



Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

Lab Sample Number	466029	466030	466031	466032	466033
Sample Reference	TP101	TP104	TP107	TP108	TP109
Sample Number	ES+D	ES+D+B	ES+D+B	ES+D+B	ES+D
Depth (m)	1.00	1.00	0.50	0.30	2.50
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status		

Phenols by GC-MS

Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total Phenols

Total Phenols (GC-MS)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	3.5	< 1.1	< 1.1	< 1.1
Boron (dissolved)	µg/l	10	ISO 17025	42	26	29	26	45
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.4	0.9	< 0.4	< 0.4	1.3
Copper (dissolved)	µg/l	0.7	ISO 17025	1.1	3.1	1.9	2.8	1.2
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	1.4
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	< 0.3	0.3	< 0.3	3.2	0.3
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	8.7	5.9	5.5	11	7.8



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Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics

Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10



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Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status		

VOCs

Chloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,3-Trichlorobenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0



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Depth (m)				1.00	1.00	0.50	0.30	2.50
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					
SVOCs								
Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Analytical Report Number : 15-75496

Project / Site name: Moncton Phase I

* 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 *
466017	TP101	ES+D	1.00	Brown loam and sand.
466018	TP103	ES+D+B	1.00	Black loam and sand with gravel.
466019	TP104	ES+D+B	1.00	Black loam and sand with gravel.
466020	TP105	ES+D	1.50	Grey clay and sand.
466021	TP106	ES+D+B	1.00	Brown clay and sand.
466022	TP106	ES+D+B	1.50	Light brown clay and sand.
466023	TP107	ES+D+B	0.50	Brown sandy loam with gravel.
466024	TP108	ES+D+B	0.30	Brown sandy loam with gravel and brick.
466025	TP109	ES+D	2.50	Grey gravelly clay.
466026	TP109	ES+D	3.50	Light brown clay and sand.
466027	WS7	D	2.00	Light brown clay and sand.
466028	WS9	ES+D	3.00	Light brown clay and sand.

Analytical Report Number : 15-75496

Project / Site name: Moncton Phase I

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
Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron by acidification followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	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 leachates	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073W-PL	W	NONE
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Calorific Value of soil	Subcontracted.	Subcontracted analysis		W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 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 electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in leachate, by GCMS	Determination of speciated phenols in leachate by extraction in hexane followed by GC-MS.	In-house method based on USEPA 8270	L070-PL	W	NONE
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Semi-volatile organic compounds in leachate	Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS.	In-house method based on USEPA 8270	L070-PL	W	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS

Analytical Report Number : 15-75496

Project / Site name: Moncton Phase I

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
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-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
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	NONE
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in leachate		In-house method based on USEPA8260	L036-UK	W	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-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 30°C.



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Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

Samples received on: 22/05/2015

Your job number: G151311

Samples instructed on: 20/07/2015

Your order number: VE141657

Analysis completed by: 29/07/2015

Report Issue Number: 1

Report issued on: 29/07/2015

Samples Analysed: 9 soil samples

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

Lab Sample Number	467575	467576	467577	467578	467579
Sample Reference	TP9	TP13	TP18	TP20	TP20
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	0.50	0.50	1.00
Date Sampled	19/05/2015	17/06/2015	20/05/2015	15/05/2015	15/05/2015
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	16	< 0.1
Moisture Content	%	N/A	NONE	5.3	4.7
Total mass of sample received	kg	0.001	NONE	0.48	0.50

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Amosite, Chrysotile- Loose fibres	Chrysotile - Loose fibres
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	U/S	U/S	Detected	Detected

