	Prestwich North Car Park, Fairfax Road, Prestwich, M25 1BT	Job Number J23254A
Client	The Prestwich Regeneration LLP	Sheet 2 / 2
Engineer	Civic Engineers	

Proposed End Use **Commercial**

The key generic assumptions for this end use are as follows;

- ☐ that groundwater will not be a critical risk receptor;
- ☐ that the critical receptor for human health will be a working female aged 16 to 65 years old;
- ☐ that the exposure duration will be 49 years;
- ☐ that the building type equates to a three-storey office.
- ☐ that the critical exposure pathways will be direct soil and indoor dust ingestion, skin contact with soils and dust, and inhalation of dust and vapours;

Where contaminant concentrations are measured at concentrations below the generic screening value it is considered that they pose an acceptable level of risk and thus further consideration of these contaminant concentrations is not required. However, where concentrations are measured in excess of the generic screening value there is considered to be a potential that they could pose an unacceptable risk and thus further action will be required which could include:

- ☐ additional testing to zone the extent of the contaminated material and thus reduce the uncertainty with regard to its potential risk;
- ☐ site specific risk assessment to refine the assessment criteria and allow an assessment to be made as to whether the concentration present would pose an unacceptable risk at this site; or
- ☐ soil remediation or risk management to mitigate the risk posed by the contaminant to a degree that it poses an acceptable risk.

GENERIC RISK BASED THRESHOLD SOIL GUIDELINE VA
Inorganics

	Residential Usage with pH7	Residential Usage with pH7	Commercial		Comment
pH	-		-	<5.0 to >8.0	WRAS
Arsenic	37	40	640	(10)	C4SL
Cadmium	26	149	410	(3)	C4SL
Chromium (III)	910	910	8,600	(600)	S4UL
Chromium (VI)	21	21	49		C4SL
Copper	2,400	7,100	68,000		S4UL
Lead	200	310	2,330	(500)	C4SL
Elemental Mercury	1.2	1.2	26	(1)	S4UL
Inorganic Mercury	40	56	1,100	(1)	S4UL
Nickel	180	180	980		S4UL
Selenium	350	595	13,000	(3)	SGV
Zinc	3,700	40,000	730,000		LQM/CIEH
Soluble Sulphate (2:1) mg/l	Limited Toxicity	Limited toxicity	Limited toxicity	0.250	BRE/WRAS
Sulphide	Limited	Limited	Limited	250	WRAS
Chloride	Limited	Limited	Limited	370	BRE

Notes:

Concentrations measured below the above values may be considered to represent 'uncontaminated conditions' which do not pose a risk to human health. Concentrations measured in excess of the above values indicate a potential risk, and thus require further, site specific risk assessment.

SGV
SLG

Soil Guide Line Value - Derived from the CLEA model and published by DEFRA
Sludge (Use in Agriculture) Regulations 1989, as amended: Maximum permissible concentration of potentially toxic elements (PTEs) in soil (0-25 cm) after application of sewage sludge at annual rates of addition

BRE
WRAS

Building Research Establishment Special Publication 1:2005 - Concrete in Aggressive Gravel
Water Regulations Advisory Scheme - The selection of materials for water supply pipes

