

APPENDIX G

LABORATORY CHEMICAL TEST RESULTS (SOILS)

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Analytical Report Number : 21-16704

Replaces Analytical Report Number: 21-16704, issue no. 1
Additional analysis undertaken.

Project / Site name:	Usk Way	Samples received on:	15/10/2021
Your job number:	12923	Samples instructed on/ Analysis started on:	15/10/2021
Your order number:		Analysis completed by:	03/11/2021
Report Issue Number:	2	Report issued on:	03/11/2021
Samples Analysed:	2 leachate samples - 17 soil samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049017	2049018	2049019	2049020	2049021
Sample Reference				TP1	TP1	TP2	TP2	TP3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.70	0.60	2.20	1.30
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0800	0800	0830	0830	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	26	7.4	19	12
Total mass of sample received	kg	0.001	NONE	1.0	0.50	1.0	1.0	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	0.336
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	0.336

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	-	10.3	-	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	1200	-	3300	-	5000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.090	-	0.26	-	2.0
Sulphide	mg/kg	1	MCERTS	5.2	-	49	-	110
Total Sulphur	mg/kg	50	MCERTS	860	-	1800	-	4800
Total Organic Carbon (TOC)	%	0.1	MCERTS	3.9	-	1.5	-	2.8
Loss on Ignition @ 450oC	%	0.2	MCERTS	17.2	-	5.3	-	7.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
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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	-	0.50
Phenanthrene	mg/kg	0.05	MCERTS	1.3	-	1.3	-	1.4
Anthracene	mg/kg	0.05	MCERTS	0.36	-	0.34	-	0.42
Fluoranthene	mg/kg	0.05	MCERTS	2.0	-	1.7	-	2.4
Pyrene	mg/kg	0.05	MCERTS	1.9	-	1.6	-	2.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	-	1.3	-	1.7
Chrysene	mg/kg	0.05	MCERTS	1.3	-	0.84	-	1.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.2	-	0.87	-	1.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.50	-	0.49	-	0.91
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.83	-	0.70	-	1.0
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.58	-	0.45	-	0.81
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.20	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.60	-	0.48	-	0.81

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	12.2	-	10.1	-	15.2
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Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.70	0.60	2.20	1.30
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0800	0800	0830	0830	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	69	-	25	-	29
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	-	0.84	-	1.2
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	-	3.2	-	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	2.9	-	3.1
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	< 4.0	-	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	-	310	-	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	140	-	290	-	300
Lead (aqua regia extractable)	mg/kg	1	MCERTS	280	-	230	-	450
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	-	1.6
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	49	-	37	-	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	47	-	77	-	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	330	-	970	-	610

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	31	< 2.0	46
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	9.4	< 8.0	140	< 8.0	290
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	45	< 8.0	230	< 8.0	540
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	55	< 10	370	< 10	830
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	64	< 8.4	160
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	55	< 10	400	< 10	880
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	55	< 10	460	< 10	1000

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	11	< 2.0	11
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	13	< 10	69	< 10	99
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	49	< 10	110	< 10	260
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	11	< 10	29	< 10	84
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	13	< 8.4	43	< 8.4	110
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	62	< 10	190	< 10	370
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	75	< 10	230	< 10	490

TPH Total C5 - C44	mg/kg	10	NONE	130	< 10	700	< 10	1500
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Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

VOCs

Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

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Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0

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Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	0.50
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	1.3	-	-	-	1.4
Anthracene	mg/kg	0.05	MCERTS	0.36	-	-	-	0.42
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	2.0	-	-	-	2.4
Pyrene	mg/kg	0.05	MCERTS	1.9	-	-	-	2.4
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.5	-	-	-	1.7
Chrysene	mg/kg	0.05	MCERTS	1.3	-	-	-	1.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.2	-	-	-	1.3
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.50	-	-	-	0.91
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.83	-	-	-	1.0

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049017	2049018	2049019	2049020	2049021
Sample Reference				TP1	TP1	TP2	TP2	TP3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.70	0.60	2.20	1.30
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0800	0800	0830	0830	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.58	-	-	-	0.81
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.20	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.60	-	-	-	0.81

