



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 <sub>4</sub>                           | 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 <sub>4</sub> (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 <sub>4</sub>                                 | 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 | - | - | - |
|-----------------------|-------|---|------|-------|-------|-------|---|---|---|

#### 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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|                                         |               |                       |                         |               |               |               |
|-----------------------------------------|---------------|-----------------------|-------------------------|---------------|---------------|---------------|
| 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<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>Status |               |               |               |
| <b>Heavy Metals / Metalloids</b>        |               |                       |                         |               |               |               |
| 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         | -             |
| <b>Monoaromatics</b>                    |               |                       |                         |               |               |               |
| 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         |
| <b>Petroleum Hydrocarbons</b>           |               |                       |                         |               |               |               |
| 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<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>Status |               |               |               |
| <b>VOCs</b>                             |               |                       |                         |               |               |               |
| 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         |
| Trichloromethane                        | 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

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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 |               |               |               |
| <b>SVOCs</b>                         |               |                    |                      |               |               |               |
| 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<br>(Soil Analysis) | units | Limit of<br>detection | Accreditation<br>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 <sub>4</sub>                           | mg/kg    | 50      | MCERTS |  |
| Water Soluble Sulphate (Soil Equivalent)                    | g/l      | 0.0025  | MCERTS |  |
| Water Soluble SO <sub>4</sub> (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 <sub>4</sub>                                 | 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 |  |
|-----------------------|-------|---|------|--|

#### 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 |  |
|-----------------------------|-------|-----|--------|--|

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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |  |  |  |
| <b>Heavy Metals / Metalloids</b>        |       |                       |                         |  |  |  |
| 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                    |  |  |  |
| <b>Monoaromatics</b>                    |       |                       |                         |  |  |  |
| 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                  |  |  |  |
| <b>Petroleum Hydrocarbons</b>           |       |                       |                         |  |  |  |
| 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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>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                  |  |  |
| 1,1-Dibromomethane                      | 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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |  |  |  |
| <b>SVOCs</b>                            |       |                       |                         |  |  |  |
| 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<br>(Leachate Analysis) | Units         | Limit of<br>detection | Accreditation<br>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 |
|-----------------------|------|---|------|-------|-------|-------|-------|-------|

#### 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 |
|-------------------|------|-----|------|-------|-------|-------|-------|-------|