Cadmium

6

7

8

Organics

	Residential Usage with plant uptake	Residential Usage without plant uptake	Commercial	Comment	resi with		resi without		Commercial	
Total Organic Carbon	6	6	10	Potential for Methanogenesis	6					
Total Cyanide	140	140	12,000	GGV (WRAS)	140					
					1	184	1	310	1	3200
Phenol	420	520	3200	Phenol SGV	2.5	290	2.5	420	2.5	3200
Benzene				C4SL	6	420	6	520	6	3200
					1	0.2	1	0.89	1	27
	0.87	3.3	98		2.5	0.34	2.5	1.4	2.5	50
					6	0.87	6	3.3	6	98
					1	120	1	120	1	870
Toluene	610	610	4400	Toluene SGV	2.5	320	2.5	320	2.5	2200
					6	610	6	610	6	4400
					1	65	1	65	1	520
Ethyl Benzene	350	350	48,000	Ethyle Benzene SGV	2.5	180	2.5	180	2.5	1400
					6	350	6	350	6	2800
					1	42	1	42	1	475
Xylene	230	230	2600	Xylene SGV	2.5	120	2.5	120	2.5	1300
					6	230	6	230	6	2600
					1	42	1	42	1	3200
Aliphatic C5-C6	160	160	12000	S4UL	2.5	78	2.5	78	2.5	5900
					6	160	6	160	6	12000
					1	100	1	100	1	7800
Aliphatic C6-C8	530	530	40000	S4UL	2.5	230	2.5	230	2.5	17000
					6	530	6	530	6	40000
					1	27	1	27	1	2000
Aliphatic C8-C10	150	150	11000	S4UL	2.5	65	2.5	65	2.5	4800
					6	150	6	150	6	11000
					1	130	1	130	1	9700

Aliphatic C10-C12	760	770	47000	S4UL	2.5	330	2.5	330	2.5	23000
					6	760	6	770	6	47000
					1	1,100	1	1100	1	59,000
Aliphatic C12-C16	4300	4400	90000	S4UL	2.5	2,400	2.5	2400	2.5	82,000
					6	4,300	6	4400	6	90,000
					1	65,000	1	65000	1	1,600,000
Aliphatic C16-C35	110000	110000	1800000	S4UL	2.5	92,000	2.5	92000	2.5	1,700,000
					6	110,000	6	110000	6	1,800,000
					1	65000	1	65000	1	1,600,000
Aliphatic C35-C44	110000	110000	1800000	S4UL	2.5	92000	2.5	92000	2.5	1,700,000
					6	110000	6	110000	6	1,800,000
					1	70	1	370	1	26000
Aromatic C5-C7	300	1400	86000	S4UL	2.5	140	2.5	690	2.5	46000
					6	300	6	1400	6	86000
					1	130	1	860	1	56000
Aromatic C7-C8	660	3900	180000	S4UL	2.5	290	2.5	1800	2.5	110000
					6	660	6	3900	6	180000
					1	34	1	47	1	3500
Aromatic C8-C10	190	270	17000	S4UL	2.5	83	2.5	110	2.5	8100
					6	190	6	270	6	17000
					1	74	1	250	1	16000
Aromatic C10-C12	380	1200	34000	S4UL	2.5	180	2.5	590	2.5	28000
					6	380	6	1200	6	34000
					1	140	1	1800	1	36000
Aromatic C12-C16	650	2500	37800	S4UL	2.5	330	2.5	2300	2.5	37000
					6	650	6	2500	6	37800
					1	260	1	1900	1	28000
Aromatic C16-C21	930	1900	28000	S4UL	2.5	540	2.5	1900	2.5	28000
					6	930	6	1900	6	28000
					1	1100	1	1900	1	28000
Aromatic C21-C35	1700	1900	28000	S4UL	2.5	1500	2.5	1900	2.5	28000
					6	1700	6	1900	6	28000
					1	1100	1	1900	1	28000

[illegible]

