

Southern Testing
Unit 11
Charlwoods Road
East Grinstead
West Sussex
RH19 2HU

SPT Hammer Ref: 9
Test Date: 14/05/2022
Report Date: 14/05/2022
File Name: 9.spt
Test Operator: STU

Instrumented Rod Data

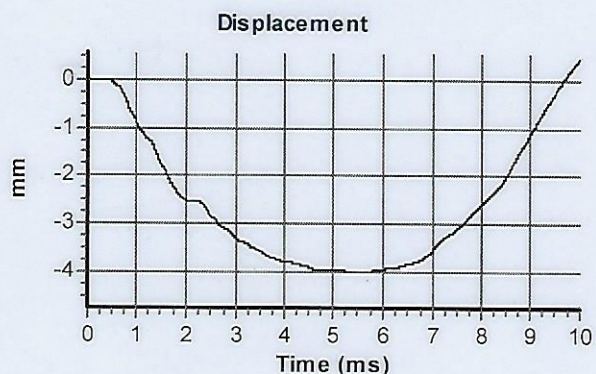
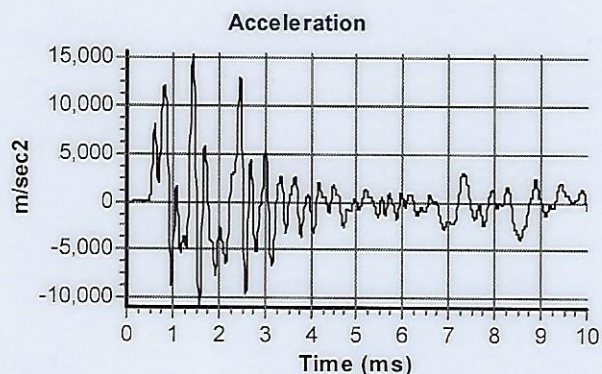
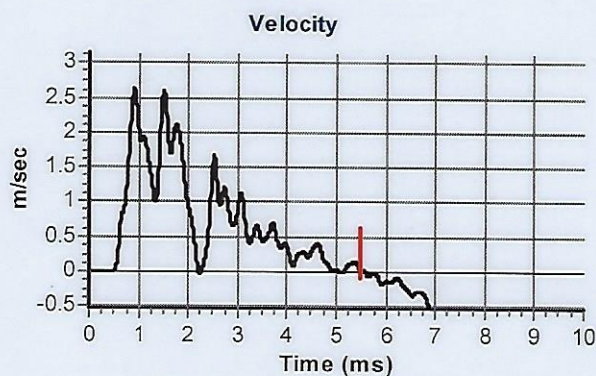
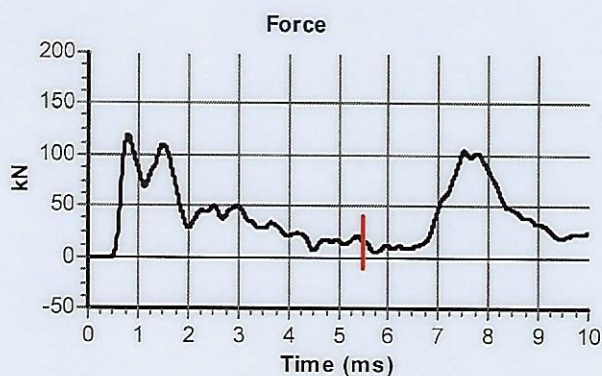
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.7
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 64786
Accelerometer No.2: 64789

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.8

Comments / Location

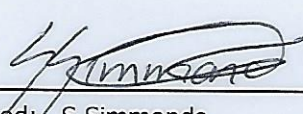
CHARLWOODS



Calculations

Area of Rod A (mm^2): 996
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 312

Energy Ratio E_r (%): **66**


Signed: S Simmonds
Title: Field Operations Tech

The recommended calibration interval is 12 months



Southern Testing
Unit 11
Charlwoods Road
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West Sussex
RH19 2HU

SPT Hammer Ref: 10
Test Date: 14/05/2022
Report Date: 14/05/2022
File Name: 10.spt
Test Operator: STU

Instrumented Rod Data

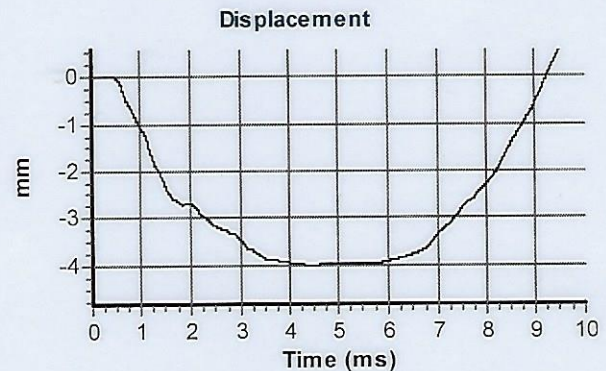
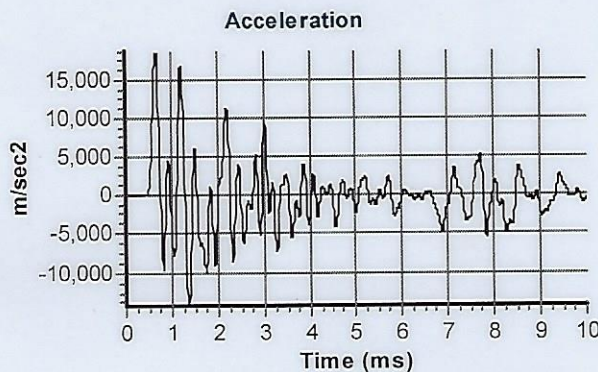
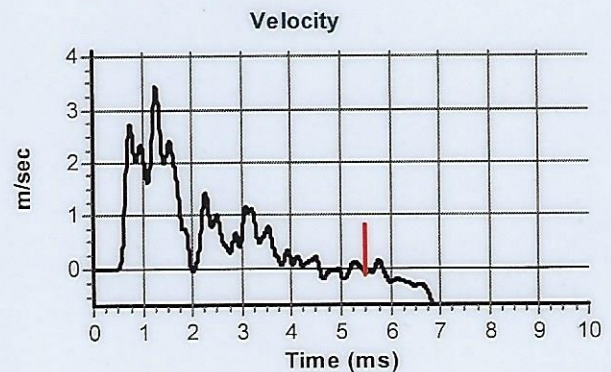
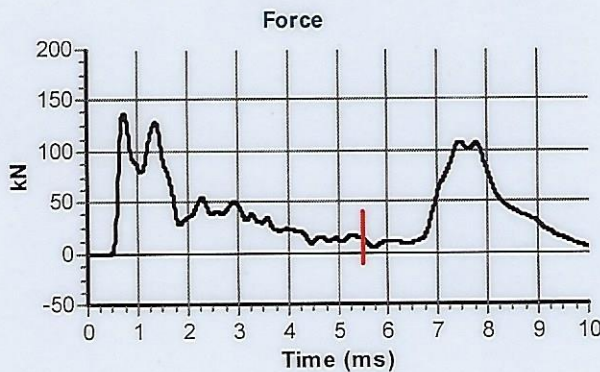
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.7
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 64786
Accelerometer No.2: 64789

SPT Hammer Information

Hammer Mass m (kg): 63.5
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SPT String Length L (m): 14.8

Comments / Location

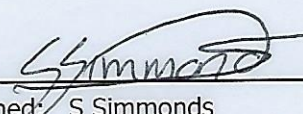
CHARLWOODS



Calculations

Area of Rod A (mm^2): 996
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 343

Energy Ratio E_r (%): **73**


Signed: S Simmonds
Title: Field Operations Tech

The recommended calibration interval is 12 months

Southern Testing
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Charlwoods Road
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File Name: 10.spt
Test Operator: STU

Instrumented Rod Data

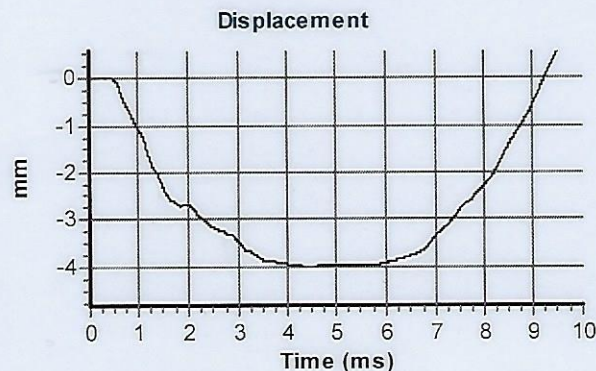
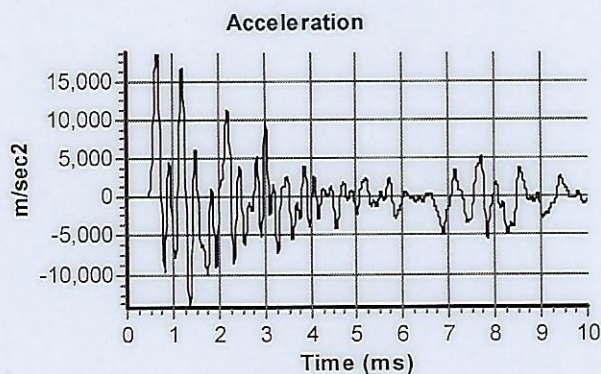
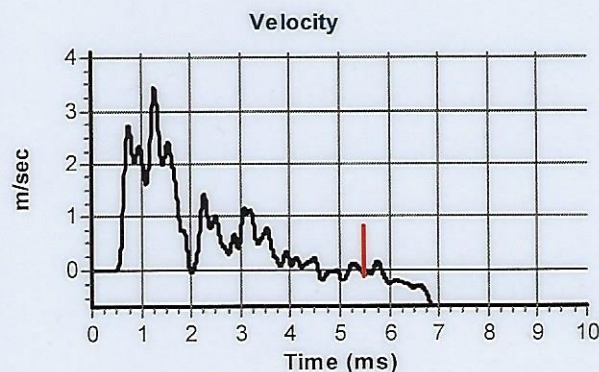
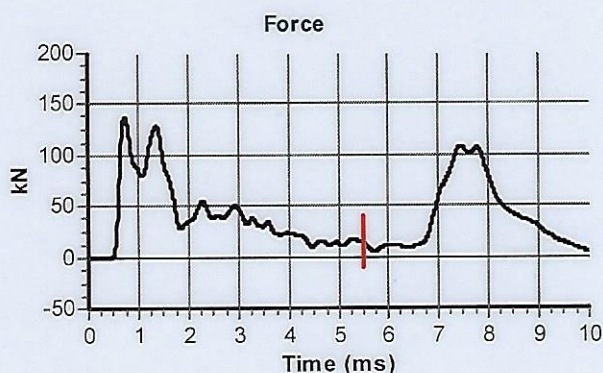
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.7
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 64786
Accelerometer No.2: 64789

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.8

Comments / Location

CHARLWOODS



Calculations

Area of Rod A (mm^2): 996
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 343

Energy Ratio E_r (%): **73**

Signed: S Simmonds
Title: Field Operations Tech

The recommended calibration interval is 12 months

Appendix C - Geotechnical Analysis Results

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 13/02/2023
Date Received: 22/02/2023
Date Tested: 24/02/2023
Sampled By: Not Given