#### 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<br>(Leachate Analysis) | Units         | Limit of<br>detection | Accreditation<br>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<br>(Leachate Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |               |               |               |               |               |
| <b>VOCs</b>                                 |       |                       |                         |               |               |               |               |               |
| Chloromethane                               | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Chloroethane                                | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Bromomethane                                | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Vinyl Chloride                              | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-dichloroethene                          | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane       | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Cis-1,2-dichloroethene                      | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| MTBE (Methyl Tertiary Butyl Ether)          | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-dichloroethane                          | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 2,2-Dichloropropane                         | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trichloromethane                            | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,1-Trichloroethane                       | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-dichloroethane                          | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-Dichloropropene                         | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trans-1,2-dichloroethene                    | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Benzene                                     | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tetrachloromethane                          | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-dichloropropane                         | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trichloroethene                             | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Dibromomethane                              | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Bromodichloromethane                        | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Cis-1,3-dichloropropene                     | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trans-1,3-dichloropropene                   | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Toluene                                     | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,2-Trichloroethane                       | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,3-Dichloropropane                         | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Dibromochloromethane                        | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tetrachloroethene                           | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dibromoethane                           | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Chlorobenzene                               | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,1,2-Tetrachloroethane                   | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| ethylbenzene                                | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| p-xylene                                    | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Styrene                                     | µg/l  | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tri bromomethane                            | 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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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<br>(Leachate Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |               |               |               |               |               |
| <b>SVOCs</b>                                |       |                       |                         |               |               |               |               |               |
| Aniline                                     | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Phenol                                      | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2-Chlorophenol                              | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Bis(2-chloroethyl)ether                     | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 1,3-Dichlorobenzene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 1,2-Dichlorobenzene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 1,4-Dichlorobenzene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Bis(2-chloroisopropyl)ether                 | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2-Methylphenol                              | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Hexachloroethane                            | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Nitrobenzene                                | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 4-Methylphenol                              | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Isophorone                                  | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2-Nitrophenol                               | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2,4-Dimethylphenol                          | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Bis(2-chloroethoxy)methane                  | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 1,2,4-Trichlorobenzene                      | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Naphthalene                                 | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| 2,4-Dichlorophenol                          | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 4-Chloroaniline                             | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Hexachlorobutadiene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 4-Chloro-3-methylphenol                     | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2,4,6-Trichlorophenol                       | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2,4,5-Trichlorophenol                       | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2-Methylnaphthalene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2-Chloronaphthalene                         | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Dimethylphthalate                           | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 2,6-Dinitrotoluene                          | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Acenaphthylene                              | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Acenaphthene                                | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| 2,4-Dinitrotoluene                          | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Dibenzofuran                                | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 4-Chlorophenyl phenyl ether                 | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Diethyl phthalate                           | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| 4-Nitroaniline                              | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Fluorene                                    | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Azobenzene                                  | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Bromophenyl phenyl ether                    | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Hexachlorobenzene                           | µg/l  | 0.02                  | NONE                    | < 0.02        | < 0.02        | < 0.02        | < 0.02        | < 0.02        |
| Phenanthrene                                | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Anthracene                                  | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Carbazole                                   | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Dibutyl phthalate                           | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Anthraquinone                               | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Fluoranthene                                | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Pyrene                                      | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Butyl benzyl phthalate                      | µg/l  | 0.05                  | NONE                    | < 0.05        | < 0.05        | < 0.05        | < 0.05        | < 0.05        |
| Benzo(a)anthracene                          | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Chrysene                                    | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Benzo(b)fluoranthene                        | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Benzo(k)fluoranthene                        | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Benzo(a)pyrene                              | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Indeno(1,2,3-cd)pyrene                      | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Dibenz(a,h)anthracene                       | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |
| Benzo(ghi)perylene                          | µg/l  | 0.01                  | NONE                    | < 0.01        | < 0.01        | < 0.01        | < 0.01        | < 0.01        |

**Analytical Report Number : 15-75496**

**Project / Site name: Moncton Phase I**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

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

Analytical Report Number : 15-75496

Project / Site name: Moncton Phase I

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

| Analytical Test Name                        | Analytical Method Description                                                                                           | Analytical Method Reference                                                                            | Method number | Wet / Dry Analysis | Accreditation Status |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Ammonium as NH <sub>4</sub> 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 <sub>4</sub> in soil) | Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.                                                                   | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                                  | L038-PL       | D                  | MCERTS               |
| Total Sulphur in soil                       | Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.                                      | In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil                      | L038-PL       | D                  | NONE                 |
| TPHCWG (Leachates)                          | Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.                                                                           | In-house method                                                                                                                   | L070-PL       | W                  | NONE                 |
| TPHCWG (Soil)                               | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.                                                                                 | In-house method                                                                                                                   | L076-PL       | W                  | MCERTS               |
| Volatile organic compounds in leachate      |                                                                                                                                                           | In-house method based on USEPA8260                                                                                                | L036-UK       | W                  | NONE                 |
| Volatile organic compounds in soil          | Determination of volatile organic compounds in soil by headspace GC-MS.                                                                                   | In-house method based on USEPA8260                                                                                                | L073S-PL      | W                  | MCERTS               |
| Water Soluble Nitrate (2:1) as N in soil    | Determination of nitrate by reaction with sodium salicylate and colorimetry.                                                                              | In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.           | L078-PL       | D                  | NONE                 |