PAH

	Residential Usage with plant uptake	Residential Usage without plant uptake	Commercial	resi with		resi without		Commercial	
Naphthalene	13	13.1	1100	1	2.3	1	2.33	1	190
				2.5	5.6	2.5	5.6	2.5	460
				6	13	6	13.1	6	1100
Acenaphthylene	920	6000	100000	1	170	1	2900	1	83000
				2.5	420	2.5	4600	2.5	97000
				6	920	6	6000	6	100000
Acenaphthene	1100	6000	100000	1	210	1	3000	1	84000
				2.5	510	2.5	4700	2.5	97000
				6	1100	6	6000	6	100000
Fluorene	860	4500	71000	1	170	1	2800	1	63000
				2.5	400	2.5	3800	2.5	68000
				6	860	6	4500	6	71000
Phenanthrene	440	1500	23000	1	95	1	1300	1	22000
				2.5	220	2.5	1500	2.5	22000
				6	440	6	1500	6	23000
Anthracene	11000	37000	540000	1	2400	1	31000	1	520000
				2.5	5400	2.5	35000	2.5	540000
				6	11000	6	37000	6	540000
Fluoranthene	890	1600	23000	1	280	1	1500	1	23000
				2.5	560	2.5	1600	2.5	23000
				6	890	6	1600	6	23000
Pyrene	2000	3800	54000	1	620	1	3700	1	54000
				2.5	1200	2.5	3800	2.5	54000
				6	2000	6	3800	6	54000
Benzo(a) Anthracene	13	15	180	1	7.2	1	11	1	170
				2.5	11.0	2.5	14	2.5	170
				6	13.0	6	15	6	180
Chrysene	27	32	350	1	15.0	1	30	1	350

				2.5 6	22 27	2.5 6	31 32	2.5 6	350 350
Benzo(b) Fluoranthene	3.7	4	45	1	2.6	1	3.9	1	44
				2.5 6	3.3 3.7	2.5 6	4 4	2.5 6	44 45
Benzo(k) Fluoranthene	100	110	1200	1	77	1	110	1	1200
				2.5 6	93 100	2.5 6	110 110	2.5 6	1200 1200
Benzo(a) pyrene	5	5.3	76	1	4.35	1	4.65	1	42
				2.5 6	4.4 5	2.5 6	4.7 5.3	2.5 6	42.4 76
Indeno(1 2 3 cd) Pyrene	41	46	510	1	27	1	45	1	500
				2.5 6	36 41	2.5 6	46 46	2.5 6	510 510
Dibenz(a h) Anthracene	0.3	0.32	3.6	1	0.24	1	0.32	1	3.5
				2.5 6	0.28 0.3	2.5 6	0.32 0.32	2.5 6	3.6 3.6
Benzo (g h i) Perylene	350	360	4000	1	320	1	360	1	3900
				2.5 6	340 350	2.5 6	360 360	2.5 6	4000 4000

Chlorinated solvents

	Residential Usage with plant uptake	Residential Usage without plant uptake	Commercial	resi with		resi without		Commercial	
tetrachloroethane (PCA)	6.4	8.2	560	1	1.2	1	1.5	1	110
				2.5	2.8	2.5	3.5	2.5	250
				6	6.4	6	8.2	6	560
1,1,1 trichloroethane (TCA)	39	40	3000	1	8.8	1	9	1	660
				2.5	18	2.5	18	2.5	1300
				6	39	6	40	6	3000
1,2-dichloroethane (DCA)	0.31	0.41	29	1	1.10E-01	1	1.60E-01	1	12
				2.5	1.80E-01	2.5	2.40E-01	2.5	17
				6	3.10E-01	6	4.10E-01	6	29
tetrachloroethene (PCE)	1.6	1.6	130	1	0.31	1	0.32	1	24
				2.5	0.7	2.5	0.71	2.5	55
				6	1.6	6	1.6	6	130
trichloroethene (TCE)	0.043	0.045	3.4	1	0.0093	1	0.0097	1	0.73
				2.5	0.02	2.5	0.02	2.5	1.5
				6	0.043	6	0.045	6	3.4
vinyl chloride (Chloroethene)	0.017	0.029	2.2	1	6.40E-03	1	1.50E-02	1	1.10E+00
				2.5	1.00E-03	2.5	1.90E-02	2.5	1.40E+00
				6	1.70E-02	6	2.90E-02	6	2.20E+00
tetrachloromethane (Carbon tetrachloride)	0.13	0.13	14	1	0.026	1	2.60E-02	1	2.9
				2.5	0.056	2.5	5.60E-02	2.5	6.3
				6	0.13	6	0.13	6	14
trichloromethane (Chloroform)	3.4	4.2	350	1	0.91	1	1.2	1	99
				2.5	1.7	2.5	2.1	2.5	170
				6	3.4	6	4.2	6	350

