TEST CERTIFICATE

Determination of Particle Size Distribution

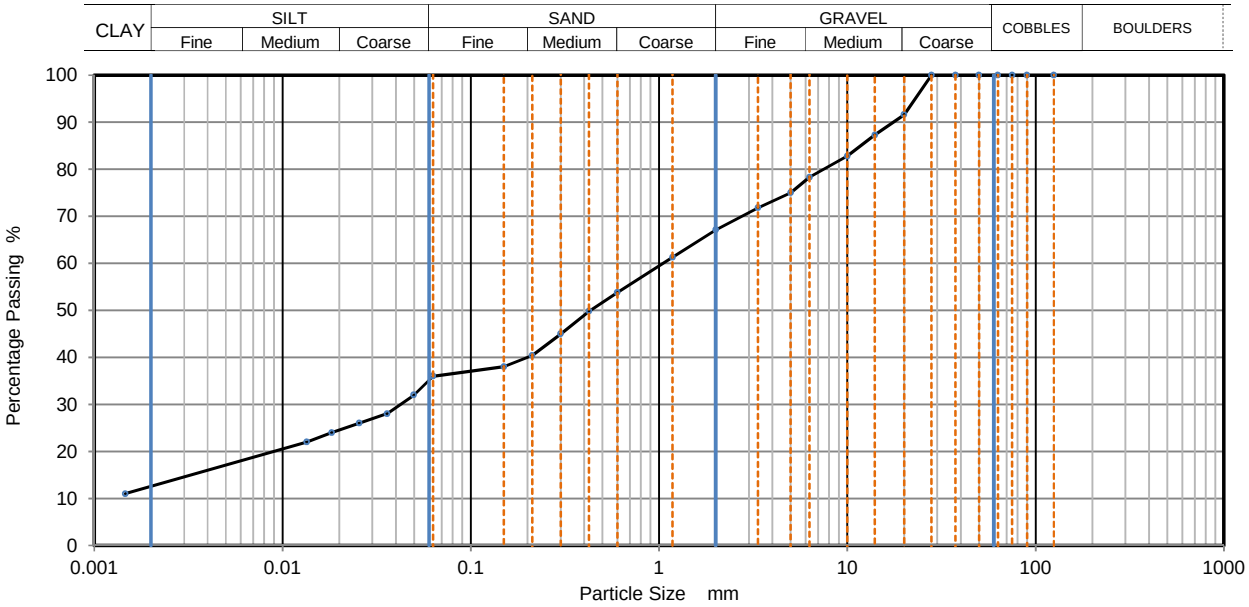
Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

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

Client:	Delta-Simons	Client Reference:	18-0886-03
Client Address:	Suite GB Barclay House 35 Whitworth Street West Manchester, M1 5NG	Job Number:	18-93466
		Date Sampled:	09/07/2018
		Date Received:	16/07/2018
Contact:	Rachel Stringer	Date Tested:	28/07/2018
Site Name:	Clitheroe Road, Whalley	Sampled By:	Melanie Booth
Site Address:	Not Given		

TEST RESULTS

	Laboratory Reference: 1006202	Sample Reference:	Not Given
Sample description:	Greyish brown clayey very silty SAND and GRAVEL	Sample Type:	B
Location:	TP136	Depth Top [m]:	2.50
Supplier:	Not Given	Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	36
90	100	0.0498	32
75	100	0.0359	28
63	100	0.0255	26
50	100	0.0183	24
37.5	100	0.0134	22
28	100	0.0015	11
20	92		
14	87		
10	83		
6.3	78		
5	75		
3.35	72		
2	67		
1.18	61		
0.6	54	Particle density	(assumed)
0.425	50	2.65	Mg/m3
0.3	45		
0.212	40		
0.15	38		
0.063	36		

Dry Mass of sample [g]: 3310

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	32.90
Sand	30.80
Silt	23.60
Clay	12.70

Grading Analysis		
D100	mm	28
D60	mm	1.05
D30	mm	0.0425
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 02/08/2018

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

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

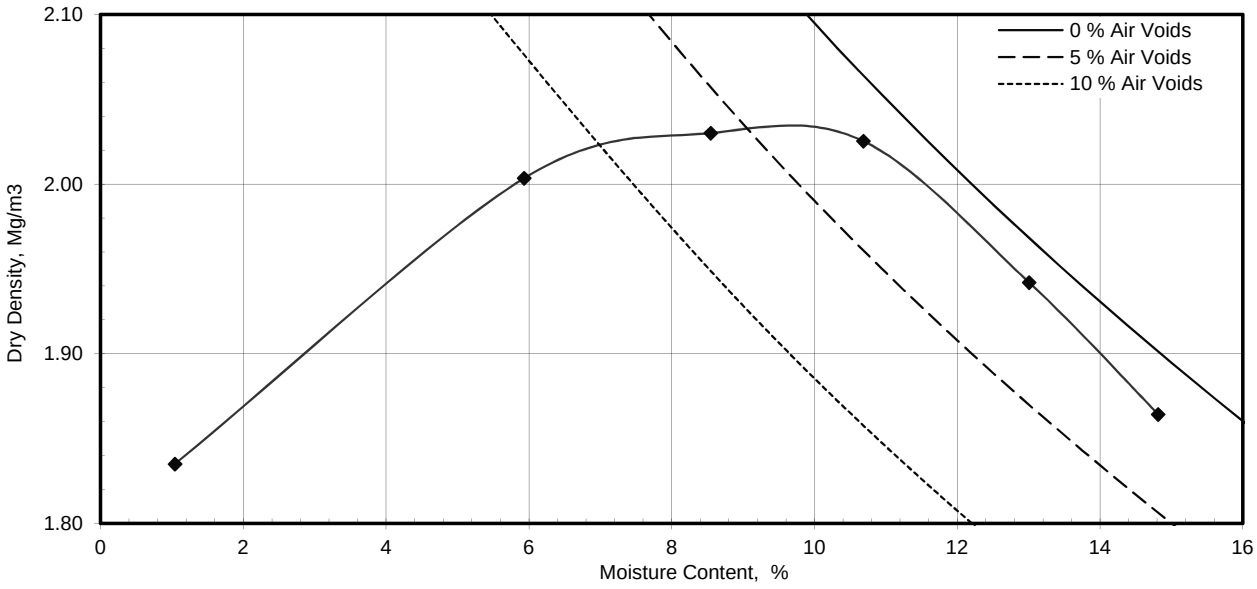
4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Delta-Simons	Client Reference:	18-0886-03
Client Address:	Suite GB Barclay House 35 Whitworth Street West Manchester M1 5NG	Job Number:	18-93466
		Date Sampled:	12/07/2018
		Date Received:	16/07/2018
		Date Tested:	31/07/2018
Contact:	Rachel Stringer	Sampled By:	Melanie Booth
Site Name:	Clitheroe Road, Whalley		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	1006186		
Hole No.:	AP01	Depth Top [m]:	0.00
Sample Reference:	Stockpile	Depth Base [m]:	Not Given
Sample Description:	Dark brown very gravelly slightly sandy slightly clayey SILT	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
As received Moisture Content	%	1.0
Maximum Dry Density	Mg/m³	**2.03**

Optimum Moisture Content	%	**9.6**

Remarks:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General
Manager

Date Reported: 02/08/2018

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

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

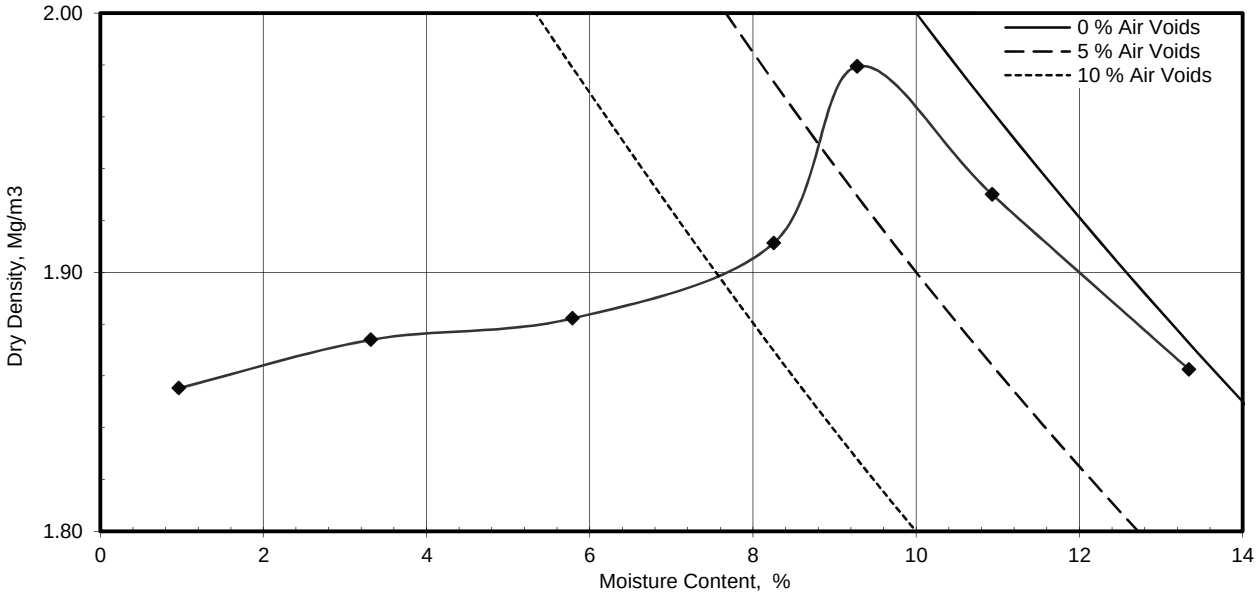
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Delta-Simons	Client Reference:	18-0886-03
Client Address:	Suite GB Barclay House 35 Whitworth Street West Manchester M1 5NG	Job Number:	18-93466
		Date Sampled:	12/07/2018
		Date Received:	16/07/2018
		Date Tested:	31/07/2018
Contact:	Rachel Stringer	Sampled By:	Melanie Booth
Site Name:	Clitheroe Road, Whalley		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	1006187		
Hole No.:	AP02	Depth Top [m]:	0.00
Sample Reference:	Stockpile	Depth Base [m]:	Not Given
Sample Description:	Greyish brown slightly gravelly slightly sandy clayey SILT	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.50
As received Moisture Content	%	1.0
Maximum Dry Density	Mg/m³	**1.98**

