# APPENDIX VII
# CHEMICAL TESTING RESULTS

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# Analytical Report Number : 19-31215

| | | | |
|---|---|---|---|
| **Project / Site name:** | Jepps Lane | **Samples received on:** | 01/03/2019 |
| **Your job number:** | 13-200 | **Samples instructed on:** | 01/03/2019 |
| **Your order number:** | 13200-31663-NS | **Analysis completed by:** | 08/03/2019 |
| **Report Issue Number:** | 1 | **Report issued on:** | 08/03/2019 |
| **Samples Analysed:** | 19 soil samples | | |

**Signe** [redacted]

Dr Claire Stone
Quality Manager
**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 |

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**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168034 | 1168035 | 1168036 | 1168037 | 1168038 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | SA101 | TP103 | TP111 | TP116 | TP119 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 0.20 | 0.60 | 1.30 | 1.00 | 0.40 |
| **Date Sampled** | | | | 26/02/2019 | 26/02/2019 | 27/02/2019 | 27/02/2019 | 27/02/2019 |
| **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 | 17 | 13 | 12 | 14 | 17 |
| Total mass of sample received | kg | 0.001 | NONE | 0.40 | 0.49 | 0.44 | 0.44 | 0.43 |
| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | - | - | - | Not-detected |
| **General Inorganics** | | | | | | | | |
| pH - Automated | pH Units | N/A | MCERTS | 6.8 | - | 8.5 | 8.5 | - |
| Total Cyanide | mg/kg | 1 | MCERTS | < 1 | < 1 | < 1 | < 1 | < 1 |
| Total Sulphate as $SO_4$ | mg/kg | 50 | MCERTS | 790 | - | 250 | 250 | - |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 25 | - | 42 | 37 | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.012 | - | 0.021 | 0.019 | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 12.3 | - | 20.8 | 18.7 | - |
| Sulphide | mg/kg | 1 | MCERTS | < 1.0 | - | < 1.0 | < 1.0 | - |
| Total Sulphur | mg/kg | 50 | MCERTS | 490 | - | 110 | 110 | - |
| Total Organic Carbon (TOC) | % | 0.1 | MCERTS | - | 0.6 | 0.5 | - | - |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | - | < 1.0 | < 1.0 | - |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | MCERTS | < 0.80 | < 0.80 | < 0.80 | < 0.80 | < 0.80 |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168034 | 1168035 | 1168036 | 1168037 | 1168038 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | SA101 | TP103 | TP111 | TP116 | TP119 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 0.20 | 0.60 | 1.30 | 1.00 | 0.40 |
| **Date Sampled** | | | | 26/02/2019 | 26/02/2019 | 27/02/2019 | 27/02/2019 | 27/02/2019 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 7.7 | 7.5 | 6.7 | 7.6 | 6.0 |
| Barium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 140 | - | - | 60 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | - | 0.96 | - | - | 0.43 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | < 4.0 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 28 | - | 33 | 31 | - |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 26 | 20 | 19 | 18 | 17 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 30 | 9.3 | 8.5 | 8.9 | 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 | 18 | 30 | 28 | 28 | 19 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | 2.7 | < 1.0 | < 1.0 | 1.3 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 32 | - | - | 27 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 52 | 41 | 41 | 43 | 40 |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPH (C5 - C6) | mg/kg | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH (C6 - C8) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TPH (C8 - C10) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TPH (C10 - C12) | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH (C12 - C16) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | < 4.0 |
| TPH (C16 - C21) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH (C21 - C35) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH (C35 - C40) | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| **TPH Total C5 - C40** | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168039 | 1168040 | 1168041 | 1168042 | 1168043 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | TP122 | TP125 | TP135 | TP135 | TP138 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 1.20 | 0.30 | 0.40 | 1.20 | 1.00 |
| **Date Sampled** | | | | 27/02/2019 | 27/02/2019 | 28/02/2019 | 28/02/2019 | 28/02/2019 |
| **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 | 69 | < 0.1 | < 0.1 |
| Moisture Content | % | N/A | NONE | 11 | 16 | 12 | 24 | 13 |
| Total mass of sample received | kg | 0.001 | NONE | 0.48 | 0.40 | 0.48 | 0.35 | 0.45 |
| Asbestos in Soil | Type | N/A | ISO 17025 | - | Not-detected | Not-detected | - | - |
| **General Inorganics** | | | | | | | | |
| pH - Automated | pH Units | N/A | MCERTS | 8.4 | - | 7.1 | - | - |
| Total Cyanide | mg/kg | 1 | MCERTS | < 1 | < 1 | < 1 | < 1 | < 1 |
| Total Sulphate as $SO_4$ | mg/kg | 50 | MCERTS | 210 | - | 400 | - | - |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 38 | - | 20 | - | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.019 | - | 0.010 | - | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 19.0 | - | 10.0 | - | - |
| Sulphide | mg/kg | 1 | MCERTS | < 1.0 | - | < 1.0 | - | - |
| Total Sulphur | mg/kg | 50 | MCERTS | 96 | - | 280 | - | - |
| Total Organic Carbon (TOC) | % | 0.1 | MCERTS | - | - | 1.4 | - | - |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | - | < 1.0 | - | - |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.38 | < 0.05 | < 0.05 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.66 | < 0.05 | < 0.05 |
| Pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.59 | < 0.05 | < 0.05 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.34 | < 0.05 | < 0.05 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.39 | < 0.05 | < 0.05 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.38 | < 0.05 | < 0.05 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.22 | < 0.05 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.42 | < 0.05 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | MCERTS | < 0.80 | < 0.80 | 3.38 | < 0.80 | < 0.80 |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168039 | 1168040 | 1168041 | 1168042 | 1168043 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | TP122 | TP125 | TP135 | TP135 | TP138 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 1.20 | 0.30 | 0.40 | 1.20 | 1.00 |
| **Date Sampled** | | | | 27/02/2019 | 27/02/2019 | 28/02/2019 | 28/02/2019 | 28/02/2019 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 6.0 | 5.7 | 4.1 | 13 | 8.0 |
| Barium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 97 | - | 130 | 120 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | - | 0.75 | - | 0.70 | 0.86 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | < 4.0 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 27 | - | 22 | - | - |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 16 | 24 | 20 | 23 | 18 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 7.4 | 18 | 18 | 19 | 7.3 |
| 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 | 22 | 20 | 16 | 25 | 25 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 30 | - | 27 | 33 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 33 | 47 | 56 | 56 | 33 |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPH (C5 - C6) | mg/kg | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | < 1.0 | - |
| TPH (C6 - C8) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | - |
| TPH (C8 - C10) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | - |
| TPH (C10 - C12) | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | - |
| TPH (C12 - C16) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | - |
| TPH (C16 - C21) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 1.8 | 11 | - |
| TPH (C21 - C35) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 3.0 | 96 | - |
| TPH (C35 - C40) | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | - |
| **TPH Total C5 - C40** | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | 110 | - |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168044 | 1168045 | 1168046 | 1168047 | 1168048 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | TP140 | TP144 | WS103 | WS105 | WS108 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 0.30 | 1.20 | 0.60 | 0.40 | 0.30 |
| **Date Sampled** | | | | 28/02/2019 | 28/02/2019 | 26/02/2019 | 26/02/2019 | 27/02/2019 |
| **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 | 19 | 15 | 46 | 23 | 16 |
| Total mass of sample received | kg | 0.001 | NONE | 0.43 | 0.43 | 0.36 | 0.44 | 0.41 |
| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | - | Not-detected | Not-detected | Not-detected |
| **General Inorganics** | | | | | | | | |
| pH - Automated | pH Units | N/A | MCERTS | 7.1 | 8.6 | 6.9 | - | - |
| Total Cyanide | mg/kg | 1 | MCERTS | < 1 | < 1 | 1 | < 1 | < 1 |
| Total Sulphate as $SO_4$ | mg/kg | 50 | MCERTS | 390 | 220 | 1900 | - | - |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 27 | 36 | 50 | - | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.014 | 0.018 | 0.025 | - | - |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 13.6 | 17.8 | 24.9 | - | - |
| Sulphide | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 27 | - | - |
| Total Sulphur | mg/kg | 50 | MCERTS | 220 | 110 | 1900 | - | - |
| Total Organic Carbon (TOC) | % | 0.1 | MCERTS | - | - | 16 | - | - |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | - | - |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.17 | < 0.05 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.34 | < 0.05 |
| Pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.45 | < 0.05 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.20 | < 0.05 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.23 | < 0.05 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.25 | < 0.05 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.16 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | 0.24 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | MCERTS | < 0.80 | < 0.80 | < 0.80 | 2.04 | < 0.80 |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168044 | 1168045 | 1168046 | 1168047 | 1168048 |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | TP140 | TP144 | WS103 | WS105 | WS108 |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Depth (m)** | | | | 0.30 | 1.20 | 0.60 | 0.40 | 0.30 |
| **Date Sampled** | | | | 28/02/2019 | 28/02/2019 | 26/02/2019 | 26/02/2019 | 27/02/2019 |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 4.4 | 9.0 | 1.9 | 7.7 | 7.8 |
| Barium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | - | - | 110 | 88 |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | - | - | - | 0.71 | 0.76 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | < 4.0 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 21 | 36 | 16 | - | - |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 18 | 23 | 22 | 33 | 22 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 12 | 11 | 7.6 | 34 | 24 |
| 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 | 14 | 32 | 7.1 | 18 | 21 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | - | - | 28 | 31 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 26 | 52 | 6.5 | 83 | 46 |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPH (C5 - C6) | mg/kg | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH (C6 - C8) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TPH (C8 - C10) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| TPH (C10 - C12) | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH (C12 - C16) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | < 4.0 |
| TPH (C16 - C21) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH (C21 - C35) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | 25 | 3.5 | < 1.0 |
| TPH (C35 - C40) | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| **TPH Total C5 - C40** | mg/kg | 10 | MCERTS | < 10 | < 10 | 27 | < 10 | < 10 |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168049 | 1168050 | 1168051 | 1168052 | |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS112 | WS114 | WS115 | WS115 | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | |
| **Depth (m)** | | | | 0.90 | 0.20 | 0.90 | 2.10 | |
| **Date Sampled** | | | | 27/02/2019 | 28/02/2019 | 28/02/2019 | 28/02/2019 | |
| **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 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | |
| Moisture Content | % | N/A | NONE | 16 | 28 | 13 | 15 | |
| Total mass of sample received | kg | 0.001 | NONE | 0.42 | 0.42 | 0.43 | 0.55 | |
| Asbestos in Soil | Type | N/A | ISO 17025 | - | Not-detected | - | - | |
| **General Inorganics** | | | | | | | | |
| pH - Automated | pH Units | N/A | MCERTS | 7.8 | - | - | - | |
| Total Cyanide | mg/kg | 1 | MCERTS | < 1 | < 1 | < 1 | - | |
| Total Sulphate as $SO_4$ | mg/kg | 50 | MCERTS | 260 | - | - | - | |
| Water Soluble Sulphate as $SO_4$ 16hr extraction (2:1) | mg/kg | 2.5 | MCERTS | 20 | - | - | - | |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | g/l | 0.00125 | MCERTS | 0.010 | - | - | - | |
| Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent) | mg/l | 1.25 | MCERTS | 10.1 | - | - | - | |
| Sulphide | mg/kg | 1 | MCERTS | < 1.0 | - | - | - | |
| Total Sulphur | mg/kg | 50 | MCERTS | 150 | - | - | - | |
| Total Organic Carbon (TOC) | % | 0.1 | MCERTS | - | - | - | 0.5 | |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | mg/kg | 1 | MCERTS | < 1.0 | - | - | - | |
| **Speciated PAHs** | | | | | | | | |
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Phenanthrene | mg/kg | 0.05 | MCERTS | < 0.05 | 1.1 | < 0.05 | - | |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | 1.1 | < 0.05 | - | |
| Pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.90 | < 0.05 | - | |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.41 | < 0.05 | - | |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.54 | < 0.05 | - | |
| Benzo(b)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.56 | < 0.05 | - | |
| Benzo(k)fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.23 | < 0.05 | - | |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.46 | < 0.05 | - | |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.19 | < 0.05 | - | |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | - | |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | 0.23 | < 0.05 | - | |
| **Total PAH** | | | | | | | | |
| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | MCERTS | < 0.80 | 5.74 | < 0.80 | - | |

**Analytical Report Number: 19-31215**

**Project / Site name: Jepps Lane**
**Your Order No: 13200-31663-NS**

| Lab Sample Number | | | | 1168049 | 1168050 | 1168051 | 1168052 | |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS112 | WS114 | WS115 | WS115 | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | None Supplied | |
| **Depth (m)** | | | | 0.90 | 0.20 | 0.90 | 2.10 | |
| **Date Sampled** | | | | 27/02/2019 | 28/02/2019 | 28/02/2019 | 28/02/2019 | |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | None Supplied | |
| **Analytical Parameter (Soil Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 9.2 | 9.3 | 5.3 | - | |
| Barium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 82 | 64 | - | |
| Beryllium (aqua regia extractable) | mg/kg | 0.06 | MCERTS | - | 0.59 | 0.67 | - | |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | - | |
| Chromium (hexavalent) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | - | |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 26 | - | - | - | |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 7.3 | 29 | 17 | - | |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 8.4 | 28 | 12 | - | |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | - | |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 15 | 15 | 25 | - | |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | - | |
| Vanadium (aqua regia extractable) | mg/kg | 1 | MCERTS | - | 42 | 28 | - | |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 21 | 72 | 32 | - | |