Contaminant	TDI oral (ug/kg bw/day)	TDI Inhalation (ug/kg bw/day)	Index Dose oral (ug/kg bw/day)	Index Dose Inhalation (ug/kg bw/day)	MDI Oral (ug/day)	MDI Inhalation (ug/day)	TDSDI oral (ug/kg bw/day)	TDSDI Inhalation (ug/kg bw/day)	Henry's Law Constant ^(e,i) (atm.m3.mol ⁻¹)	Reference Temperature (K)	Enthalpy of vaporisation at boiling point ^(e,i) (cal.mol ⁻¹)	Boiling Point ^(e,i) (K)	Critical Temperature ^(e,i) (K)	Air diffusion coefficient ^(e,i) (m2.s ⁻¹)	Water diffusion coefficient ^(e,i) (m2.s ⁻¹)	Relative atomic (molecular) mass ^(e,i) (g - mol)	Vapour pressure at 100C ^(e,i) (Pa)	Aqueous solubility at 100C ^(e,i) (mg.L ⁻¹)	organic carbon - water distribution coefficient, log Koc ^(e,i) (log/cm3-water.g-1 oc)	octanol-water distribution coefficient ^(e,i) log ₁₀ log Kow (dimensionless)	soil-water distribution coefficient, Kd (cm3 - water.g-1 - soil)	Total soil concentration to pore water concentration ratio (cm3- water.g-soil)	dermal absorption fraction ^(i,j)	Type of soil-to-plant concentration factor, dry or fresh weight? (leafy) ⁽ⁱ⁾ (dimensionless)	Type of soil-to-plant concentration factor, dry or fresh weight? (root) ⁽ⁱ⁾ (dimensionless)	soil-to-plant concentration factor (leafy) ⁽ⁱ⁾ log g-1 FW plant over ug cm- 3 soil solution	soil-to-plant concentration factor (root) ⁽ⁱ⁾ log g-1 FW plant over ug cm- 3 soil solution	dust Enrichment Factors used?
Aliphatic C5-C6	5000 ^a	5257 ^a	-	-	87520 ^b	6020 ^b	3750	5171	0.807	298	4354	342	486	1.00E-05	1.0E-09	81	35400	36	2.9	3.3	4.61	4.61	0.1	BRIGGS	BRIGGS	3.951	11.315	No
Aliphatic C6-C8	5000 ^a	5257 ^a	-	-	87520 ^b	6020 ^b	3750	5171	1.22	298	6038	369	554	1.00E-05	1.0E-09	100	6380	5.4	3.602	4.1	23.20	23.20	0.1	BRIGGS	BRIGGS	6.124	44.171	No
Aliphatic C8-C10	100 ^a	285 ^a	-	-	1770 ^c	15960 ^d	75	57	1.96	298	7457	423	635	1.00E-05	1.0E-09	130	638	0.43	4.505	5.2	185.54	185.54	0.1	dw	fw	0.038	0.016	No
Aliphatic C10-C12	100 ^a	285 ^a	-	-	1770 ^c	15960 ^d	75	57	2.93	298	8482	473	710	1.00E-05	1.0E-09	160	64	0.034	5.398	6.3	1450.2	1450.2	0.1	dw	fw	0.009	0.014	No
Aliphatic C12-C16	100 ^a	285 ^a	-	-	1770 ^c	15960 ^d	75	57	12.7	298	9060	533	800	1.00E-05	1.0E-09	200	4.9	0.00076	6.699	7.9	29002	29002	0.1	dw	fw	0.001	0.012	No
Aliphatic C16-C35	2000 ^a	none	-	-	14300 ^e	none	1796	none	120	298	10696	593	890	1.00E-05	1.0E-09	270	0.1	2.5E-06	8.8	9.9	3659553	3659553	0.1	dw	fw	0.000	0.008	No
Aromatic C8-C10	40 ^a	57 ^a	-	-	2240 ^c	3192 ^d	8.0	11.4	1.15E-02	298	7457	423	635	1.00E-05	1.0E-09	120	638	65	3.204	3.7	9.28	9.28	0.1	BRIGGS	BRIGGS	5.196	22.150	No
Aromatic C10-C12	40 ^a	57 ^a	-	-	2240 ^c	3192 ^d	8.0	11.4	3.42E-03	298	8482	473	710	1.00E-05	1.0E-09	130	63.8	25	3.398	3.9	14.5	14.50	0.1	BRIGGS	BRIGGS	5.724	31.229	No