Optimum Moisture Content	%	**9.3**

Remarks:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 02/08/2018

for and on behalf of i2 Analytical Ltd

GF 109.9

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

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

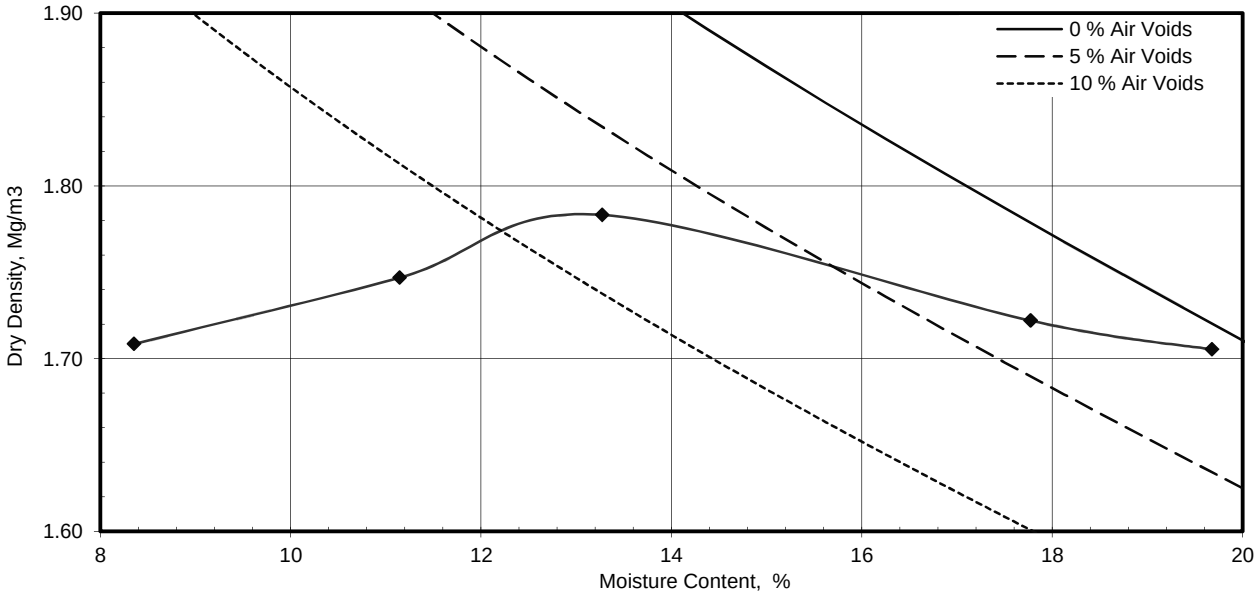
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Delta-Simons	Client Reference:	18-0886-03
Client Address:	Suite GB Barclay House 35 Whitworth Street West Manchester M1 5NG	Job Number:	18-93466
		Date Sampled:	12/07/2018
		Date Received:	16/07/2018
		Date Tested:	31/07/2018
Contact:	Rachel Stringer	Sampled By:	Melanie Booth
Site Name:	Clitheroe Road, Whalley		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	1006194		
Hole No.:	TP113	Depth Top [m]:	0.80
Sample Reference:	Not Given	Depth Base [m]:	Not Given
Sample Description:	Yellowish brown sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.60
As received Moisture Content	%	18
Maximum Dry Density	Mg/m³	**1.78**

Optimum Moisture Content	%	**13**

Remarks:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 02/08/2018

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

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

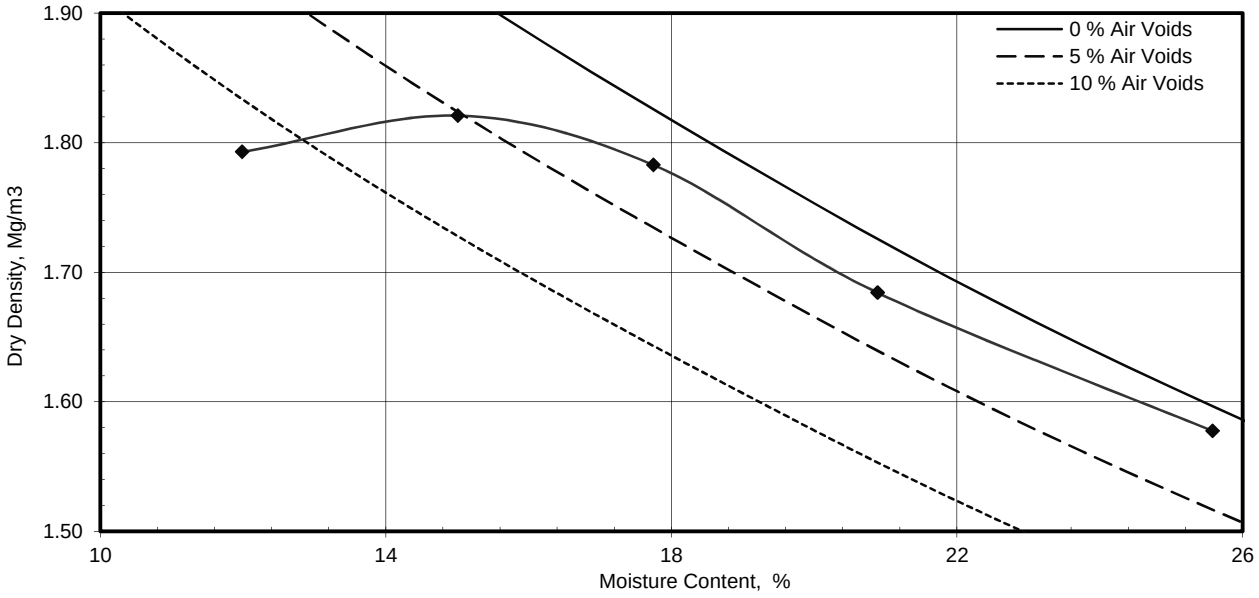
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Delta-Simons	Client Reference:	18-0886-03
Client Address:	Suite GB Barclay House 35 Whitworth Street West Manchester M1 5NG	Job Number:	18-93466
		Date Sampled:	12/07/2018
		Date Received:	16/07/2018
		Date Tested:	31/07/2018
Contact:	Rachel Stringer	Sampled By:	Melanie Booth
Site Name:	Clitheroe Road, Whalley		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	1006195		
Hole No.:	TP119	Depth Top [m]:	2.00
Sample Reference:	Not Given	Depth Base [m]:	Not Given
Sample Description:	Brown sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.70
As received Moisture Content	%	26
Maximum Dry Density	Mg/m³	**1.82**

Optimum Moisture Content	%	**13**

Remarks:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 02/08/2018

for and on behalf of i2 Analytical Ltd

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Analytical Report Number : 18-93463

Project / Site name:	Clitheroe Road, Whalley	**Samples received on:**	16/07/2018
Your job number:	18-0886.03	**Samples instructed on:**	19/07/2018
Your order number:	DS39658	**Analysis completed by:**	26/07/2018
Report Issue Number:	1	**Report issued on:**	26/07/2018
Samples Analysed:	10 soil samples		

Signed:

Jordan Hill
Reporting Manager
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: 18-93463

Project / Site name: Clitheroe Road, Whalley
Your Order No: DS39658

Lab Sample Number				1006169	1006170	1006171	1006172	1006173
Sample Reference				TP102	TP104	TP107	TP110	TP113
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.26	2.60	1.00	2.50	2.00
Date Sampled				11/07/2018	12/07/2018	12/07/2018	11/07/2018	12/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	12	15	6.5	7.9	21
Total mass of sample received	kg	0.001	NONE	0.80	0.91	0.59	0.51	0.71
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.0	8.1	8.1	8.4	7.7
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	26	17	16	15	73
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013	0.0086	0.0081	0.0075	0.036
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	13.0	8.6	8.1	7.5	36.3

Analytical Report Number: 18-93463

Project / Site name: Clitheroe Road, Whalley
Your Order No: DS39658

Lab Sample Number				1006174	1006175	1006176	1006177	1006178
Sample Reference				TP123	TP127	TP135	TP139	TP142
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.90	0.30	3.00	0.50	1.70
Date Sampled				12/07/2018	13/07/2018	09/07/2018	10/07/2018	13/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	16	12	15	12	19
Total mass of sample received	kg	0.001	NONE	0.90	0.53	0.50	0.56	0.63
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.7	7.3	7.7	7.3	8.2
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	43	29	350	31	110
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.022	0.014	0.18	0.015	0.053
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	21.6	14.4	176	15.4	53.3

Analytical Report Number : 18-93463

Project / Site name: Clitheroe Road, Whalley

* 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 *
1006169	TP102	None Supplied	0.26	Brown sandy loam with gravel.
1006170	TP104	None Supplied	2.60	Brown sand with gravel.
1006171	TP107	None Supplied	1.00	Light brown sand with gravel.
1006172	TP110	None Supplied	2.50	Light brown sand with gravel.
1006173	TP113	None Supplied	2.00	Brown clay and sand with gravel.
1006174	TP123	None Supplied	1.90	Brown clay and sand with gravel.
1006175	TP127	None Supplied	0.30	Brown loam and clay with vegetation.
1006176	TP135	None Supplied	3.00	Brown clay and sand.
1006177	TP139	None Supplied	0.50	Brown loam and clay with vegetation.
1006178	TP142	None Supplied	1.70	Brown clay.