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

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

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



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## **Analytical Report Number : 15-75727**

**Project / Site name:** Monckton Coke Works Phase I

**Samples received on:** 22/05/2015

**Your job number:** G151311

**Samples instructed on:** 20/07/2015

**Your order number:** VE141657

**Analysis completed by:** 29/07/2015

**Report Issue Number:** 1

**Report issued on:** 29/07/2015

**Samples Analysed:** 9 soil samples

**Signed:**

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

**Signed:**

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

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

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

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

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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

| Lab Sample Number                    | 467575        | 467576             | 467577               | 467578        | 467579        |
|--------------------------------------|---------------|--------------------|----------------------|---------------|---------------|
| Sample Reference                     | TP9           | TP13               | TP18                 | TP20          | TP20          |
| Sample Number                        | None Supplied | None Supplied      | None Supplied        | None Supplied | None Supplied |
| Depth (m)                            | 0.50          | 1.50               | 0.50                 | 0.50          | 1.00          |
| Date Sampled                         | 19/05/2015    | 17/06/2015         | 20/05/2015           | 15/05/2015    | 15/05/2015    |
| Time Taken                           | None Supplied | None Supplied      | None Supplied        | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units         | Limit of detection | Accreditation Status |               |               |
| Stone Content                        | %             | 0.1                | NONE                 | 16            | < 0.1         |
| Moisture Content                     | %             | N/A                | NONE                 | 5.3           | 4.7           |
| Total mass of sample received        | kg            | 0.001              | NONE                 | 0.48          | 0.50          |

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

**General Inorganics**

|                                                             |          |         |        |      |       |      |       |       |
|-------------------------------------------------------------|----------|---------|--------|------|-------|------|-------|-------|
| pH                                                          | pH Units | N/A     | MCERTS | 8.0  | 7.0   | 7.6  | 7.5   | 7.0   |
| Total Cyanide                                               | mg/kg    | 1       | MCERTS | 4    | 16    | 13   | 560   | 520   |
| Free Cyanide                                                | mg/kg    | 1       | NONE   | < 1  | < 1   | < 1  | 3     | 2     |
| Total Sulphate as SO <sub>4</sub>                           | 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 <sub>4</sub> (2:1)             | mg/kg    | 2.5     | MCERTS | 250  | 820   | 1300 | 3300  | 3400  |
| Water Soluble SO <sub>4</sub> (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 <sub>4</sub>                                 | mg/kg    | 0.5     | MCERTS | 3.2  | 1.0   | 4.9  | 2.3   | < 0.5 |
| Water Soluble Nitrate (2:1) as NO <sub>3</sub>              | 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 |
| 3-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 |
|-----------------------|-------|---|------|-------|------|-----|----|-----|

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

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Analytical Report Number: 15-75727  
Project / Site name: Monckton Coke Works Phase I  
Your Order No: VE141657

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



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Environmental Science

Analytical Report Number: 15-75727

Project / Site name: Monckton Coke Works Phase I

Your Order No: VE141657

| Lab Sample Number                       | 467575        | 467576                | 467577                  | 467578        | 467579        |
|-----------------------------------------|---------------|-----------------------|-------------------------|---------------|---------------|
| Sample Reference                        | TP9           | TP13                  | TP18                    | TP20          | TP20          |
| Sample Number                           | None Supplied | None Supplied         | None Supplied           | None Supplied | None Supplied |
| Depth (m)                               | 0.50          | 1.50                  | 0.50                    | 0.50          | 1.00          |
| Date Sampled                            | 19/05/2015    | 17/06/2015            | 20/05/2015              | 15/05/2015    | 15/05/2015    |
| Time Taken                              | None Supplied | None Supplied         | None Supplied           | None Supplied | None Supplied |
| Analytical Parameter<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>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 |
| Tribromomethane                       | 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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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 <sub>4</sub>                           | 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 <sub>4</sub> (2:1)             | mg/kg    | 2.5     | MCERTS | 94    | 270   | 140   | 130   |
| Water Soluble SO <sub>4</sub> (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 <sub>4</sub>                                 | mg/kg    | 0.5     | MCERTS | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Water Soluble Nitrate (2:1) as NO <sub>3</sub>              | 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 |
|-----------------------|-------|---|------|-------|-------|-------|-------|

