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Environmental Science

Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

Lab Sample Number				466017	466018	466019	466020	466021	466022
Sample Reference				TP101	TP103	TP104	TP105	TP106	TP106
Sample Number				ES+D	ES+D+B	ES+D+B	ES+D	ES+D+B	ES+D+B
Depth (m)				1.00	1.00	1.00	1.50	1.00	1.50
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
SVOCs									
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Bis(2-chloroethyl) ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Bis(2-chloroisopropyl) ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	6.5	3.2	6.2	< 0.05	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	0.6	4.4	2.4	4.2	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	1.1	< 0.10	< 0.10	< 0.10	-
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	1.1	0.61	< 0.10	< 0.10	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	0.6	3.4	1.7	2.0	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fluorene	mg/kg	0.1	MCERTS	< 0.10	1.4	< 0.10	< 0.10	< 0.10	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.1	MCERTS	1.3	8.0	2.7	3.0	< 0.10	-
Anthracene	mg/kg	0.1	MCERTS	0.17	2.5	0.53	0.18	< 0.10	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	0.9	< 0.3	< 0.3	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Fluoranthene	mg/kg	0.1	MCERTS	0.50	9.7	1.6	0.61	< 0.10	-
Pyrene	mg/kg	0.1	MCERTS	0.43	9.3	1.5	0.61	< 0.10	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.27	6.4	1.2	0.36	< 0.10	-
Chrysene	mg/kg	0.05	MCERTS	0.29	6.4	1.4	0.43	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	5.3	< 0.10	< 0.10	< 0.10	-
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	5.9	1.2	0.18	< 0.10	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	3.1	0.65	< 0.10	< 0.10	-
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.96	0.23	< 0.10	< 0.10	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	4.0	0.89	< 0.05	< 0.05	-

I/S - Insufficient sample

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

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Analytical Report Number: 15-75496
Project / Site name: Moncton Phase I

Lab Sample Number	466023	466024	466025	466026	466027	466028
Sample Reference	TP107	TP108	TP109	TP109	WS7	WS9
Sample Number	ES+D+B	ES+D+B	ES+D	ES+D	D	ES+D
Depth (m)	0.50	0.30	2.50	3.50	2.00	3.00
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	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
Moisture Content	%	N/A	NONE	7.9	8.9	5.8
Total mass of sample received	kg	0.001	NONE	1.2	0.98	0.84
				18	7.6	19
				2.0	0.68	1.4

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

General Inorganics

pH	pH Units	N/A	MCERTS	6.5	6.5	7.1	6.4	6.7	6.1
Total Sulphate as SO ₄	mg/kg	50	MCERTS	4800	20000	2500	880	550	6300
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	4.1	3.7	0.81	0.35	0.20	0.63
Water Soluble SO ₄ (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	2.0	1.9	0.40	0.17	0.098	0.32
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	370	120	44	29	130	410
Total Sulphur	mg/kg	50	NONE	2400	13000	1200	300	240	2300
Ammonium as NH ₄	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	I/S	I/S	< 0.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	5.2	2.0	< 2.0	I/S	I/S	< 2.0
Calorific Value (Subcontracted)	MJ/kg	0.01	NONE	2.63	6.58	4.09	-	-	-

Phenols by GC-MS

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

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	1.2	1.8	3.1	-	-	-
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	0.36	< 0.10	-	-	-
Acenaphthene	mg/kg	0.1	MCERTS	0.41	< 0.10	< 0.10	-	-	-
Fluorene	mg/kg	0.1	MCERTS	0.66	< 0.10	< 0.10	-	-	-
Phenanthrene	mg/kg	0.1	MCERTS	5.0	3.1	1.1	-	-	-
Anthracene	mg/kg	0.1	MCERTS	0.83	0.66	< 0.10	-	-	-
Fluoranthene	mg/kg	0.1	MCERTS	3.7	4.8	< 0.10	-	-	-
Pyrene	mg/kg	0.1	MCERTS	2.7	4.3	< 0.10	-	-	-
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.3	2.9	< 0.10	-	-	-
Chrysene	mg/kg	0.05	MCERTS	1.3	2.9	< 0.05	-	-	-
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	2.4	< 0.10	-	-	-
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	-	-	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.87	2.6	< 0.10	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.42	1.8	< 0.10	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	0.13	0.45	< 0.10	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.49	2.0	< 0.05	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	18.8	30.1	4.24	-	-	-
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Environmental Science

Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

Lab Sample Number				466023	466024	466025	466026	466027	466028
Sample Reference				TP107	TP108	TP109	TP109	WS7	WS9
Sample Number				ES+D+B	ES+D+B	ES+D	ES+D	D	ES+D
Depth (m)				0.50	0.30	2.50	3.50	2.00	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Heavy Metals / Metalloids									
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	22	39	12	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.4	0.9	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	20	20	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	72	59	53	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	34	130	26	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	52	32	54	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	90	58	110	-	-	-
Magnesium (water soluble)	mg/kg	5	NONE	2600	11000	-	-	-	-
Monoaromatics									
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
Petroleum Hydrocarbons									
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	2.1	< 2.0	2.1	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	19	38	< 8.0	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	21	38	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	10	7.1	6.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	5.7	3.5	< 2.0	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	21	27	< 10	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	19	47	< 10	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	55	84	< 10	-	-	-



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Lab Sample Number	466023	466024	466025	466026	466027	466028
Sample Reference	TP107	TP108	TP109	TP109	WS7	WS9
Sample Number	ES+D+B	ES+D+B	ES+D	ES+D	D	ES+D
Depth (m)	0.50	0.30	2.50	3.50	2.00	3.00
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	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	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 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
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0

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

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Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

Lab Sample Number	466023	466024	466025	466026	466027	466028
Sample Reference	TP107	TP108	TP109	TP109	WS7	WS9
Sample Number	ES+D+B	ES+D+B	ES+D	ES+D	D	ES+D
Depth (m)	0.50	0.30	2.50	3.50	2.00	3.00
Date Sampled	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs						
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	1.2	1.8	3.1
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	0.8	0.9	2.0
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	0.36	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	0.41	< 0.10	< 0.10
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	1.1	0.8	1.0
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.1	MCERTS	0.66	< 0.10	< 0.10
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.1	MCERTS	5.0	3.1	1.1
Anthracene	mg/kg	0.1	MCERTS	0.83	0.66	< 0.10
Carbazole	mg/kg	0.3	MCERTS	0.3	0.4	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	0.7	< 0.3
Fluoranthene	mg/kg	0.1	MCERTS	3.7	4.8	< 0.10
Pyrene	mg/kg	0.1	MCERTS	2.7	4.3	< 0.10
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.1	MCERTS	1.3	2.9	< 0.10
Chrysene	mg/kg	0.05	MCERTS	1.3	2.9	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	2.4	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.87	2.6	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	0.42	1.8	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	0.13	0.45	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.49	2.0	< 0.05

I/S - Insufficient sample



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Environmental Science

Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

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

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025			
Asbestos in Soil	Type	N/A	ISO 17025			

General Inorganics

pH	pH Units	N/A	MCERTS			
Total Sulphate as SO ₄	mg/kg	50	MCERTS			
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS			
Water Soluble SO ₄ (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS			
Total Sulphur	mg/kg	50	NONE			
Ammonium as NH ₄	mg/kg	0.5	MCERTS			
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE			
Calorific Value (Subcontracted)	MJ/kg	0.01	NONE			

Phenols by GC-MS

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

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS			
Acenaphthylene	mg/kg	0.1	MCERTS			
Acenaphthene	mg/kg	0.1	MCERTS			
Fluorene	mg/kg	0.1	MCERTS			
Phenanthrene	mg/kg	0.1	MCERTS			
Anthracene	mg/kg	0.1	MCERTS			
Fluoranthene	mg/kg	0.1	MCERTS			
Pyrene	mg/kg	0.1	MCERTS			
Benzo(a)anthracene	mg/kg	0.1	MCERTS			
Chrysene	mg/kg	0.05	MCERTS			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS			
Benzo(a)pyrene	mg/kg	0.1	MCERTS			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS			