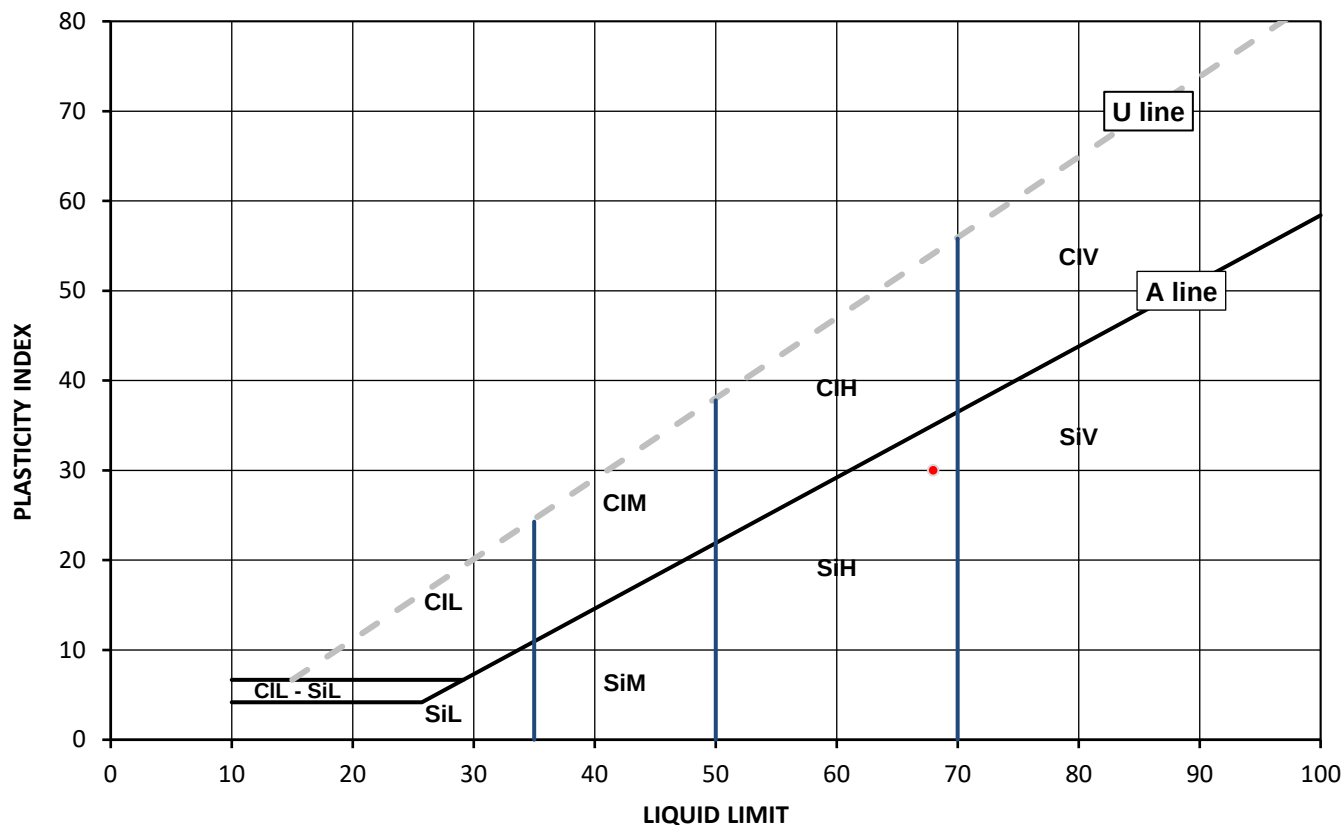
Test Results:

Laboratory Reference: 2595283
Hole No.: CP103
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly silty CLAY

Depth Top [m]: 1.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
28	68	38	30	68



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 15/02/2023
Date Received: 22/02/2023
Date Tested: 28/02/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

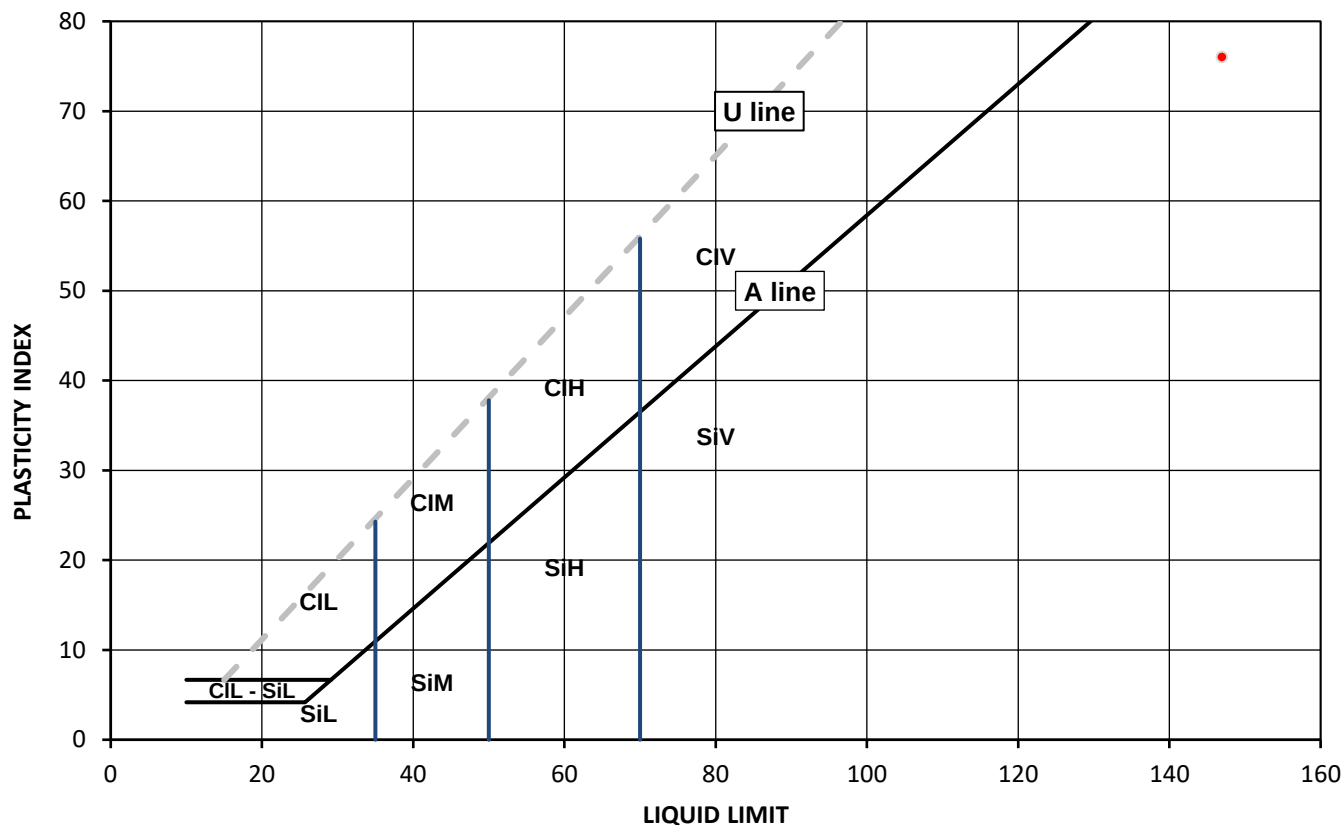
Test Results:

Laboratory Reference: 2595285
Hole No.: CP102
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly organic CLAY

Depth Top [m]: 2.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
112	147	71	76	98



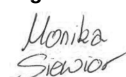
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



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Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 16/02/2023
Date Received: 22/02/2023
Date Tested: 28/02/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

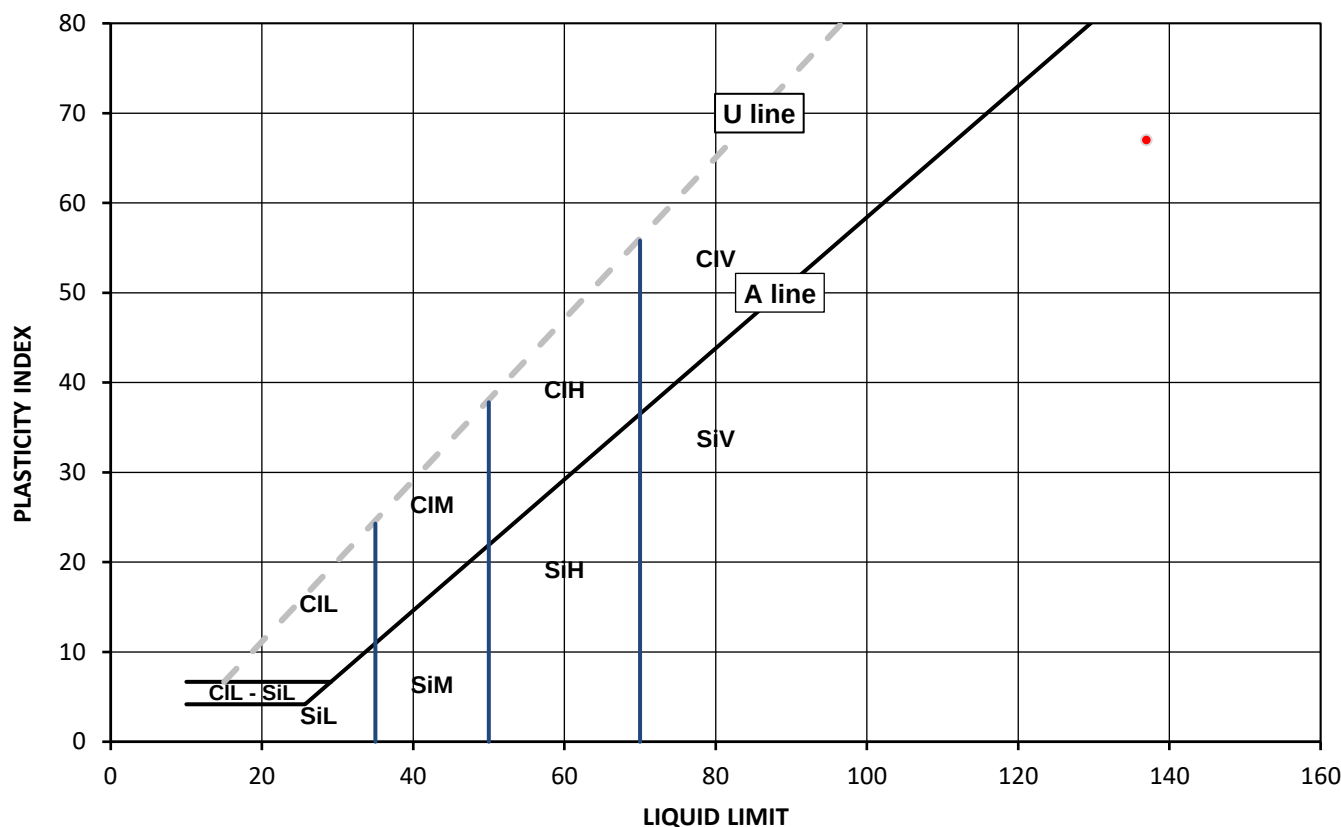
Test Results:

Laboratory Reference: 2595286
Hole No.: CP104
Sample Reference: Not Given
Sample Description: Brownish grey organic CLAY

Depth Top [m]: 3.30
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
85	137	70	67	86



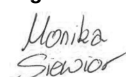
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L Low	50 to 70
	M Medium	exceeding 70
	H High	append to classification for organic material (eg CIHO)
	V Very high	
	O Organic	

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



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4041

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2 Atterberg by BS 1377-2: 1990:
Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 13/02 - 16/02/2023
Date Received: 22/02/2023
Date Tested: 24/02 - 28/02/2023
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W] %	Water Content BS EN ISO 17892-2 [W] %	Atterberg				Density			Total Porosity# %		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m															
2595283	CP103	Not Given	1.20	Not Given	D	Dark brown slightly gravelly silty CLAY	Atterberg 4 Point	28		68	68	38	30						
2595284	CP101	Not Given	2.30	Not Given	D	Dark brown CLAY		23											
2595285	CP102	Not Given	2.50	Not Given	D	Dark brown slightly gravelly organic CLAY	Atterberg 4 Point	112		98	147	71	76						
2595286	CP104	Not Given	3.30	Not Given	D	Brownish grey organic CLAY	Atterberg 4 Point	85		86	137	70	67						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

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4041

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 13/02 - 16/02/2023
Date Received: 22/02/2023
Date Tested: 24/02 - 28/02/2023
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2595283	CP103	Not Given	1.20	Not Given	D	Dark brown slightly gravelly silty CLAY		28	Sample was quartered, oven dried at 108.6 °C			
2595284	CP101	Not Given	2.30	Not Given	D	Dark brown CLAY		23	Sample was quartered, oven dried at 106.1 °C			
2595285	CP102	Not Given	2.50	Not Given	D	Dark brown slightly gravelly organic CLAY		112	Sample was quartered, oven dried at 109 °C			
2595286	CP104	Not Given	3.30	Not Given	D	Brownish grey organic CLAY		85	Sample was quartered, oven dried at 109 °C			

Comments:

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Signed:

Monika Siewior

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Reporting Specialist
for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

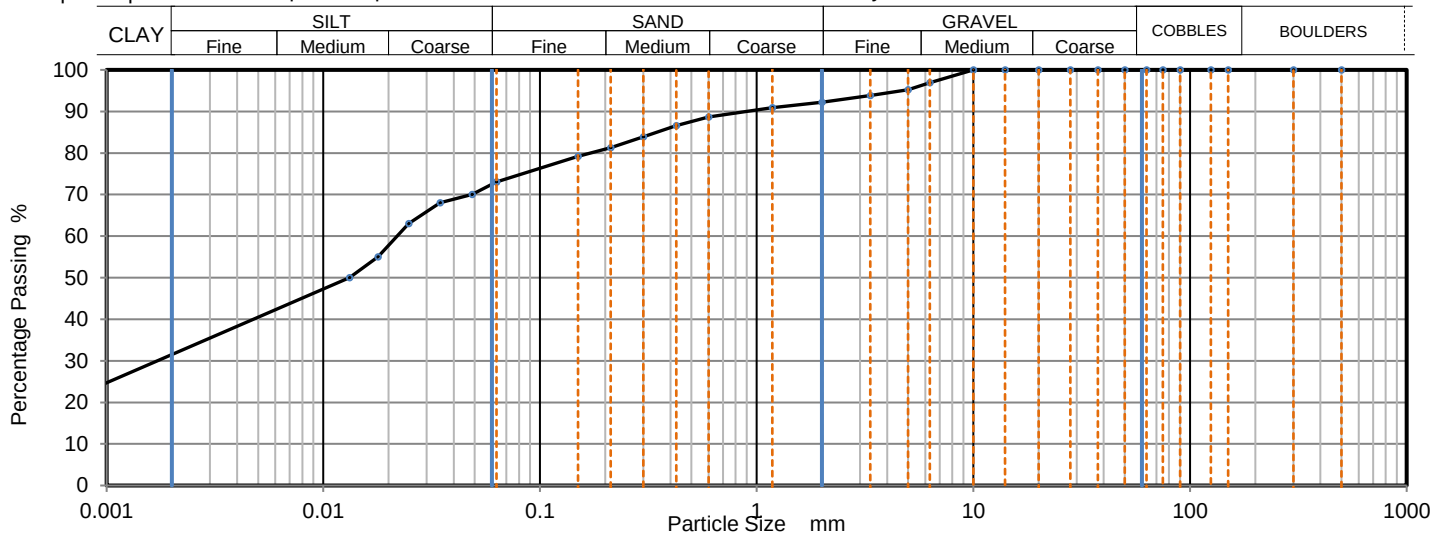
Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 14/02/2023
Date Received: 22/02/2023
Date Tested: 24/02/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2595284
Hole No.: CP101
Sample Reference: Not Given
Sample Description: Dark brown CLAY
Sample Preparation: Sample was quartered, oven dried at 106.1 °C and broken down by hand.

