

**Alix Hamilton**

Keltbray Remediation Ltd  
St Andrew's House  
Portsmouth Road  
Esher  
KT10 9TA

**t:** 02076431000

**e:** alix.hamilton@keltbray.com

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

**t:** 01923 225404

**f:** 01923 237404

**e:** reception@i2analytical.com

## **Analytical Report Number : 20-25684**

|                             |                                     |                                                        |            |
|-----------------------------|-------------------------------------|--------------------------------------------------------|------------|
| <b>Project / Site name:</b> | Clarendon Road                      | <b>Samples received on:</b>                            | 19/08/2020 |
| <b>Your job number:</b>     | 6075                                | <b>Samples instructed on/<br/>Analysis started on:</b> | 19/08/2020 |
| <b>Your order number:</b>   | S-RE6075/00005                      | <b>Analysis completed by:</b>                          | 24/08/2020 |
| <b>Report Issue Number:</b> | 1                                   | <b>Report issued on:</b>                               | 24/08/2020 |
| <b>Samples Analysed:</b>    | 2 leachate samples - 2 soil samples |                                                        |            |

**Signed:**

Joanna Wawrzeczko  
Technical Reviewer (Reporting Team)  
**For & on behalf of i2 Analytical Ltd.**

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

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

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

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

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

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



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|                                             |       |                    |                      |               |               |
|---------------------------------------------|-------|--------------------|----------------------|---------------|---------------|
| Lab Sample Number                           |       |                    |                      | 1598155       | 1598156       |
| Sample Reference                            |       |                    |                      | SP022         | SP022         |
| Sample Number                               |       |                    |                      | 3             | 4             |
| Depth (m)                                   |       |                    |                      | None Supplied | None Supplied |
| Date Sampled                                |       |                    |                      | 19/08/2020    | 19/08/2020    |
| Time Taken                                  |       |                    |                      | None Supplied | None Supplied |
| Analytical Parameter<br>(Leachate Analysis) | Units | Limit of detection | Accreditation Status |               |               |

#### General Inorganics

|                             |      |     |           |      |      |
|-----------------------------|------|-----|-----------|------|------|
| Sulphate as SO <sub>4</sub> | mg/l | 0.1 | ISO 17025 | 665  | 574  |
| Ammonium as NH <sub>4</sub> | µg/l | 15  | NONE      | 6500 | 9700 |

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

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|                                         |       |                    |                      |               |               |
|-----------------------------------------|-------|--------------------|----------------------|---------------|---------------|
| Lab Sample Number                       |       |                    |                      | 1598153       | 1598154       |
| Sample Reference                        |       |                    |                      | SP022         | SP022         |
| Sample Number                           |       |                    |                      | 3             | 4             |
| Depth (m)                               |       |                    |                      | None Supplied | None Supplied |
| Date Sampled                            |       |                    |                      | 19/08/2020    | 19/08/2020    |
| Time Taken                              |       |                    |                      | None Supplied | None Supplied |
| Analytical Parameter<br>(Soil Analysis) | Units | Limit of detection | Accreditation Status |               |               |

|                               |    |       |      |       |       |
|-------------------------------|----|-------|------|-------|-------|
| Stone Content                 | %  | 0.1   | NONE | < 0.1 | < 0.1 |
| Moisture Content              | %  | N/A   | NONE | 7.4   | 8.2   |
| Total mass of sample received | kg | 0.001 | NONE | 2     | 2     |

|                  |      |     |           |              |              |
|------------------|------|-----|-----------|--------------|--------------|
| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | Not-detected |
|------------------|------|-----|-----------|--------------|--------------|

#### General Inorganics

|                                                                  |       |         |        |     |     |
|------------------------------------------------------------------|-------|---------|--------|-----|-----|
| Water Soluble SO <sub>4</sub> (2:1 Leach. Equiv.) 1hr extraction | g/l   | 0.00125 | MCERTS | 1.5 | 1.5 |
| Ammonium as NH <sub>4</sub>                                      | mg/kg | 0.5     | MCERTS | 69  | 61  |

