



Analytical Report Number: 15-79244

Project / Site name: Moncton

Lab Sample Number	488254	488255	488256	488257	488258
Sample Reference	TP22	TP24	TP25	TP27	TP28
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.60	0.50	1.00	1.00	0.60
Date Sampled	18/05/2015	20/05/2015	19/05/2015	19/05/2015	18/05/2015
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	12	9.4
Total mass of sample received	kg	0.001	NONE	0.50	0.37
				0.49	0.51
				0.51	0.50

General Inorganics

Total Cyanide	mg/kg	1	MCERTS	610	3	64	170	2
Free Cyanide	mg/kg	1	NONE	5	< 1	1	2	< 1

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	0.4	< 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	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	110	4.7	0.64	5.4	0.25
Acenaphthylene	mg/kg	0.1	MCERTS	180	0.37	1.1	1.4	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	9000	14	2.8	4.4	0.13
Fluorene	mg/kg	0.1	MCERTS	6600	6.9	2.2	3.0	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	4500	7.9	16	5.3	0.40
Anthracene	mg/kg	0.1	MCERTS	1600	1.6	5.2	1.5	0.11
Fluoranthene	mg/kg	0.1	MCERTS	720	8.2	24	6.0	0.60
Pyrene	mg/kg	0.1	MCERTS	510	6.7	21	5.1	0.51
Benzo(a)anthracene	mg/kg	0.1	MCERTS	160	4.6	13	2.7	0.42
Chrysene	mg/kg	0.05	MCERTS	150	4.4	13	2.4	0.31
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	130	7.2	13	4.3	0.62
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	83	2.2	6.3	1.4	0.14
Benzo(a)pyrene	mg/kg	0.1	MCERTS	130	4.0	12	2.4	0.39
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	59	2.4	4.8	1.5	0.30
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	12	0.34	1.1	0.40	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	67	2.0	5.1	1.3	0.26

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	24000	77.3	140	48.6	4.44
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Sample Reference				TP22	TP24	TP25	TP27	TP28
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	0.50	1.00	1.00	0.60
Date Sampled				18/05/2015	20/05/2015	19/05/2015	19/05/2015	18/05/2015
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	31	53	6.6	11	2.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	2.3	0.4	< 0.2	0.3
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	23	23	9.3	6.1	7.5
Copper (aqua regia extractable)	mg/kg	1	MCERTS	360	100	20	18	8.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	99	85	49	190	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	46	11	6.9	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.4	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	61	110	45	23	29

Monoaromatics

Benzene	µg/kg	1	MCERTS	19	< 1.0	20	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	7.7	< 1.0	11	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	4.6	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	83	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	44	< 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	5.9	< 1.0	< 1.0	15	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	300	4.1	2.5	70	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	590	46	17	180	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	250	440	41	670	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	1200	490	60	940	< 10

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	60	6.5	4.0	14	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	21000	21	33	620	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	7000	83	240	890	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	3400	210	410	1200	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	32000	320	690	2800	< 10



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Environmental Science

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Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	0.50	1.00	1.00	0.60
Date Sampled				18/05/2015	20/05/2015	19/05/2015	19/05/2015	18/05/2015
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	19	< 1.0	20	< 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	7.7	< 1.0	11	< 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	4.6	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	83	< 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	44	< 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	190	< 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	160	< 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	3.7	< 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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Analytical Report Number : 15-79244

Project / Site name: Moncton

* 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 *
488249	TP6	None Supplied	0.50	Black loam and sand with gravel.
488250	TP11	None Supplied	0.80	Light brown sandy clay.
488251	TP14	None Supplied	0.60	Black loam and sand with gravel and brick.
488252	TP17	None Supplied	1.00	Brown loam and sand with gravel and rubble.
488253	TP19	None Supplied	1.00	Light brown sandy loam with gravel.
488254	TP22	None Supplied	0.60	Brown loam and sand with gravel and brick.
488255	TP24	None Supplied	0.50	Black loam and sand with gravel.
488256	TP25	None Supplied	1.00	Light brown sandy loam with gravel and brick.
488257	TP27	None Supplied	1.00	Brown sandy loam with gravel.
488258	TP28	None Supplied	0.60	Beige sandy loam with gravel and rubble.