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049017	2049018	2049019	2049020	2049021
Sample Reference				TP1	TP1	TP2	TP2	TP3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	2.70	0.60	2.20	1.30
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0800	0800	0830	0830	0900
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	-	-	-	0.032
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	-	-	-	0.013
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	-	-	-	0.013
PCB Congener 118	mg/kg	0.001	MCERTS	0.003	-	-	-	0.013
PCB Congener 138	mg/kg	0.001	MCERTS	0.003	-	-	-	0.011
PCB Congener 153	mg/kg	0.001	MCERTS	0.003	-	-	-	0.011
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	-	-	-	0.007

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	0.009	-	-	-	0.10
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	7.6	8.7	5.0	9.4
Total mass of sample received	kg	0.001	NONE	0.50	0.50	0.50	0.50	1.0

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	9.8	9.9	10.4	9.4
Total Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	5000	2800	3500	2300
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.40	0.28	0.18	0.38
Sulphide	mg/kg	1	MCERTS	-	130	30	130	140
Total Sulphur	mg/kg	50	MCERTS	-	2300	1600	2000	2200
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	2.4	2.1	1.7	2.7
Loss on Ignition @ 450oC	%	0.2	MCERTS	-	6.0	6.3	3.8	11.4

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	-	0.81	< 0.05	< 0.05	3.0
Acenaphthylene	mg/kg	0.05	MCERTS	-	0.85	< 0.05	< 0.05	0.59
Acenaphthene	mg/kg	0.05	MCERTS	-	0.57	< 0.05	< 0.05	1.3
Fluorene	mg/kg	0.05	MCERTS	-	0.77	< 0.05	< 0.05	1.7
Phenanthrene	mg/kg	0.05	MCERTS	-	4.2	4.1	1.3	8.4
Anthracene	mg/kg	0.05	MCERTS	-	1.5	1.0	0.26	1.8
Fluoranthene	mg/kg	0.05	MCERTS	-	8.3	5.2	2.2	8.8
Pyrene	mg/kg	0.05	MCERTS	-	6.6	3.9	2.1	7.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.4	3.1	1.5	5.5
Chrysene	mg/kg	0.05	MCERTS	-	6.1	2.6	1.3	3.9
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	5.2	1.9	1.3	3.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	2.7	1.4	0.83	2.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.9	1.5	1.0	3.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	2.6	1.1	0.63	2.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.94	0.41	< 0.05	0.70
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.6	1.1	0.72	2.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	53.9	27.3	13.1	56.8
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	23	30	14	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	1.4	1.1	0.93	0.97
Boron (water soluble)	mg/kg	0.2	MCERTS	-	2.5	3.4	7.4	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	45	1.4	6.3	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	69	51	920	64
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	240	130	320	330
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	370	220	670	930
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	2.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	26	26	56	47
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	39	42	170	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	730	280	3400	980

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 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
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 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
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	9.9	< 2.0	17
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	98	21	190
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	260	110	310
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	< 10	-	360	130	500
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	100	130	89
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	370	130	510
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	480	260	600

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 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
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 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
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	3.2	< 2.0	8.1
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	54	12	96
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	190	200	210
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	-	64	160	67
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	93	270	120
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	240	210	320
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	340	480	440

TPH Total C5 - C44	mg/kg	10	NONE	< 10	-	810	750	1000
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	3.0
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	0.59
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	1.3
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	1.7
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	8.4
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	1.8
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	8.8
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	7.7
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	5.5
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	3.9
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	3.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	2.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	3.1

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	2.0
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	0.70
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	2.1

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049022	2049023	2049024	2049025	2049026
Sample Reference				TP3	TP4	TP5	TP6	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.00	0.40	0.50	0.30	1.00
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				0900	0930	1000	1030	1100
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	0.008
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	0.003
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	0.003
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	0.006
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	0.004
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	0.004
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	< 0.001
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	0.029

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

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	-	-
Moisture Content	%	0.01	NONE	5.2	17	12	-	-
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	-	-