#### Speciated PAHs

|                |       |      |        |     |      |
|----------------|-------|------|--------|-----|------|
| Naphthalene    | mg/kg | 0.05 | MCERTS | 46  | 1.3  |
| Acenaphthene   | mg/kg | 0.05 | MCERTS | 7.6 | 0.45 |
| Fluorene       | mg/kg | 0.05 | MCERTS | 39  | 3.8  |
| Anthracene     | mg/kg | 0.05 | MCERTS | 35  | 2.6  |
| Fluoranthene   | mg/kg | 0.05 | MCERTS | 49  | 7.4  |
| Pyrene         | mg/kg | 0.05 | MCERTS | 51  | 7.7  |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | 23  | 2.6  |

#### Monoaromatics & Oxygenates

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

#### Petroleum Hydrocarbons

|                                  |       |       |        |         |         |
|----------------------------------|-------|-------|--------|---------|---------|
| TPH-CWG - Aliphatic >EC5 - EC6   | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aliphatic >EC6 - EC8   | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aliphatic >EC8 - EC10  | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aliphatic >EC10 - EC12 | mg/kg | 1     | MCERTS | 35      | 2.1     |
| TPH-CWG - Aliphatic >EC12 - EC16 | mg/kg | 2     | MCERTS | 170     | 23      |
| TPH-CWG - Aliphatic >EC16 - EC21 | mg/kg | 8     | MCERTS | 160     | 76      |
| TPH-CWG - Aliphatic >EC21 - EC35 | mg/kg | 8     | MCERTS | 160     | 92      |
| TPH-CWG - Aliphatic (EC5 - EC35) | mg/kg | 10    | MCERTS | 530     | 190     |

|                                 |       |       |        |         |         |
|---------------------------------|-------|-------|--------|---------|---------|
| TPH-CWG - Aromatic >EC5 - EC7   | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aromatic >EC7 - EC8   | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aromatic >EC8 - EC10  | mg/kg | 0.001 | MCERTS | < 0.001 | < 0.001 |
| TPH-CWG - Aromatic >EC10 - EC12 | mg/kg | 1     | MCERTS | 22      | 7       |
| TPH-CWG - Aromatic >EC12 - EC16 | mg/kg | 2     | MCERTS | 160     | 30      |
| TPH-CWG - Aromatic >EC16 - EC21 | mg/kg | 10    | MCERTS | 450     | 66      |
| TPH-CWG - Aromatic >EC21 - EC35 | mg/kg | 10    | MCERTS | 360     | 95      |
| TPH-CWG - Aromatic (EC5 - EC35) | mg/kg | 10    | MCERTS | 990     | 200     |

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|                                         |       |                    |                      |               |               |
|-----------------------------------------|-------|--------------------|----------------------|---------------|---------------|
| Lab Sample Number                       |       |                    |                      | 1598153       | 1598154       |
| Sample Reference                        |       |                    |                      | SP022         | SP022         |
| Sample Number                           |       |                    |                      | 3             | 4             |
| Depth (m)                               |       |                    |                      | None Supplied | None Supplied |
| Date Sampled                            |       |                    |                      | 19/08/2020    | 19/08/2020    |
| Time Taken                              |       |                    |                      | None Supplied | None Supplied |
| Analytical Parameter<br>(Soil Analysis) | Units | Limit of detection | Accreditation Status |               |               |

#### VOCs

|                           |       |   |        |       |       |
|---------------------------|-------|---|--------|-------|-------|
| Vinyl Chloride            | µg/kg | 1 | NONE   | < 1.0 | < 1.0 |
| Cis-1,2-dichloroethene    | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| 1,1-Dichloroethane        | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| 1,1,1-Trichloroethane     | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| 1,2-Dichloroethane        | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| Trans-1,2-dichloroethene  | µg/kg | 1 | NONE   | < 1.0 | < 1.0 |
| Tetrachloromethane        | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| Trichloroethene           | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| 1,1,2-Trichloroethane     | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| Tetrachloroethene         | µg/kg | 1 | NONE   | < 1.0 | < 1.0 |
| 1,1,1,2-Tetrachloroethane | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |
| 1,1,2,2-Tetrachloroethane | µg/kg | 1 | MCERTS | < 1.0 | < 1.0 |

#### SVOCs

|        |       |     |           |       |       |
|--------|-------|-----|-----------|-------|-------|
| Phenol | mg/kg | 0.2 | ISO 17025 | < 0.2 | < 0.2 |
|--------|-------|-----|-----------|-------|-------|