**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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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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |               |               |               |               |  |
| <b>Heavy Metals / Metalloids</b>        |       |                       |                         |               |               |               |               |  |
| 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            |  |
| <b>Monoaromatics</b>                    |       |                       |                         |               |               |               |               |  |
| Benzene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| Toluene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| Ethylbenzene                            | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| p & m-xylene                            | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| o-xylene                                | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| MTBE (Methyl Tertiary Butyl Ether)      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |
| <b>Petroleum Hydrocarbons</b>           |       |                       |                         |               |               |               |               |  |
| 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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |               |               |               |               |
| <b>VOCs</b>                             |       |                       |                         |               |               |               |               |
| Chloromethane                           | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Chloroethane                            | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Bromomethane                            | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Vinyl Chloride                          | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trichlorofluoromethane                  | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-Dichloroethene                      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane   | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Cis-1,2-dichloroethene                  | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| MTBE (Methyl Tertiary Butyl Ether)      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-Dichloroethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 2,2-Dichloropropane                     | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trichloromethane                        | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,1-Trichloroethane                   | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dichloroethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1-Dichloropropene                     | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trans-1,2-dichloroethene                | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Benzene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tetrachloromethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dichloropropane                     | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trichloroethene                         | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Dibromomethane                          | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Bromodichloromethane                    | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Cis-1,3-dichloropropene                 | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Trans-1,3-dichloropropene               | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Toluene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,2-Trichloroethane                   | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,3-Dichloropropane                     | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Dibromochloromethane                    | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tetrachloroethene                       | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dibromoethane                       | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Chlorobenzene                           | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,1,2-Tetrachloroethane               | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Ethylbenzene                            | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| p & m-Xylene                            | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Styrene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Tribromomethane                         | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| o-Xylene                                | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,1,2,2-Tetrachloroethane               | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Isopropylbenzene                        | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Bromobenzene                            | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| n-Propylbenzene                         | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 2-Chlorotoluene                         | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 4-Chlorotoluene                         | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,3,5-Trimethylbenzene                  | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| tert-Butylbenzene                       | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2,4-Trimethylbenzene                  | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| sec-Butylbenzene                        | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,3-Dichlorobenzene                     | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| p-Isopropyltoluene                      | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dichlorobenzene                     | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,4-Dichlorobenzene                     | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Butylbenzene                            | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2-Dibromo-3-chloropropane             | µg/kg | 1                     | ISO 17025               | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2,4-Trichlorobenzene                  | µg/kg | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| Hexachlorobutadiene                     | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |
| 1,2,3-Trichlorobenzene                  | µg/kg | 1                     | NONE                    | < 1.0         | < 1.0         | < 1.0         | < 1.0         |

U/S Unsuitable for analysis.

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Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description *                           |
|-------------------|------------------|---------------|-----------|------------------------------------------------|
| 467575            | TP9              | None Supplied | 0.50      | Brown sandy loam with gravel and stones.       |
| 467576            | TP13             | None Supplied | 1.50      | Black tar with gravel.**                       |
| 467577            | TP18             | None Supplied | 0.50      | Brown loam and sand with gravel.               |
| 467578            | TP20             | None Supplied | 0.50      | Light brown sandy loam with rubble.            |
| 467579            | TP20             | None Supplied | 1.00      | Blue sandy loam with rubble.                   |
| 467580            | TP21             | None Supplied | 0.40      | Light brown sand with rubble and stones.       |
| 467581            | TP21             | None Supplied | 1.50      | Light brown sandy loam with gravel and stones. |
| 467582            | TP23             | None Supplied | 1.00      | Light brown sandy loam with gravel and stones. |
| 467583            | TP26             | None Supplied | 0.20      | Light brown sandy loam with rubble.            |