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS			
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Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

Lab Sample Number						
Sample Reference						
Sample Number						
Depth (m)						
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			
Boron (water soluble)	mg/kg	0.2	MCERTS			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS			
Copper (aqua regia extractable)	mg/kg	1	MCERTS			
Lead (aqua regia extractable)	mg/kg	1	MCERTS			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS			
Macnesium (water soluble)	mg/kg	5	NONE			
Monoaromatics						
Benzene	µg/kg	1	MCERTS			
Toluene	µg/kg	1	MCERTS			
Ethylbenzene	µg/kg	1	MCERTS			
p & m-xylene	µg/kg	1	MCERTS			
o-xylene	µg/kg	1	MCERTS			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS			
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS			



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Environmental Science

Analytical Report Number: 15-75496

Project / Site name: Moncton Phase I

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

Analytical Report Number: 15-75496
Project / Site name: Moncton Phase I

Lab Sample Number						
Sample Reference						
Sample Number						
Depth (m)						
Date Sampled						
Time Taken						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs						
Aniline	mg/kg	0.1	NONE			
Phenol	mg/kg	0.2	ISO 17025			
2-Chlorophenol	mg/kg	0.1	MCERTS			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS			
2-Methylphenol	mg/kg	0.3	MCERTS			
Hexachloroethane	mg/kg	0.05	MCERTS			
Nitrobenzene	mg/kg	0.3	MCERTS			
4-Methylphenol	mg/kg	0.2	NONE			
Isophorone	mg/kg	0.2	MCERTS			
2-Nitrophenol	mg/kg	0.3	MCERTS			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS			
Naphthalene	mg/kg	0.05	MCERTS			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS			
4-Chloroaniline	mg/kg	0.1	NONE			
Hexachlorobutadiene	mg/kg	0.1	MCERTS			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS			
2-Methylnaphthalene	mg/kg	0.1	NONE			
2-Chloronaphthalene	mg/kg	0.1	MCERTS			
Dimethylphthalate	mg/kg	0.1	MCERTS			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS			
Acenaphthylene	mg/kg	0.1	MCERTS			
Acenaphthene	mg/kg	0.1	MCERTS			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS			
Dibenzofuran	mg/kg	0.2	MCERTS			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025			
Diethyl phthalate	mg/kg	0.2	MCERTS			
4-Nitroaniline	mg/kg	0.2	MCERTS			
Fluorene	mg/kg	0.1	MCERTS			
Azobenzene	mg/kg	0.3	MCERTS			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS			
Hexachlorobenzene	mg/kg	0.3	MCERTS			
Phenanthrene	mg/kg	0.1	MCERTS			
Anthracene	mg/kg	0.1	MCERTS			
Carbazole	mg/kg	0.3	MCERTS			
Dibutyl phthalate	mg/kg	0.2	MCERTS			
Anthraquinone	mg/kg	0.3	MCERTS			
Fluoranthene	mg/kg	0.1	MCERTS			
Pyrene	mg/kg	0.1	MCERTS			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025			
Benzo(a)anthracene	mg/kg	0.1	MCERTS			
Chrysene	mg/kg	0.05	MCERTS			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS			
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS			
Benzo(a)pyrene	mg/kg	0.1	MCERTS			
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS			
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS			

I/S - Insufficient sample



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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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					

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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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					

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 & m-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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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					

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

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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	TP109	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.

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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	L0735-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 300C.



Environmental Science

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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	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	5.3	5.7	8.6	4.7	4.0
Total mass of sample received	kg	0.001	NONE	0.48	0.50	0.51	0.47	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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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	17/05/2015	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					
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	7.8	27	35	7.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	49	81	86	54
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	58	110	430	210
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	8.8	3.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	9.9	35	25	10
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	27	91	120	280	29
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	16
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	0.6	< 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	0.1	MCERTS	< 0.1	16	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	2.5	1700	17	5.9	5.9
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.0	2400	67	41	15
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	8700	410	470	80
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	19	20000	1100	1100	290
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	24	33000	1600	1600	390

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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				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	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	610	5.8	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	11	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 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	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	500	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 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	< 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
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	260	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	170	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	460	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 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	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

U/S Unsuitable for analysis.