**Petroleum Hydrocarbons**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TPH (C5 - C6) | mg/kg | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | < 1.0 | |
| TPH (C6 - C8) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | |
| TPH (C8 - C10) | mg/kg | 0.1 | MCERTS | < 0.1 | < 0.1 | < 0.1 | < 0.1 | |
| TPH (C10 - C12) | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | |
| TPH (C12 - C16) | mg/kg | 4 | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 | |
| TPH (C16 - C21) | mg/kg | 1 | MCERTS | < 1.0 | 5.1 | < 1.0 | 3.2 | |
| TPH (C21 - C35) | mg/kg | 1 | MCERTS | < 1.0 | 20 | < 1.0 | 33 | |
| TPH (C35 - C40) | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | |
| **TPH Total C5 - C40** | mg/kg | 10 | MCERTS | < 10 | 28 | < 10 | 38 | |

**Analytical Report Number : 19-31215**

**Project / Site name: Jepps Lane**

* 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 * |
|---|---|---|---|---|
| 1168034 | SA101 | None Supplied | 0.20 | Brown loam and clay with vegetation and gravel |
| 1168035 | TP103 | None Supplied | 0.60 | Brown clay. |
| 1168036 | TP111 | None Supplied | 1.30 | Brown clay with gravel. |
| 1168037 | TP116 | None Supplied | 1.00 | Brown clay with gravel. |
| 1168038 | TP119 | None Supplied | 0.40 | Brown loam and clay with vegetation. |
| 1168039 | TP122 | None Supplied | 1.20 | Brown clay and sand with gravel. |
| 1168040 | TP125 | None Supplied | 0.30 | Brown loam and clay with vegetation. |
| 1168041 | TP135 | None Supplied | 0.40 | Brown loam and clay with vegetation and stones. |
| 1168042 | TP135 | None Supplied | 1.20 | Brown clay and sand with gravel and vegetation. |
| 1168043 | TP138 | None Supplied | 1.00 | Light brown clay with gravel. |
| 1168044 | TP140 | None Supplied | 0.30 | Brown clay and loam with gravel and vegetation. |
| 1168045 | TP144 | None Supplied | 1.20 | Brown clay. |
| 1168046 | WS103 | None Supplied | 0.60 | Brown clay and loam with vegetation. |
| 1168047 | WS105 | None Supplied | 0.40 | Brown loam and clay with vegetation and gravel |
| 1168048 | WS108 | None Supplied | 0.30 | Brown clay and sand with brick and vegetation. |
| 1168049 | WS112 | None Supplied | 0.90 | Brown clay with gravel. |
| 1168050 | WS114 | None Supplied | 0.20 | Brown loam and clay with vegetation and gravel |
| 1168051 | WS115 | None Supplied | 0.90 | Brown loam and clay with gravel and vegetation. |
| 1168052 | WS115 | None Supplied | 2.10 | Brown loam and clay with vegetation. |




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

**Analytical Report Number : 19-31215**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| 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 |
| 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 |
| Hexavalent chromium in soil | Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry. | In-house method | L080-PL | W | MCERTS |
| 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 2, 1990, Chemical and Electrochemical Tests | L019-UK/PL | W | NONE |
| Monohydric phenols in soil | Determination of phenols in soil by extraction with sodium hydroxide followed 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 |
| pH in soil (automated) | Determination of pH in soil by addition of water followed by automated electrometric measurement. | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests | L099-PL | D | 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 |
| 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 (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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES. | L038-PL | D | MCERTS |
| Sulphide in soil | Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode. | In-house method | L010-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 organic carbon (Automated) in soil | Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate. | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests"" | L009-PL | D | MCERTS |
| Total sulphate (as SO4 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 | MCERTS |
| TPH in (Soil) | Determination of TPH bands by HS-GC-MS/GC-FID | In-house method, TPH with carbon banding and silica gel split/cleanup. | L076-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.**

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# Analytical Report Number : 19-31759

| | | | |
|---|---|---|---|
| **Project / Site name:** | Jepps Lane | **Samples received on:** | 06/03/2019 |
| **Your job number:** | 13-200 | **Samples instructed on:** | 06/03/2019 |
| **Your order number:** | 13200-31718-NS | **Analysis completed by:** | 13/03/2019 |
| **Report Issue Number:** | 1 | **Report issued on:** | 13/03/2019 |
| **Samples Analysed:** | 3 water samples | | |

**Signe** [redacted]

Dr Claire Stone
Quality Manager
**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 |

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**Analytical Report Number: 19-31759**

**Project / Site name: Jepps Lane**

**Your Order No: 13200-31718-NS**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample Number** | | | | 1170772 | 1170773 | 1170774 | | |
| **Sample Reference** | | | | WS104 | WS108 | WS117 | | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | | |
| **Depth (m)** | | | | None Supplied | None Supplied | None Supplied | | |
| **Date Sampled** | | | | 06/03/2019 | 06/03/2019 | 06/03/2019 | | |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | | |
| **Analytical Parameter (Water Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **General Inorganics** | | | | | | | | |
| pH | pH Units | N/A | ISO 17025 | 7.0 | 6.9 | 7.1 | | |
| Total Cyanide (Low Level 1 µg/l) | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| **Total Phenols** | | | | | | | | |
| Total Phenols (monohydric) | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | 1.3 | | |
| **Heavy Metals / Metalloids** | | | | | | | | |
| Arsenic (dissolved) | µg/l | 1 | ISO 17025 | 6.8 | < 1.0 | 4.8 | | |
| Cadmium (dissolved) | µg/l | 0.08 | ISO 17025 | < 0.08 | < 0.08 | < 0.08 | | |
| Chromium (hexavalent) | µg/l | 5 | ISO 17025 | < 5.0 | < 5.0 | < 5.0 | | |
| Chromium (dissolved) | µg/l | 0.4 | ISO 17025 | 1.4 | 1.3 | 1.6 | | |
| Copper (dissolved) | µg/l | 0.7 | ISO 17025 | 22 | 16 | 27 | | |
| Lead (dissolved) | µg/l | 1 | ISO 17025 | < 1.0 | 1.2 | 1.4 | | |
| Mercury (dissolved) | µg/l | 0.5 | ISO 17025 | < 0.5 | < 0.5 | < 0.5 | | |
| Nickel (dissolved) | µg/l | 0.3 | ISO 17025 | 6.6 | 5.4 | 4.3 | | |
| Selenium (dissolved) | µg/l | 4 | ISO 17025 | < 4.0 | < 4.0 | < 4.0 | | |
| Zinc (dissolved) | µg/l | 0.4 | ISO 17025 | 38 | 97 | 1200 | | |
| **Monoaromatics & Oxygenates** | | | | | | | | |
| Benzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Toluene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Ethylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| p & m-xylene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| o-xylene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| MTBE (Methyl Tertiary Butyl Ether) | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |

**Analytical Report Number: 19-31759**

**Project / Site name: Jepps Lane**

**Your Order No: 13200-31718-NS**

| **Lab Sample Number** | | | | 1170772 | 1170773 | 1170774 | | |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS104 | WS108 | WS117 | | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | | |
| **Depth (m)** | | | | None Supplied | None Supplied | None Supplied | | |
| **Date Sampled** | | | | 06/03/2019 | 06/03/2019 | 06/03/2019 | | |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | | |
| **Analytical Parameter (Water Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **Petroleum Hydrocarbons** | | | | | | | | |
| TPH1 (C10 - C40) | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aliphatic >C5 - C6 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aliphatic >C6 - C8 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aliphatic >C8 - C10 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aliphatic >C10 - C12 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aliphatic >C12 - C16 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aliphatic >C16 - C21 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aliphatic >C21 - C35 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| **TPH-CWG - Aliphatic (C5 - C35)** | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aromatic >C5 - C7 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aromatic >C7 - C8 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aromatic >C8 - C10 | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| TPH-CWG - Aromatic >C10 - C12 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aromatic >C12 - C16 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aromatic >C16 - C21 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| TPH-CWG - Aromatic >C21 - C35 | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |
| **TPH-CWG - Aromatic (C5 - C35)** | µg/l | 10 | NONE | < 10 | < 10 | < 10 | | |

**Analytical Report Number: 19-31759**

**Project / Site name: Jepps Lane**

**Your Order No: 13200-31718-NS**

| **Lab Sample Number** | | | | 1170772 | 1170773 | 1170774 | | |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS104 | WS108 | WS117 | | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | | |
| **Depth (m)** | | | | None Supplied | None Supplied | None Supplied | | |
| **Date Sampled** | | | | 06/03/2019 | 06/03/2019 | 06/03/2019 | | |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | | |
| **Analytical Parameter (Water Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **VOCs** | | | | | | | | |
| Chloromethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Chloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Bromomethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Vinyl Chloride | µg/l | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | | |
| Trichlorofluoromethane | µg/l | 1 | NONE | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1-Dichloroethene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Cis-1,2-dichloroethene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| MTBE (Methyl Tertiary Butyl Ether) | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1-Dichloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 2,2-Dichloropropane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Trichloromethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1,1-Trichloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2-Dichloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1-Dichloropropene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Trans-1,2-dichloroethene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Benzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Tetrachloromethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2-Dichloropropane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Trichloroethene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Dibromomethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Bromodichloromethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Cis-1,3-dichloropropene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Trans-1,3-dichloropropene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Toluene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1,2-Trichloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,3-Dichloropropane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Dibromochloromethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Tetrachloroethene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2-Dibromoethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Chlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1,1,2-Tetrachloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Ethylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| p & m-Xylene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Styrene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Tribromomethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| o-Xylene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,1,2,2-Tetrachloroethane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Isopropylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Bromobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| n-Propylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 2-Chlorotoluene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 4-Chlorotoluene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,3,5-Trimethylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| tert-Butylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2,4-Trimethylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| sec-Butylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,3-Dichlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| p-Isopropyltoluene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2-Dichlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,4-Dichlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Butylbenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2-Dibromo-3-chloropropane | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2,4-Trichlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| Hexachlorobutadiene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |
| 1,2,3-Trichlorobenzene | µg/l | 1 | ISO 17025 | < 1.0 | < 1.0 | < 1.0 | | |

**Analytical Report Number: 19-31759**

**Project / Site name: Jepps Lane**

**Your Order No: 13200-31718-NS**

| **Lab Sample Number** | | | | 1170772 | 1170773 | 1170774 | | |
|---|---|---|---|---|---|---|---|---|
| **Sample Reference** | | | | WS104 | WS108 | WS117 | | |
| **Sample Number** | | | | None Supplied | None Supplied | None Supplied | | |
| **Depth (m)** | | | | None Supplied | None Supplied | None Supplied | | |
| **Date Sampled** | | | | 06/03/2019 | 06/03/2019 | 06/03/2019 | | |
| **Time Taken** | | | | None Supplied | None Supplied | None Supplied | | |
| **Analytical Parameter (Water Analysis)** | **Units** | **Limit of detection** | **Accreditation Status** | | | | | |
| **SVOCs** | | | | | | | | |
| Aniline | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Phenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2-Chlorophenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Bis(2-chloroethyl)ether | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 1,3-Dichlorobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 1,2-Dichlorobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 1,4-Dichlorobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Bis(2-chloroisopropyl)ether | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2-Methylphenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Hexachloroethane | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Nitrobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 4-Methylphenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Isophorone | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2-Nitrophenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2,4-Dimethylphenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Bis(2-chloroethoxy)methane | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 1,2,4-Trichlorobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Naphthalene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| 2,4-Dichlorophenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 4-Chloroaniline | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Hexachlorobutadiene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 4-Chloro-3-methylphenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2,4,6-Trichlorophenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2,4,5-Trichlorophenol | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2-Methylnaphthalene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2-Chloronaphthalene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Dimethylphthalate | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 2,6-Dinitrotoluene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Acenaphthylene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Acenaphthene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| 2,4-Dinitrotoluene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Dibenzofuran | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 4-Chlorophenyl phenyl ether | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Diethyl phthalate | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| 4-Nitroaniline | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Fluorene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Azobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Bromophenyl phenyl ether | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Hexachlorobenzene | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Phenanthrene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Anthracene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Carbazole | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Dibutyl phthalate | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Anthraquinone | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Fluoranthene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Pyrene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Butyl benzyl phthalate | µg/l | 0.05 | NONE | < 0.05 | < 0.05 | < 0.05 | | |
| Benzo(a)anthracene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Chrysene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Benzo(b)fluoranthene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Benzo(k)fluoranthene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Benzo(a)pyrene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Indeno(1,2,3-cd)pyrene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Dibenz(a,h)anthracene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |
| Benzo(ghi)perylene | µg/l | 0.01 | ISO 17025 | < 0.01 | < 0.01 | < 0.01 | | |