\*\*Non MCerts matrix



Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

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

| Analytical Test Name                        | Analytical Method Description                                                                                                                             | Analytical Method Reference                                                                                                       | Method number | Wet / Dry Analysis | Accreditation Status |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Ammonium as NH <sub>4</sub> in soil         | Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.                                                | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton                            | L082-PL       | W                  | MCERTS               |
| Asbestos identification in soil             | Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.                                    | In house method based on HSG 248                                                                                                  | A001-PL       | D                  | ISO 17025            |
| Boron, water soluble, in soil               | Determination of water soluble boron in soil by hot water extract followed by ICP-OES.                                                                    | In-house method based on Second Site Properties version 3                                                                         | L038-PL       | D                  | MCERTS               |
| BTEX and MTBE in soil                       | Determination of BTEX in soil by headspace GC-MS.                                                                                                         | In-house method based on USEPA8260                                                                                                | L0735-PL      | W                  | MCERTS               |
| Chloride, water soluble, in soil            | Determination of Chloride colorimetrically by discrete analyser.                                                                                          | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.                                 | L082-PL       | D                  | MCERTS               |
| Free cyanide in soil                        | Determination of free cyanide by distillation followed by colorimetry.                                                                                    | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)                   | L080-PL       | W                  | NONE                 |
| Magnesium, water soluble, in soil           | Determination of water soluble magnesium by extraction with water followed by ICP-OES.                                                                    | In-house method based on TRL 447                                                                                                  | L038-PL       | D                  | NONE                 |
| Metals in soil by ICP-OES                   | Determination of metals in soil by aqua-regia digestion followed by ICP-OES.                                                                              | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.                                              | L038-PL       | D                  | MCERTS               |
| Moisture Content                            | Moisture content, determined gravimetrically.                                                                                                             | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                                  | L019-UK/PL    | W                  | NONE                 |
| Nitrate, water soluble, in soil             | Determination of nitrate by reaction with sodium salicylate and colorimetry.                                                                              | In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.           | L078-PL       | D                  | NONE                 |
| pH in soil (automated)                      | Determination of pH in soil by addition of water followed by electrometric measurement.                                                                   | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                                  | L099-PL       | D                  | MCERTS               |
| Phenols, speciated, in soil, by GCMS        | Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.                                                 | In-house method based on USEPA 8270                                                                                               | L064-PL       | D                  | NONE                 |
| Speciated EPA-16 PAHs in soil               | Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.    | In-house method based on USEPA 8270                                                                                               | L064-PL       | D                  | MCERTS               |
| Stones content of soil                      | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.                               | In-house method based on British Standard Methods and MCERTS requirements.                                                        | L019-UK/PL    | D                  | NONE                 |
| Sulphate, water soluble, in soil            | Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent). | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES. | L038-PL       | D                  | MCERTS               |
| Total cyanide in soil                       | Determination of total cyanide by distillation followed by colorimetry.                                                                                   | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)                   | L080-PL       | W                  | MCERTS               |
| Total sulphate (as SO <sub>4</sub> in soil) | Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.                                                                   | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                                  | L038-PL       | D                  | MCERTS               |

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Analytical Report Number : 15-75727

Project / Site name: Monckton Coke Works Phase I

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

| Analytical Test Name               | Analytical Method Description                                                                                        | Analytical Method Reference                                                                                  | Method number | Wet / Dry Analysis | Accreditation Status |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Total Sulphur in soil              | Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES. | In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil | L038-PL       | D                  | NONE                 |
| TPHCWG (Soil)                      | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.                                            | In-house method                                                                                              | L076-PL       | W                  | MCERTS               |
| Volatile organic compounds in soil | Determination of volatile organic compounds in soil by headspace GC-MS.                                              | In-house method based on USEPA8260                                                                           | L073S-PL      | W                  | MCERTS               |