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



Environmental Science

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 disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-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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Environmental Science

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	L0735-PL	W	MCERTS

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

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

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



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Environmental Science

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Analytical Report Number : 15-79244

Project / Site name: Moncton

Samples received on: 22/09/2015

Your job number: G151311

Samples instructed on: 22/09/2015

Your order number:

Analysis completed by: 30/09/2015

Report Issue Number: 1

Report issued on: 30/09/2015

Samples Analysed: 10 soil samples

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.

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

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

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Analytical Report Number: 15-79244

Project / Site name: Moncton

Lab Sample Number	488249	488250	488251	488252	488253
Sample Reference	TP6	TP11	TP14	TP17	TP19
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	0.80	0.60	1.00	1.00
Date Sampled	14/05/2015	18/05/2015	15/05/2015	14/05/2015	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	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	8.6
Total mass of sample received	kg	0.001	NONE	0.40	0.52

General Inorganics

Total Cyanide	mg/kg	1	MCERTS	120	23	31	100	11
Free Cyanide	mg/kg	1	NONE	1	< 1	< 1	2	< 1

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	5.1	< 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	< 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	< 0.3	< 0.3	< 0.3	< 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	< 0.3	< 0.3	< 0.3	< 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	< 0.2	< 0.2	< 0.2	< 0.2

Total Phenols

Total Phenols (GC-MS)	mg/kg	1	NONE	5.1	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	3.9	< 0.05	11	19	0.65
Acenaphthylene	mg/kg	0.1	MCERTS	29	< 0.10	1.6	41	0.44
Acenaphthene	mg/kg	0.1	MCERTS	15	1.1	4.5	55	13
Fluorene	mg/kg	0.1	MCERTS	8.5	0.75	3.8	51	11
Phenanthrene	mg/kg	0.1	MCERTS	19	0.68	15	120	7.0
Anthracene	mg/kg	0.1	MCERTS	15	0.22	3.9	60	1.6
Fluoranthene	mg/kg	0.1	MCERTS	140	0.51	19	220	2.6
Pyrene	mg/kg	0.1	MCERTS	120	0.44	16	180	2.1
Benzo(a)anthracene	mg/kg	0.1	MCERTS	79	0.24	13	94	3.1
Chrysene	mg/kg	0.05	MCERTS	79	0.20	9.9	93	2.0
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	110	0.40	20	110	4.2
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	72	< 0.10	5.3	65	2.1
Benzo(a)pyrene	mg/kg	0.1	MCERTS	97	0.23	14	110	3.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	48	< 0.10	6.6	43	2.0
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	7.3	< 0.10	0.69	10	0.27
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	48	< 0.05	6.2	56	1.7

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	888	4.77	150	1330	56.8
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Environmental Science

Analytical Report Number: 15-79244

Project / Site name: Moncton

Lab Sample Number				488249	488250	488251	488252	488253
Sample Reference				TP6	TP11	TP14	TP17	TP19
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.80	0.60	1.00	1.00
Date Sampled				14/05/2015	18/05/2015	15/05/2015	14/05/2015	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					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	2.1	16	6.7	5.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	< 0.2	1.6	1.8	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	11	22	500	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	49	5.9	53	67	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	9.4	36	40	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	17	19	26	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	4.2	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	60	21	74	120	160

Monoaromatics

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0

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	< 1.0	1.5	2.9	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	110	< 2.0	4.8	37	5.7
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	220	< 8.0	23	87	18
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	100	< 8.0	81	220	11
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	430	< 10	110	350	35
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 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	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	5.1	< 1.0	1.9	24	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	110	2.1	59	320	11
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	410	< 10	150	1500	26
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	890	13	150	2700	52
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	1400	15	360	4500	89



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Environmental Science

Analytical Report Number: 15-79244

Project / Site name: Moncton

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Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.80	0.60	1.00	1.00
Date Sampled				14/05/2015	18/05/2015	15/05/2015	14/05/2015	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	< 1.0	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 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	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 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	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 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	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	< 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	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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