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

**Analytical Report Number : 19-31759**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| BTEX and MTBE in water (Monoaromatics) | Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW | In-house method based on USEPA8260 | L073B-PL | W | ISO 17025 |
| Hexavalent chromium in water | Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry. | In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW. | L080-PL | W | ISO 17025 |
| Low level total cyanide in water | Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL | W | ISO 17025 |
| Metals in water by ICP-OES (dissolved) | Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn). | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil. | L039-PL | W | ISO 17025 |
| Monohydric phenols in water - LOW LEVEL 1 ug/l | Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar) | L080-PL | W | ISO 17025 |
| pH at 20oC in water (automated) | Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW | In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests | L099-PL | W | ISO 17025 |
| Semi-volatile organic compounds in water | Determination of semi-volatile organic compounds in leachate by extraction in dichloromethane followed by GC-MS. | In-house method based on USEPA 8270 | L102B-PL | W | NONE |
| TPH1 (Waters) | Determination of dichloromethane extractable hydrocarbons in water by GC-MS. | In-house method | L070-PL | W | NONE |
| TPHCWG (Waters) | Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation. | In-house method | L070-PL | W | NONE |
| Volatile organic compounds in water | Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW | In-house method based on USEPA8260 | L073B-PL | W | ISO 17025 |

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**
**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**
**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

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# Analytical Report Number : 19-31224

| | | | |
|---|---|---|---|
| **Project / Site name:** | Jepps Lane | **Samples received on:** | 01/03/2019 |
| **Your job number:** | 13-200 | **Samples instructed on:** | 01/03/2019 |
| **Your order number:** | 13200-31663-NS | **Analysis completed by:** | 15/03/2019 |
| **Report Issue Number:** | 1 | **Report issued on:** | 15/03/2019 |
| **Samples Analysed:** | 2 soil samples | | |

**Signed:** [redacted]

Dr Claire Stone
Quality Manager
**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 |

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**i2 Analytical**
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# Certificate of Analysis

## BS 3882:2015 Specification For Topsoil

| | Fail BS 3882 | | client | |
|---|---|---|---|---|
| **Report No:** | **19-31224** | | **e3p** | |
| **Location** | Jepps Lane | | | |
| **Lab Reference (Sample Number)** | 1168094 | | 0161 707 9612 | |
| **Sampling Date** | 26/02/2019 | | | |
| **Sample ID** | TP101 | | | |
| **Depth (m)** | **0.40** | | | |

| | | unit | Result | Compliant with range (Y/N) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Multi-P** | **Acid** | **Calc** | **Low-F** | **Low-F(a)** | **Low-F(c)** |
| **Soil texture** | <2mm fraction | %w/w | SANDY LOAM | N | N | N | N | N | N |
| **Maximum coarse fragment content:** | >2mm | %w/w | 0.60 | Y | Y | Y | Y | Y | Y |
| | >20mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | >50mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| **Mass loss on ignition** | | % | 8.00 | | | | | | |
| | Clay 5-20% | | - | - | - | - | - | - | - |
| | Clay 20-35% | | - | - | - | - | - | - | - |
| **Soil pH:** | | pH | 6.70 | Y | N | N | Y | N | N |
| **Carbonate:** | | %w/w | 3.90 | - | - | Y | - | - | Y |
| **Available plant nutrients** | Nitrogen | %w/w | 0.19 | Y | Y | Y | - | - | - |
| | Extractable Phosphate (as P) | mg/l | 86.00 | Y | Y | Y | N | N | N |
| | Extractable Potassium | mg/l | 112.00 | N | N | N | - | - | - |
| | Extractable Magnesium | mg/l | 510.00 | Y | Y | Y | - | - | - |
| **Carbon: Nitrogen Ratio:** | | :1 | 25.00 | N | N | N | Y | Y | N |
| **Conductivity** | | us/cm | 1600.00 | Y | - | - | - | - | - |
| **Phytotoxic contaminants:** | ** Total Zinc | mg/kg | 85.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Copper | mg/kg | 34.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Nickel | mg/kg | 21.00 | Y | Y | Y | Y | Y | Y |
| **Visible contaminants:** | >2mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Plastics | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Sharps | no. in 1 kg | 0.00 | Y | Y | Y | Y | Y | Y |
| **Compliancy:** | | | | Fail | Fail | Fail | Fail | Fail | Fail |

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

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# Certificate of Analysis

## BS 3882:2015 Specification For Topsoil

| | Fail BS 3882 | | client | |
|---|---|---|---|---|
| **Report No:** | **19-31224** | | **e3p** | |
| **Location** | Jepps Lane | | | |
| **Lab Reference (Sample Number)** | 1168095 | | 0161 707 9612 | |
| **Sampling Date** | 27/02/2019 | | | |
| **Sample ID** | TP129 | | | |
| **Depth (m)** | **0.30** | | | |

| | | unit | Result | Compliant with range (Y/N) Multi-P | Acid | Calc | Low-F | Low-F(a) | Low-F(c) |
|---|---|---|---|---|---|---|---|---|---|
| **Soil texture** | <2mm fraction | %w/w | SANDY SILTY LOAM | Y | Y | Y | Y | Y | Y |
| **Maximum coarse fragment content:** | >2mm | %w/w | 3.10 | Y | Y | Y | Y | Y | Y |
| | >20mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | >50mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| **Mass loss on ignition** | | % | 4.50 | | | | | | |
| | Clay 5-20% | | Y | Y | Y | Y | Y | Y | Y |
| | Clay 20-35% | | - | - | - | - | - | - | - |
| **Soil pH:** | | pH | 6.70 | Y | N | N | Y | N | N |
| **Carbonate:** | | %w/w | 2.20 | - | - | Y | - | - | Y |
| **Available plant nutrients** | Nitrogen | %w/w | 0.11 | N | N | N | - | - | - |
| | Extractable Phosphate (as P) | mg/l | 60.00 | Y | Y | Y | N | N | N |
| | Extractable Potassium | mg/l | 109.00 | N | N | N | - | - | - |
| | Extractable Magnesium | mg/l | 460.00 | Y | Y | Y | - | - | - |
| **Carbon: Nitrogen Ratio:** | | :1 | 24.00 | N | N | N | Y | Y | N |
| **Conductivity** | | us/cm | 1600.00 | Y | - | - | - | - | - |
| **Phytotoxic contaminants:** | ** Total Zinc | mg/kg | 65.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Copper | mg/kg | 20.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Nickel | mg/kg | 19.00 | Y | Y | Y | Y | Y | Y |
| **Visible contaminants:** | >2mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Plastics | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Sharps | no. in 1 kg | 0.00 | Y | Y | Y | Y | Y | Y |
| **Compliancy:** | | | | Fail | Fail | Fail | Fail | Fail | Fail |

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

**Analytical Report Number : 19-31224**

**Project / Site name: Jepps Lane**

* 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 * |
|---|---|---|---|---|
| 1168094 | TP101 | None Supplied | 0.40 | Brown loam and clay with vegetation. |
| 1168095 | TP129 | None Supplied | 0.30 | Brown loam and clay with vegetation and gravel |

**Analytical Report Number : 19-31224**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| Carbon to Nitrogen Ratio (Topsoil - BS3882:2015) | Carbon to Nitrogen ratio (:1) calculated using Loss on Ignition. | BS3882:2015 | L01TS2015 | W | NONE |
| Carbonate (Topsoil - BS3882) | Determination of Carbonate as per BS 3882:2015. | BS3882:2015 | L034-PL | D | NONE |
| Coarse Fragment and Contaminant Analysis | Determination of >2mm contaminants | BS3882:2007 & BS8601:2013 & PAS 100:2005 | L01TS | D | NONE |
| Conductivity (BS3882/BS8601) | Determination of the conductivity of soil in accordance with BS 3882:2007 methodology | BS3882:2007 & BS8601:2013 | L099-PL | D | NONE |
| Extractable/Available Metals (BS3882/BS8601) | Determiation of the extractable metals in soil, in accordance with BS3882:2007 methodology. | BS3882:2007 & BS8601:2013 | L038-PL | D | NONE |
| Geotechnical Testing in Soil | See attached geotechnical report | See attached geotechnical report | | W | NONE |
| Kjeldahl nitrogen in soil | Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination. | In house method based on BS 7755-3.7:1995 & | L087-PL | D | NONE |
| Mass loss on ignition (Topsoil - BS3882) | Determination of Loss on Ignition as per BS 3882:2015. | BS3882:2015 | L047-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 2, 1990, Chemical and Electrochemical Tests | L019-UK/PL | W | NONE |
| Nitrogen (TKN) | Determination of total nitrogen by Kjeldahl method. | BS3882:2007 | L087-PL | D | NONE |
| pH (BS3882/BS8601) | Determination of the pH of soil in accordance with BS 3882:2007 methodology | BS3882:2007 & BS8601:2013 | L099-PL | D | NONE |
| Phosphorus as PO4 (BS3882/BS8601) | Determiation of the extractable phosphorus in soil, in accordance with BS3882:2007 methodology. | BS3882:2015 & BS8601:2013 | L082-PL | D | NONE |
| Sodium (exchangeable %) | Determination of exchangeable sodium (%) by calculation, in accordance with BS3882:2007 methodology. | BS3882:2007 | L028-PL | D | NONE |
| 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 |
| Textural Classification (BS3882/BS8601) | Determination of the textural classifcation of soil following BS3882:2007 methodology. | BS3882:2007 & BS8601:2013 | L01TS | D | NONE |
| Textural Classification Diagram | Textural classification Diagram | BS3882:2015 | | D | NONE |

**Analytical Report Number : 19-31224**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| Topsoil | See attached report. | BS 3882: 2015 | PL | W | 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 30oC.**

**Elizabeth Fearn**
e3p
Office 4
Heliport Business Park
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Liverpool Road
Manchester
M30 7RU

**t:** 0161 707 9612

**e:** efearn@e3p.co.uk

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

**t:** 01923 225404
**f:** 01923 237404
**e:** reception@i2analytical.com

# Analytical Report Number : 19-31799

| | | | |
|---|---|---|---|
| **Project / Site name:** | Jepps Lane | **Samples received on:** | 06/03/2019 |
| **Your job number:** | 13-200 | **Samples instructed on:** | 06/03/2019 |
| **Your order number:** | 13200-31718-NS | **Analysis completed by:** | 19/03/2019 |
| **Report Issue Number:** | 1 | **Report issued on:** | 20/03/2019 |
| **Samples Analysed:** | 2 soil samples | | |

**Signed:** [redacted]

Dr Claire Stone
Quality Manager
**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.

**i2 Analytical**
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email:reception@i2analytical.com

# Certificate of Analysis

## BS 3882:2015 Specification For Topsoil

| | Fail BS 3882 | | client | |
|---|---|---|---|---|
| **Report No:** | **19-31799** | | **e3p** | |
| **Location** | Jepps Lane | | | |
| **Lab Reference (Sample Number)** | 1171046 | | 0161 707 9612 | |
| **Sampling Date** | 06/03/2019 | | | |
| **Sample ID** | TP116 | | | |
| **Depth (m)** | **0.00** | | | |

| | | unit | Result | Compliant with range (Y/N) Multi-P | Acid | Calc | Low-F | Low-F(a) | Low-F(c) |
|---|---|---|---|---|---|---|---|---|---|
| **Soil texture** | <2mm fraction | %w/w | SANDY SILT LOAM | Y | Y | Y | Y | Y | Y |
| **Maximum coarse fragment content:** | >2mm | %w/w | 2.90 | Y | Y | Y | Y | Y | Y |
| | >20mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | >50mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| **Mass loss on ignition** | | % | 6.90 | | | | | | |
| | Clay 5-20% | | Y | Y | Y | Y | Y | Y | Y |
| | Clay 20-35% | | - | - | - | - | - | - | - |
| **Soil pH:** | | pH | 6.60 | Y | N | N | Y | N | N |
| **Carbonate:** | | %w/w | 6.40 | - | - | Y | - | - | Y |
| **Available plant nutrients** | Nitrogen | %w/w | 0.13 | N | N | N | - | - | - |
| | Extractable Phosphate (as P) | mg/l | 57.00 | Y | Y | Y | N | N | N |
| | Extractable Potassium | mg/l | 83.50 | N | N | N | - | - | - |
| | Extractable Magnesium | mg/l | 440.00 | Y | Y | Y | - | - | - |
| **Carbon: Nitrogen Ratio:** | | :1 | 31.00 | N | N | N | Y | Y | N |
| **Conductivity** | | us/cm | 1500.00 | Y | - | - | - | - | - |
| **Phytotoxic contaminants:** | ** Total Zinc | mg/kg | 58.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Copper | mg/kg | 25.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Nickel | mg/kg | 23.00 | Y | Y | Y | Y | Y | Y |
| **Visible contaminants:** | >2mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Plastics | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Sharps | no. in 1 kg | 0.00 | Y | Y | Y | Y | Y | Y |
| **Compliancy:** | | | | Fail | Fail | Fail | Fail | Fail | Fail |