Analytical Report Number : 15-79244

Project / Site name: Moncton

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 300C.



Environmental Science

4041
Ian Calloway
Van Elle
Kirgby Lane
Pinxton
Notts
NG16 6JA

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

t: 01773 580 580

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: ian.calloway@van-elle.co.uk

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

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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				
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



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					

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				



Environmental Science

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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						
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-Dichloroethane	µg/kg	1	MCERTS	< 1.0					
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0					
Cis-1,2-dichloroethane	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 300C.



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Andy Paice
Van Elle
Kirgby Lane
Pinxton
Notts
NG16 6JA



Environmental Science

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

t: 01773 580 580

e: andy.paice@van-elle.co.uk

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

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

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				
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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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

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-Dichloropropane	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			
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 : 15-79638

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.



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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 30oC.



Ian Calloway
Van Elle
Kirgby Lane
Pinxton
Notts
NG16 6JA

t: 01773 580 580

e: ian.calloway@van-elle.co.uk

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 15-75496

Project / Site name: Moncton Phase I

Samples received on: 07/05/2015

Your job number: G151311

Samples instructed on: 16/07/2015

Your order number:

Analysis completed by: 06/08/2015

Report Issue Number: 1

Report issued on: 06/08/2015

Samples Analysed: 5 leachate samples - 12 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

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

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			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	15	20
Total mass of sample received	kg	0.001	NONE	0.92	1.1	1.2

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	Not-detected	-

General Inorganics

pH	pH Units	N/A	MCERTS	6.1	7.7	8.0	7.4	5.8	4.6
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2400	1600	10000	3700	7400	1600
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	1.0	0.96	1.5	1.3	1.2	0.99
Water Soluble SO ₄ (BRE SD 2:1 Leach Equivalent)	g/l	0.00125	MCERTS	0.52	0.48	0.74	0.63	0.58	0.49
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	170	94	540	47	300	200
Total Sulphur	mg/kg	50	NONE	1200	2200	4100	1800	2600	670
Ammonium as NH ₄	mg/kg	0.5	MCERTS	1/S	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	5.0	35	< 2.0	< 2.0	< 2.0	3.1
Calorific Value (Subcontracted)	MJ/kg	0.01	NONE	6.04	15.9	18.4	6.89	0.414	-

Phenols by GC-MS

Phenol	mg/kg	0.2	NONE	< 0.2	< 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	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
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Speciated PAHs

aphthalene	mg/kg	0.05	MCERTS	< 0.05	6.6	3.2	6.2	< 0.05	-
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	-
Fluorene	mg/kg	0.1	MCERTS	< 0.10	1.4	< 0.10	< 0.10	< 0.10	-
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	-
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	-
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	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	2.92	71.8	15.6	11.6	< 1.60	-
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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						
Heavy Metals / Metalloids									
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	32	22	9.0	9.5	16	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.6	1.2	1.0	0.5	-
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	13	11	14	16	33	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	74	40	43	27	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	71	63	45	17	13	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	31	19	33	24	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.1	1.2	< 1.0	< 1.0	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	33	65	130	110	33	-
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-	-
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	12	< 1.0	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	28	< 2.0	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	50	11	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	310	43	< 8.0	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	400	53	< 10	< 10	-
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	< 1.0	8.6	6.6	15	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	53	8.6	18	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	160	< 10	17	< 10	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	940	19	< 10	< 10	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	1200	34	50	< 10	-

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						
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	< 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	-
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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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	6.6	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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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			
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
				2.0	18	7.6
				0.68	19	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
Colorific 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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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			
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

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			
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
o-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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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			
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

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			
Magnesium (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			



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		
Chlorobromomethane	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		
o-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			
Dibenzo(a,h)anthracene	mg/kg	0.1	MCERTS			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS			

I/S - Insufficient sample