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

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

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



Environmental Science

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## **Analytical Report Number : 15-79457**

**Project / Site name:** Monckton

**Samples received on:** 24/09/2015

**Your job number:** G15009

**Samples instructed on:** 24/09/2015

**Your order number:**

**Analysis completed by:** 05/10/2015

**Report Issue Number:** 1

**Report issued on:** 05/10/2015

**Samples Analysed:** 1 soil sample

**Signed:**

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

**Signed:**

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

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

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

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

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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<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>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 |  |  |  |  |
|-----------------------|-------|---|------|-------|--|--|--|--|

**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 |  |  |  |  |
|-----------------------------|-------|-----|--------|------|--|--|--|--|



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<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>Status |  |  |

#### Heavy Metals / Metalloids

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

#### Monoaromatics

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

#### Petroleum Hydrocarbons

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

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



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MCERTS

Analytical Report Number: 15-79457

Project / Site name: Monckton

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

## VOCs

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



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Environmental Science

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

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description *             |
|-------------------|------------------|---------------|-----------|----------------------------------|
| 489253            | TP10             | None Supplied | 1.00      | Black loam and sand with gravel. |



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MCERTS

Analytical Report Number : 15-79457

Project / Site name: Monckton

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

| Analytical Test Name                 | Analytical Method Description                                                                                                                          | Analytical Method Reference                                                                                     | Method number | Wet / Dry Analysis | Accreditation Status |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Boron, water soluble, in soil        | Determination of water soluble boron in soil by hot water extract followed by ICP-OES.                                                                 | In-house method based on Second Site Properties version 3                                                       | L038-PL       | D                  | MCERTS               |
| BTEX and MTBE in soil                | Determination of BTEX in soil by headspace GC-MS.                                                                                                      | In-house method based on USEPA8260                                                                              | L073S-PL      | W                  | MCERTS               |
| Free cyanide in soil                 | Determination of free cyanide by distillation followed by colorimetry.                                                                                 | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | NONE                 |
| Metals in soil by ICP-OES            | Determination of metals in soil by aqua-regia digestion followed by ICP-OES.                                                                           | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.                            | L038-PL       | D                  | MCERTS               |
| Moisture Content                     | Moisture content, determined gravimetrically.                                                                                                          | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                | L019-UK/PL    | W                  | NONE                 |
| Phenols, speciated, in soil, by GCMS | Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.                                              | In-house method based on USEPA 8270                                                                             | L064-PL       | D                  | NONE                 |
| Speciated EPA-16 PAHs in soil        | Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. | In-house method based on USEPA 8270                                                                             | L064-PL       | D                  | MCERTS               |
| Stones content of soil               | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.                            | In-house method based on British Standard Methods and MCERTS requirements.                                      | L019-UK/PL    | D                  | NONE                 |
| Total cyanide in soil                | Determination of total cyanide by distillation followed by colorimetry.                                                                                | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | MCERTS               |
| TPHCWG (Soil)                        | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.                                                                              | In-house method                                                                                                 | L076-PL       | W                  | MCERTS               |
| Volatile organic compounds in soil   | Determination of volatile organic compounds in soil by headspace GC-MS.                                                                                | In-house method based on USEPA8260                                                                              | L073S-PL      | W                  | MCERTS               |

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

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

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



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Environmental Science

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## **Analytical Report Number : 15-79638**

Project / Site name: Monckton

Samples received on: 29/09/2015

Your job number: G151311

Samples instructed on: 29/09/2015

Your order number:

Analysis completed by: 05/10/2015

Report Issue Number: 1

Report issued on: 05/10/2015

Samples Analysed: 1 soil sample

Signed: 

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

Signed: 