Depth Top [m]: 2.30
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	73
300	100	0.0486	70
150	100	0.0346	68
125	100	0.0248	63
90	100	0.0179	55
75	100	0.0132	50
63	100	0.0008	23
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	97		
5	95		
3.35	94	Particle density (assumed) 2.65 Mg/m3	
2	92		
1.18	91		
0.6	89		
0.425	87		
0.3	84		
0.212	81		
0.15	79		
0.063	73		

Sample Proportions	% dry mass
Very coarse	0
Gravel	8
Sand	19
Silt	41
Clay	32

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 26
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

Monika Siewior

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
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Northampton NN4 7EB

Client: Delta-Simons
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Lincoln, LN6 3QR

Contact: Alex Tabb
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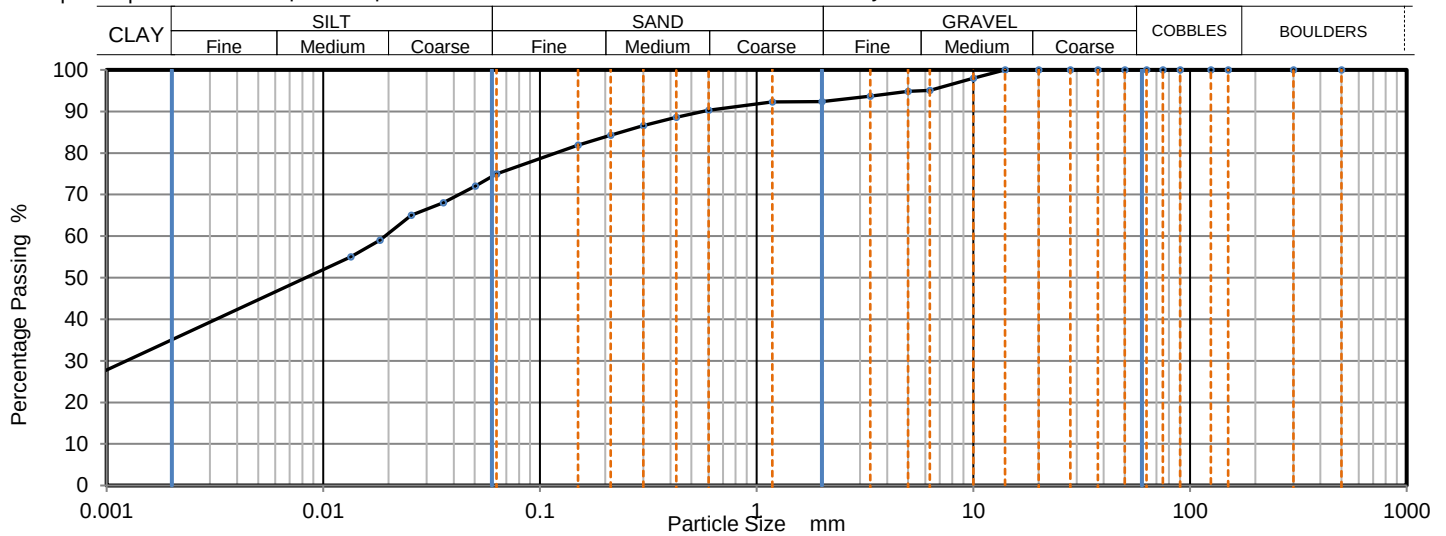
Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 16/02/2023
Date Received: 22/02/2023
Date Tested: 28/02/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2595286
Hole No.: CP104
Sample Reference: Not Given
Sample Description: Brownish grey organic CLAY
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 3.30
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	75
300	100	0.0502	72
150	100	0.0358	68
125	100	0.0254	65
90	100	0.0182	59
75	100	0.0134	55
63	100	0.0008	26
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	98		
6.3	95		
5	95		
3.35	94	Particle density (assumed) 2.65 Mg/m3	
2	92		
1.18	92		
0.6	90		
0.425	89		
0.3	87		
0.212	84		
0.15	82		
0.063	75		

Sample Proportions	% dry mass
Very coarse	0
Gravel	8
Sand	17
Silt	40
Clay	35

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 23
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

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DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

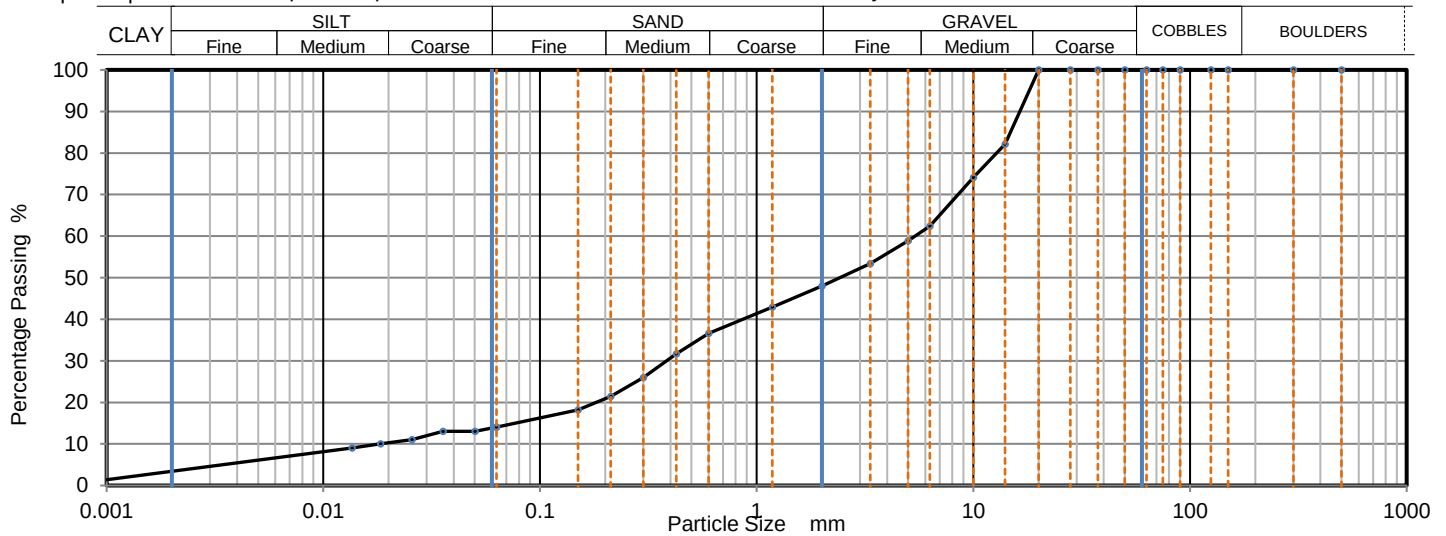
Client Reference: 557185
Job Number: 23-19209-1
Date Sampled: 16/02/2023
Date Received: 22/02/2023
Date Tested: 01/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 2595287
Hole No.: CP104
Sample Reference: Not Given
Sample Description: Brownish grey sandy GRAVEL
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 1.20
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	14
300	100	0.0500	13
150	100	0.0356	13
125	100	0.0257	11
90	100	0.0184	10
75	100	0.0136	9
63	100	0.009	1
50	100		
37.5	100		
28	100		
20	100		
14	82		
10	74		
6.3	62		
5	59		
3.35	53	Particle density (assumed) 2.65 Mg/m3	
2	48		
1.18	43		
0.6	37		
0.425	32		
0.3	26		
0.212	21		
0.15	18		
0.063	14		

Sample Proportions	% dry mass
Very coarse	0
Gravel	52
Sand	34
Silt	11
Clay	3

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	270
Curvature Coefficient	1.4

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks:

Signed:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: Not Given
Date Received: 22/02/2023
Date Tested: 09/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

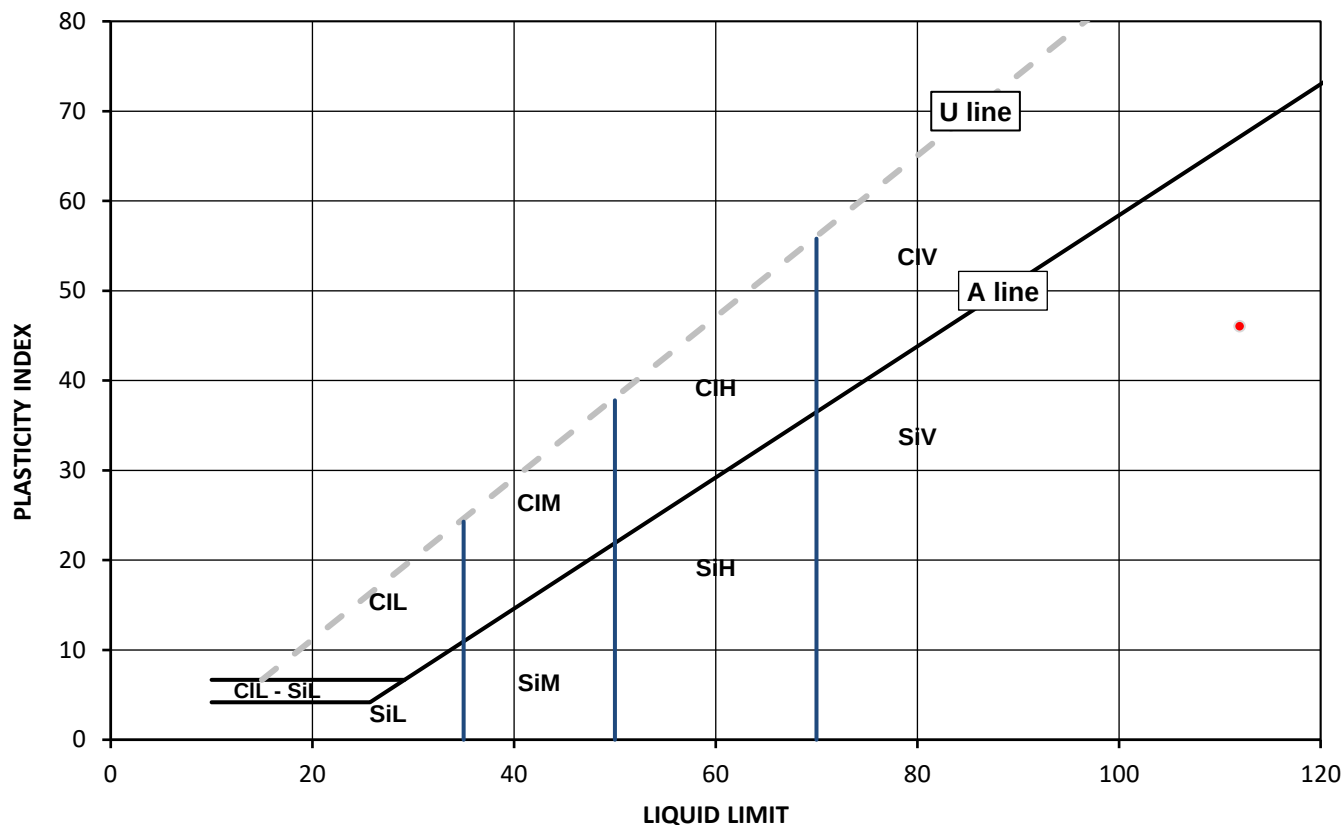
Test Results:

Laboratory Reference: 2596238
Hole No.: CP102
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly slightly organic CLAY

Depth Top [m]: 3.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
26	112	66	46	72



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

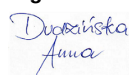
	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 23-19211, issue no 1; Additional results for sample 2596238