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10.6	8.0	8.6	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Total Sulphate as SO ₄	mg/kg	50	MCERTS	5200	6500	1200	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.20	2.5	0.11	-	-
Sulphide	mg/kg	1	MCERTS	18	340	2.1	-	-
Total Sulphur	mg/kg	50	MCERTS	2200	13000	800	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.9	3.7	5.1	-	-
Loss on Ignition @ 450oC	%	0.2	MCERTS	3.4	8.7	15.0	-	-

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.51	9.4	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.32	3.7	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.71	19	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.73	41	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.76	2.7	110	-	-
Anthracene	mg/kg	0.05	MCERTS	0.24	0.98	47	-	-
Fluoranthene	mg/kg	0.05	MCERTS	1.4	4.4	78	-	-
Pyrene	mg/kg	0.05	MCERTS	1.2	4.0	70	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.0	2.7	76	-	-
Chrysene	mg/kg	0.05	MCERTS	0.81	2.8	49	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.69	2.3	42	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.56	0.84	20	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.64	1.6	33	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.47	1.1	17	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.35	6.7	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.52	1.1	16	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	8.32	27.1	635	-	-
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	32	39	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.80	1.0	1.5	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	9.5	2.3	1.2	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	7.7	2.9	1.5	-	-
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	940	47	27	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	280	300	260	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	420	850	670	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.7	< 0.3	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	52	46	38	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	170	41	45	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	4000	1100	230	-	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	39	2.5	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	310	17	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	920	39	-	-
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	-	1200	57	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	460	< 8.4	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	1300	59	-	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	1700	59	-	-

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	7.2	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	10	62	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	150	280	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	540	320	-	-
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	-	260	58	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	420	110	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	700	660	-	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	1100	770	-	-

TPH Total C5 - C44	mg/kg	10	NONE	-	2800	830	-	-
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-	-

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	0.51	9.4	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	0.32	3.7	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	0.71	19	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Fluorene	mg/kg	0.05	MCERTS	-	0.73	41	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	2.7	110	-	-
Anthracene	mg/kg	0.05	MCERTS	-	0.98	47	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	4.4	78	-	-
Pyrene	mg/kg	0.05	MCERTS	-	4.0	70	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	2.7	76	-	-
Chrysene	mg/kg	0.05	MCERTS	-	2.8	49	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	2.3	42	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.84	20	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.6	33	-	-

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.1	17	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.35	6.7	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	1.1	16	-	-

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049027	2049028	2049029	2049030	2049031
Sample Reference				TP8	TP8	TP9	TP10	Trench 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.00	1.00	0.40	0.50
Date Sampled				12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Time Taken				1130	1130	1230	1300	1500
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	0.062	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	0.023	0.021	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	0.020	0.062	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	0.024	0.040	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	0.029	0.059	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	0.042	0.038	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	0.043	0.013	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	0.24	0.23	-	-

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

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	10
Total mass of sample received	kg	0.001	NONE	1.0	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Crocidolite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.008	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	0.008	< 0.001

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.0	8.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	3400	1600
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.20	0.15
Sulphide	mg/kg	1	MCERTS	51	13
Total Sulphur	mg/kg	50	MCERTS	1600	950
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.6	1.7
Loss on Ignition @ 450oC	%	0.2	MCERTS	6.0	5.1

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.8	1.3
Anthracene	mg/kg	0.05	MCERTS	0.61	0.40
Fluoranthene	mg/kg	0.05	MCERTS	3.6	3.0
Pyrene	mg/kg	0.05	MCERTS	3.3	2.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	2.6
Chrysene	mg/kg	0.05	MCERTS	2.6	2.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.5	2.0
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.5	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	1.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.51	0.44
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	1.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	23.9	21.3
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	32	32
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	0.81
Boron (water soluble)	mg/kg	0.2	MCERTS	4.4	1.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	4.4	1.6
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	73	46
Copper (aqua regia extractable)	mg/kg	1	MCERTS	240	360
Lead (aqua regia extractable)	mg/kg	1	MCERTS	290	1100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	59	31
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	33
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	890	680