Analytical Report Number : 18-93463

Project / Site name: Clitheroe Road, Whalley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	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
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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

Appendix D – Soil Chemical Analysis Results

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Analytical Report Number : 18-92912

Project / Site name:	Whalley	**Samples received on:**	12/07/2018
Your job number:	18-0886.03	**Samples instructed on:**	18/07/2018
Your order number:	DS39619	**Analysis completed by:**	24/07/2018
Report Issue Number:	1	**Report issued on:**	24/07/2018
Samples Analysed:	13 soil samples		

Signed:

Jordan Hill
Reporting Manager
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: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002928	1002929	1002930	1002931	1002932
Sample Reference				DS101	DS101	DS102	DS103	DS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.25	1.80-2.00	1.50-1.60	2.90-3.00	0.00-0.40
Date Sampled				11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	6.1	24	14	12	6.0
Total mass of sample received	kg	0.001	NONE	0.98	1.3	1.3	1.4	1.1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	Not-detected
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.34	< 0.05	< 0.05	< 0.05	0.15
Anthracene	mg/kg	0.05	MCERTS	0.15	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.47	< 0.05	< 0.05	< 0.05	0.25
Pyrene	mg/kg	0.05	MCERTS	0.42	< 0.05	< 0.05	< 0.05	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05	< 0.05	0.13
Chrysene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05	< 0.05	0.18
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.34	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.25	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.63	< 0.80	< 0.80	< 0.80	0.92
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	4.6	9.8	6.8	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	76	-	-	-	86
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.60	-	-	-	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	-	-	-	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.6	0.4	0.7	1.0	0.6
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	-	-	-	< 1.2
Chromium (III)	mg/kg	1	NONE	22	7.8	16	13	18
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	7.6	16	13	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	16	12	19	24
Lead (aqua regia extractable)	mg/kg	1	MCERTS	47	11	14	16	52
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	16	21	22	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.8	< 1.0	< 1.0	1.8	1.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	74	45	74	66	75

Analytical Report Number: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002928	1002929	1002930	1002931	1002932
Sample Reference				DS101	DS101	DS102	DS103	DS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.25	1.80-2.00	1.50-1.60	2.90-3.00	0.00-0.40
Date Sampled				11/07/2018	11/07/2018	11/07/2018	11/07/2018	11/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	13	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	18	< 10	< 10	< 10	< 10

Analytical Report Number: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002933	1002934	1002935	1002936	1002937
Sample Reference				DS105	DS106	DS108	DS110	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.25	0.00-0.25	2.20-2.50	0.00-0.40	2.50-2.60
Date Sampled				11/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	8.0	8.1	14	9.2	14
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.4	1.1	1.6
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.65	0.83	< 0.05	0.40	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.13	0.12	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.69	1.0	< 0.05	0.48	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.58	0.86	< 0.05	0.45	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.32	0.44	< 0.05	0.22	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.34	0.60	< 0.05	0.27	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.34	0.53	< 0.05	0.22	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.24	0.29	< 0.05	0.15	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.35	0.45	< 0.05	0.22	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.21	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.64	5.64	< 0.80	2.41	< 0.80
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	12	5.4	17	3.3
Barium (aqua regia extractable)	mg/kg	1	MCERTS	76	99	-	260	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.63	0.88	-	1.1	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.6	-	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.9	0.6	1.5	0.7
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	-	< 1.2	-
Chromium (III)	mg/kg	1	NONE	22	23	17	26	12
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	23	16	26	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	20	18	19	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	41	32	13	31	9.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	25	27	39	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.7	2.1	2.0	3.7	4.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	77	81	63	95	63

Analytical Report Number: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002933	1002934	1002935	1002936	1002937
Sample Reference				DS105	DS106	DS108	DS110	DS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.00-0.25	0.00-0.25	2.20-2.50	0.00-0.40	2.50-2.60
Date Sampled				11/07/2018	10/07/2018	10/07/2018	10/07/2018	10/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	3.5	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	12	< 2.0	4.5
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	14	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	17	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	47	< 10	18

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	2.5	6.8	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	16	19	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	24	35	< 10	< 10

Analytical Report Number: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002938	1002939	1002940		
Sample Reference				DS111	DS111	DS112		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.00-0.30	1.30-1.40	0.00-0.20		
Date Sampled				10/07/2018	10/07/2018	11/07/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	5.3	13	10		
Total mass of sample received	kg	0.001	NONE	0.93	1.1	1.0		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.6	10	12		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	-	77		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.82	-	0.77		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	-	0.5		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	0.7	0.4		
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	-	< 1.2		
Chromium (III)	mg/kg	1	NONE	24	34	28		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	34	28		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	18	31	17		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	33	20	50		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	45	21		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	2.2	< 1.0	1.7		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	95	81	66		

Analytical Report Number: 18-92912

Project / Site name: Whalley
Your Order No: DS39619

Lab Sample Number				1002938	1002939	1002940		
Sample Reference				DS111	DS111	DS112		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.00-0.30	1.30-1.40	0.00-0.20		
Date Sampled				10/07/2018	10/07/2018	11/07/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	11	< 10	< 10		

Analytical Report Number : 18-92912

Project / Site name: Whalley

* 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 *
1002928	DS101	None Supplied	0.00-0.25	Brown loam and sand with vegetation.
1002929	DS101	None Supplied	1.80-2.00	Brown sand.
1002930	DS102	None Supplied	1.50-1.60	Brown clay and sand.
1002931	DS103	None Supplied	2.90-3.00	Brown sand with vegetation.
1002932	DS104	None Supplied	0.00-0.40	Brown loam and sand with vegetation.
1002933	DS105	None Supplied	0.00-0.25	Brown loam and sand with vegetation and gravel.
1002934	DS106	None Supplied	0.00-0.25	Brown loam and sand with vegetation and gravel.
1002935	DS108	None Supplied	2.20-2.50	Brown clay.
1002936	DS110	None Supplied	0.00-0.40	Brown loam and sand with vegetation and gravel.
1002937	DS110	None Supplied	2.50-2.60	Brown clay and sand.
1002938	DS111	None Supplied	0.00-0.30	Brown loam and clay with vegetation and gravel
1002939	DS111	None Supplied	1.30-1.40	Brown clay.
1002940	DS112	None Supplied	0.00-0.20	Brown loam and clay with vegetation.