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: 21/02/2023
Date Received: 22/02/2023
Date Tested: 01/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

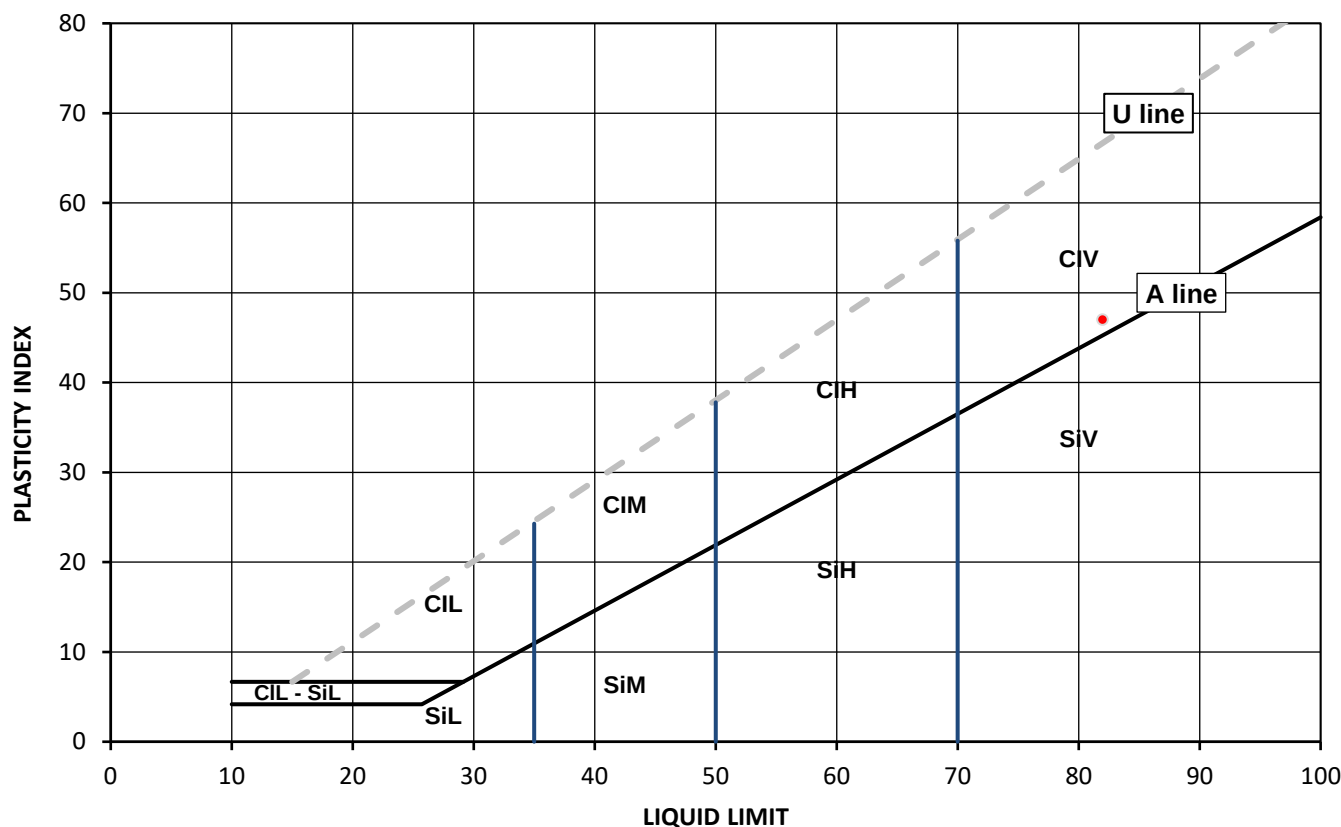
Test Results:

Laboratory Reference: 2595290
Hole No.: DS102
Sample Reference: Not Given
Sample Description: Brownish grey slightly organic CLAY

Depth Top [m]: 1.80
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
62	82	35	47	100



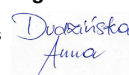
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Clay	Silt	Plasticity	Liquid Limit
Cl	Clay		L Low	below 35
Si		Silt	M Medium	35 to 50
			H High	50 to 70
			V Very high	exceeding 70
			O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: 21/02/2023
Date Received: 22/02/2023
Date Tested: 01/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

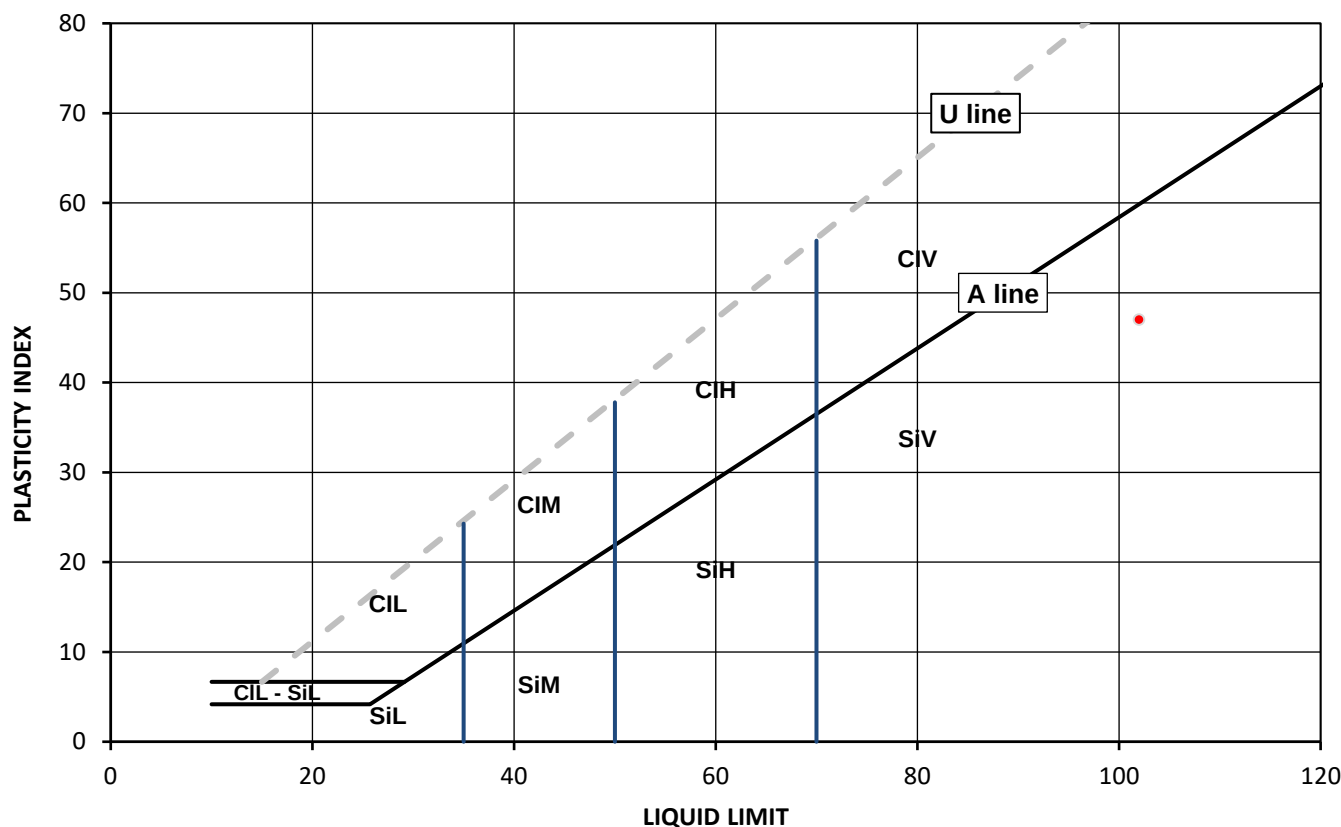
Test Results:

Laboratory Reference: 2595291
Hole No.: DS104
Sample Reference: Not Given
Sample Description: Brownish grey organic CLAY

Depth Top [m]: 1.70
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
85	102	55	47	100



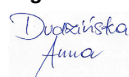
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: Not Given
Date Received: 22/02/2023
Date Tested: 02/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

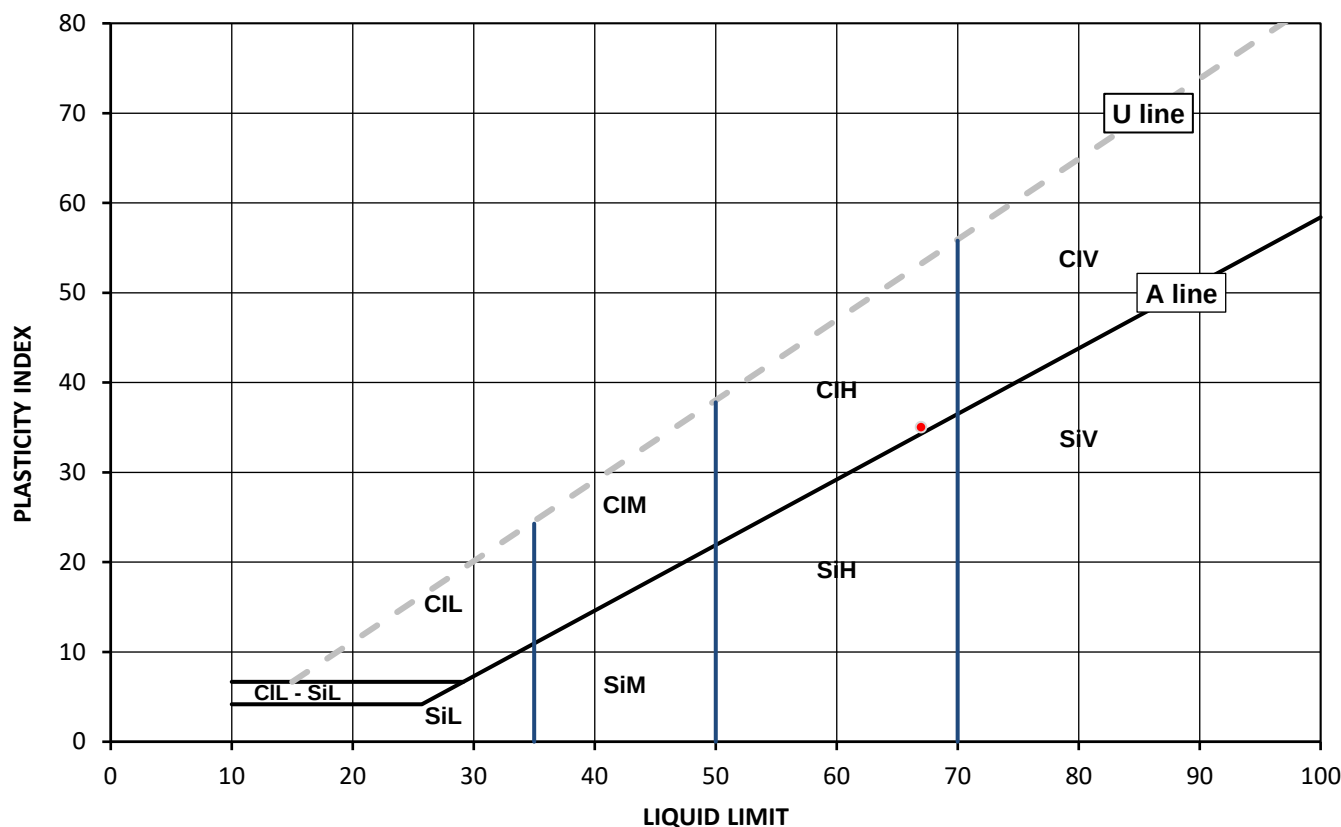
Test Results:

Laboratory Reference: 2595700
Hole No.: DS101
Sample Reference: Not Given
Sample Description: Brownish grey CLAY

Depth Top [m]: 1.90
Depth Base [m]: 2.00
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
53	67	32	35	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

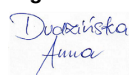
	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
		50 to 70
		exceeding 70
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

4041

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: Not Given
Date Received: 22/02/2023
Date Tested: 09/03/2023
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