General Inorganics

pH	pH Units	N/A	MCERTS	8.0	7.0	7.6	7.5	7.0
Total Cyanide	mg/kg	1	MCERTS	4	16	13	560	520
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	3	2
Total Sulphate as SO ₄	mg/kg	50	MCERTS	600	1300	5200	31000	14000
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.25	0.82	1.3	3.3	3.4
Water Soluble Sulphate as SO ₄ (2:1)	mg/kg	2.5	MCERTS	250	820	1300	3300	3400
Water Soluble SO ₄ (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.12	0.41	0.64	1.7	1.7
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	35	39000	130	66	81
Total Sulphur	mg/kg	50	NONE	230	650	2500	14000	6300
Ammonium as NH ₄	mg/kg	0.5	MCERTS	3.2	1.0	4.9	2.3	< 0.5
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2	370	1.1	4.8	1.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	250	1.5	1.5	< 0.3
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	260	1.0	1.5	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Methylphenol	mg/kg	0.2	MCERTS	< 0.2	500	1.7	4.5	1.2

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	1400	5.3	15	2.3
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.9	2100	20	3.0	1.9
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	490	11	5.9	1.5
Acenaphthene	mg/kg	0.1	MCERTS	0.37	110	2.7	4.1	0.39
Fluorene	mg/kg	0.1	MCERTS	0.21	630	9.4	8.8	0.92
Phenanthrene	mg/kg	0.1	MCERTS	1.2	2900	78	53	7.9
Anthracene	mg/kg	0.1	MCERTS	0.28	1000	26	14	2.3
Fluoranthene	mg/kg	0.1	MCERTS	1.4	3700	120	120	19
Pyrene	mg/kg	0.1	MCERTS	1.2	3200	96	93	16
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.1	2500	70	94	17
Chrysene	mg/kg	0.05	MCERTS	0.87	2300	64	77	12
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	2700	65	89	10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	790	33	54	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.87	2200	63	89	15
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.35	900	13	25	6.6
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	160	7.5	10	1.5
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.39	880	32	48	6.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	10.1	26500	706	787	119
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Analytical Report Number: 15-75727
Project / Site name: Monckton Coke Works Phase I
Your Order No: VE141657

Project / Site Name					467575	467576	467577	467578	467579
Your Order No: VE141657					TP9	TP13	TP18	TP20	TP20
Lab Sample Number					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Sample Reference					0.50	1.50	0.50	0.50	1.00
Sample Number					19/05/2015	17/05/2015	20/05/2015	15/05/2015	15/05/2015
Depth (m)					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled									
Time Taken									
Analytical Parameter (Soil Analysis)					Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids									
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.0	12	31	18	9.7	
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.6	1.0	0.3	< 0.2	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	4.8	0.5	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	49	81	86	7.1	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	58	110	430	54	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	< 0.3	< 0.3	8.8	3.4	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	9.9	35	25	10	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	< 1.0	< 1.0	< 1.0	< 1.0	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	91	120	280	29	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	27					
Magnesium (water soluble)	mg/kg	5	NONE	21	160	37	32	23	
Monoaromatics									
Benzene	µg/kg	1	MCERTS	< 1.0	610	5.8	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	500	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	32	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	460	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	260	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons									
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	9.0	3.0	< 1.0	1.7	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	29	9.4	9.8	6.2	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	33	26	52	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	170	120	100	1.0	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	240	160	160	24	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	0.5	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	0.5	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	1	MCERTS	< 1.0	16	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	2	MCERTS	< 2.0	1700	17	5.9	5.9	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	10	MCERTS	< 10	8700	410	470	80	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	20000	1100	1100	290	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	33000	1600	1600	390	



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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

Lab Sample Number	467575	467576	467577	467578	467579
Sample Reference	TP9	TP13	TP18	TP20	TP20
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.50	0.50	0.50	1.00
Date Sampled	19/05/2015	17/06/2015	20/05/2015	15/05/2015	15/05/2015
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
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	ISO 17025	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 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	NONE	< 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	NONE	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	610
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	11
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 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	500
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	MCERTS	< 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	NONE	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	32
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	460
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	260
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 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	NONE	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	170
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	460
sec-Butylbenzene	µg/kg	1	NONE	< 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	NONE	< 1.0	< 1.0
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	NONE	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0

U/S Unsuitable for analysis.

Iss No 15-75727-1

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The results included within the report are representative of the samples submitted for analysis.