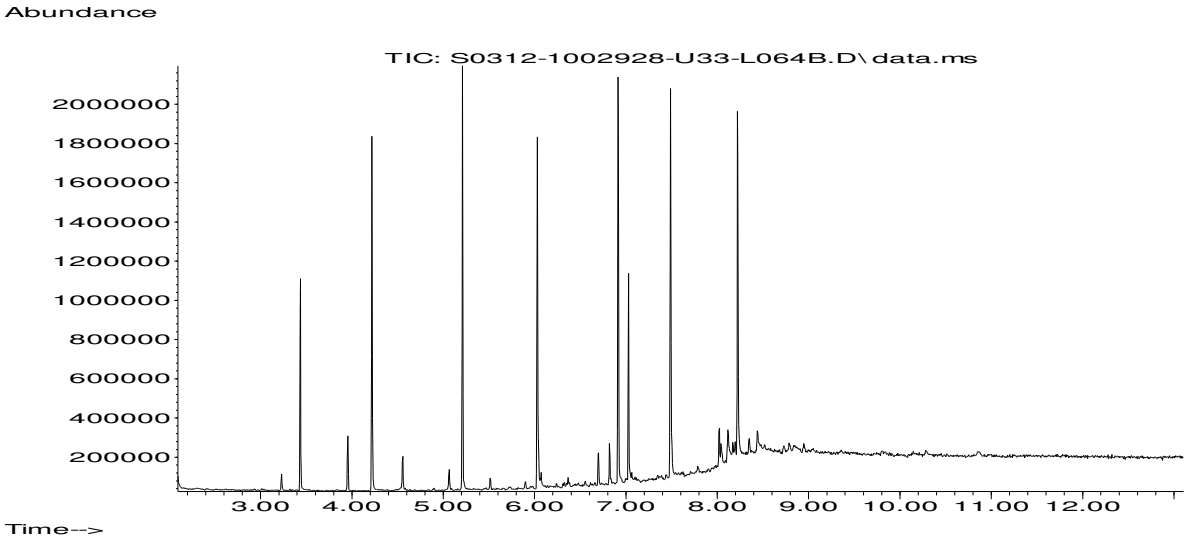
Analytical Report Number : 18-92912

Project / Site name: Whalley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	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
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	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
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	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
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
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.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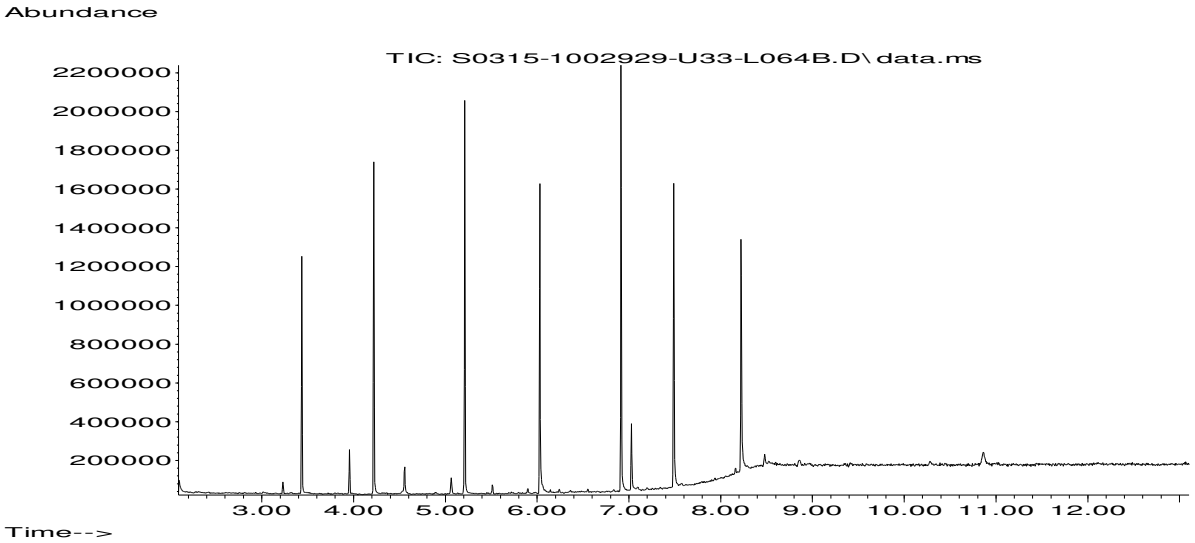
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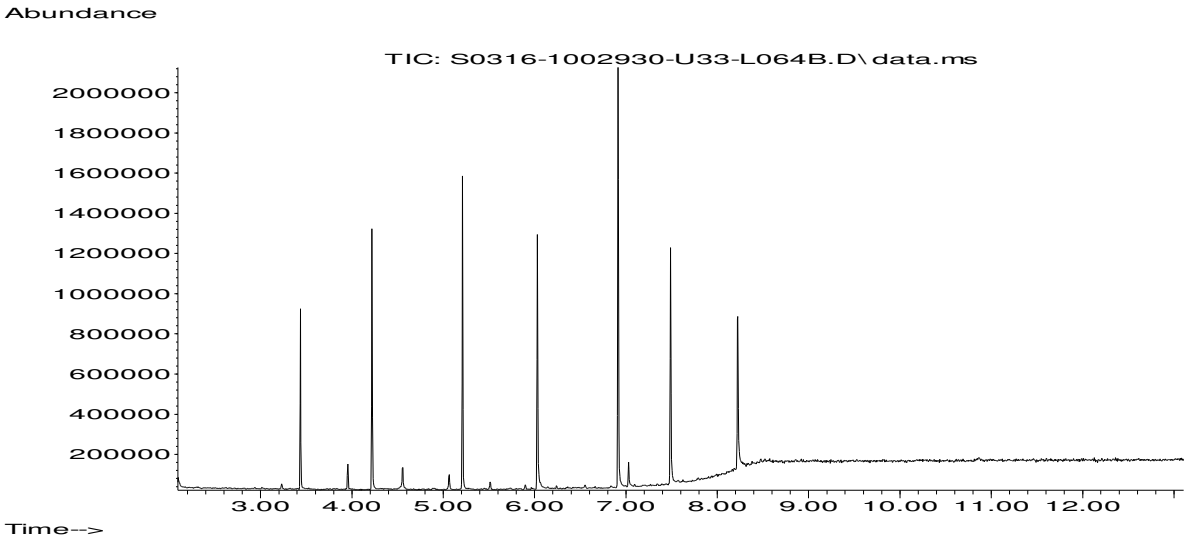
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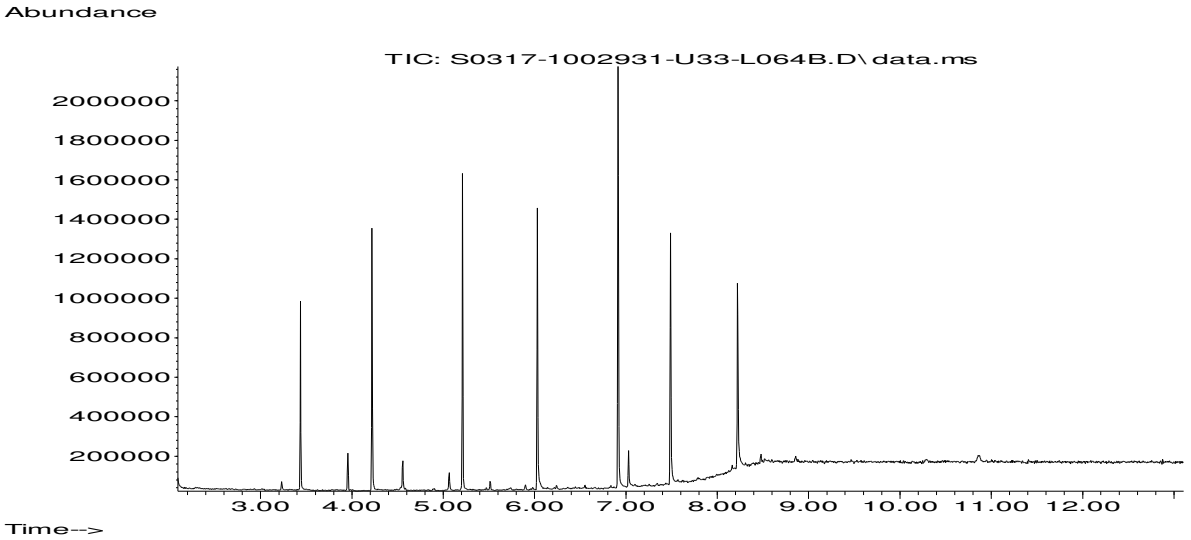
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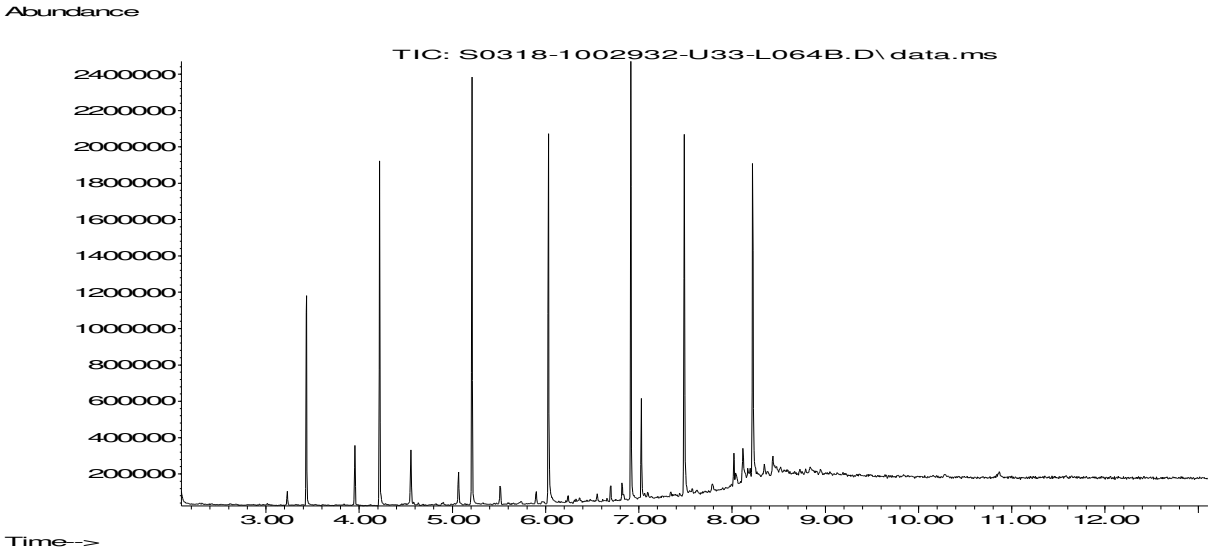