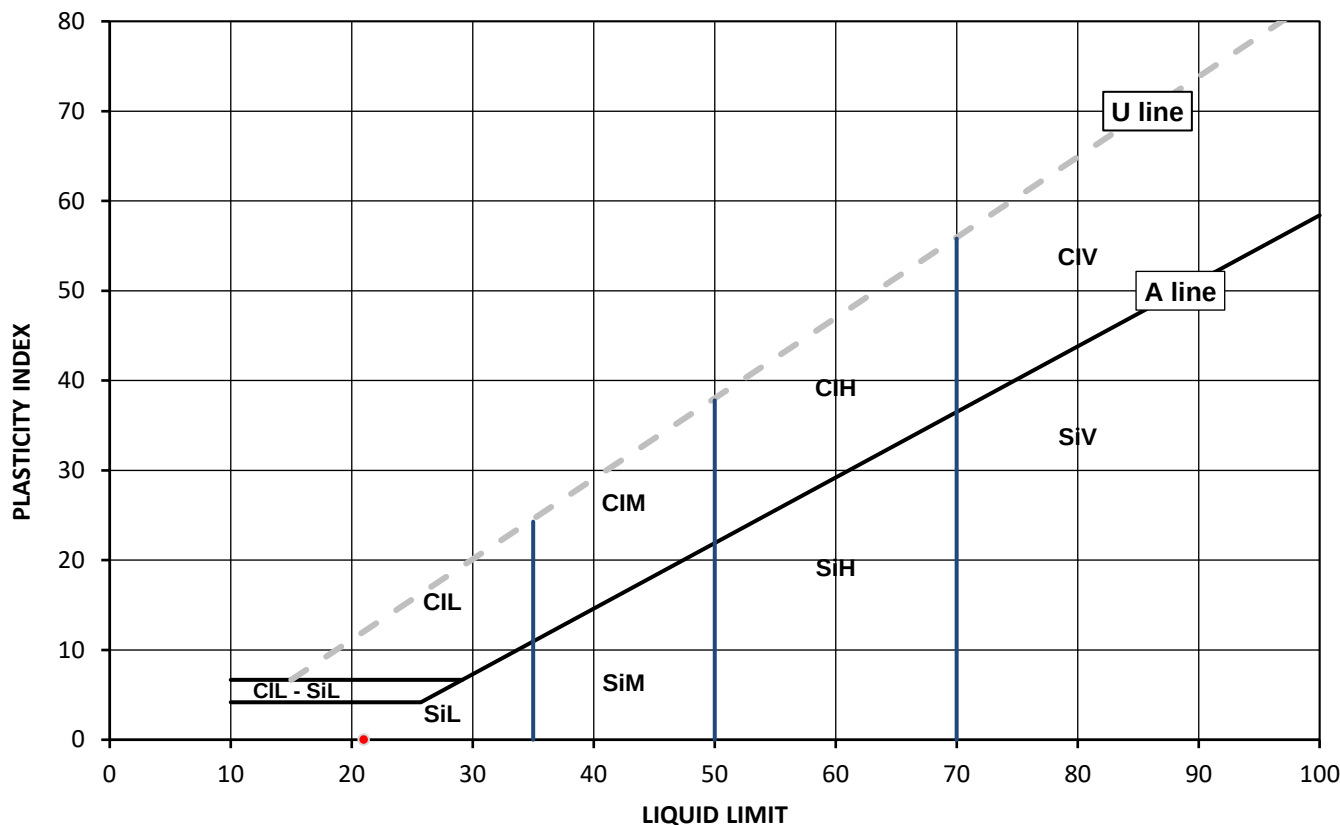
Test Results:

Laboratory Reference: 2596236
Hole No.: CP101
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly SAND

Depth Top [m]: 9.50
Depth Base [m]: 9.95
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	21	NP	NP	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

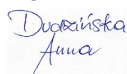
Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: NP - non plastic
Replaces Analytical Report Number 23-19211, issue no 1; Additional results for sample 2596236

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Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: Not Given
Date Received: 22/02/2023
Date Tested: 09/03/2023
Sampled By: Not Given

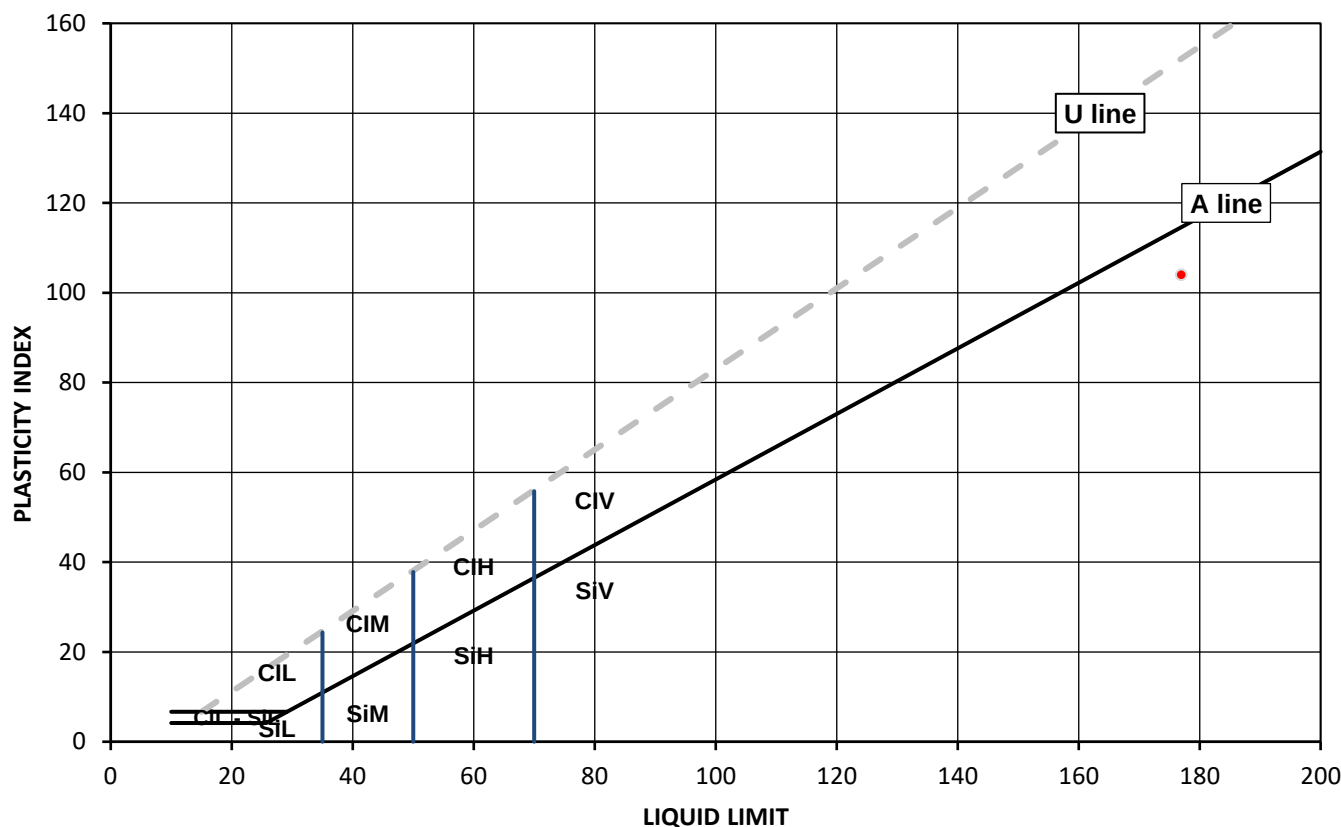
Test Results:

Laboratory Reference: 2596237
Hole No.: CP103
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly organic CLAY

Depth Top [m]: 3.20
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
149	177	73	104	97



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

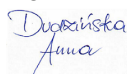
Cl	Clay	Plasticity	Liquid Limit
Si	Silt	L	below 35
		M	35 to 50
		H	50 to 70
		V	exceeding 70
		O	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 23-19211, issue no 1; Additional results for sample 2596237

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Signed:



Anna Dudzinska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd



SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Water Content by BS 1377-2:1990: Clause 3.2
Atterberg by BS 1377-2: 1990:
Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: 21/02/2023
Date Received: 22/02/2023
Date Tested: 01/03 - 09/03/2023
Sampled By: Not Given

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W] %	Water Content BS EN ISO 17892-1 [W] %	Atterberg				Density			Total Porosity# %		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m						%	%	%	%	Mg/m3	Mg/m3	Mg/m3			
2595290	DS102	Not Given	1.80	Not Given	D	Brownish grey slightly organic CLAY	Atterberg 4 Point	62		100	82	35	47						
2595291	DS104	Not Given	1.70	Not Given	D	Brownish grey organic CLAY	Atterberg 4 Point	85		100	102	55	47						
2595700	DS101	Not Given	1.90	2.00	D	Brownish grey CLAY	Atterberg 4 Point	53		100	67	32	35						
2596236	CP101	Not Given	9.50	9.95	D	Dark brown slightly gravelly SAND	Atterberg 4 Point	20		99	21	NP	NP						
2596237	CP103	Not Given	3.20	Not Given	D	Dark brown slightly gravelly organic CLAY	Atterberg 4 Point	149		97	177	73	104						
2596238	CP102	Not Given	3.20	Not Given	D	Dark brown slightly gravelly slightly organic CLAY	Atterberg 1 Point	26		72	112	66	46						

Note: # Non accredited; NP - Non plastic

Comments: Replaces Analytical Report Number 23-19211, issue no 1; Additional results for samples: 2596236, 2596237, 2596238

Signed:

Dudzińska Anna

Anna Dudzińska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

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4041

Client: Delta-Simons
Client Address: 3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR

Contact: Alex Tabb
Site Address: Rose Kiln Court

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client Reference: 557185
Job Number: 23-19211-2
Date Sampled: 21/02/2023
Date Received: 22/02/2023
Date Tested: 01/03 - 09/03/2023
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2595290	DS102	Not Given	1.80	Not Given	D	Brownish grey slightly organic CLAY		62	Sample was quartered, oven dried at 109 °C			
2595291	DS104	Not Given	1.70	Not Given	D	Brownish grey organic CLAY		85	Sample was quartered, oven dried at 106.2 °C			
2595700	DS101	Not Given	1.90	2.00	D	Brownish grey CLAY		53	Sample was quartered, oven dried at 106.4 °C			
2596236	CP101	Not Given	9.50	9.95	D	Dark brown slightly gravelly SAND		20	Sample was quartered, oven dried at 106.6 °C			
2596237	CP103	Not Given	3.20	Not Given	D	Dark brown slightly gravelly organic CLAY		149	Sample was quartered, oven dried at 106.5 °C			
2596238	CP102	Not Given	3.20	Not Given	D	Dark brown slightly gravelly slightly organic CLAY		26	Sample was quartered, oven dried at 106.5 °C			

Comments: Replaces Analytical Report Number 23-19211, issue no 1; Additional results for samples: 2596236, 2596237, 2596238

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Signed:

Dudzińska Anna

Anna Dudzińska
PL Deputy Head of Reporting Team
for and on behalf of i2 Analytical Ltd

Appendix D - Soil Chemical Analysis Results

Alex Tabb
Delta-Simons
3 Henley Office Park
Doddington Road
Lincoln
LN6 3QR

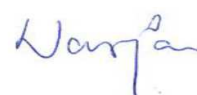
i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

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

e: Alexander.Tabb@deltasimons.com

Analytical Report Number : 23-18970

Project / Site name:	Rose Kiln Court	Samples received on:	22/02/2023
Your job number:	91193 55719	Samples instructed on/ Analysis started on:	22/02/2023
Your order number:	DS72694	Analysis completed by:	01/03/2023
Report Issue Number:	1	Report issued on:	01/03/2023
Samples Analysed:	6 soil samples		


Signed:

Dominika Warjan
Junior 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: 23-18970
Project / Site name: Rose Kiln Court
Your Order No: DS72694

Lab Sample Number	2594037	2594038	2594039	2594040	2594041
Sample Reference	CP103	CP101	CP102	CP102	CP104
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.20	0.50	1.30	2.30	1.00
Date Sampled	13/02/2023	14/02/2023	15/02/2023	15/02/2023	16/02/2023
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
Moisture Content	%	0.01	NONE	23	16
Total mass of sample received	kg	0.001	NONE	0.7	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	11	8.2	7.9	9.9
Total Sulphate as SO ₄	%	0.005	MCERTS	-	0.253	-	0.088	0.214
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	340	420	370	310	750
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.17	0.21	0.18	0.15	0.38
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	168	212	184	153	376
Total Sulphur	%	0.005	MCERTS	-	0.147	-	0.253	0.245

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.18
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.11
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.1
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.13
Phenanthrene	mg/kg	0.05	MCERTS	0.27	1.3	0.05	0.15	1
Anthracene	mg/kg	0.05	MCERTS	0.07	0.23	< 0.05	< 0.05	0.31
Fluoranthene	mg/kg	0.05	MCERTS	0.84	2.7	0.09	0.19	1.6
Pyrene	mg/kg	0.05	MCERTS	0.95	2.5	0.13	0.17	1.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.62	1.3	< 0.05	0.11	0.82
Chrysene	mg/kg	0.05	MCERTS	0.61	1.2	0.07	0.07	0.75
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.62	1.3	< 0.05	0.11	0.96
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.27	0.71	< 0.05	< 0.05	0.32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.59	1.2	< 0.05	0.08	0.81
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.23	0.61	< 0.05	0.06	0.54
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.33	0.67	< 0.05	0.08	0.65

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	5.4	13.5	< 0.80	1.02	9.92
-----------------------------	-------	-----	-----------	-----	------	--------	------	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	18	15	8.4	97
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.3	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	18	26	21	18	34
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	27	22	18	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	28	34	17	67
Lead (aqua regia extractable)	mg/kg	1	MCERTS	83	92	140	27	700
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	1.9	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	20	26	21	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	83	140	100	51	110