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

**i2 Analytical**
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

# Certificate of Analysis

## BS 3882:2015 Specification For Topsoil

| | Fail BS 3882 | | client | |
|---|---|---|---|---|
| **Report No:** | **19-31799** | | **e3p** | |
| **Location** | Jepps Lane | | | |
| **Lab Reference (Sample Number)** | 1171047 | | 0161 707 9612 | |
| **Sampling Date** | 06/03/2019 | | | |
| **Sample ID** | TP141 | | | |
| **Depth (m)** | **0.00** | | | |

| | | unit | Result | Compliant with range (Y/N) Multi-P | Acid | Calc | Low-F | Low-F(a) | Low-F(c) |
|---|---|---|---|---|---|---|---|---|---|
| **Soil texture** | <2mm fraction | %w/w | SANDY LOAM | Y | Y | Y | Y | Y | Y |
| **Maximum coarse fragment content:** | >2mm | %w/w | 19.00 | Y | Y | Y | Y | Y | Y |
| | >20mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | >50mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| **Mass loss on ignition** | | % | 7.90 | | | | | | |
| | Clay 5-20% | | Y | Y | Y | Y | Y | Y | Y |
| | Clay 20-35% | | - | - | - | - | - | - | - |
| **Soil pH:** | | pH | 6.30 | Y | N | N | Y | N | N |
| **Carbonate:** | | %w/w | 5.80 | - | - | Y | - | - | Y |
| **Available plant nutrients** | Nitrogen | %w/w | 0.13 | N | N | N | - | - | - |
| | Extractable Phosphate (as P) | mg/l | 83.00 | Y | Y | Y | N | N | N |
| | Extractable Potassium | mg/l | 97.70 | N | N | N | - | - | - |
| | Extractable Magnesium | mg/l | 560.00 | Y | Y | Y | - | - | - |
| **Carbon: Nitrogen Ratio:** | | :1 | 36.00 | N | N | N | N | N | N |
| **Conductivity** | | us/cm | 1300.00 | Y | - | - | - | - | - |
| **Phytotoxic contaminants:** | ** Total Zinc | mg/kg | 71.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Copper | mg/kg | 25.00 | Y | Y | Y | Y | Y | Y |
| | ** Total Nickel | mg/kg | 21.00 | Y | Y | Y | Y | Y | Y |
| **Visible contaminants:** | >2mm | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Plastics | %w/w | 0.00 | Y | Y | Y | Y | Y | Y |
| | Sharps | no. in 1 kg | 0.00 | Y | Y | Y | Y | Y | Y |
| **Compliancy:** | | | | Fail | Fail | Fail | Fail | Fail | Fail |

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

**Analytical Report Number : 19-31799**

**Project / Site name: Jepps Lane**

* 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 * |
|---|---|---|---|---|
| 1171046 | TP116 | None Supplied | None Supplied | Brown loam and clay with vegetation. |
| 1171047 | TP141 | None Supplied | None Supplied | Brown loam and clay with gravel and vegetation. |

**Analytical Report Number : 19-31799**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| Carbon to Nitrogen Ratio (Topsoil - BS3882:2015) | Carbon to Nitrogen ratio (:1) calculated using Loss on Ignition. | BS3882:2015 | L01TS2015 | W | NONE |
| Carbonate (Topsoil - BS3882) | Determination of Carbonate as per BS 3882:2015. | BS3882:2015 | L034-PL | D | NONE |
| Coarse Fragment and Contaminant Analysis | Determination of >2mm contaminants | BS3882:2007 & BS8601:2013 & PAS 100:2005 | L01TS | D | NONE |
| Conductivity (BS3882/BS8601) | Determination of the conductivity of soil in accordance with BS 3882:2007 methodology | BS3882:2007 & BS8601:2013 | L099-PL | D | NONE |
| Extractable/Available Metals (BS3882/BS8601) | Determiation of the extractable metals in soil, in accordance with BS3882:2007 methodology. | BS3882:2007 & BS8601:2013 | L038-PL | D | NONE |
| Geotechnical Testing in Soil | See attached geotechnical report | See attached geotechnical report | | W | NONE |
| Kjeldahl nitrogen in soil | Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination. | In house method based on BS 7755-3.7:1995 & | L087-PL | D | NONE |
| Mass loss on ignition (Topsoil - BS3882) | Determination of Loss on Ignition as per BS 3882:2015. | BS3882:2015 | L047-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 2, 1990, Chemical and Electrochemical Tests | L019-UK/PL | W | NONE |
| Nitrogen (TKN) | Determination of total nitrogen by Kjeldahl method. | BS3882:2007 | L087-PL | D | NONE |
| pH (BS3882/BS8601) | Determination of the pH of soil in accordance with BS 3882:2007 methodology | BS3882:2007 & BS8601:2013 | L099-PL | D | NONE |
| Phosphorus as PO4 (BS3882/BS8601) | Determiation of the extractable phosphorus in soil, in accordance with BS3882:2007 methodology. | BS3882:2015 & BS8601:2013 | L082-PL | D | NONE |
| Sodium (exchangeable %) | Determination of exchangeable sodium (%) by calculation, in accordance with BS3882:2007 methodology. | BS3882:2007 | L028-PL | D | NONE |
| 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 |
| Textural Classification (BS3882/BS8601) | Determination of the textural classifcation of soil following BS3882:2007 methodology. | BS3882:2007 & BS8601:2013 | L01TS | D | NONE |
| Textural Classification Diagram | Textural classification Diagram | BS3882:2015 | | D | NONE |

**Analytical Report Number : 19-31799**

**Project / Site name: Jepps Lane**

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

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---|---|---|---|---|---|
| Topsoil | See attached report. | BS 3882: 2015 | PL | W | 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 30oC.**



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

# APPENDIX VIII
# ORIGIN OF TIER I GENERIC ASSESSMENT CRITERIA

| Constituent | Origin of Risk Assessment Value |
|---|---|
| Arsenic | 2014 LQM/CIEH S4ULs |
| Cadmium | 2014 LQM/CIEH S4ULs |
| Chromium | 2014 LQM/CIEH S4ULs |
| Lead | 2014 LQM/CIEH S4ULs |
| Mercury | 2014 LQM/CIEH S4ULs - methylmercury |
| Nickel | 2014 LQM/CIEH S4ULs |
| Selenium | 2014 LQM/CIEH S4ULs |
| Copper | 2014 LQM/CIEH S4ULs |
| Zinc | 2014 LQM/CIEH S4ULs |
| Cyanide - Total | 2014 LQM/CIEH S4ULs |
| Phenols - Total. | 2014 LQM/CIEH S4ULs |
| Naphthalene | General Assessment Criteria (GAC) developed by CIEH / LQM Suitable 4 Use Levels with supporting data from SR3, SR7 and existing Tox report where applicable. 1% SOM |
| Acenaphthylene | |
| Acenaphthene | |
| Fluorene | |
| Phenanthrene | |
| Anthracene | |
| Fluoranthene | |
| Pyrene | |
| Benzo(a)Anthracene[ | |
| Chrysene | |
| Benzo(b/k)Fluoranthene [iii] | |
| Benzo(a)Pyrene | |
| Indeno(123-cd)Pyrene | |
| Dibenzo(a,h)Anthracene | |
| Benzo(ghi)Perylene | |
| TPH $C_5$-$C_6$ (aliphatic) | |
| TPH $C_6$-$C_8$ (aliphatic) | |
| TPH $C_8$-$C_{10}$ (aliphatic) | |
| TPH $C_{10}$-$C_{12}$ (aliphatic) | |
| TPH $C_{12}$-$C_{16}$ (aromatic) | |
| TPH $C_{16}$-$C_{21}$ (aromatic) | |
| TPH $C_{21}$-$C_{35}$ (aromatic) | |

# APPENDIX IX
# GEOTECHNICAL TESTING RESULTS

# LABORATORY REPORT

4043

**Contract Number: PSL19/1483**

Report Date: 22 March 2019

Client's Reference: 13200-EF

Client Name: E3P
Heliport Business Park
Liverpool Road
Eccles
Manchester
M30 7RU

**For the attention of: Elizabeth Fearn**

Contract Title: Jepps Lane

Date Received: 5/3/2019
Date Commenced: 5/3/2019
Date Completed: 19/3/2019

**Notes: Opinions and Interpretations are outside the UKAS Accreditation**

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson (Director)

A Watkins (Director)

R Berriman (Quality Manager)

[redacted]

L Knight (Senior Technician)

L Pavey (Senior/Quality Technician)

S Biddleston (Senior Technician)



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**e-mail: rgunson@prosoils.co.uk**
**awatkins@prosoils.co.uk**

# SUMMARY OF LABORATORY SOIL DESCRIPTIONS

| Hole Number | Sample Number | Sample Type | Top Depth m | Base Depth m | Description of Sample |
|---|---|---|---|---|---|
| SA102 | | D | 0.80 | | Brown slightly gravelly sandy CLAY. |
| WS101 | | D | 1.00 | 1.45 | Brown slightly gravelly very sandy CLAY. |
| WS107 | | D | 2.00 | 2.45 | Brown sandy CLAY. |
| WS108 | | D | 1.00 | 1.45 | Brown slightly gravelly very sandy CLAY. |
| WS110 | | U | 0.50 | 1.00 | Stiff brown slightly gravelly sandy CLAY. |
| WS112 | | D | 1.00 | 1.45 | Brown sandy CLAY. |
| WS114 | | D | 2.00 | 2.45 | Brown slightly gravelly sandy CLAY. |
| WS114 | | U | 1.50 | 2.00 | Very stiff brown slightly gravelly very sandy CLAY. |
| CP101 | | U | 6.50 | 6.95 | Brown slightly gravelly sandy CLAY. |
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# SUMMARY OF SOIL CLASSIFICATION TESTS

**(BS1377 : PART 2 : 1990)**

| Hole Number | Sample Number | Sample Type | Top Depth m | Base Depth m | Moisture Content % Clause 3.2 | Linear Shrinkage % Clause 6.5 | Particle Density $Mg/m^3$ Clause 8.2 | Liquid Limit % Clause 4.3/4 | Plastic Limit % Clause 5.3 | Plasticity Index % Clause 5.4 | Passing .425mm % | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SA102 | | D | 0.80 | | 25 | | | 48 | 20 | 28 | 92 | Intermediate plasticity CI. |
| WS101 | | D | 1.00 | 1.45 | 20 | | | 32 | 16 | 16 | 96 | Low plasticity CL. |
| WS107 | | D | 2.00 | 2.45 | 21 | | | 49 | 20 | 29 | 100 | Intermediate plasticity CI. |
| WS108 | | D | 1.00 | 1.45 | 18 | | | 34 | 16 | 18 | 100 | Low plasticity CL. |
| WS112 | | D | 1.00 | 1.45 | 18 | | | 47 | 20 | 27 | 100 | Intermediate plasticity CI. |
| WS114 | | D | 2.00 | 2.45 | 16 | | | 42 | 20 | 22 | 97 | Intermediate plasticity CI. |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |

**SYMBOLS :** **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

**Jepps Lane**

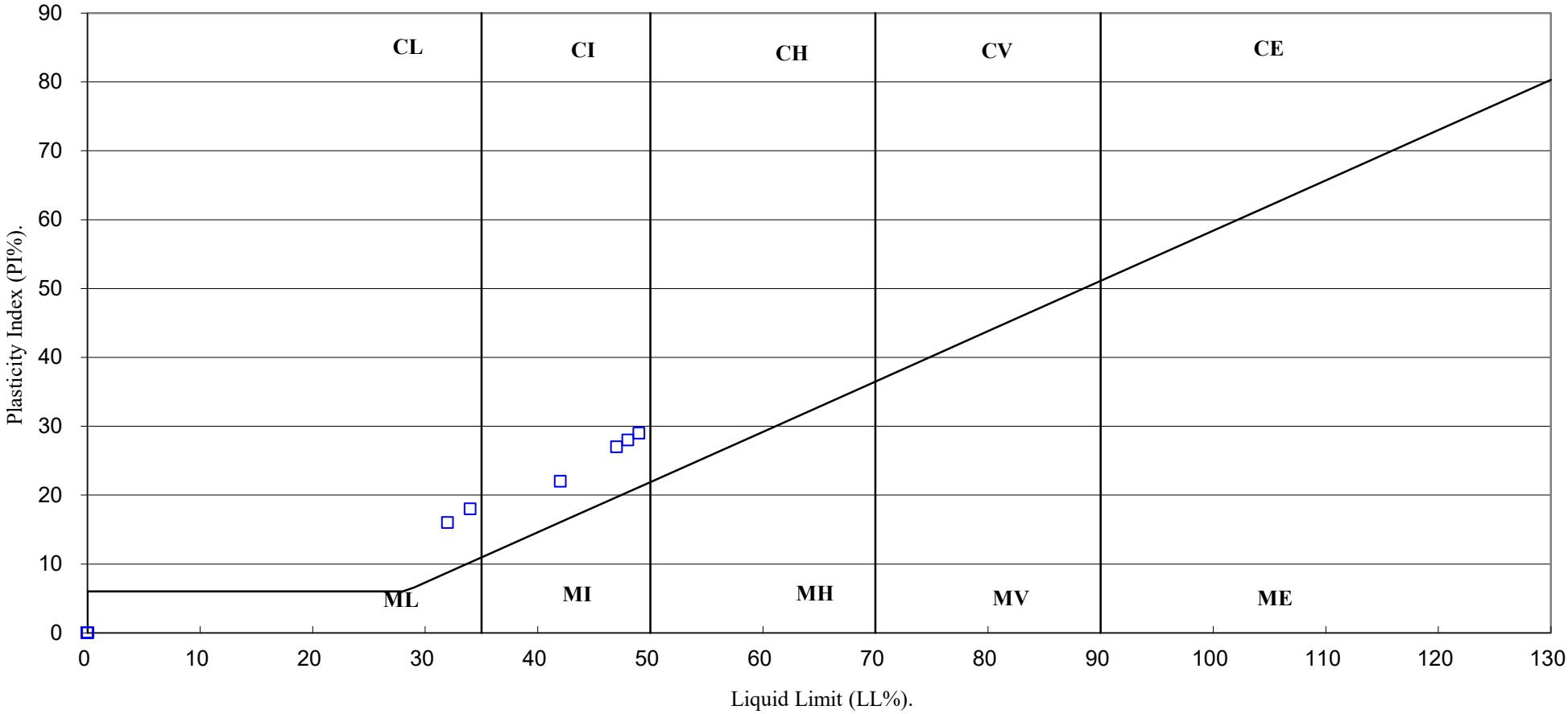
**Contract No:**

**PSL19/1483**

**Client Ref:**

**13200-EF**

# PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.




| | | | |
|---|---|---|---|
| UKAS TESTING 4043 | PSL Professional Soils Laboratory | Jepps Lane | Contract No: PSL19/1483 Client Ref: 13200-EF |

# UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

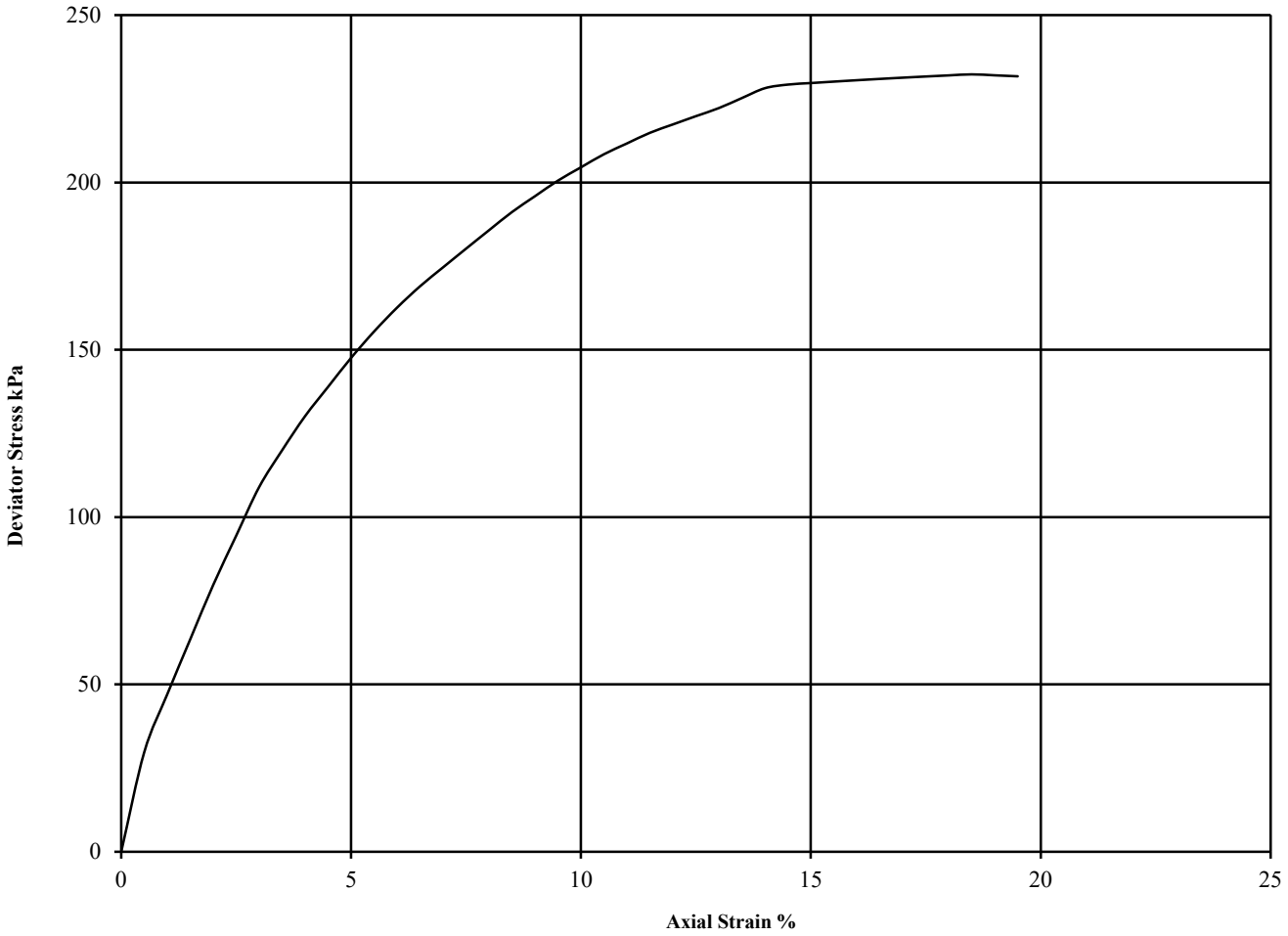
**WITHOUT MEASUREMENT OF PORE PRESSURE**

**BS1377 : Part7 : 1990: Clause 8**

**Hole Number:** WS110 **Top Depth (m):** 0.50

**Sample Number:** **Base Depth (m):** 1.00

**Sample Type** U




| Diameter (mm): | | 85 | Height (mm): | | 170 | Test: | UU Single Stage | | Remarks: |
|---|---|---|---|---|---|---|---|---|---|
| Specimen | Moisture Content (%) | Bulk Density (Mg/m3) | Dry Density (Mg/m3) | Cell Pressure (kPa) $\theta_3$ | Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$ | Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$ | Failure Strain (%) | Mode of Failure | Undisturbed Sample<br>Sample taken from top of tube<br>Rate of strain = 2 %/min<br>Latex Membrane used 0.2 mm thick,<br>Correction applied 0.40 |
| 1 | 18 | 2.15 | 1.82 | 15 | 232 | 116 | 18.5 | Plastic | See summary of soil descriptions |

UKAS TESTING 4043

PSL Professional Soils Laboratory

**Jepps Lane**

**Contract No:** PSL19/1483

**Client Ref:** 13200

# UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

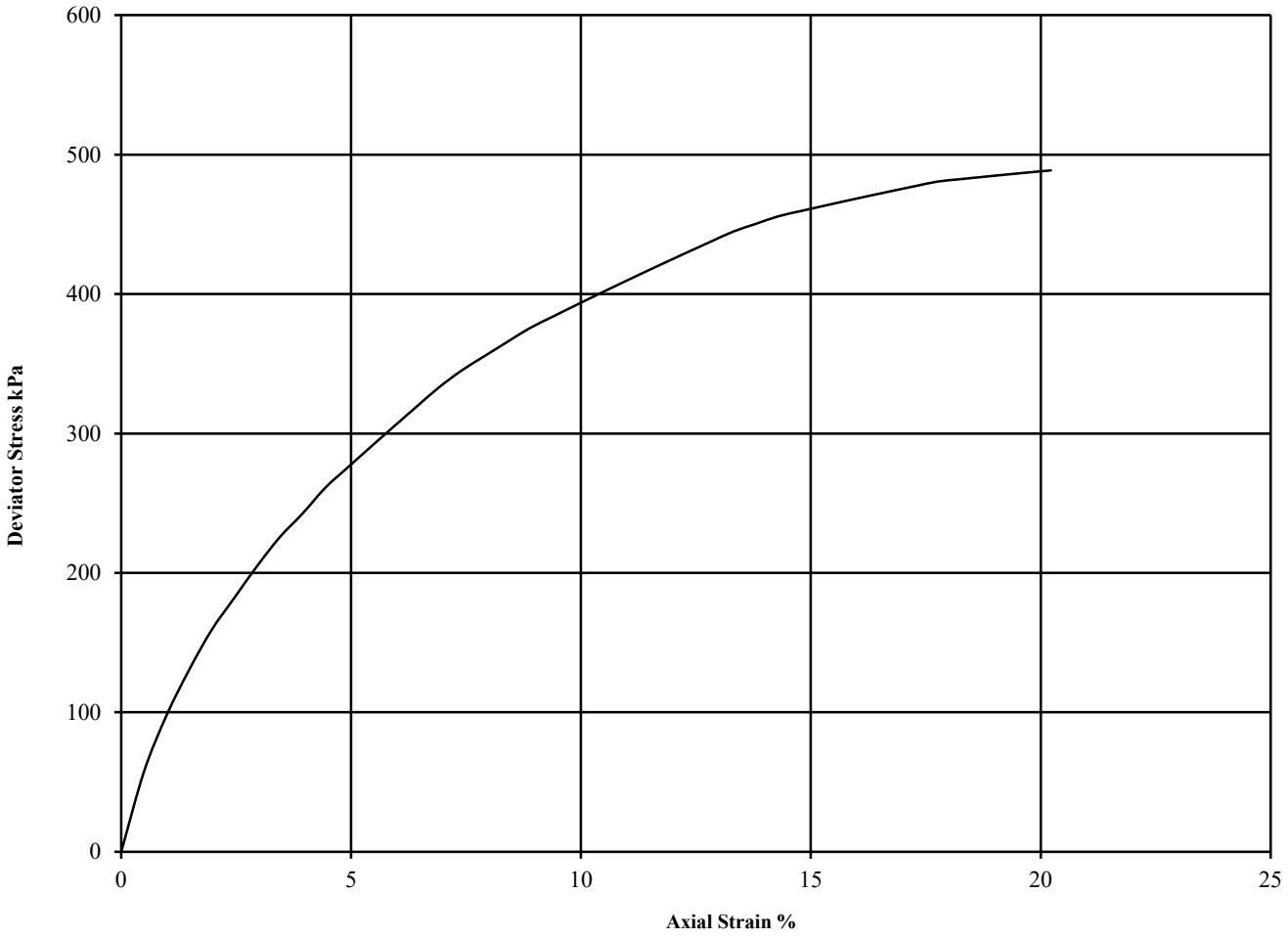
**WITHOUT MEASUREMENT OF PORE PRESSURE**

**BS1377 : Part7 : 1990: Clause 8**

**Hole Number:** WS114 **Top Depth (m):** 1.50

**Sample Number:** **Base Depth (m):** 2.00

**Sample Type** U




| Diameter (mm): | | 73 | Height (mm): | | 148 | Test: | UU Single Stage | | Remarks: |
|---|---|---|---|---|---|---|---|---|---|
| Specimen | Moisture Content (%) | Bulk Density (Mg/m3) | Dry Density (Mg/m3) | Cell Pressure (kPa) $\theta_3$ | Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$ | Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$ | Failure Strain (%) | Mode of Failure | Undisturbed Sample<br>Sample taken from top of tube<br>Rate of strain = 2 %/min<br>Latex Membrane used 0.2 mm thick,<br>Correction applied 0.44 |
| 1 | 16 | 2.23 | 1.92 | 35 | 489 | 244 | 20.2 | Plastic | See summary of soil descriptions |

UKAS TESTING 4043

PSL Professional Soils Laboratory

**Jepps Lane**

**Contract No:** PSL19/1483

**Client Ref:** 13200

# ONE DIMENSIONAL CONSOLIDATION TEST

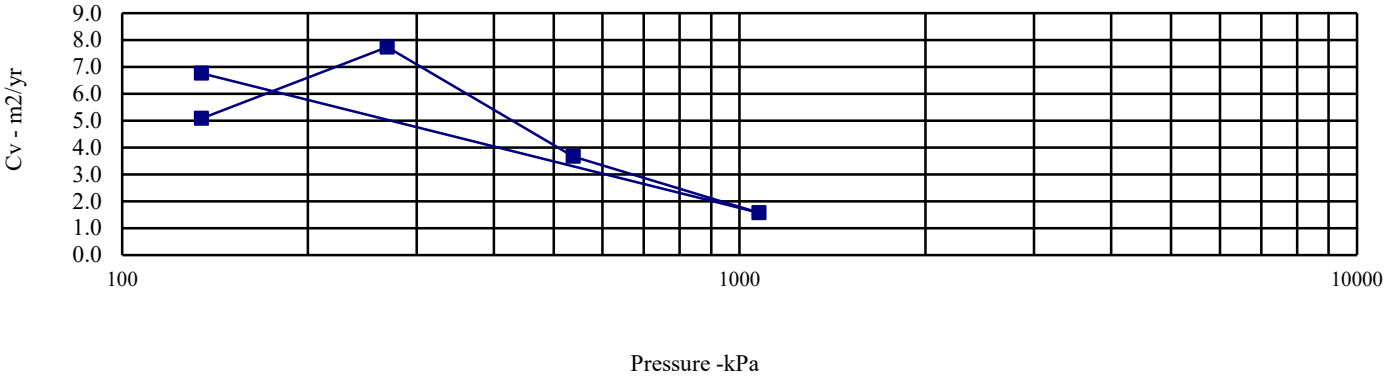
**BS 1377: Part 5: 1990: Clause 3**

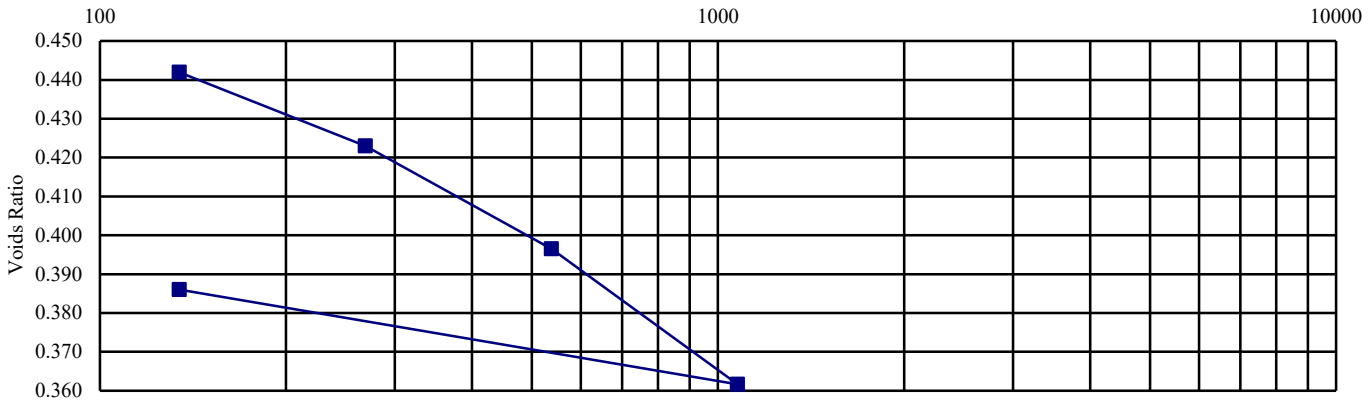
**Hole Number:** **CP101** **Top Depth (m):** **6.50**