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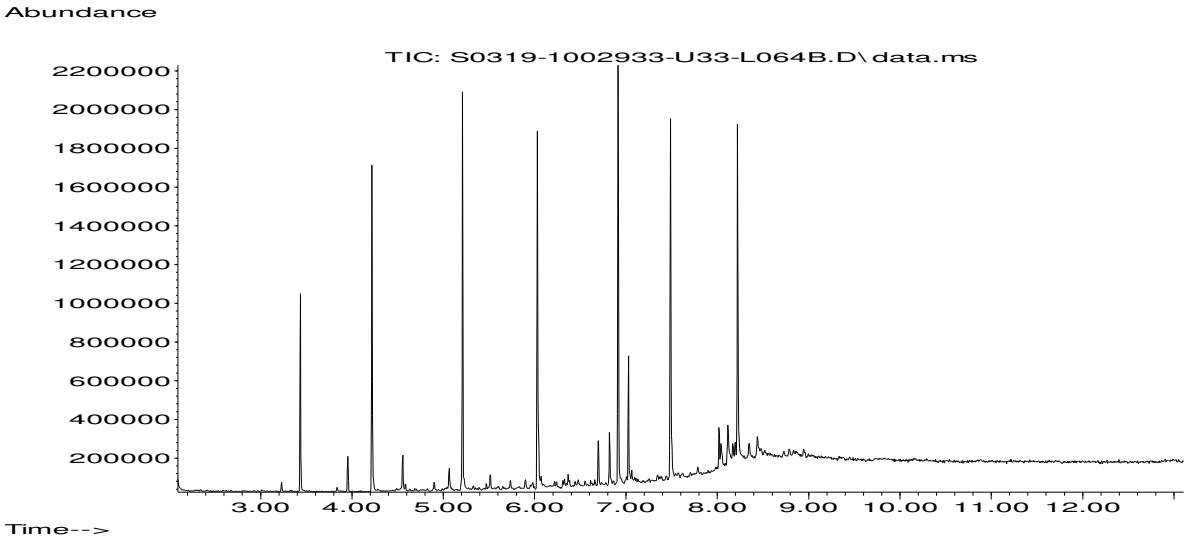
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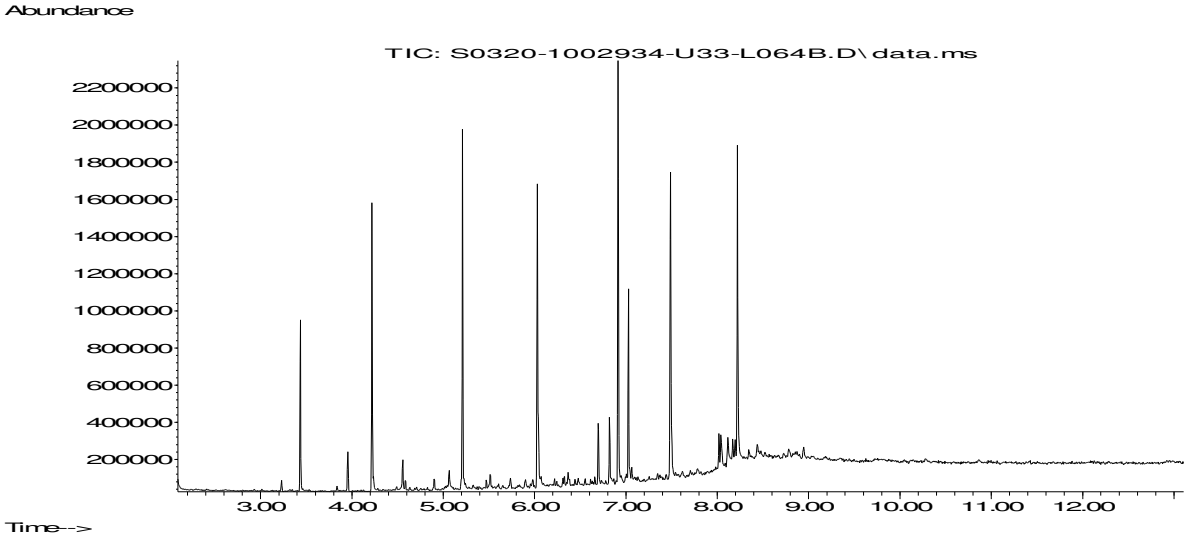
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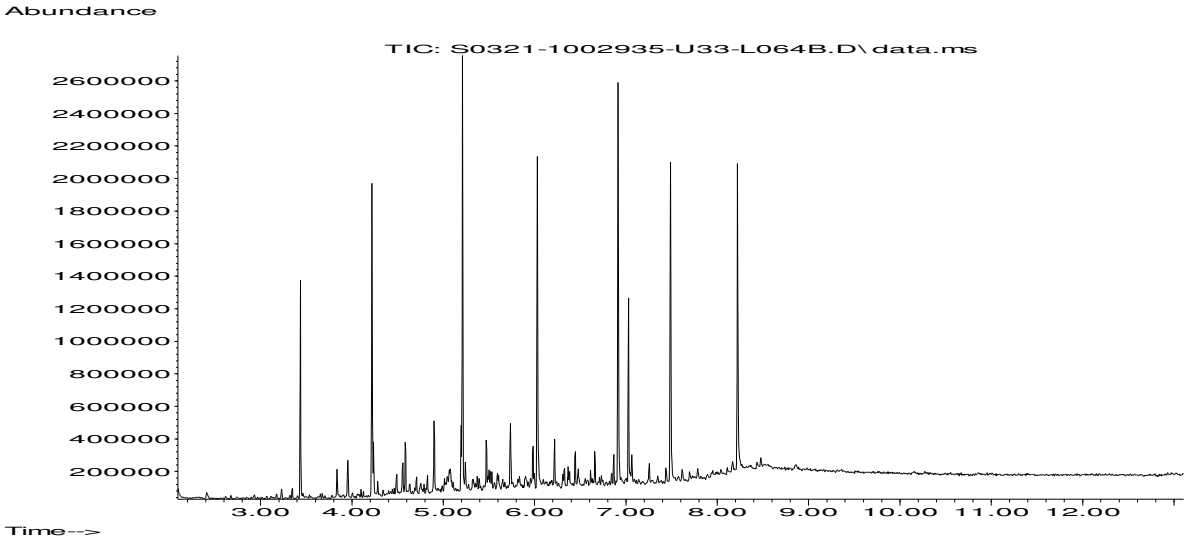
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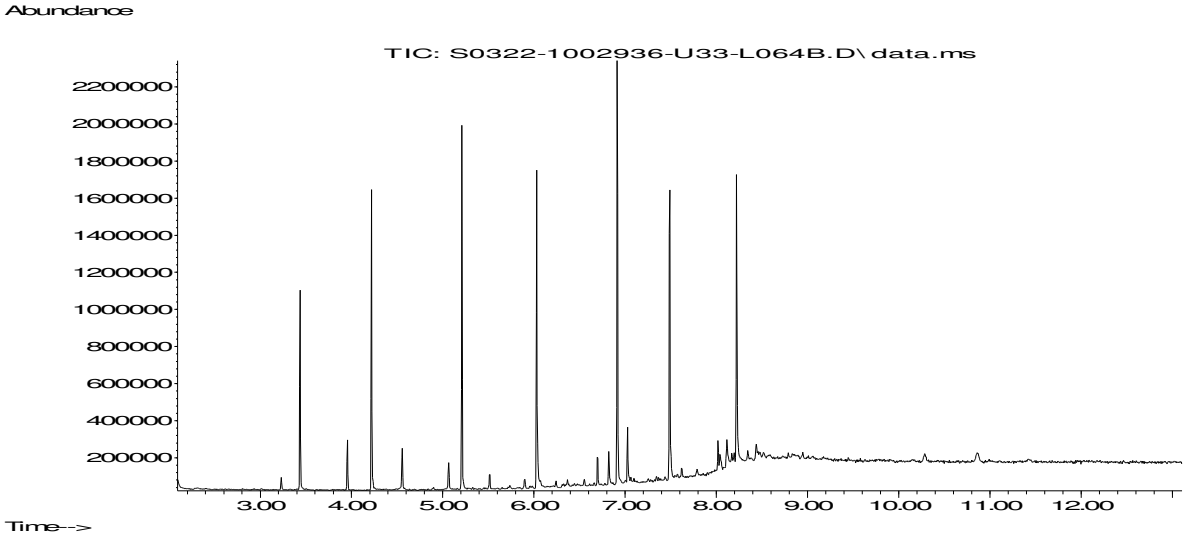
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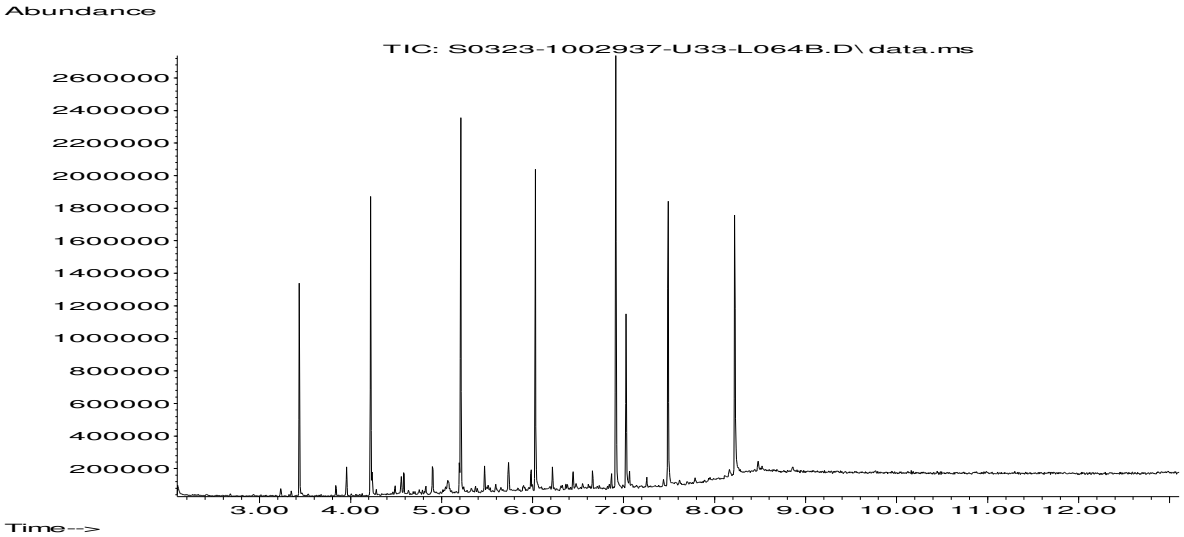
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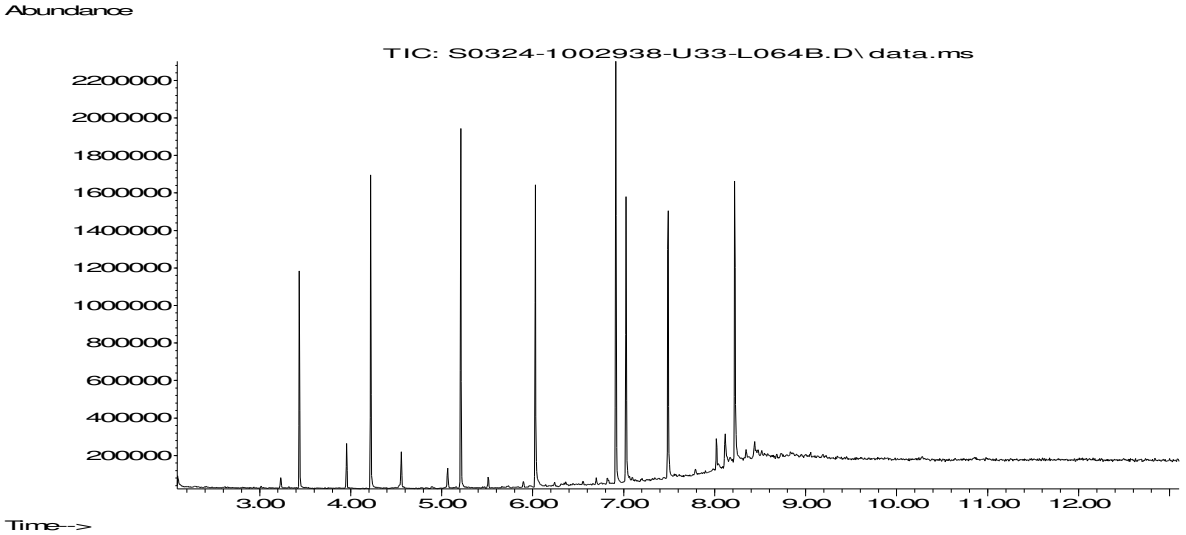
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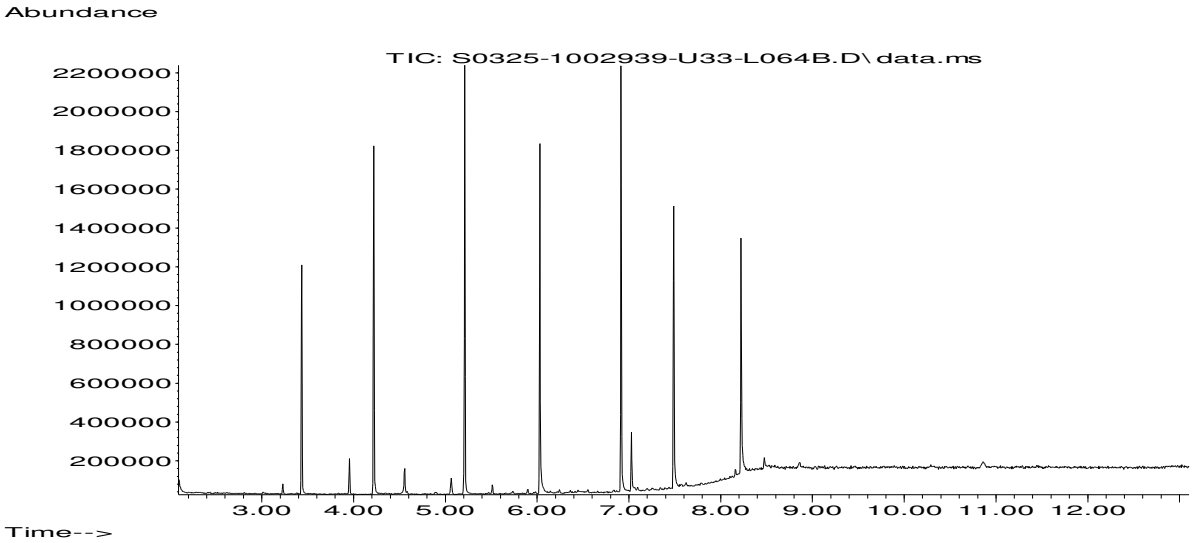
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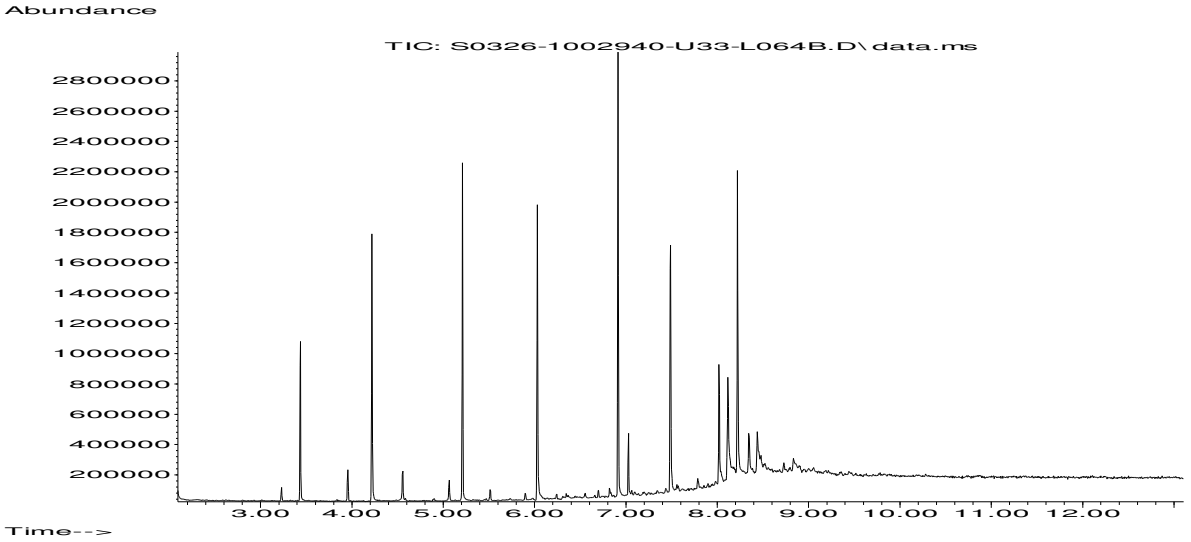
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Appendix E – Groundwater Chemical Analysis Results