Aromatic C12-C16	40 ^a	57 ^a	-	-	2240 ^c	3192 ^d	8.0	11.4	1.30E-03	298	9060	533	800	1.00E-05	1.0E-09	150	4.9	5.8	3.699	4.3	29.0	29.00	0.1	BRIGGS	BRIGGS	6.354	62.622	No
Aromatic C16-C21	30 ^a	none	-	-	1700 ^c	none	5.7	none	3.18E-04	298	10615	593	890	1.00E-05	1.0E-09	190	0.111	0.65	4.2	4.9			0.1	dw	fw	0.057	0.019	No
Aromatic C21-C35	30 ^a	none	-	-	1700 ^c	none	5.7	none	1.64E-05	298	16063	613	920	1.00E-05	1.0E-09	240	4.46E-05	0.0066	5.1	6.0			0.1	dw	fw	0.013	0.017	No
Acenaphthylene	60 ^p	60 ^p	-	-	1.008 ^p	0.032 ^p	59	60	8.29E-05	298	13540 ^(q)	543	818 ^(q)	5.40E-06	6.6E-10	152.2	4.14	16.1	3.68	4.0	28.7	41.2	0.13	BRIGGS	BRIGGS	5.94	37.1	Yes
Acenaphthene	60 ^c	60 ^c	-	-	1.008 ^c	0.032 ^c	59	60	1.20E-04	298	12155 ^(q)	552	803 ^(q)	4.20E-06	7.7E-10	154.2	1.52	3.8	3.85	3.92	42.4	27.8	0.13	BRIGGS	BRIGGS	5.77	32.3	Yes
Phenanthrene	300 ⁱ	300 ⁱ	-	-	0.103 ^a	0.0008 ^a	299.9	300	3.20E-05	298	13378 ^(q)	612	918 ^(q)	3.30E-06	7.47E-10	178.2	0.113	1.1	4.36	4.57	137.2	133	0.13	dw	fw	0.088418	0.00733	Yes
Anthracene	300 ^c	300 ^c	-	-	0.103 ^c	0.0008 ^c	299.9	300	3.90E-05	298	13121	613	873	3.20E-06	7.7E-10	178.2	0.0778	0.045	4.47	4.54	176.7	171	0.13	dw	fw	0.09202	0.00540	Yes
Fluoranthene	40 ^c	40 ^c	-	-	0.374 ^c	0.003 ^c	39.9	39.9	1.02E-05	298	13815	648	905	3.00E-06	6.4E-10	202.3	8.70E-03	0.26	5.03	5.22	641.6	621	0.13	dw	fw	0.037225	0.00493	Yes
Pyrene	30 ^c	30 ^c	-	-	0.43 ^c	0.085 ^c	29.9	29.9	9.08E-06	298	14370	633	936	2.70E-06	7.2E-10	202.3	1.19E-02	0.13	5.02	5.18	627.0	607	0.13	dw	fw	0.039261	0.00470	Yes
Benzo(a) Anthracene	-	-	0.2 ^m	0.0007 ^m	-	-	-	-	5.73E-06	298	16000	708	1004	5.10E-06	9.00E-10	228.3	6.06E-04	0.011	5.60	5.91	2383.9	2310	0.13	dw	fw	0.01486	0.00451	Yes
Chrysene	-	-	20 ^m	0.07 ^m	-	-	-	-	6.41E-07	298	16455	721	979	2.50E-06	6.20E-10	228.3	1.07E-04	1.60E-03	3.66	5.70	27.4	26.5	0.13	dw	fw	0.019652	0.27052	Yes
Benzo(b) Fluoranthene	-	-	0.2 ^m	0.0007 ^m	-	-	-	-	4.26E-06	298	17000	754	969	2.60E-06	5.58E-10	252.3	6.67E-05	1.50E-03	5.74	5.80	3290.7	3190	0.13	dw	fw	0.017203	0.00269	Yes
Benzo(k) Fluoranthene	-	-	2.0 ^m	0.007 ^m	-	-	-	-	8.29E-07	298	18000	753	1020	2.60E-06	5.56E-10	252.3	4.15E-06	8.00E-04	6.09	6.00	7366.8	7140	0.13	dw	fw	0.013183	0.00171	Yes
Indeno(1 2 3 cd) Pyrene	-	-	0.2 ^m	0.0007 ^m	-	-	-	-	1.60E-06	298	19000	809	1078	1.90E-06	5.66E-10	276.3	1.30E-08	2.20E-05	6.54	6.65	20762.6	20100	0.13	dw	fw	0.00555	0.00192	Yes
Benzo (g h i) Perylene	-	-	2.0 ^m	0.007 ^m	-	-	-	-	7.40E-07	298	20135 ^(q)	773	1160 ^(q)	4.70E-06	5.5E-10	276.3	2.25E-05	2.60E-04	5.61	6.50	2439.4	2360	0.13	dw	fw	0.006776	0.01253	Yes