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

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

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

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

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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton



Environmental Science

| Lab Sample Number                       | 490377        |                       |                         |       |  |  |  |
|-----------------------------------------|---------------|-----------------------|-------------------------|-------|--|--|--|
| Sample Reference                        | TP12          |                       |                         |       |  |  |  |
| Sample Number                           | 3             |                       |                         |       |  |  |  |
| Depth (m)                               | 1.00          |                       |                         |       |  |  |  |
| Date Sampled                            | 16/05/2015    |                       |                         |       |  |  |  |
| Time Taken                              | None Supplied |                       |                         |       |  |  |  |
| Analytical Parameter<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>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 |  |  |  |
|-----------------------|-------|---|------|-------|--|--|--|

**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 |  |  |  |
|-----------------------------|-------|-----|--------|------|--|--|--|



Environmental Science

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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton

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

**Heavy Metals / Metalloids**

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

**Monoaromatics**

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

**Petroleum Hydrocarbons**

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

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



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MCERTS

Analytical Report Number: 15-79638

Project / Site name: Monckton



Environmental Science

| Lab Sample Number                       |       |                       |                         | 490377        |  |  |  |  |  |
|-----------------------------------------|-------|-----------------------|-------------------------|---------------|--|--|--|--|--|
| Sample Reference                        |       |                       |                         | TP12          |  |  |  |  |  |
| Sample Number                           |       |                       |                         | 3             |  |  |  |  |  |
| Depth (m)                               |       |                       |                         | 1.00          |  |  |  |  |  |
| Date Sampled                            |       |                       |                         | 16/06/2015    |  |  |  |  |  |
| Time Taken                              |       |                       |                         | None Supplied |  |  |  |  |  |
| Analytical Parameter<br>(Soil Analysis) | Units | Limit of<br>detection | Accreditation<br>Status |               |  |  |  |  |  |
| <b>VOCs</b>                             |       |                       |                         |               |  |  |  |  |  |
| Chloromethane                           | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Chloroethane                            | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Bromomethane                            | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Vinyl Chloride                          | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Trichlorofluoromethane                  | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| 1,1-Dichloroethene                      | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1,2-Trichloro 1,2,2-Trifluoroethane   | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Cis-1,2-dichloroethene                  | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| MTBE (Methyl Tertiary Butyl Ether)      | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1-Dichloroethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 2,2-Dichloropropane                     | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Trichloromethane                        | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1,1-Trichloroethane                   | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,2-Dichloroethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1-Dichloropropene                     | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Trans-1,2-dichloroethene                | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Benzene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Tetrachloromethane                      | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,2-Dichloropropane                     | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Trichloroethene                         | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Dibromomethane                          | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Bromodichloromethane                    | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Cis-1,3-dichloropropene                 | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Trans-1,3-dichloropropene               | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Toluene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1,2-Trichloroethane                   | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,3-Dichloropropane                     | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Dibromochloromethane                    | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Tetrachloroethene                       | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,2-Dibromoethane                       | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| Chlorobenzene                           | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1,1,2-Tetrachloroethane               | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Ethylbenzene                            | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| p & m-Xylene                            | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Styrene                                 | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Tribromomethane                         | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| o-Xylene                                | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,1,2,2-Tetrachloroethane               | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Isopropylbenzene                        | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| Bromobenzene                            | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| n-Propylbenzene                         | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| 2-Chlorotoluene                         | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 4-Chlorotoluene                         | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 1,3,5-Trimethylbenzene                  | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| tert-Butylbenzene                       | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 1,2,4-Trimethylbenzene                  | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| sec-Butylbenzene                        | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 1,3-Dichlorobenzene                     | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| p-Isopropyltoluene                      | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| 1,2-Dichlorobenzene                     | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| 1,4-Dichlorobenzene                     | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Butylbenzene                            | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 1,2-Dibromo-3-chloropropane             | µg/kg | 1                     | ISO 17025               | < 1.0         |  |  |  |  |  |
| 1,2,4-Trichlorobenzene                  | µg/kg | 1                     | MCERTS                  | < 1.0         |  |  |  |  |  |
| Hexachlorobutadiene                     | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |
| 1,2,3-Trichlorobenzene                  | µg/kg | 1                     | NONE                    | < 1.0         |  |  |  |  |  |