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Analytical Report Number : 18-94783

Project / Site name:	Clitheroe Road, Whalley	**Samples received on:**	01/08/2018
Your job number:	18-0886.03	**Samples instructed on:**	01/08/2018
Your order number:	DS39967	**Analysis completed by:**	08/08/2018
Report Issue Number:	1	**Report issued on:**	08/08/2018
Samples Analysed:	7 water samples		

Signed:

Jordan Hill
Reporting Manager
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.

Analytical Report Number: 18-94783

Project / Site name: Clitheroe Road, Whalley

Your Order No: DS39967

Lab Sample Number				1013857	1013858	1013859	1013860	1013861
Sample Reference				DS111	DS112	DS103	DS110	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/07/2018	31/07/2018	31/07/2018	31/07/2018	31/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.0	7.2	6.5	7.1	7.1
Sulphate as SO_4	µg/l	45	ISO 17025	27400	33500	12900	19400	24600
Sulphate as SO_4	mg/l	0.045	ISO 17025	27.4	33.5	12.9	19.4	24.6
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.21	-	-	-	-
Barium (dissolved)	µg/l	0.06	ISO 17025	120	-	-	-	-
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	-	-	-	-
Boron (dissolved)	µg/l	10	ISO 17025	27	-	-	-	-
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.06	-	-	-	-
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	-	-	-	-
Chromium (III)	µg/l	1	NONE	< 1.0	-	-	-	-
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.4	-	-	-	-
Copper (dissolved)	µg/l	0.5	ISO 17025	3.2	-	-	-	-
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	-	-	-	-
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	-	-	-	-
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.2	-	-	-	-
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	-	-	-	-
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.0	-	-	-	-
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0	-	-	-	-
Toluene	µg/l	1	ISO 17025	< 1.0	-	-	-	-
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	-	-	-	-
p & m-xylene	µg/l	1	ISO 17025	< 1.0	-	-	-	-
o-xylene	µg/l	1	ISO 17025	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	-	-	-	-

Analytical Report Number: 18-94783

Project / Site name: Clitheroe Road, Whalley

Your Order No: DS39967

Lab Sample Number				1013857	1013858	1013859	1013860	1013861
Sample Reference				DS111	DS112	DS103	DS110	DS107
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				31/07/2018	31/07/2018	31/07/2018	31/07/2018	31/07/2018
Time Taken				None Supplied	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	µg/l	1	ISO 17025	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	-	-	-	-
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	-	-	-	-
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	-	-	-	-
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	-	-	-	-
Aliphatic >C10 - C12	µg/l	10	ISO 17025	< 10	-	-	-	-
Aliphatic >C12 - C16	µg/l	10	ISO 17025	< 10	-	-	-	-
Aliphatic >C16 - C21	µg/l	10	ISO 17025	< 10	-	-	-	-
Aliphatic >C21 - C35	µg/l	10	ISO 17025	< 10	-	-	-	-
Aliphatic >C10 - C35	µg/l	10	ISO 17025	< 10	-	-	-	-
Aromatic >C10 - C12	µg/l	10	ISO 17025	< 10	-	-	-	-
Aromatic >C12 - C16	µg/l	10	ISO 17025	< 10	-	-	-	-
Aromatic >C16 - C21	µg/l	10	ISO 17025	< 10	-	-	-	-
Aromatic >C21 - C35	µg/l	10	ISO 17025	< 10	-	-	-	-
Aromatic >C10 - C35	µg/l	10	ISO 17025	< 10	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 18-94783