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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

Lab Sample Number				467580	467581	467582	467583
Sample Reference				TP21	TP21	TP23	TP26
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.50	1.00	0.20
Date Sampled				19/05/2015	19/05/2015	19/05/2015	19/05/2015
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	28	21	23	< 0.1
Moisture Content	%	N/A	NONE	1.7	4.6	5.0	5.7
Total mass of sample received	kg	0.001	NONE	0.48	0.51	0.49	0.49

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected

General Inorganics

pH	pH Units	N/A	MCERTS	7.7	7.6	7.7	7.6
Total Cyanide	mg/kg	1	MCERTS	20	8	2	13
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	300	760	390	330
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.094	0.27	0.14	0.13
Water Soluble Sulphate as SO ₄ (2:1)	mg/kg	2.5	MCERTS	94	270	140	130
Water Soluble SO ₄ (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.047	0.13	0.072	0.067
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	11	23	140	19
Total Sulphur	mg/kg	50	NONE	130	410	250	320
Ammonium as NH ₄	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	10	NONE	< 10	< 10	< 10	< 10

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1
4-Methylphenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.26	2.7	0.27	0.33
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	2.0	5.4	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	7.1	2.2	0.42
Fluorene	mg/kg	0.1	MCERTS	< 0.10	1.9	1.7	0.48
Phenanthrene	mg/kg	0.1	MCERTS	0.23	3.6	1.1	1.4
Anthracene	mg/kg	0.1	MCERTS	< 0.10	2.2	2.0	0.31
Fluoranthene	mg/kg	0.1	MCERTS	0.33	6.3	4.9	2.4
Pyrene	mg/kg	0.1	MCERTS	0.28	5.7	5.2	2.0
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	1.8	2.4	1.5
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.1	3.0	1.6
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	2.0	6.1	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.95	3.7	0.67
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.22	0.87	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.0	3.7	0.78

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	39.4	42.6	13.4
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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

Lab Sample Number				467580	467581	467582	467583	
Sample Reference				TP21	TP21	TP23	TP26	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.40	1.50	1.00	0.20	
Date Sampled				19/05/2015	19/05/2015	19/05/2015	19/05/2015	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.8	2.1	4.1	3.8	
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.5	0.4	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	1.9	6.8	9.5	6.6	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1.8	9.3	3.0	6.2	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	23	4.8	20	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	0.7	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	1.3	11	17	4.6	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	2.2	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	7.0	19	16	47	
Magnesium (water soluble)	mg/kg	5	NONE	11	16	21	22	
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	4.6	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	7.3	66	23	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	73	120	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	9.5	21	8.5	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	150	160	< 10	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	2.4	5.3	< 1.0	1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	8.7	130	31	2.7	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	12	250	170	16	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	15	470	570	46	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	38	870	770	65	



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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

Lab Sample Number				467580	467581	467582	467583
Sample Reference				TP21	TP21	TP23	TP26
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.50	1.00	0.20
Date Sampled				19/05/2015	19/05/2015	19/05/2015	19/05/2015
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
VOCs							
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0

U/S Unsuitable for analysis.

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Environmental Science

Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

* 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 *
467575	TP9	None Supplied	0.50	Brown sandy loam with gravel and stones.
467576	TP13	None Supplied	1.50	Black tar with gravel.**
467577	TP18	None Supplied	0.50	Brown loam and sand with gravel.
467578	TP20	None Supplied	0.50	Light brown sandy loam with rubble.
467579	TP20	None Supplied	1.00	Blue sandy loam with rubble.
467580	TP21	None Supplied	0.40	Light brown sand with rubble and stones.
467581	TP21	None Supplied	1.50	Light brown sandy loam with gravel and stones.
467582	TP23	None Supplied	1.00	Light brown sandy loam with gravel and stones.
467583	TP26	None Supplied	0.20	Light brown sandy loam with rubble.

**Non MCerts matrix



Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

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
Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
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	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L0735-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	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
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS

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Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

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
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-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 30°C.