Data sources

a Based on Reference Doses (RfDs) set out in TPHCWG 1997. 'Selection of representative TPH fractions based on fate and transport considerations'. (Amherst, MA, Amherst Scientific Publishers) assuming 70kg Adult inhaling 20 m³ of air per day

b Based on German study of non methane hydrocarbons in petrol (Baars et al 2001) from AiRiak database (c) WS Atkins plc 2007 assuming 70kg Adult

c From AiRiak database (c) WS Atkins plc 2007 based US IPA IRIS data for Reference dose and dietary exposure and drinking water assuming a concentration of 10ug/l

d MDI assumed to be 80% of TDI assumed where no data available

e For TPH - TPHCWG 1997. 'Selection of representative TPH fractions based on fate and transport considerations'. (Amherst, MA, Amherst Scientific Publishers)

f Log Kow values based on 0.5448 EX + 0.3118 for aliphatics or 0.1185EC+2.6273 for aromatics as set out in 'Generic Assessment Criteria for Human Health Risk Assessment) 2007 CIEH / LQM

g Calculated in accordance with USEPA - Correcting Henry's Law Constant for Soil Temperature Fact Sheet. 2001

h Set as 0.1 as per CLEA briefing note 1 Environment Agency 2004.

i 'Generic Assessment Criteria for Human Health Risk Assessment) 2007 CIEH / LQM

j For PAH Environment Agency (2003) Review of the fate and transport of selected contaminants in the soil environment. Draft Technical Report P5-079/TR1

k for PAH US EPA Superfund chemical Data Matrix.

l Where Log Low >4.5 plant uptake via leafy tissue has been calculated using Travis and Arms 1988, and and a reduction factor of 0.01 has been applied to the Briggs algorithm for root uptake

m From AiRiak database (c) WS Atkins plc 2007 based TOX 2 report (Defra & EA 2003) using a Toxic Equivalence factor

n Limited data available so based on data for anthracene - the most structurally similar PAH

p Limited data available so based on data for acenaphthene - the most structurally similar PAH



Site	Prestwich North Car Park, Fairfax Road, Prestwich, M25 1BT	Job Number J23254A
Client	The Prestwich Regeneration LLP	Sheet 1 / 1
Engineer	Civic Engineers	