Project / Site name: Clitheroe Road, Whalley

Your Order No: DS39967

Lab Sample Number				1013862	1013863			
Sample Reference				DS102	DS101			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				31/07/2018	31/07/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.4	6.3			
Sulphate as SO_4	µg/l	45	ISO 17025	7630	8870			
Sulphate as SO_4	mg/l	0.045	ISO 17025	7.6	8.9			
Heavy Metals / Metalloids								
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.22	0.36			
Barium (dissolved)	µg/l	0.06	ISO 17025	68	160			
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1			
Boron (dissolved)	µg/l	10	ISO 17025	22	22			
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.19	0.47			
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0			
Chromium (III)	µg/l	1	NONE	< 1.0	< 1.0			
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2			
Copper (dissolved)	µg/l	0.5	ISO 17025	0.9	7.8			
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2			
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05			
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.6	4.9			
Selenium (dissolved)	µg/l	0.6	ISO 17025	0.7	0.8			
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.1	9.7			
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0	-			
Toluene	µg/l	1	ISO 17025	< 1.0	-			
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	-			
p & m-xylene	µg/l	1	ISO 17025	< 1.0	-			
o-xylene	µg/l	1	ISO 17025	< 1.0	-			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	-			

Analytical Report Number: 18-94783

Project / Site name: Clitheroe Road, Whalley

Your Order No: DS39967

Lab Sample Number				1013862	1013863			
Sample Reference				DS102	DS101			
Sample Number				None Supplied	None Supplied			
Depth (m)				None Supplied	None Supplied			
Date Sampled				31/07/2018	31/07/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	-			
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	-			
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	-			
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	-			
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	-			
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	-			
Aliphatic >C10 - C12	µg/l	10	ISO 17025	< 10	-			
Aliphatic >C12 - C16	µg/l	10	ISO 17025	< 10	-			
Aliphatic >C16 - C21	µg/l	10	ISO 17025	< 10	-			
Aliphatic >C21 - C35	µg/l	10	ISO 17025	< 10	-			
Aliphatic >C10 - C35	µg/l	10	ISO 17025	< 10	-			
Aromatic >C10 - C12	µg/l	10	ISO 17025	< 10	-			
Aromatic >C12 - C16	µg/l	10	ISO 17025	< 10	-			
Aromatic >C16 - C21	µg/l	10	ISO 17025	< 10	-			
Aromatic >C21 - C35	µg/l	10	ISO 17025	< 10	-			
Aromatic >C10 - C35	µg/l	10	ISO 17025	< 10	-			

U/S = Unsuitable Sample I/S = Insufficient Sample

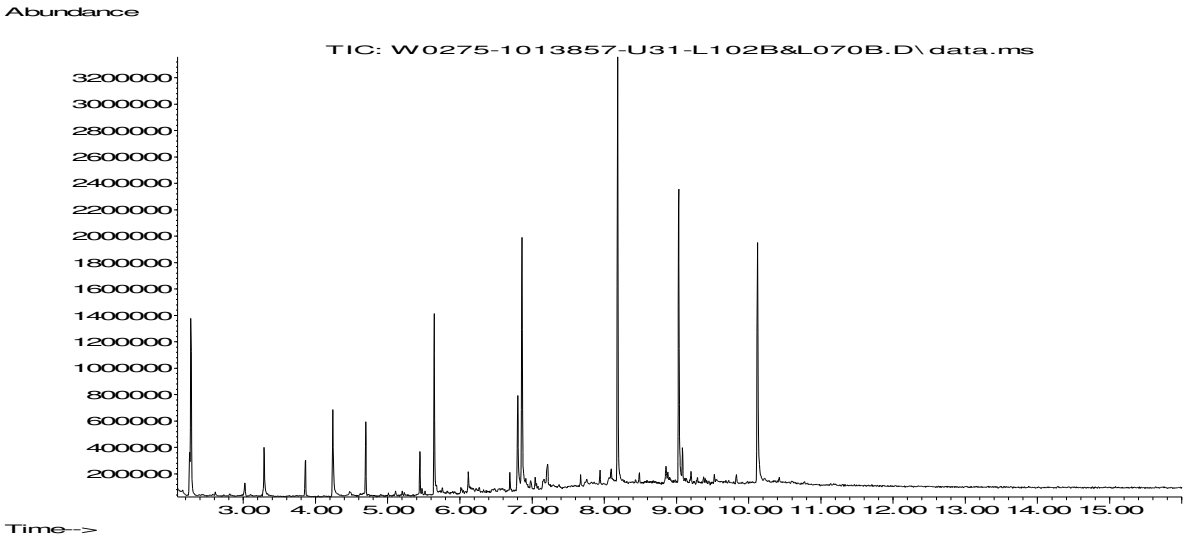
Analytical Report Number : 18-94783

Project / Site name: Clitheroe Road, Whalley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-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
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
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
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
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-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
TPH Chromatogram in Water	TPH Chromatogram in Water.	In-house method	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.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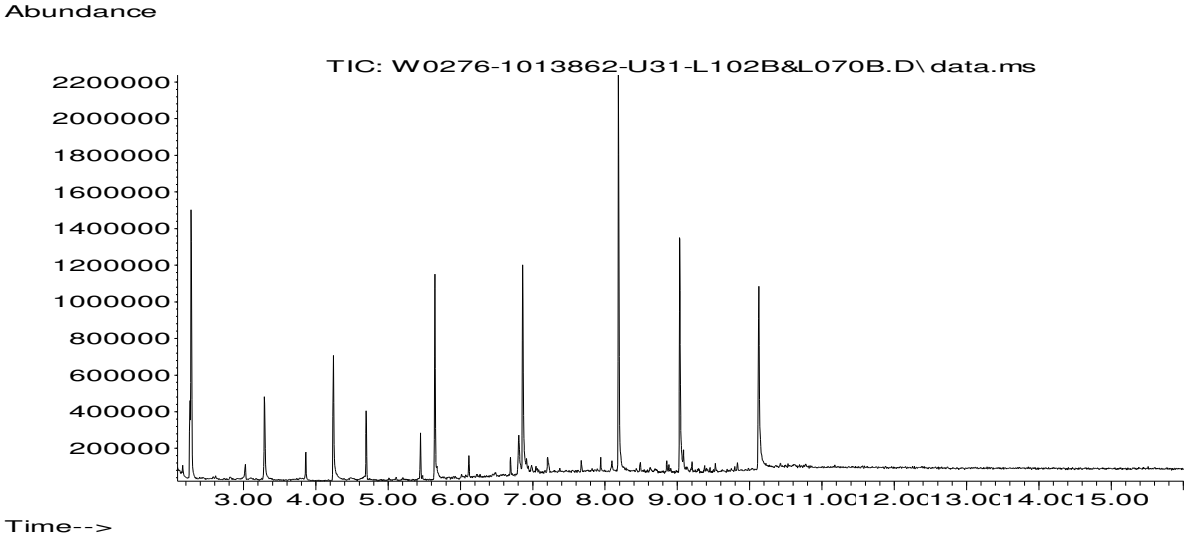
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Appendix F – Gas and Groundwater Monitoring Data

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	14.30	16.45
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1019	1019
				Wind speed (m/s)	4.47	4.91
Date (DD/MM/YYYY)	19/07/2018			Wind Dir. (from)	W	W
Gas Analyser	GFM436 (Gas Kit M1) -12535	Visit Number	1	Temperature (°C)	22.00	22.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.8	H_2S (ppm) 0		Dry/Rain/Snow/Ice	DRY	DRY
General comments						Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	1.9	1.9	19.8	19.8	<0.1	<0.1		<0.1	1010		3.41	4.00	
DS102	0.3	<0.1	<0.1	<0.1	4.2	4.2	18.6	18.6	<0.1	<0.1		<0.1	1009		3.10	4.49	
DS103	0.3	<0.1	<0.1	<0.1	2.0	2.0	19.9	19.9	<0.1	<0.1		<0.1	1009		3.73	4.05	Sediment at base.
DS105	<0.1	<0.1	<0.1	<0.1	1.7	1.7	19.2	19.2	<0.1	<0.1		<0.1	1010		DRY	3.55	
DS106	<0.1	<0.1	<0.1	<0.1	3.0	3.0	18.0	18.0	<0.1	<0.1		<0.1	1010		DRY	4.52	
DS107	<0.1	<0.1	<0.1	<0.1	2.2	2.2	19.2	19.2	<0.1	<0.1		<0.1	1010		3.00	4.22	Sediment at base.
DS110	<0.1	<0.1	<0.1	<0.1	2.9	2.9	19.0	19.1	<0.1	<0.1		<0.1	1010		2.23	4.50	
DS111	<0.1	<0.1	<0.1	<0.1	0.3	0.3	20.3	20.4	<0.1	<0.1		<0.1	1010		3.36	4.44	
DS112	<0.1	<0.1	<0.1	<0.1	0.9	0.9	20.3	20.4	<0.1	<0.1		<0.1	1009		3.64	4.72	