Environmental Science

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Analytical Report Number : 15-79457

Project / Site name: Monckton

Samples received on: 24/09/2015

Your job number: G15009

Samples instructed on: 24/09/2015

Your order number:

Analysis completed by: 05/10/2015

Report Issue Number: 1

Report issued on: 05/10/2015

Samples Analysed: 1 soil sample

Signed:

Dr Irma Doyle
Assistant Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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.



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MCERTS

Analytical Report Number: 15-79457

Project / Site name: Monckton



Environmental Science

Lab Sample Number				489253				
Sample Reference				TP10				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				Deviating				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	6.3				
Total mass of sample received	kg	0.001	NONE	0.34				

General Inorganics

Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2				
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2				
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1				
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3				
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1				
2-Methylphenol	mg/kg	0.3	NONE	< 0.3				
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3				
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	< 0.1				
4-Methylphenol	mg/kg	0.2	MCERTS	< 0.2				

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0				
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	2.1				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	1.7				
Anthracene	mg/kg	0.1	MCERTS	0.48				
Fluoranthene	mg/kg	0.1	MCERTS	0.48				
Pyrene	mg/kg	0.1	MCERTS	1.6				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	2.3				
Chrysene	mg/kg	0.05	MCERTS	2.8				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.93				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.69				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	2.8				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.91				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.5				

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	19.4				
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MCERTS

Analytical Report Number: 15-79457

Project / Site name: Monckton

Lab Sample Number				489253				
Sample Reference				TP10				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				Deviating				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.6				
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	5.5				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.4				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.4				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	37				

Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	32				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	34				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	3.5				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	10				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	29				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	150				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	200				



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MCERTS

Analytical Report Number: 15-79457

Project / Site name: Monckton



Environmental Science

Lab Sample Number				489253				
Sample Reference				TP10				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				Deviating				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0				
Chloroethane	µg/kg	1	ISO 17025	< 1.0				
Bromomethane	µg/kg	1	ISO 17025	< 1.0				
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0				
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0				
1,1-Dichloroethene	µg/kg	1	MCERTS	< 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	NONE	< 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	NONE	< 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	NONE	< 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	MCERTS	< 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	NONE	< 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	MCERTS	< 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	NONE	< 1.0				
Bromobenzene	µg/kg	1	MCERTS	< 1.0				
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0				
2-Chlorotoluene	µg/kg	1	NONE	< 1.0				
4-Chlorotoluene	µg/kg	1	NONE	< 1.0				
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
tert-Butylbenzene	µg/kg	1	NONE	< 1.0				
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0				
sec-Butylbenzene	µg/kg	1	NONE	< 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	NONE	< 1.0				
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	NONE	< 1.0				
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0				



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Environmental Science

Analytical Report Number : 15-79457**Project / Site name: Monckton**

* 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 *
489253	TP10	None Supplied	1.00	Black loam and sand with gravel.



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MCERTS

Analytical Report Number : 15-79457

Project / Site name: Monckton

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
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	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-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 30°C.



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Environmental Science

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Analytical Report Number : 15-79638

Project / Site name: Monckton

Samples received on: 29/09/2015

Your job number: G151311

Samples instructed on: 29/09/2015

Your order number:

Analysis completed by: 05/10/2015

Report Issue Number: 1

Report issued on: 05/10/2015

Samples Analysed: 1 soil sample

Signed: 

Dr Irma Doyle
Assistant Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed: 

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton



Environmental Science

Lab Sample Number				490377				
Sample Reference				TP12				
Sample Number				3				
Depth (m)				1.00				
Date Sampled				16/05/2015				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	11				
Total mass of sample received	kg	0.001	NONE	1.1				

General Inorganics

Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	NONE	< 1				

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2				
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2				
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1				
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3				
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3				
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1				
2-Methylphenol	mg/kg	0.3	NONE	< 0.3				
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3				
4-Chloro-3-methylphenol	mg/kg	0.1	ISO 17025	< 0.1				
4-Methylphenol	mg/kg	0.2	MCERTS	< 0.2				