Monoaromatics & Oxygenates

Benzene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Analytical Report Number: 23-18970
 Project / Site name: Rose Kiln Court
 Your Order No: DS72694

Lab Sample Number				2594037	2594038	2594039	2594040	2594041
Sample Reference				CP103	CP101	CP102	CP102	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	0.50	1.30	2.30	1.00
Date Sampled				13/02/2023	14/02/2023	15/02/2023	15/02/2023	16/02/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Ethylbenzene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
p & m-xylene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
o-xylene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	4.3
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	12
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	78
TPH-CWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	20
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	94

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	23
TPH-CWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	15	< 10	< 10	29

TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	23
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-18970
Project / Site name: Rose Kiln Court
Your Order No: DS72694

Lab Sample Number				2594042
Sample Reference				CP104
Sample Number				None Supplied
Depth (m)				3.30
Date Sampled				16/02/2023
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	40
Total mass of sample received	kg	0.001	NONE	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6
Total Sulphate as SO ₄	%	0.005	MCERTS	0.037
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	120
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.061
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	60.7
Total Sulphur	%	0.005	MCERTS	0.119

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.16
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07
Fluorene	mg/kg	0.05	MCERTS	0.09
Phenanthrene	mg/kg	0.05	MCERTS	0.51
Anthracene	mg/kg	0.05	MCERTS	0.12
Fluoranthene	mg/kg	0.05	MCERTS	0.59
Pyrene	mg/kg	0.05	MCERTS	0.49
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.25
Chrysene	mg/kg	0.05	MCERTS	0.22
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.15
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.22
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.14

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.33
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	30
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	51
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110

Monoaromatics & Oxygenates

Benzene	mg/kg	0.005	MCERTS	< 0.005
Toluene	mg/kg	0.005	MCERTS	< 0.005

Analytical Report Number: 23-18970
 Project / Site name: Rose Kiln Court
 Your Order No: DS72694

Lab Sample Number					2594042
Sample Reference					CP104
Sample Number					None Supplied
Depth (m)					3.30
Date Sampled					16/02/2023
Time Taken					None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Ethylbenzene	mg/kg	0.005	MCERTS	< 0.005	
p & m-xylene	mg/kg	0.005	MCERTS	< 0.005	
o-xylene	mg/kg	0.005	MCERTS	< 0.005	
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	< 0.005	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aliphatic >EC6 - EC8 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aliphatic >EC8 - EC10 _{HS, 1D, AL}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aliphatic >EC10 - EC12 _{EH, CU, 1D, AL}	mg/kg	1	MCERTS	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16 _{EH, CU, 1D, AL}	mg/kg	2	MCERTS	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35 _{EH, CU, 1D, AL}	mg/kg	8	MCERTS	< 8.0	
TPH-CWG - Aliphatic >EC35 - EC40 _{EH, CU, 1D, AL}	mg/kg	10	NONE	< 10	
TPH-CWG - Aliphatic (EC5 - EC35) _{EH, CU+HS, 1D, AL}	mg/kg	10	NONE	< 10	

TPH-CWG - Aromatic >EC5 - EC7 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aromatic >EC7 - EC8 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aromatic >EC8 - EC10 _{HS, 1D, AR}	mg/kg	0.001	NONE	< 0.001	
TPH-CWG - Aromatic >EC10 - EC12 _{EH, CU, 1D, AR}	mg/kg	1	MCERTS	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16 _{EH, CU, 1D, AR}	mg/kg	2	MCERTS	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21 _{EH, CU, 1D, AR}	mg/kg	10	MCERTS	< 10	
TPH-CWG - Aromatic >EC21 - EC35 _{EH, CU, 1D, AR}	mg/kg	10	MCERTS	< 10	
TPH-CWG - Aromatic >EC35 - EC40 _{EH, CU, 1D, AR}	mg/kg	10	NONE	< 10	
TPH-CWG - Aromatic (EC5 - EC35) _{EH, CU+HS, 1D, AR}	mg/kg	10	NONE	< 10	

TPH (C35 - C40) _{EH, CU, 1D, TOTAL}	mg/kg	10	MCERTS	< 10	
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-18970
Project / Site name: Rose Kiln Court
Your Order No: DS72694

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-PL 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
2594041	CP104	1.00	127	Loose Fibres	Chrysotile	< 0.001	< 0.001

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

Analytical Report Number : 23-18970
Project / Site name: Rose Kiln Court

* 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 *
2594037	CP103	None Supplied	1.2	Brown clay with gravel.
2594038	CP101	None Supplied	0.5	Brown clay and sand with gravel.
2594039	CP102	None Supplied	1.3	Brown clay and sand with gravel.
2594040	CP102	None Supplied	2.3	Brown clay with gravel.
2594041	CP104	None Supplied	1	Brown sand with gravel.
2594042	CP104	None Supplied	3.3	Grey clay.

Analytical Report Number : 23-18970
Project / Site name: Rose Kiln Court

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
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.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
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	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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.	L019-UK/PL	D	NONE
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS

Analytical Report Number : 23-18970
Project / Site name: Rose Kiln Court

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
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

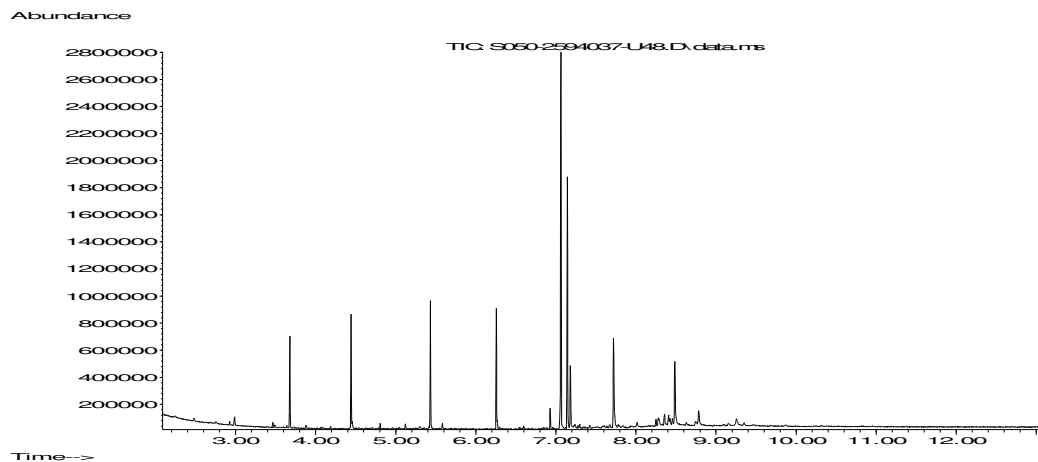
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

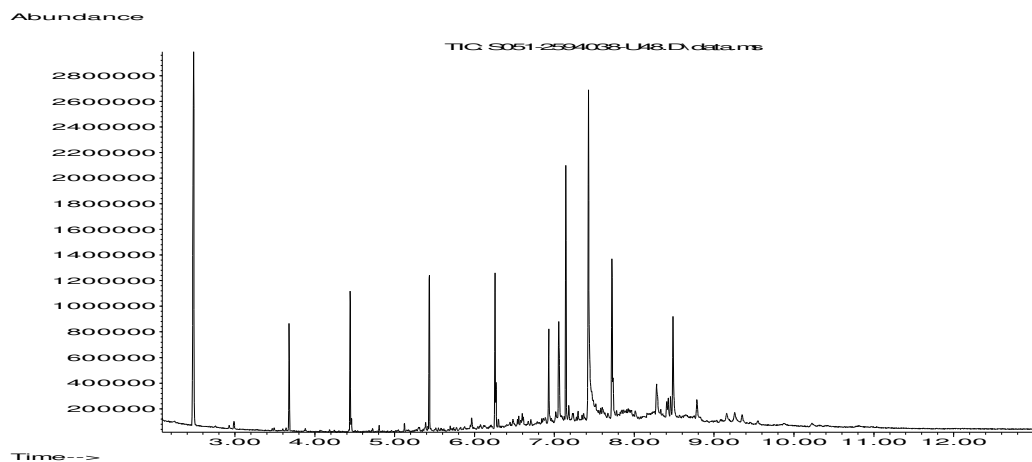
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

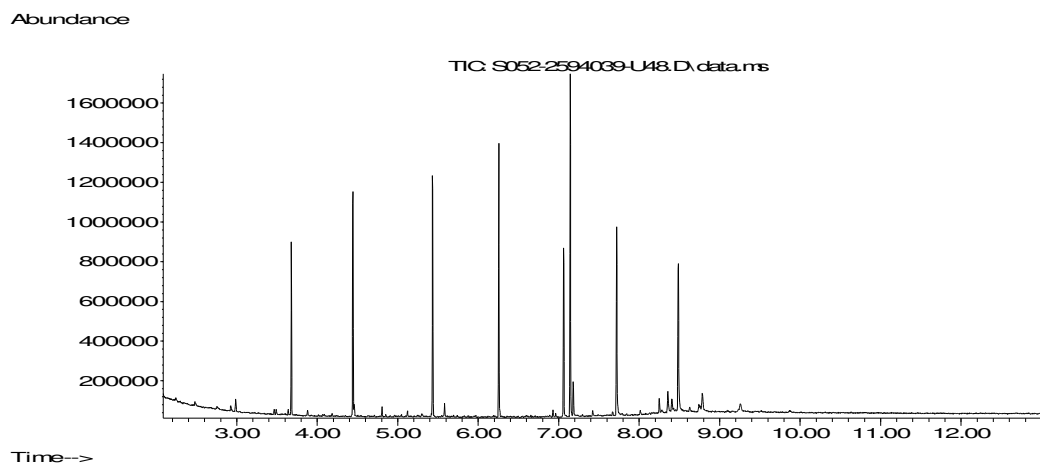
Information in Support of Analytical Results

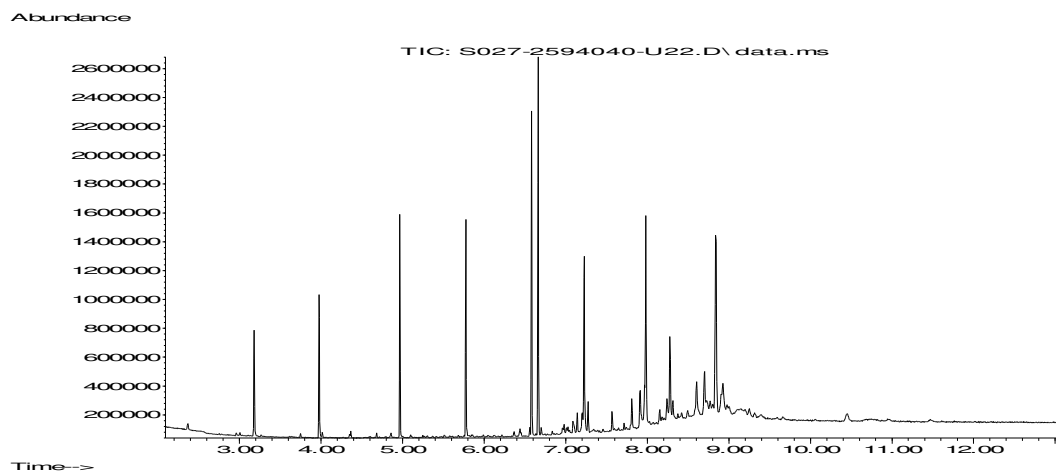
List of HWOL Acronyms and Operators

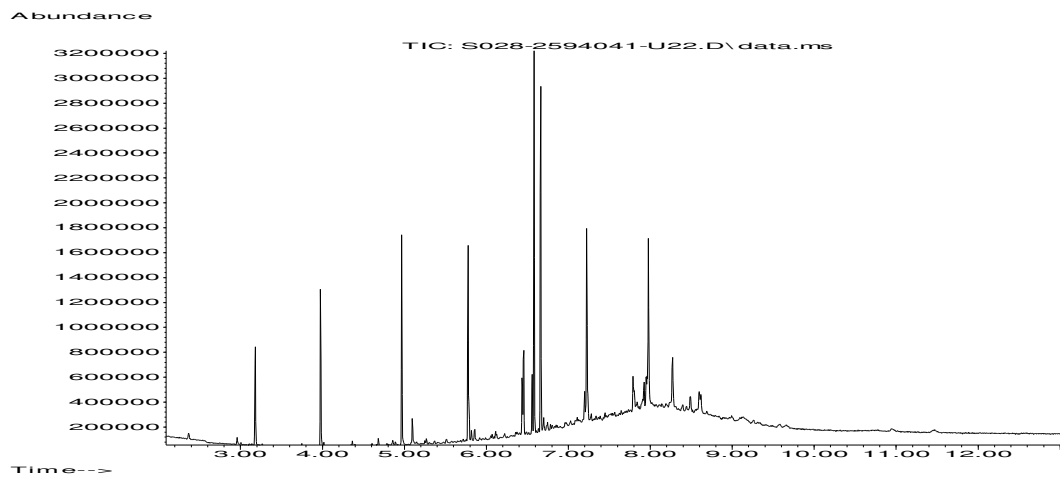
Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column 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