**Sample Number:** **Base Depth (m) :** **6.95**

**Sample Type:** **Liner**

| Initial Conditions | | Pressure Range kPa | | Mv m2/MN | Cv m2/yr | Specimen location within tube: | Top |
|---|---|---|---|---|---|---|---|
| Moisture Content (%): | 20 | | | | | | |
| Bulk Density (Mg/m3): | 2.14 | 0 | 134.5 | 0.205 | 5.078 | Method used to | |
| Dry Density (Mg/m3): | 1.79 | 134.5 | 269 | 0.098 | 7.734 | determine CV: | T90 |
| Voids Ratio: | 0.483 | 269 | 538 | 0.069 | 3.669 | Nominal temperature | |
| Degree of saturation: | 109.5 | 538 | 1076 | 0.046 | 1.572 | during test ' C: | 20 |
| Height (mm): | 19.99 | 1076 | 134.5 | 0.019 | 6.761 | Remarks: | |
| Diameter (mm) | 74.825 | | | | | See summary of soil descriptions | |
| Particle Density (Mg/m3): Assumed | 2.65 | | | | | | |




| | | | |
|---|---|---|---|
| UKAS TESTING 4043 | PSL Professional Soils Laboratory | **Jepps Lane** | **Contract No:** PSL19/1483 **Client Ref:** |

# ONE DIMENSIONAL CONSOLIDATION TEST

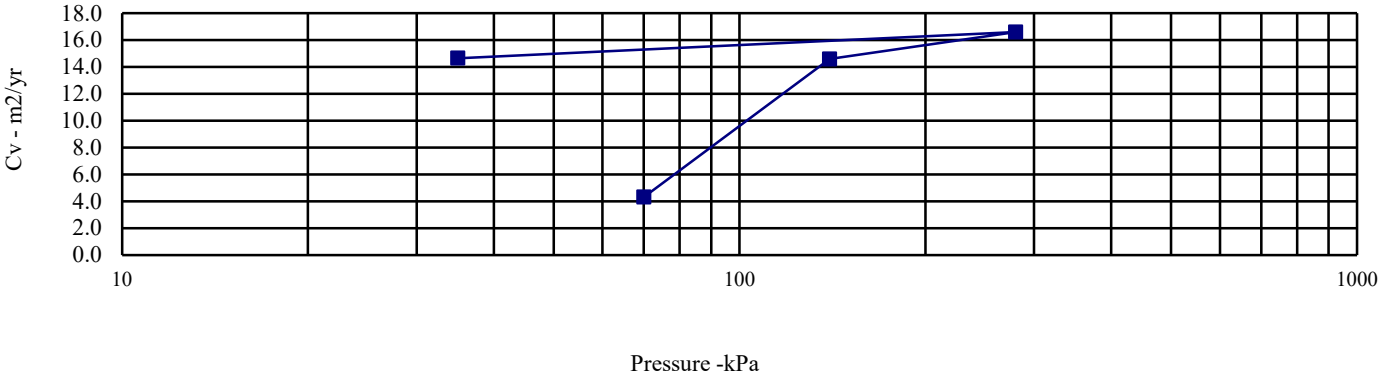
**BS 1377: Part 5: 1990: Clause 3**

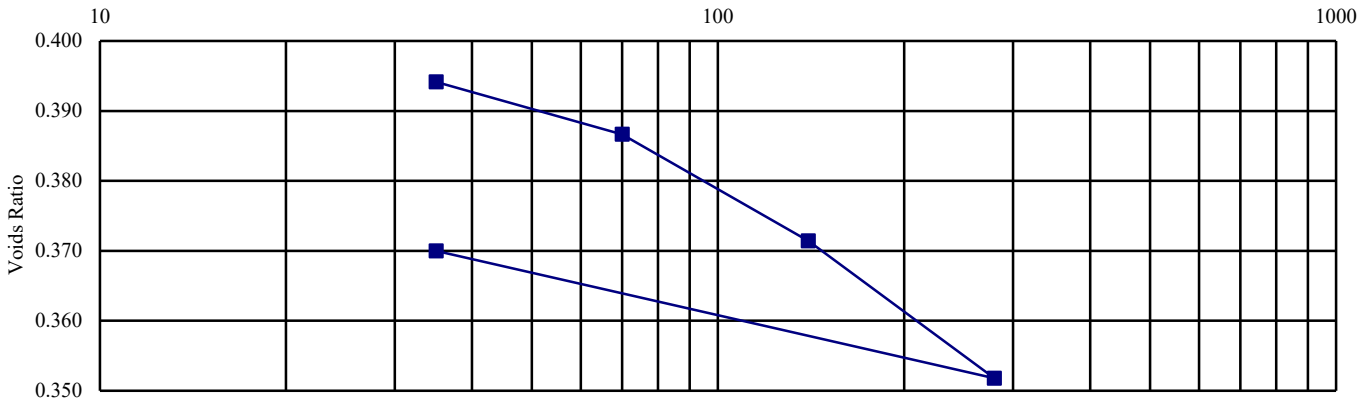
**Hole Number:** **WS114** **Top Depth (m):** **1.50**

**Sample Number:** **Base Depth (m) :** **2.00**

**Sample Type:** **Liner**

| Initial Conditions | | Pressure Range kPa | | Mv m2/MN | Cv m2/yr | Specimen location within tube: | Top |
|---|---|---|---|---|---|---|---|
| Moisture Content (%): | 17 | | | | | | |
| Bulk Density (Mg/m3): | 2.18 | 0 | 35 | Swelling | Swelling | Method used to | |
| Dry Density (Mg/m3): | 1.86 | 35 | 70 | 0.153 | 4.295 | determine CV: | T90 |
| Voids Ratio: | 0.424 | 70 | 140 | 0.157 | 14.583 | Nominal temperature | |
| Degree of saturation: | 106.2 | 140 | 280 | 0.102 | 16.593 | during test ' C: | 20 |
| Height (mm): | 20.002 | 280 | 35 | 0.055 | 14.637 | Remarks: | |
| Diameter (mm) | 49.92 | | | | | See summary of soil descriptions | |
| Particle Density (Mg/m3): Assumed | 2.65 | | | | | | |




| | | | |
|---|---|---|---|
| UKAS TESTING 4043 | PSL Professional Soils Laboratory | **Jepps Lane** | **Contract No:** PSL19/1483 **Client Ref:** 13200-EF |

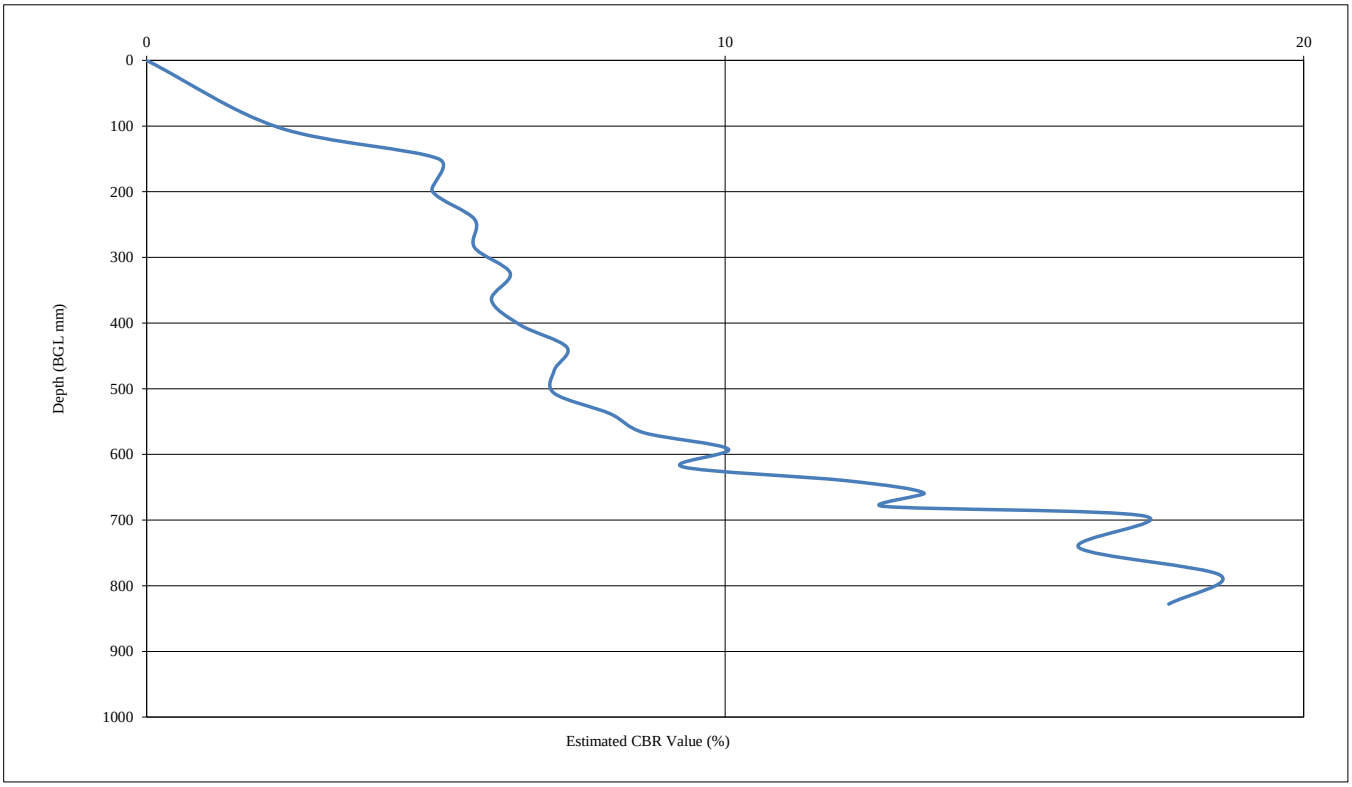
# APPENDIX X
# DYNAMIC CONE PENETROMETER TEST CERTIFICATES

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 101 | **Easting:** | |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | |
| **Final Depth (mm BGL):** | 828 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 199 | 3 | 3 | 66.33 | 3.58 |
| 199 | 592 | 14 | 11 | 35.73 | 6.89 |
| 592 | 828 | 28 | 14 | 16.86 | 15.25 |
| | | | | | |
| | | | | | |

**Comments**

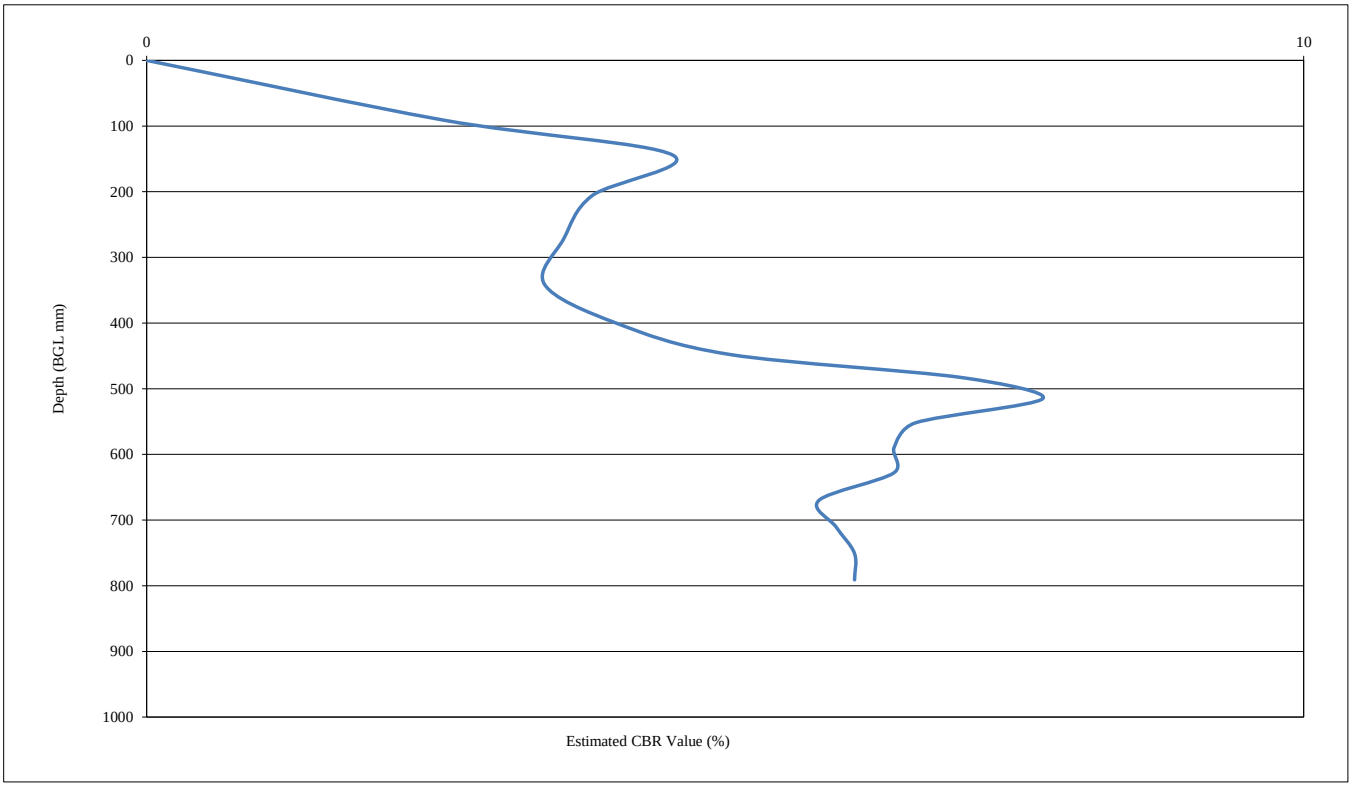
| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 102 | **Easting:** | 0 |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | 0 |
| **Final Depth (mm BGL):** | 791 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 341 | 5 | 5 | 68.20 | 3.48 |
| 341 | 791 | 16 | 11 | 40.91 | 5.97 |
| | | | | | |
| | | | | | |
| | | | | | |