deltasimons

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	9.37	13.44
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1013	1013
				Wind speed (m/s)	4.91	16.25
Date (DD/MM/YYYY)	31/07/2018			Wind Dir. (from)	SSW	SW
Gas Analyser		Visit Number	2	Temperature (°C)	17.00	19.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.4	H_2S (ppm) 0		Dry/Rain/Snow/Ice	DRY	DRY
General comments						Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	0.6	<0.1	<0.1	<0.1	1.4	1.4	19.8	19.8	<0.1	<0.1		<0.1	1006		3.50	4.00	Sediment at base.
DS102	<0.1	<0.1	<0.1	<0.1	3.8	3.8	18.7	18.7	<0.1	<0.1		<0.1	1004		2.98	4.49	
DS103	<0.1	<0.1	<0.1	<0.1	1.6	1.6	19.8	19.8	<0.1	<0.1		<0.1	1005		3.74	4.02	Sediment at base.
DS105	<0.1	<0.1	<0.1	<0.1	1.3	1.3	19.5	19.5	<0.1	<0.1		<0.1	1005		DRY	3.54	Sediment at base.
DS106	<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.4	20.6	<0.1	<0.1		<0.1	1004		DRY	4.52	
DS107	<0.1	<0.1	<0.1	<0.1	1.9	1.9	19.4	19.4	<0.1	<0.1		<0.1	1005		3.15	4.08	Sediment at base.
DS110	<0.1	<0.1	<0.1	<0.1	2.4	2.4	19.1	19.1	<0.1	<0.1		<0.1	1003		2.34	4.50	
DS111	<0.1	<0.1	<0.1	<0.1	0.5	0.5	20.2	20.2	<0.1	<0.1		<0.1	1001		3.44	4.45	
DS112	<0.1	<0.1	<0.1	<0.1	0.8	0.8	20.1	20.2	<0.1	<0.1		<0.1	1003		3.83	4.72	

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	15:30	16:50
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1005	1005
				Wind speed (m/s)	9.00	9.00
Date (DD/MM/YYYY)	09/08/2018			Wind Dir. (from)	SW	SW
Gas Analyser		Visit Number	3	Temperature (°C)	19.00	19.00
Readings at start	CH_4 (% v/v) 0.0	CO_2 (% v/v) 0.0	O_2 (% v/v) 20.6	H_2S (ppm) 0		Dry/Rain/Snow/Ice	DRY	DRY
General comments						Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	0.0	0.0	0.0	0.0	0.4	0.4	20.4	20.4	0	0		0.0	1004		3.54	4.43	
DS102	0.0	0.0	0.0	0.0	1.8	1.8	19.4	19.4	0	0		0.0	1005		3.26	4.07	
DS103	0.0	0.0	0.0	0.0	2.0	2.0	19.5	19.5	0	0		0.0	1004		DRY	4.54	
DS105	0.0	0.0	0.0	0.0	2.2	2.2	19.1	19.1	0	0		0.0	1003		2.46	4.45	
DS106	0.0	0.0	0.0	0.0	0.7	0.7	20.1	20.1	0	0		0.0	1003		4.19	4.71	
DS107	0.0	0.0	0.0	0.0	1.3	1.3	19.4	19.4	0	0		0.0	1004		DRY	3.54	
DS110	0.0	0.0	0.0	0.0	1.9	1.8	19.7	19.7	0	0		0.0	1004		3.75	4.02	
DS111	0.0	0.0	0.0	0.0	1.5	1.4	19.7	19.8	0	0		0.0	1005		3.52	4.04	
DS112	0.0	0.0	0.0	0.0	3.7	3.7	18.8	18.8	0	0		0.0	1004		3.01	4.49	

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	9.00	11:30
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1010	1012
				Wind speed (m/s)	4.91	4.91
Date (DD/MM/YYYY)	21/08/2018			Wind Dir. (from)	SW	SW
Gas Analyser	GFM436 (Gas Kit M1) -12535	Visit Number	4	Temperature (°C)	19.00	19.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.6	H_2S (ppm) <0.1		Dry/Rain/Snow/Ice	DRY	DRY
General comments						Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	0.1	1.7	1.7	19.3	19.3	<0.1	<0.1	-	0.1	1012	-	3.54	4.04	
DS102	0.3	<0.1	<0.1	0.1	3.7	3.7	18.5	18.5	0.3	<0.1	-	0.1	1012	-	3.64	4.48	
DS103	0.3	<0.1	<0.1	0.1	2.2	2.2	19.1	19.1	0.3	<0.1	-	0.1	1012	-	3.75	4.02	
DS105	<0.1	<0.1	<0.1	0.1	1.9	1.9	18.5	18.5	<0.1	<0.1	-	0.1	1012	-	DRY	3.54	
DS106	<0.1	<0.1	<0.1	0.1	2.9	2.9	17.2	17.2	<0.1	<0.1	-	0.1	1010	-	DRY	4.53	
DS107	<0.1	<0.1	<0.1	0.1	2.1	2.1	18.6	18.7	<0.1	<0.1	-	0.1	1011	-	3.21	4.04	
DS110	<0.1	<0.1	<0.1	0.1	2.4	2.4	18.0	18.0	<0.1	<0.1	-	0.1	1010	-	2.52	4.44	
DS111	<0.1	<0.1	<0.1	0.1	0.3	0.3	20.0	20.1	<0.1	<0.1	-	0.1	1009	-	3.89	4.49	
DS112	<0.1	<0.1	<0.1	0.1	0.6	0.6	19.8	19.8	<0.1	<0.1	-	0.1	1010	-	4.19	4.70	

deltasimons

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	13.30	16.00
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1013	1015
				Wind speed (m/s)	4.02	4.47
Date (DD/MM/YYYY)	03/09/2018			Wind Dir. (from)	W	W
Gas Analyser	GFM436 (Gas Kit M1) -12535	Visit Number	5	Temperature (°C)	18.00	18.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.5	H_2S (ppm) <0.1	Dry/Rain/Snow/Ice	RAIN	RAIN
General comments					Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	2.0	2.0	18.7	18.7	<0.1	<0.1	-	<0.1	1015	-	NR	4.04	
DS102	<0.1	<0.1	<0.1	<0.1	3.4	3.4	18.5	18.5	<0.1	<0.1	-	<0.1	1015	-	NR	4.49	
DS103	<0.1	<0.1	<0.1	<0.1	2.5	2.5	18.6	18.6	<0.1	<0.1	-	<0.1	1015	-	NR	4.05	
DS105	3.2	<0.1	<0.1	<0.1	1.9	1.9	19.8	19.8	<0.1	<0.1	-	<0.1	1015	-	NR	3.55	
DS106	<0.1	<0.1	<0.1	<0.1	3.0	3.0	16.7	16.7	<0.1	<0.1	-	<0.1	1013	-	NR	4.43	
DS107	<0.1	<0.1	<0.1	<0.1	2.4	2.4	18.2	18.2	<0.1	<0.1	-	<0.1	1012	-	NR	4.04	
DS110	<0.1	<0.1	<0.1	<0.1	2.5	2.5	17.1	17.1	<0.1	<0.1	-	<0.1	1013	-	NR	4.54	
DS111	<0.1	<0.1	<0.1	<0.1	0.2	0.2	19.8	19.8	<0.1	<0.1	-	<0.1	1012	-	NR	4.44	
DS112	<0.1	<0.1	<0.1	<0.1	0.5	0.5	19.8	19.8	<0.1	<0.1	-	<0.1	1014	-	NR	4.40	
																	NR = Not Recorded (equipment fault)

Site Name	Clitheroe Road, Whalley	Job number	18-0886.03	WEATHER	Start	End
				Time	14:00	15:30
Client	Trafford Housing Trust	Recorded by	RR	Pressure (mb)	1008	1008
				Wind speed (m/s)	6.70	7.15
Date (DD/MM/YYYY)	11/09/2018			Wind Dir. (from)	WSW	WSW
Gas Analyser	GFM436 (Gas Kit 2) - 12788	Visit Number	6	Temperature (°C)	16.00	16.00
Readings at start	CH_4 (% v/v) 0.0	CO_2 (% v/v) 0.0	O_2 (% v/v) 20.4	H_2S (ppm) 0		Dry/Rain/Snow/Ice	DRY	DRY
General comments						Rising/Falling Trend (for the three days before visit)		

Ref	GROUND GAS													GROUNDWATER			Notes (e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.)
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Diff. Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	0.1	0.2	20.3	20.4	<0.1	<0.1	-	<0.1	1008	-	4.04	4.42	
DS102	<0.1	<0.1	<0.1	<0.1	2.3	2.3	18.2	18.2	<0.1	<0.1	-	<0.1	1009	-	3.21	4.05	
DS103	<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.4	20.4	<0.1	<0.1	-	<0.1	1009	-	DRY	4.50	
DS105	<0.1	<0.1	<0.1	<0.1	2.5	2.5	16.8	16.8	<0.1	<0.1	-	<0.1	1007	-	2.57	4.42	
DS106	<0.1	<0.1	<0.1	<0.1	0.2	0.2	20.0	20.3	<0.1	<0.1	-	<0.1	1007	-	4.41	4.70	
DS107	<0.1	<0.1	<0.1	<0.1	1.9	1.9	18.7	18.8	<0.1	<0.1	-	<0.1	1009	-	DRY	3.51	
DS110	<0.1	<0.1	<0.1	<0.1	2.4	2.4	18.7	18.7	<0.1	<0.1	-	<0.1	1008	-	3.75	4.00	
DS111	<0.1	<0.1	<0.1	<0.1	2.0	2.0	18.8	18.8	<0.1	<0.1	-	<0.1	1008	-	3.56	4.02	
DS112	<0.1	<0.1	<0.1	<0.1	3.0	3.0	18.7	18.7	<0.1	<0.1	-	<0.1	1009	-	4.09	4.49	

Appendix G – Risk Definitions

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 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.