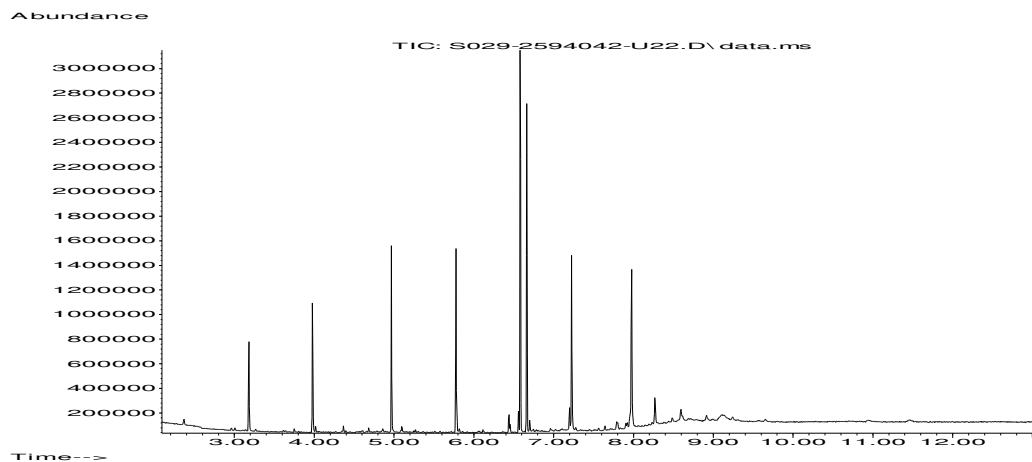












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Analytical Report Number : 23-19207

Project / Site name:	Rose Kiln Court	Samples received on:	22/02/2023
Your job number:	557185	Samples instructed on/ Analysis started on:	23/02/2023
Your order number:	DS72694	Analysis completed by:	06/03/2023
Report Issue Number:	1	Report issued on:	06/03/2023
Samples Analysed:	4 soil samples		



Signed:

Dominika Warjan
Junior 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: 23-19207
Project / Site name: Rose Kiln Court
Your Order No: DS72694

Lab Sample Number				2595276	2595277	2595278	2595279
Sample Reference				CP103	CP101	CP102	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.30	2.50	1.20
Date Sampled				13/02/2023	14/02/2023	15/02/2023	16/02/2023
Time Taken				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
Moisture Content	%	0.01	NONE	23	30	45	19
Total mass of sample received	kg	0.001	NONE	0.7	0.4	0.4	0.4

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	8.2	7.7	10.5
Total Sulphate as SO ₄	%	0.005	MCERTS	0.081	0.104	0.112	0.335
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	420	410	230	880
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.21	0.2	0.11	0.44
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	211	204	113	440
Total Sulphur	%	0.005	MCERTS	0.1	0.117	0.207	0.255

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

Analytical Report Number : 23-19207

Project / Site name: Rose Kiln Court

* 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 *
2595276	CP103	None Supplied	1.2	Brown clay with gravel.
2595277	CP101	None Supplied	1.3	Brown clay and sand with gravel.
2595278	CP102	None Supplied	2.5	Brown clay and loam with vegetation.
2595279	CP104	None Supplied	1.2	Brown clay and sand with gravel.

Analytical Report Number : 23-19207

Project / Site name: Rose Kiln Court

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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.	L019-UK/PL	D	NONE
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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



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Analytical Report Number : 23-19326

Project / Site name:	Rose Kiln Court	Samples received on:	22/02/2023
Your job number:	557185	Samples instructed on/ Analysis started on:	24/02/2023
Your order number:	DS72707	Analysis completed by:	06/03/2023
Report Issue Number:	1	Report issued on:	06/03/2023
Samples Analysed:	1 soil sample		

Signed:

Dominika Warjan
Junior 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

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

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

Analytical Report Number: 23-19326

Project / Site name: Rose Kiln Court

Your Order No: DS72707

Lab Sample Number				2595797
Sample Reference				DS101
Sample Number				None Supplied
Depth (m)				1.60-1.70
Date Sampled				22/02/2023
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	33
Total mass of sample received	kg	0.001	NONE	0.7

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2
Total Sulphate as SO ₄	%	0.005	MCERTS	0.086
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	250
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.12
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	123
Total Sulphur	%	0.005	MCERTS	0.068

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



Analytical Report Number : 23-19326
Project / Site name: Rose Kiln Court

* 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 *
2595797	DS101	None Supplied	1.60-1.70	Brown clay and sand with gravel.

Analytical Report Number : 23-19326

Project / Site name: Rose Kiln Court

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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.	L019-UK/PL	D	NONE
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Alex Tabb
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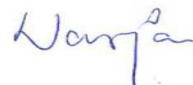
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e: Alexander.Tabb@deltasimons.com

Analytical Report Number : 23-19429

Project / Site name:	Rose Kiln Court	Samples received on:	23/02/2023
Your job number:	557185	Samples instructed on/ Analysis started on:	23/02/2023
Your order number:	DS72707	Analysis completed by:	02/03/2023
Report Issue Number:	1	Report issued on:	02/03/2023
Samples Analysed:	4 soil samples		

Signed:



Dominika Warjan
Junior 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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Analytical Report Number: 23-19429
Project / Site name: Rose Kiln Court
Your Order No: DS72707

Lab Sample Number				2596294	2596295	2596296	2596297
Sample Reference				DS101	DS101	DS102	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.50	1.50-1.60	0.30	0.20-0.35
Date Sampled				22/02/2023	22/02/2023	21/02/2023	22/02/2023
Time Taken				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
Moisture Content	%	0.01	NONE	8.9	32	13	11
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11.5	8	7.8	8
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	280	320	28	28
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.14	0.16	0.014	0.014
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	142	162	13.8	14.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	0.11	0.15	0.18	0.19
Acenaphthene	mg/kg	0.05	MCERTS	0.13	0.07	0.17	0.29
Fluorene	mg/kg	0.05	MCERTS	0.13	0.13	0.2	0.31
Phenanthrene	mg/kg	0.05	MCERTS	2.3	1.5	2.9	3.9
Anthracene	mg/kg	0.05	MCERTS	0.61	0.38	0.71	1.1
Fluoranthene	mg/kg	0.05	MCERTS	7.1	2.8	6.2	7.9
Pyrene	mg/kg	0.05	MCERTS	7.3	2.4	5.2	6.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8	1.6	2.6	3.8
Chrysene	mg/kg	0.05	MCERTS	2.7	1.5	2.6	3.3
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.1	2.1	2.9	4.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.6	0.68	1.6	1.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.7	1.8	2.8	3.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.5	1	1.6	2.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.23	0.21	0.32	0.45
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6	1.1	1.7	2.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	33.9	17.5	31.6	41.3
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	15	27	18
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	17	18	19	22
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	19	20	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	39	86	42
Lead (aqua regia extractable)	mg/kg	1	MCERTS	44	76	210	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.6	1	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	22	21	20
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	60	75	180	140

Analytical Report Number: 23-19429
Project / Site name: Rose Kiln Court
Your Order No: DS72707

Lab Sample Number	2596294	2596295	2596296	2596297
Sample Reference	DS101	DS101	DS102	DS105
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.40-0.50	1.50-1.60	0.30	0.20-0.35
Date Sampled	22/02/2023	22/02/2023	21/02/2023	22/02/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Monoaromatics & Oxygenates

Benzene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene**	mg/kg	0.005	NONE	< 0.005	< 0.005	< 0.005	< 0.005
p & m-xylene**	mg/kg	0.005	NONE	< 0.005	< 0.005	< 0.005	< 0.005
o-xylene	mg/kg	0.005	MCERTS	< 0.005	< 0.005	< 0.005	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	NONE	< 0.005	< 0.005	< 0.005	< 0.005

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	23	< 2.0	3.6	2.2
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	74	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	190	< 8.0	24	21
TPH-CWG - Aliphatic >EC35 - EC40 EH CU 1D AL	mg/kg	10	NONE	37	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	290	< 10	34	30

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	5.1	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	15	8.8	< 2.0	3.6
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	42	14	14	21
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	95	26	26	40
TPH-CWG - Aromatic >EC35 - EC40 EH CU 1D AR	mg/kg	10	NONE	20	11	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	150	54	40	65

TPH (C35 - C40) EH CU 1D TOTAL	mg/kg	10	MCERTS	57	11	< 10	14
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-19429
Project / Site name: Rose Kiln Court
Your Order No: DS72707

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-PL 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
2596294	DS101	0.40-0.50	166	Sheeting/Board Debris	Chrysotile	< 0.001	< 0.001
2596295	DS101	1.50-1.60	104	Loose Fibres	Chrysotile	< 0.001	< 0.001
2596296	DS102	0.30	164	Loose Fibres	Chrysotile	< 0.001	< 0.001

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

Analytical Report Number : 23-19429

Project / Site name: Rose Kiln Court

* 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 *
2596294	DS101	None Supplied	0.40-0.50	Brown sand with gravel.
2596295	DS101	None Supplied	1.50-1.60	Brown clay and sand with gravel.
2596296	DS102	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2596297	DS105	None Supplied	0.20-0.35	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 23-19429

Project / Site name: Rose Kiln Court

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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	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.	L038-PL	D	MCERTS
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	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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.	L019-UK/PL	D	NONE
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

Analytical Report Number : 23-19429
Project / Site name: Rose Kiln Court

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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L0738-PL	W	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

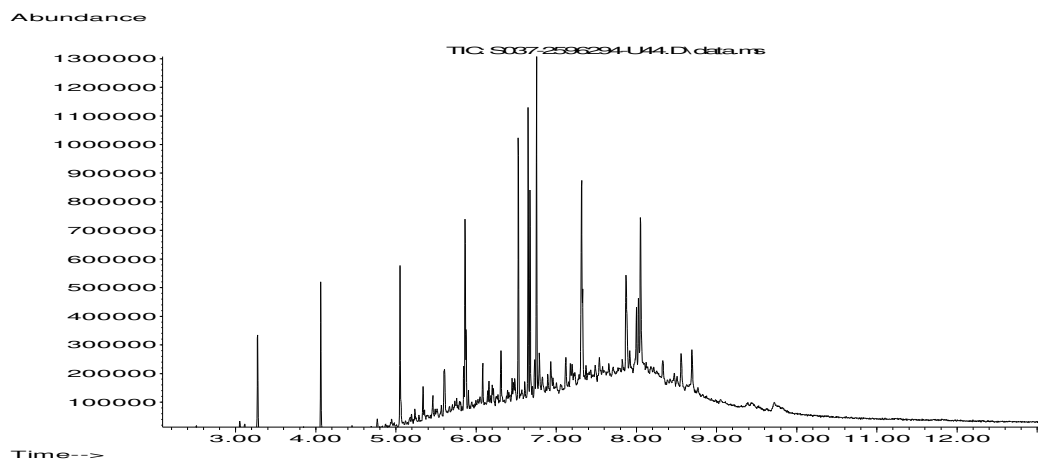
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC. Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

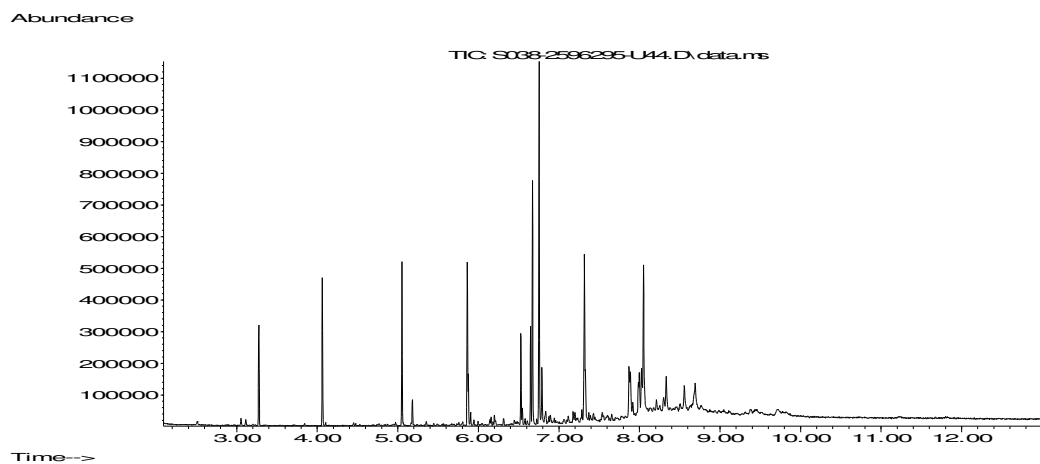
Information in Support of Analytical Results