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.5	2.8
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	60	50
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	160	110
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	MCERTS	220	160
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	61	36
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	230	160
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	290	200

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	25	30
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	91	79
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	34	25
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	76	53
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	120	110
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	190	160

TPH Total C5 - C44	mg/kg	10	NONE	480	360
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Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
VOCs					
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
SVOCs					
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	1.8	1.3
Anthracene	mg/kg	0.05	MCERTS	0.61	0.40
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	3.6	3.0
Pyrene	mg/kg	0.05	MCERTS	3.3	2.9
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	2.6
Chrysene	mg/kg	0.05	MCERTS	2.6	2.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.5	2.0
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.5	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9	1.9

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.51	0.44
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	1.4

Analytical Report Number: 21-16704

Project / Site name: Usk Way

Lab Sample Number				2049032	2049033
Sample Reference				Trench 1	Trench 2
Sample Number				None Supplied	None Supplied
Depth (m)				2.00	1.10
Date Sampled				12/10/2021	12/10/2021
Time Taken				1500	1600
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
PCBs by GC-MS					
PCB Congener 28	mg/kg	0.001	MCERTS	0.003	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	0.003
PCB Congener 101	mg/kg	0.001	MCERTS	0.006	0.003
PCB Congener 118	mg/kg	0.001	MCERTS	0.004	0.003
PCB Congener 138	mg/kg	0.001	MCERTS	0.010	0.003
PCB Congener 153	mg/kg	0.001	MCERTS	0.010	0.004
PCB Congener 180	mg/kg	0.001	MCERTS	0.009	0.004

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	0.042	0.020
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U/S = Unsuitable Sample I/S = Insufficient Sample



Apex Testing Solutions Limited
Sturmi Way
Village Farm Industrial Estate
Pyle
Bridgend
CF33 6BZ

Attention: Laura Davies

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
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email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

CERTIFICATE OF ANALYSIS

Date of report Generation: 25 October 2021
Customer: Apex Testing Solutions Limited
Sample Delivery Group (SDG): 211016-81
Your Reference: D21558
Location:
Report No: 618512
Order Number:

We received 3 samples on Saturday October 16, 2021 and 3 of these samples were scheduled for analysis which was completed on Monday October 25, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 211016-81
Client Ref.: D21558

Report Number: 618512
Location:

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25167063	TP4		2.00	15/10/2021
25167064	TP5		2.00	15/10/2021
25167065	TP9		1.60	15/10/2021

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211016-81
Client Ref.: D21558

Report Number: 618512
Location:

Superseded Report:

Results Legend



Test



No Determination
Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)

25167063

25167064

25167065

Customer
Sample Reference

TP4

TP5

TP9

AGS Reference

Depth (m)

2.00

2.00

1.60

Container

250g Amber Jar
(ALE210)

250g Amber Jar
(ALE210)

250g Amber Jar
(ALE210)

Sample Type

S

S

S

Anions by Kone (soil)

All

NDPs: 0
Tests: 3

X

X

X

pH

All

NDPs: 0
Tests: 3

X

X

X

Sample description

All

NDPs: 0
Tests: 3

X

X

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 211016-81
Client Ref.: D21558

Report Number: 618512
Location:

Superseded Report:

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
25167063	TP4	2.00	Dark Brown	Sandy Clay Loam	Stones	None
25167064	TP5	2.00	Dark Brown	Sandy Clay	Stones	None
25167065	TP9	1.60	Dark Brown	Sandy Clay Loam	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211016-81
Client Ref.: D21558

Report Number: 618512
Location:

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM243		Mixed Anions In Soils By Kone

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden.