Contaminant	Screening Value µg/l	Rationale	Contaminant	Guideline Value µg/l	Data Source
Metals			Others		
Arsenic	50	EQS	Cyanide	50	DWS
Boron	1,000	DWS	Total Mono Phenols	10	EQS
Cadmium	5	DWS	Pentachlorophenol	0.4	EQS
Chromium	50	DWS	Organochlorine pesticides	0.03	DWS
Copper	60	EQS	Other Pesticides	0.075	DWS
Iron	200	DWS	Total pesticides	0.5	DWS
Lead	10	DWS	Tributyltin	0.0015	EQS
Mercury	1	DWS	pH	<6.5, >9.5	DWS
Nickel	20	DWS/EQS	Electrical conductivity (µS/cm)	2,500	DWS
Zinc	75	EQS	PAH		
Anions			Naphthalene	2.40	EQS
Ammonium (NH ₄)	500	DWS	Anthracene	0.10	EQS
Bromate (BrO ₃)	10	DWS	Fluoranthene	0.10	EQS
Chloride	250,000	DWS	Benzo(b)fluoranthene	0.08	EQS
Fluoride	1,500	DWS	Benzo(g,h,i)perylene	0.002	Sum of both EQS
Nitrate	50,000	DWS	Indeno(1,2,3-cd)pyrene		
Sulphate	250,000	DWS	Benzo(a) pyrene	0.01	DWS
Hydrocarbons			Total PAH	0.1	DWS
Benzene	10	CL:AIRE	Chlorinated Solvents		
Toluene	75	CL:AIRE	Trichloromethane (chloroform)	2.5	EQS
Ethyl Benzene	300	CL:AIRE	Tetrachloromethane (CCl ₄)	3	DWS
Xylene	30	CL:AIRE	vinyl chloride (Chloroethene)	0.5	DWS
Aliphatic C5-C6	15,000	CL:AIRE	Cis 1,2-dichloroethene (DCE)	10	GEA
Aliphatic C6-C8	5,400	Solubility limit	trichloroethene (TCE)	10	DWS/EQS
Aliphatic C8-C10	300	CL:AIRE	tetrachloroethene (PCE)	10	DWS/EQS
Aliphatic C10-C12	34	Solubility Limit	1,2-dichloroethane (DCA)	3	DWS
Aliphatic C12-C16	0.8	Solubility Limit	1,1,1 trichloroethane (TCA)	100	EQS
Aliphatic C16-C21	0.0013	Solubility Limit	1,1,2 trichloroethane (TCA)	400	EQS
Aliphatic C21-C35	0.0013	Solubility Limit			
Aromatic C6-C7	10	See Benzene			
Aromatic C7-C8	75	See Toluene			
Aromatic C8-C10	500	CL:AIRE			
Aromatic C10-C12	90	CL:AIRE			
Aromatic C12-C16	90	CL:AIRE			
Aromatic C16-C21	90	CL:AIRE			
Aromatic C21-C35	90	CL:AIRE			

Notes

Concentrations measured above these screening values may indicate groundwater contamination and thus require further, site specific risk assessment.

DWS - Based on United Kingdom Drinking Water Standard - Drinking Water Inspectorate & Health Protection Agency, 2009

EQS - Generally based around Environmental Quality Standards for the longterm mean in Freshwater -Environment Agency, Dec 2011

WHO - Based on World Health Organisation, Guidelines for Drinking-water Quality, 2010

CL:AIRE - Based on recommendation in Petroleum Hydrocarbons in Groundwater 2017 using largely WHO data

GEA - estimation based on EQS for similar compounds

Solubility Limit - screening value set at the published solubility limit where other published threshold values exceed this concentration



Geotechnical &
Environmental
Associates

Herts:

Widbury Barn
Widbury Hill
Ware
Hertfordshire
SG12 7QE
tel 01727 824666
mail@gea-ltd.co.uk

Notts:

Church Farm
Gotham Road
Kingston on Soar
Notts
NG11 0DE
tel 01509 674888
midlands@gea-ltd.co.uk

Manchester:

Peter House
Oxford Street
Manchester
M1 5AN
tel 0161 209 3032
mail @ gea-ltd.co.uk