**Comments**

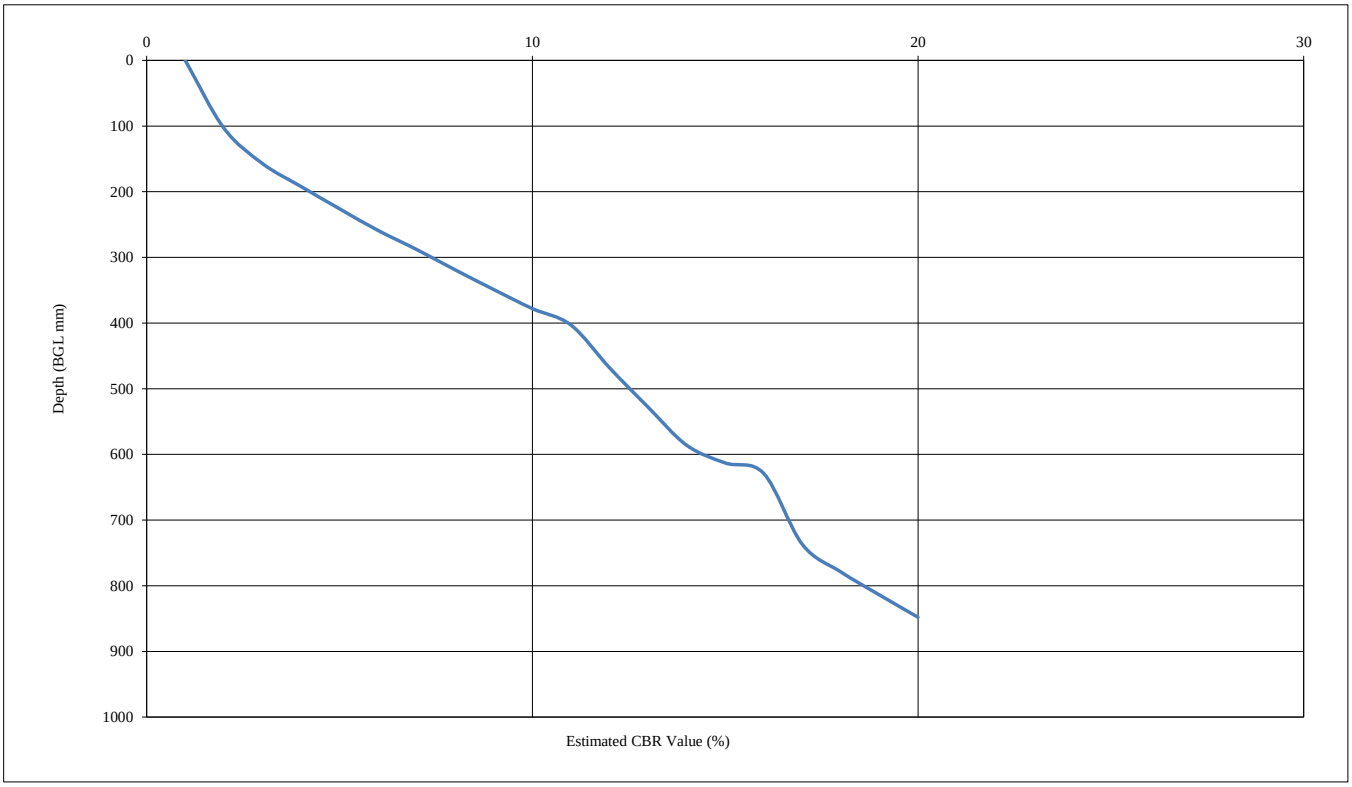
| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 103 | **Easting:** | |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | |
| **Final Depth (mm BGL):** | 848 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 403 | 10 | 10 | 40.30 | 6.07 |
| 403 | 613 | 22 | 12 | 17.50 | 14.66 |
| 613 | 848 | 37 | 15 | 15.67 | 16.48 |
| | | | | | |
| | | | | | |

**Comments**

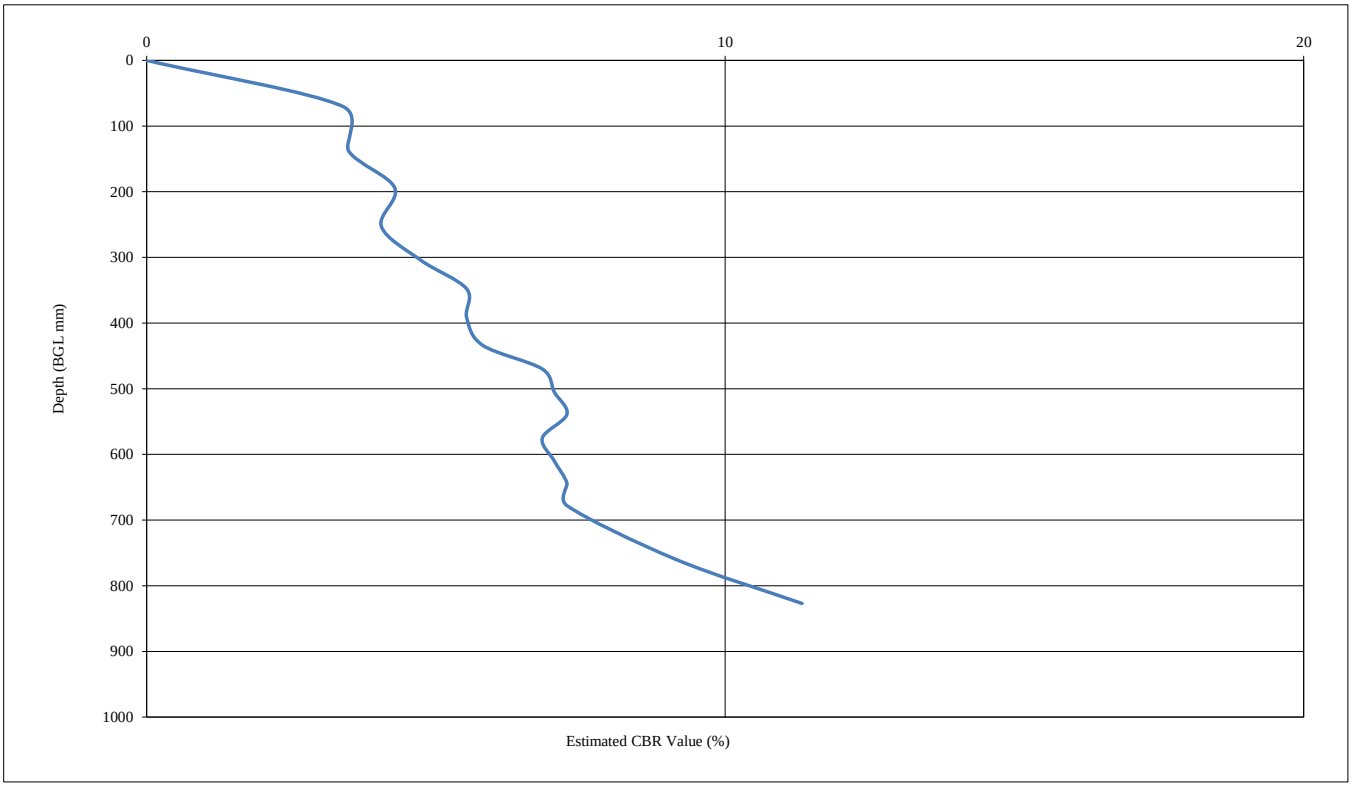
| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 104 | **Easting:** | |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | |
| **Final Depth (mm BGL):** | 827 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 138 | 2 | 2 | 69.00 | 3.44 |
| 138 | 575 | 12 | 10 | 43.70 | 5.57 |
| 575 | 827 | 21 | 9 | 28.00 | 8.92 |
| | | | | | |
| | | | | | |

**Comments**

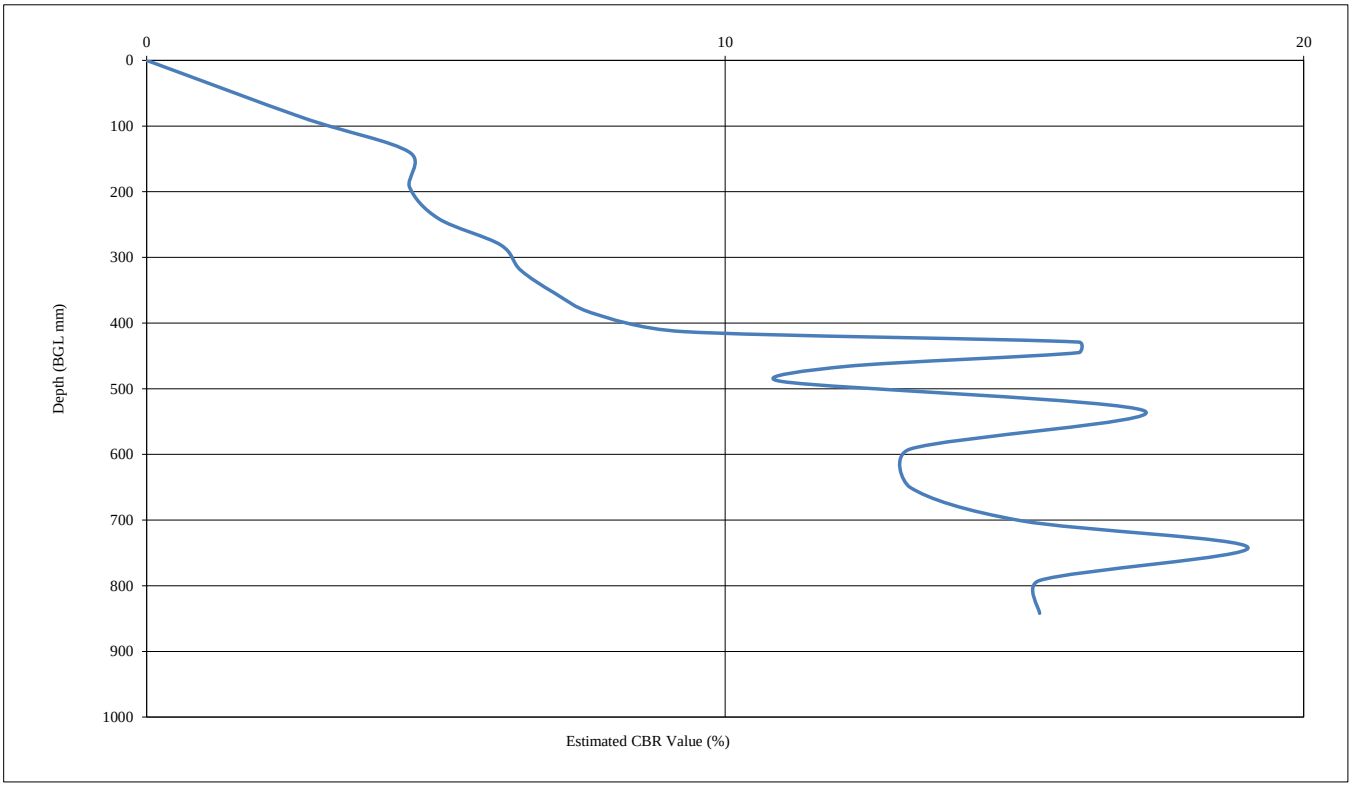
| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 105 | **Easting:** | |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | |
| **Final Depth (mm BGL):** | 842 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 193 | 3 | 3 | 64.33 | 3.70 |
| 193 | 429 | 10 | 7 | 33.71 | 7.33 |
| 429 | 842 | 34 | 24 | 17.21 | 14.92 |
| | | | | | |
| | | | | | |