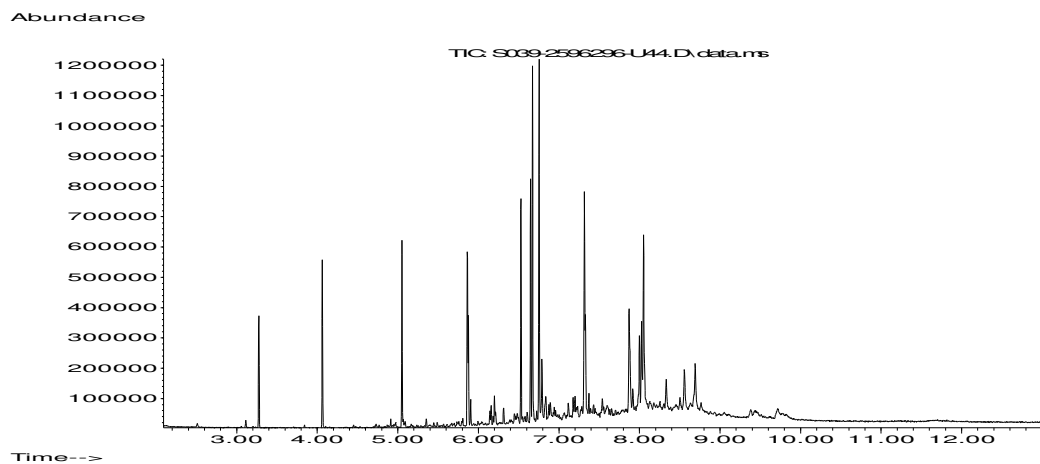
List of HWOL Acronyms and Operators

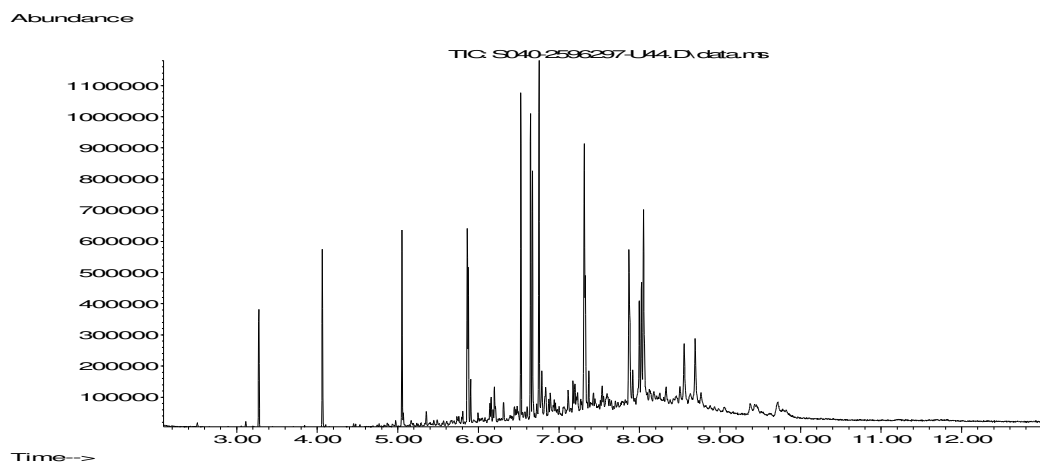
Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column 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 - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

**Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be compromised.









Appendix E - Groundwater Chemical Analysis Results



4041



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Analytical Report Number : 23-19713

Project / Site name:	Reading	Samples received on:	24/02/2023
Your job number:	91193	Samples instructed on/ Analysis started on:	24/02/2023
Your order number:	DS72748	Analysis completed by:	03/03/2023
Report Issue Number:	1	Report issued on:	03/03/2023
Samples Analysed:	4 water samples		

Signed:

Dominika Warjan
Junior 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.



4041



Analytical Report Number: 23-19713

Project / Site name: Reading

Your Order No: DS72748

Lab Sample Number				2597907	2597908	2597909	2597910
Sample Reference				DS101	Cp102	CP103	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/02/2023	24/02/2023	24/02/2023	24/02/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.4	7.4	7.2	7.2
Sulphate as SO4	µg/l	45	ISO 17025	50400	79900	16400	9190

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

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

Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	37.2	5.77	12.2	14.7
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.2	0.2	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	3.5	< 0.5	1.3	1.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.2	4	6.7	2.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	3	13	4.8	14

Monoaromatics & Oxygenates

Benzene*	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)*	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0

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Your Order No: DS72748

Lab Sample Number				2597907	2597908	2597909	2597910
Sample Reference				DS101	Cp102	CP103	CP104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				24/02/2023	24/02/2023	24/02/2023	24/02/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status	
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >C5 - C6 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic >C10 - C12 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C21 - C35 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aliphatic >C10 - C35 _{EH_2D_AL_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic >C10 - C12 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Aromatic >C10 - C35 _{EH_2D_AR_#1_#2}	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10

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

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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
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.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
TPH C10-C35 by GCxGC-FID	Determination of total petroleum hydrocarbons in water by GC x GC FID with carbon banding aliphatic and aromatic C10-C35. Accredited Matrices SW,GW,PW.	In-house method	L101B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE

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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 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	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.

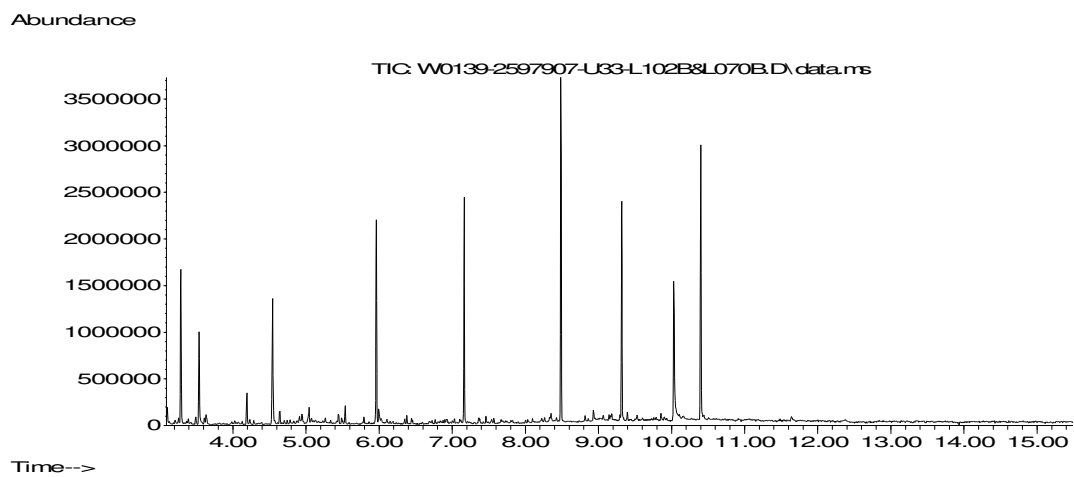
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC. Unless otherwise indicated, 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

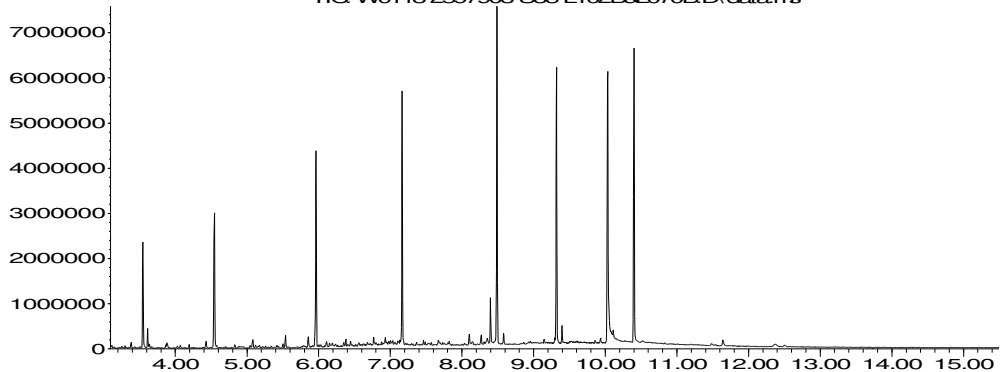
Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column 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 - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be compromised.

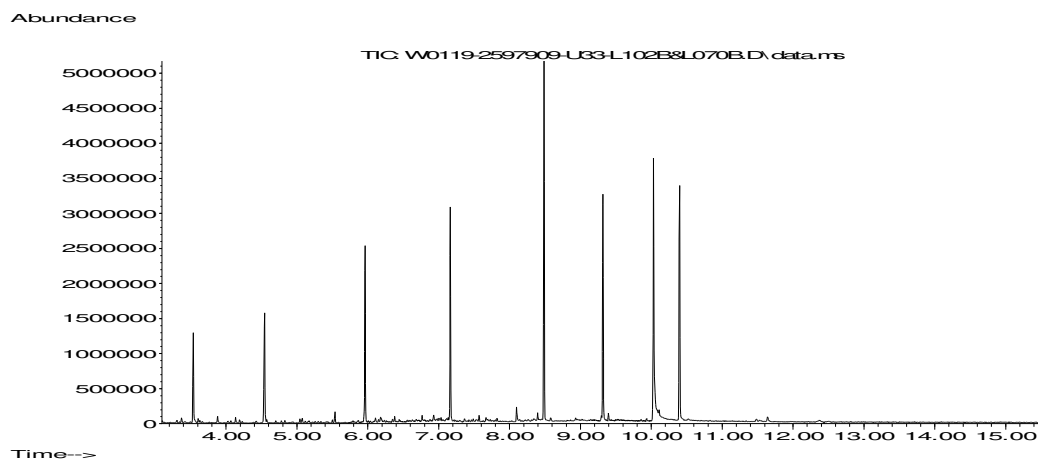


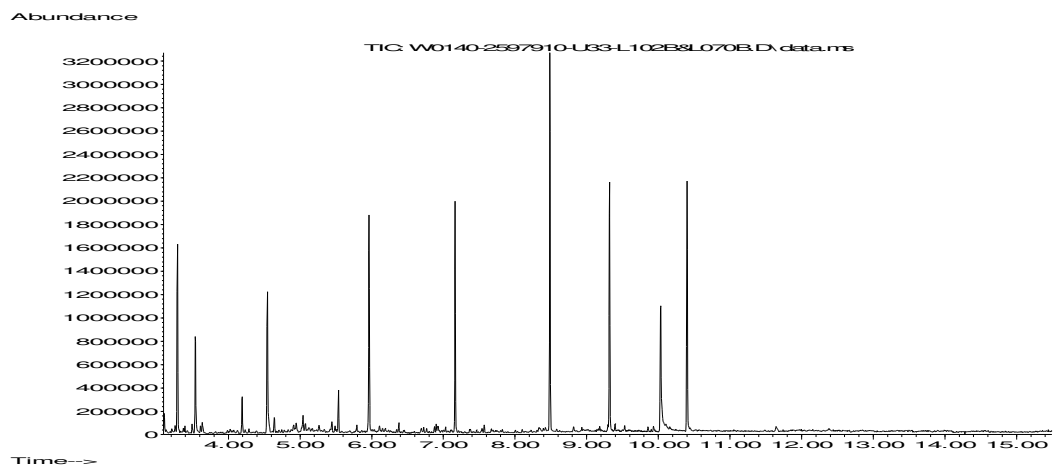
Abundance

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Time-->





Appendix F - Field Monitoring Data/Gas Monitoring Data

[illegible]

[illegible]

[illegible]

Appendix G - Risk Definitions

Contaminated Land Risk Definitions

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

- Magnitude of the potential consequence (severity) of the Risk occurring; and
- Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe to occupy (eg foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e discoloration of concrete

Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term No evidence of hazard, pathway, and receptor

Standard Risk Matrix

		Consequence/Magnitude of impact			
		Severe	Medium	Mild	Minor
Probability	High	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

Classified risks and likely action

Significance Level	Definition/Comments
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

Geotechnical Risk Classification

The geohazards listed in the report within Section 4 follow guidance presented in Clayton, C.R.I. (2001) *Managing Geotechnical Risk*, Thomas Telford and the National Highways document CD622 '*Managing Geotechnical Risk*' (2020) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

For each geohazard the probability of the hazard occurring (P) has been considered together with the impact it would have (I) if it were to happen to calculate the risk rating between 1 and 25.

Risks that fall within Moderate, Significant and Severe categories below are considered to be **substantial** and are therefore listed within the report.

Probability	(P)	X	Impact	(I)	=	(R)	Risk
Very Likely (VLk)	5		Very High (VH)	5		20 – 25	Severe
Likely (Lk)	4		High (H)	4		15 – 19	Substantial
Plausible (P)	3		Medium (M)	3		10 – 14	Moderate
Unlikely (U)	2		Low (L)	2		5 – 9	Minor
Very Unlikely (VU)	1		Very Low (VL)	1		1 – 4	Negligible