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	< 1.0				
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10				
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				
Fluorene	mg/kg	0.1	MCERTS	< 0.10				
Phenanthrene	mg/kg	0.1	MCERTS	0.96				
Anthracene	mg/kg	0.1	MCERTS	0.30				
Fluoranthene	mg/kg	0.1	MCERTS	3.4				
Pyrene	mg/kg	0.1	MCERTS	3.1				
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.3				
Chrysene	mg/kg	0.05	MCERTS	1.0				
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	1.1				
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.53				
Benzo(a)pyrene	mg/kg	0.1	MCERTS	1.1				
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.45				
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.50				

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	13.6				
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Environmental Science

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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton

Lab Sample Number	490377					
Sample Reference	TP12					
Sample Number	3					
Depth (m)	1.00					
Date Sampled	16/06/2015					
Time Taken	None Supplied					
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.7			
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.5			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.1			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.5			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.9			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	22			

Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0			

Petroleum Hydrocarbons

TPH-CWG - Aliphatic > EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic > EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic > EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aliphatic > EC10 - EC12	mg/kg	1	MCERTS	< 1.0			
TPH-CWG - Aliphatic > EC12 - EC16	mg/kg	2	MCERTS	3.7			
TPH-CWG - Aliphatic > EC16 - EC21	mg/kg	8	MCERTS	8.1			
TPH-CWG - Aliphatic > EC21 - EC35	mg/kg	8	MCERTS	9.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	21			

TPH-CWG - Aromatic > EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic > EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic > EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1			
TPH-CWG - Aromatic > EC10 - EC12	mg/kg	1	MCERTS	< 1.0			
TPH-CWG - Aromatic > EC12 - EC16	mg/kg	2	MCERTS	4.0			
TPH-CWG - Aromatic > EC16 - EC21	mg/kg	10	MCERTS	33			
TPH-CWG - Aromatic > EC21 - EC35	mg/kg	10	MCERTS	38			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	75			



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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton



Environmental Science

Lab Sample Number				490377					
Sample Reference				TP12					
Sample Number				3					
Depth (m)				1.00					
Date Sampled				16/06/2015					
Time Taken				None Supplied					
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
VOCs									
Chloromethane	µg/kg	1	ISO 17025	< 1.0					
Chloroethane	µg/kg	1	ISO 17025	< 1.0					
Bromomethane	µg/kg	1	ISO 17025	< 1.0					
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0					
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0					
1,1-Dichloroethene	µg/kg	1	MCERTS	< 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	NONE	< 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	NONE	< 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	NONE	< 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	MCERTS	< 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	NONE	< 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	MCERTS	< 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	NONE	< 1.0					
Bromobenzene	µg/kg	1	MCERTS	< 1.0					
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0					
2-Chlorotoluene	µg/kg	1	NONE	< 1.0					
4-Chlorotoluene	µg/kg	1	NONE	< 1.0					
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0					
tert-Butylbenzene	µg/kg	1	NONE	< 1.0					
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0					
sec-Butylbenzene	µg/kg	1	NONE	< 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	NONE	< 1.0					
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	NONE	< 1.0					
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0					



Environmental Science

Analytical Report Number : 15-79638

Project / Site name: Monckton

* 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 *
490377	TP12	3	1.00	Brown sand.



Environmental Science

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MCERTS

Analytical Report Number : 15-79638

Project / Site name: Monckton

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
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	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Phenols, speciated, in soil, by GCMS	Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-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 30°C.



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Analytical Report Number : 15-79244

Project / Site name: Moncton
Your job number: G151311
Your order number:
Report Issue Number: 1
Samples Analysed: 10 soil samples

Samples received on: 22/09/2015
Samples instructed on: 22/09/2015
Analysis completed by: 30/09/2015
Report issued on: 30/09/2015

Signed:


Dr Irma Doyle
Assistant Quality Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

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

Signed:


Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

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