CERTIFICATE OF ANALYSIS

Validated

SDG: 211016-81
Client Ref.: D21558

Report Number: 618512
Location:

Superseded Report:

Test Completion Dates

Lab Sample No(s)	25167063	25167064	25167065
Customer Sample Ref.	TP4	TP5	TP9
AGS Ref.			
Depth	2.00	2.00	1.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Anions by Kone (soil)	25-Oct-2021	25-Oct-2021	25-Oct-2021
pH	22-Oct-2021	22-Oct-2021	22-Oct-2021
Sample description	21-Oct-2021	21-Oct-2021	21-Oct-2021



CERTIFICATE OF ANALYSIS

SDG:	211016-81	Client Reference:	D21558	Report Number:	618512
Location:		Order Number:		Superseded Report:	

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

General

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



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Analytical Report Number : 21-22269

Project / Site name:	Jacks Pill	Samples received on:	11/11/2021
Your job number:	12923	Samples instructed on/ Analysis started on:	11/11/2021
Your order number:		Analysis completed by:	19/11/2021
Report Issue Number:	1	Report issued on:	19/11/2021
Samples Analysed:	12 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-22269

Project / Site name: Jacks Pill

Lab Sample Number				2079369	2079370	2079371	2079372	2079373
Sample Reference				BH1	BH1	BH1	BH2	BH2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				8.00	17.00	21.50	8.00	17.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	28	7.5	12	30	6.4
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.2	9.4	9.8	9.1	9.4
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.17	0.035	0.035	0.76	0.041

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

Analytical Report Number: 21-22269

Project / Site name: Jacks Pill

Lab Sample Number				2079374	2079375	2079376	2079377	2079378
Sample Reference				BH2	BH3	BH3	BH3	BH4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				21.50	8.00	17.00	21.50	8.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	1.8	28	3.1	13	28
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0	1.0

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.7	9.2	9.5	9.6	9.2
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.034	0.38	0.026	0.046	0.31

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

Analytical Report Number: 21-22269

Project / Site name: Jacks Pill

Lab Sample Number				2079379	2079380
Sample Reference				BH4	BH4
Sample Number				None Supplied	None Supplied
Depth (m)				17.00	21.50
Date Sampled				Deviating	Deviating
Time Taken				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	4.3	12
Total mass of sample received	kg	0.001	NONE	1.0	1.0

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.2	9.6
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.12	0.10

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

Analytical Report Number : 21-22269

Project / Site name: Jacks Pill

* 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 *
2079369	BH1	None Supplied	8	Brown clay.
2079370	BH1	None Supplied	17	Brown gravelly sand.
2079371	BH1	None Supplied	21.5	Brown clay and loam.
2079372	BH2	None Supplied	8	Brown clay.
2079373	BH2	None Supplied	17	Brown gravelly sand.
2079374	BH2	None Supplied	21.5	Non Soil**
2079375	BH3	None Supplied	8	Brown clay.
2079376	BH3	None Supplied	17	Brown rubble.**
2079377	BH3	None Supplied	21.5	Brown clay and loam.
2079378	BH4	None Supplied	8	Brown clay.
2079379	BH4	None Supplied	17	Brown gravelly sand.
2079380	BH4	None Supplied	21.5	Brown clay and loam.

**Non MCERTS Matrix.

Analytical Report Number : 21-22269

Project / Site name: Jacks Pill

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

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

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.

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.

Sample Deviation Report



Analytical Report Number : 21-22269

Project / Site name: Jacks Pill

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH1	None Supplied	S	2079369	a	None Supplied	None Supplied	None Supplied
BH1	None Supplied	S	2079370	a	None Supplied	None Supplied	None Supplied
BH1	None Supplied	S	2079371	a	None Supplied	None Supplied	None Supplied
BH2	None Supplied	S	2079372	a	None Supplied	None Supplied	None Supplied
BH2	None Supplied	S	2079373	a	None Supplied	None Supplied	None Supplied
BH2	None Supplied	S	2079374	a	None Supplied	None Supplied	None Supplied
BH3	None Supplied	S	2079375	a	None Supplied	None Supplied	None Supplied
BH3	None Supplied	S	2079376	a	None Supplied	None Supplied	None Supplied
BH3	None Supplied	S	2079377	a	None Supplied	None Supplied	None Supplied
BH4	None Supplied	S	2079378	a	None Supplied	None Supplied	None Supplied
BH4	None Supplied	S	2079379	a	None Supplied	None Supplied	None Supplied
BH4	None Supplied	S	2079380	a	None Supplied	None Supplied	None Supplied