Environmental Science

Analytical Report Number : 15-79638

Project / Site name: Monckton

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description * |
|-------------------|------------------|---------------|-----------|----------------------|
| 490377            | TP12             | 3             | 1.00      | Brown sand.          |



Environmental Science

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MCERTS

Analytical Report Number : 15-79638

Project / Site name: Monckton

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

| Analytical Test Name                 | Analytical Method Description                                                                                                                          | Analytical Method Reference                                                                                     | Method number | Wet / Dry Analysis | Accreditation Status |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Boron, water soluble, in soil        | Determination of water soluble boron in soil by hot water extract followed by ICP-OES.                                                                 | In-house method based on Second Site Properties version 3                                                       | L038-PL       | D                  | MCERTS               |
| BTEX and MTBE in soil                | Determination of BTEX in soil by headspace GC-MS.                                                                                                      | In-house method based on USEPA8260                                                                              | L073S-PL      | W                  | MCERTS               |
| Free cyanide in soil                 | Determination of free cyanide by distillation followed by colorimetry.                                                                                 | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | NONE                 |
| Metals in soil by ICP-OES            | Determination of metals in soil by aqua-regia digestion followed by ICP-OES.                                                                           | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.                            | L038-PL       | D                  | MCERTS               |
| Moisture Content                     | Moisture content, determined gravimetrically.                                                                                                          | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests                                | L019-UK/PL    | W                  | NONE                 |
| Phenols, speciated, in soil, by GCMS | Determination of speciated phenols in soil by extraction in dichloromethane and hexane followed by GC-MS.                                              | In-house method based on USEPA 8270                                                                             | L064-PL       | D                  | NONE                 |
| Speciated EPA-16 PAHs in soil        | Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. | In-house method based on USEPA 8270                                                                             | L064-PL       | D                  | MCERTS               |
| Stones content of soil               | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.                            | In-house method based on British Standard Methods and MCERTS requirements.                                      | L019-UK/PL    | D                  | NONE                 |
| Total cyanide in soil                | Determination of total cyanide by distillation followed by colorimetry.                                                                                | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | MCERTS               |
| TPHCWG (Soil)                        | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.                                                                              | In-house method                                                                                                 | L076-PL       | W                  | MCERTS               |
| Volatile organic compounds in soil   | Determination of volatile organic compounds in soil by headspace GC-MS.                                                                                | In-house method based on USEPA8260                                                                              | L073S-PL      | W                  | MCERTS               |

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

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

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



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## **Analytical Report Number : 15-79244**

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

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

**Signed:**

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

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

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

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

**Signed:**

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

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



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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 |               |               |               |               |               |
| Stone Content                        | %     | 0.1                | NONE                 | < 0.1         | < 0.1         | < 0.1         | < 0.1         | < 0.1         |
| Moisture Content                     | %     | N/A                | NONE                 | 13            | 9.6           | 8.3           | 12            | 8.6           |
| Total mass of sample received        | kg    | 0.001              | NONE                 | 0.40          | 0.54          | 0.47          | 0.54          | 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 |
|-----------------------|-------|---|------|-----|-------|-------|-------|-------|

**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 |
|-----------------------------|-------|-----|--------|-----|------|-----|------|------|

Iss No 15-79244-1

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<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>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                            | ug/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Toluene                            | ug/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene                       | ug/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| p & m-xylene                       | ug/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| o-xylene                           | ug/kg | 1 | MCERTS | < 1.0 | < 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 | < 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    |