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\* 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 *                        |
|-------------------|------------------|---------------|---------------|---------------------------------------------|
| 1598153           | SP022            | 3             | None Supplied | Brown clay and sand with gravel and rubble. |
| 1598154           | SP022            | 4             | None Supplied | Brown clay and sand with gravel and rubble. |



**Analytical Report Number : 20-25684**  
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**Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

| Analytical Test Name                               | Analytical Method Description                                                                                                                             | Analytical Method Reference                                                                            | Method number | Wet / Dry Analysis | Accreditation Status |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Sulphate, water soluble, in soil (16hr extraction) | Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent). | In house method.                                                                                       | L038-PL       | D                  | MCERTS               |
| NRA Leachate Prep                                  | 10:1 extract with de-ionised water shaken for 24 hours then filtered.                                                                                     | In-house method based on National Rivers Authority                                                     | L020-PL       | W                  | NONE                 |
| Asbestos identification in soil                    | Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.                                     | In house method based on HSG 248                                                                       | A001-PL       | D                  | ISO 17025            |
| Moisture Content                                   | Moisture content, determined gravimetrically. (30 oC)                                                                                                     | In house method.                                                                                       | L019-UK/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                  | ISO 17025            |
| Volatile organic compounds in soil                 | Determination of volatile organic compounds in soil by headspace GC-MS.                                                                                   | In-house method based on USEPA8260                                                                     | L073B-PL      | W                  | MCERTS               |
| BTEX and MTBE in soil (Monoaromatics)              | Determination of BTEX in soil by headspace GC-MS.                                                                                                         | In-house method based on USEPA8260                                                                     | L073B-PL      | W                  | MCERTS               |
| 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               |
| Ammonium as NH4 in leachate                        | 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                  | NONE                 |
| Ammonium as NH4 in soil                            | Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.                        | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton | L082-PL       | W                  | MCERTS               |
| TPHCWG (Soil)                                      | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.                                                                                 | In-house method with silica gel split/clean up.                                                        | L088/76-PL    | W                  | MCERTS               |
| Sulphate in leachates                              | Determination of sulphate in leachate by acidification followed by ICP-OES.                                                                               | In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"                   | L039-PL       | W                  | ISO 17025            |
| D.O. for Gravimetric Quant if Screen/ID positive   | Dependent option for Gravimetric Quant if Screen/ID positive scheduled.                                                                                   | In house asbestos methods A001 & A006.                                                                 | A006-PL       | D                  | NONE                 |
| Sulphate, water soluble, in soil (1hr extraction)  | Sulphate, water soluble, in soil (1hr extraction)                                                                                                         | In-house method                                                                                        | L038-PL       | D                  | MCERTS               |

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

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

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



## Sample Deviation Report



Analytical Report Number : 20-25684

Project / Site name: Clarendon Road

| Sample ID | Other ID | Sample Type | Lab Sample Number | Sample Deviation | Test Name                               | Test Ref   | Test Deviation |
|-----------|----------|-------------|-------------------|------------------|-----------------------------------------|------------|----------------|
| SP022     | 3        | S           | 1598153           | b                | BTEX and MTBE in soil (Monoaromatics)   | L073B-PL   | b              |
| SP022     | 3        | S           | 1598153           | b                | Semi-volatile organic compounds in soil | L064-PL    | b              |
| SP022     | 3        | S           | 1598153           | b                | Speciated EPA-16 PAHs in soil           | L064-PL    | b              |
| SP022     | 3        | S           | 1598153           | b                | TPHCWG (Soil)                           | L088/76-PL | b              |
| SP022     | 3        | S           | 1598153           | b                | Volatile organic compounds in soil      | L073B-PL   | b              |
| SP022     | 4        | S           | 1598154           | b                | BTEX and MTBE in soil (Monoaromatics)   | L073B-PL   | b              |
| SP022     | 4        | S           | 1598154           | b                | Semi-volatile organic compounds in soil | L064-PL    | b              |
| SP022     | 4        | S           | 1598154           | b                | Speciated EPA-16 PAHs in soil           | L064-PL    | b              |
| SP022     | 4        | S           | 1598154           | b                | TPHCWG (Soil)                           | L088/76-PL | b              |
| SP022     | 4        | S           | 1598154           | b                | Volatile organic compounds in soil      | L073B-PL   | b              |