**Comments**

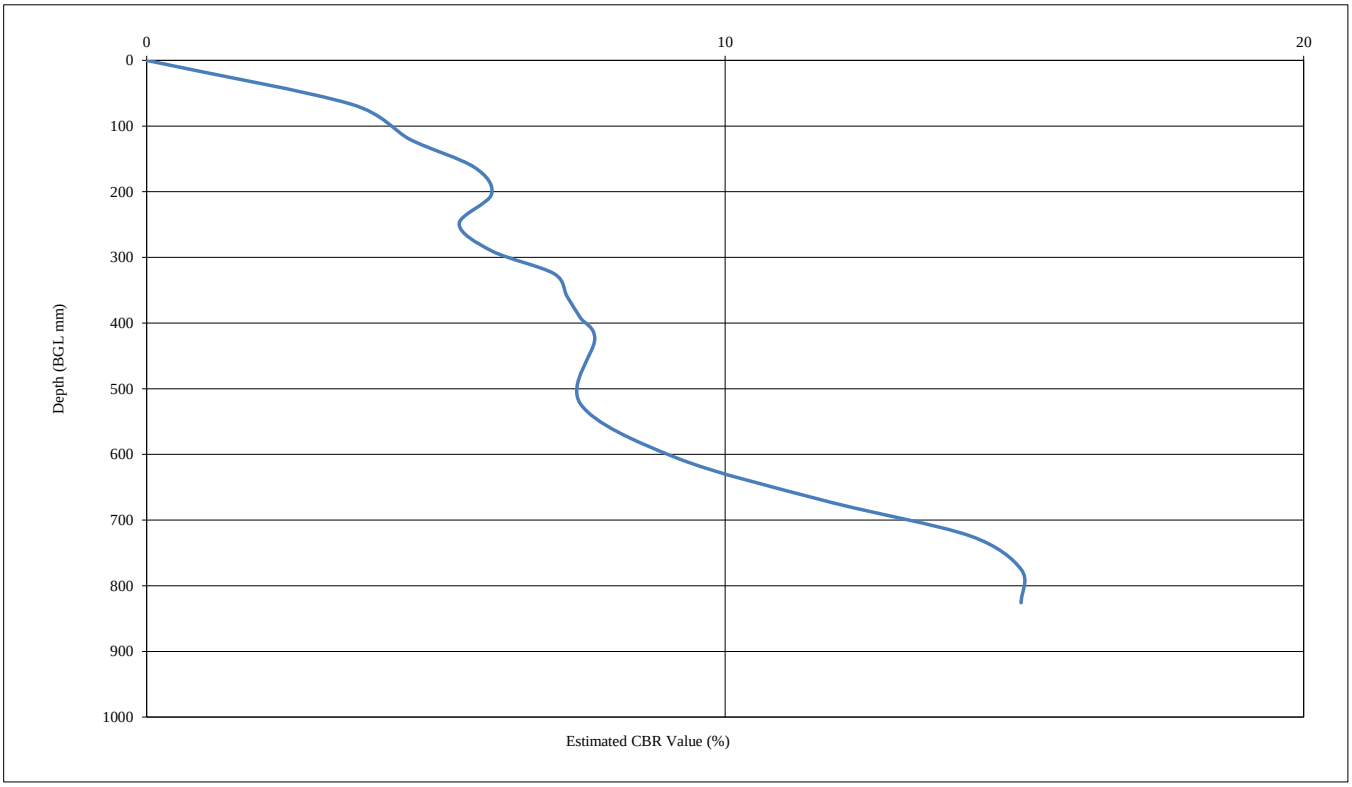
| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# Determination of Dynamic Cone Penetrometer - Estimated CBR Value (%)

*In Accordance with TRL Report PR/INT/277/04*

| | | | |
|---|---|---|---|
| **Site Name** | Jepps Lane | **Test Date:** | 06/03/2019 |
| **Site Ref** | 13-200 | **Test Location:** | Preston |
| **Test No.:** | DCP 106 | **Easting:** | |
| **Initial Depth (mm BGL):** | 0 | **Northing:** | |
| **Final Depth (mm BGL):** | 826 | | |

## Estimated California Bearing Ratio Graph




| Start Depth (mm) BGL | Finish Depth (mm) BGL | No. of Blows | Blows Per Layer | DCP mm/Blows | Ave Estimated Layer (CBR %) |
|---|---|---|---|---|---|
| 0 | 249 | 5 | 5 | 49.80 | 4.85 |
| 249 | 523 | 13 | 8 | 34.25 | 7.21 |
| 523 | 826 | 28 | 15 | 20.20 | 12.60 |
| | | | | | |
| | | | | | |

**Comments**

| Site Engineer: | Checked By: | Date: | Approved By: | Date: |
|---|---|---|---|---|
| JN | NS | 18/03/2019 | MD | 18/03/2019 |

# APPENDIX XI
# BRE365 SOAKAWAY TEST CERTIFICATES

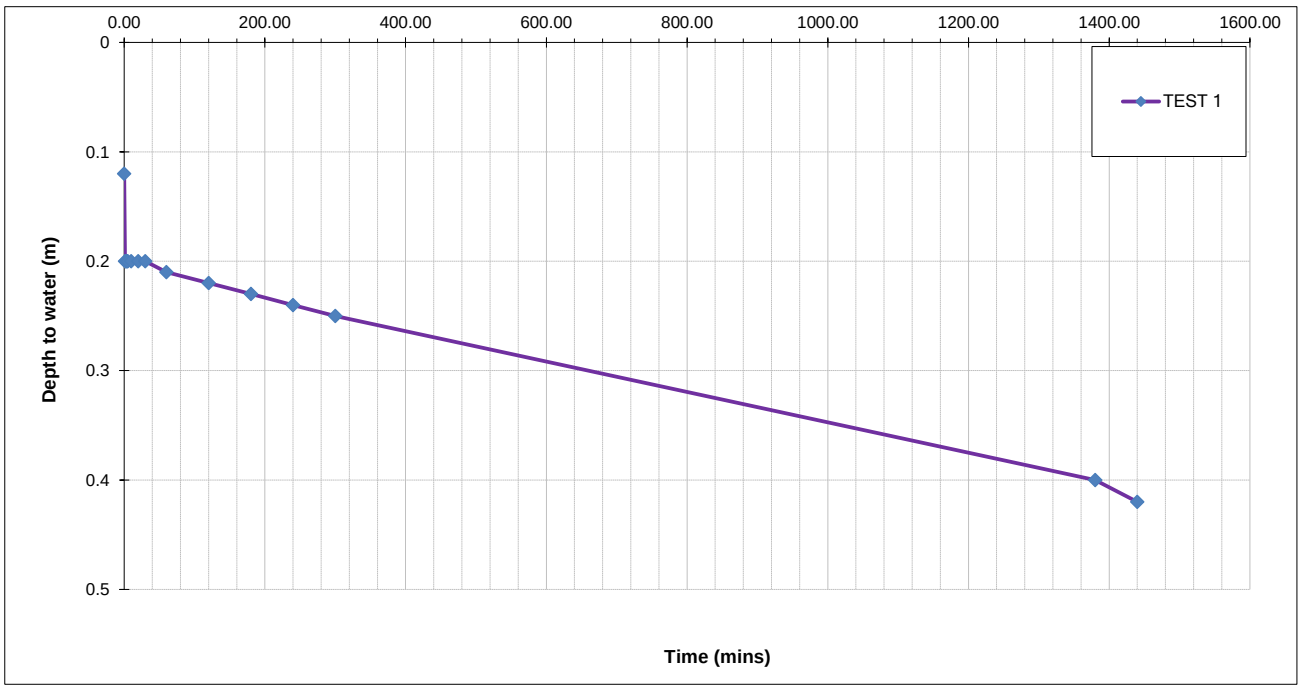
| | | | | |
|---|---|---|---|---|
| **Site:** | Jepps Lane, Barton | | **Trial Pit Number:** | SA101 |
| **Job Number:** | 13200 | | **Length:** | 1.80 m |
| **Date of Test:** | 26/02/2019 | | **Width:** | 0.40 m |
| | | | **Depth:** | 1.80 m |
| | | | **Groundwater Level:** | N/A m |

The test did not reach the 25% or 75% effective storage depth over the 24-hour monitoring period, as such the test has failed.

| TEST 1 | | TEST 2 | | TEST 3 | |
|---|---|---|---|---|---|
| Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) |
| 0.00 | 0.12 | | | | |
| 1.00 | 0.2 | | | | |
| 2.00 | 0.20 | | | | |
| 3.00 | 0.2 | | | | |
| 4.00 | 0.2 | | | | |
| 5.00 | 0.2 | | | | |
| 10.00 | 0.2 | | | | |
| 20.00 | 0.2 | | | | |
| 30.00 | 0.2 | | | | |
| 60.00 | 0.21 | | | | |
| 120.00 | 0.22 | | | | |
| 180.00 | 0.23 | | | | |
| 240.00 | 0.24 | | | | |
| 300.00 | 0.25 | | | | |
| 1380.00 | 0.40 | | | | |
| 1440.00 | 0.42 | | | | |

| | | | | |
|---|---|---|---|---|
| Effective Storage Depth | m | 1.68 | | |
| 75% Effective Storage Depth | m | 1.26 | | |
| (i.e. depth below GL) | m | 0.54 | | |
| 25% Effective Storage Depth | m | 0.42 | | |
| (i.e. depth below GL) | m | 1.38 | | |
| Effective Storage Depth 75%-25% | m | 0.84 | | |
| Time to fall to 75% effective depth | mins | N/A | | |
| Time to fall to 25% effective depth | mins | N/A | | |
| V (75%-25%) | m3 | | | |
| a (50%) | m2 | | | |
| t (75%-25%) | mins | | | |
| **SOIL INFILTRATION RATE** | m/s | **N/A** | | |

| | |
|---|---|
| **DESIGN SOIL INFILTRATION RATE, f** | **N/A** |



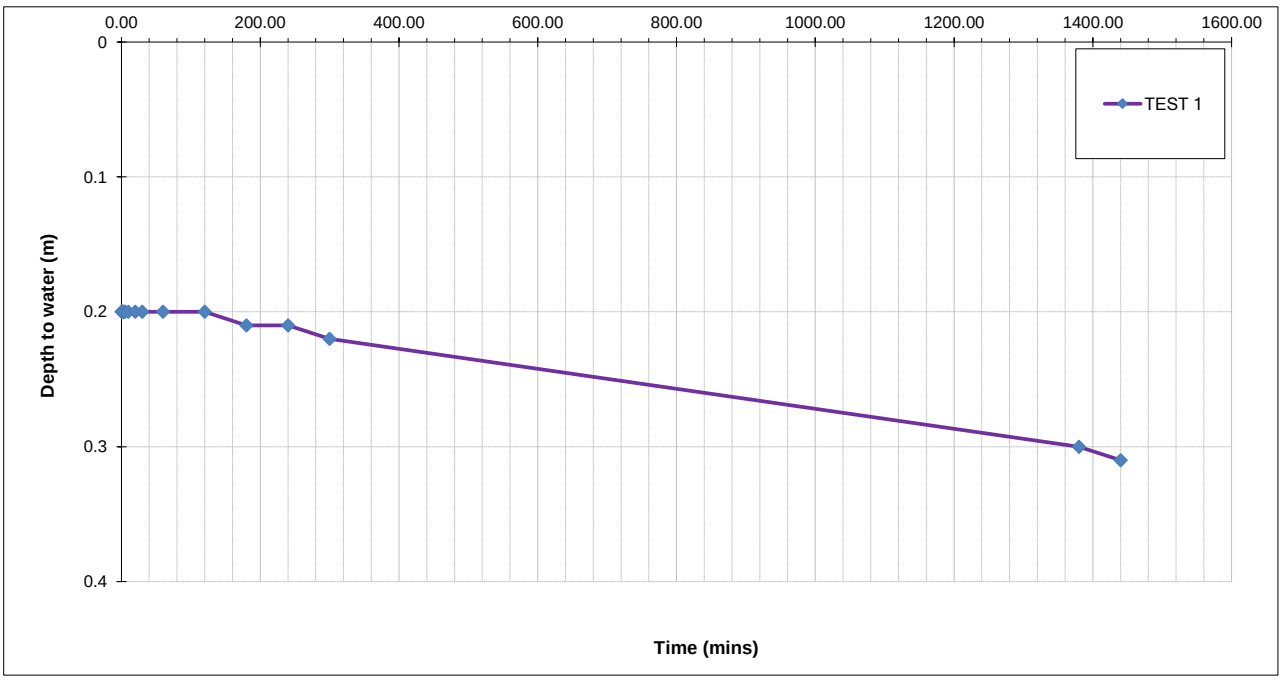
| | | | |
|---|---|---|---|
| | **Site:** | Jepps Lane, Barton | **Trial Pit Number:** SA102 |
| | **Job Number:** | 13200 | **Length:** 1.80 m |
| | **Date of Test:** | 26/02/2019 | **Width:** 0.40 m |
| | | | **Depth:** 1.90 m |
| | | | **Groundwater Level:** N/A m |

The test did not reach the 25% or 75% effective storage depth over the 24-hour monitoring period; as such the test has failed.

| TEST 1 | | TEST 2 | | TEST 3 | |
|---|---|---|---|---|---|
| Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) |
| 0.00 | 0.2 | | | | |
| 1.00 | 0.2 | | | | |
| 2.00 | 0.20 | | | | |
| 3.00 | 0.2 | | | | |
| 4.00 | 0.2 | | | | |
| 5.00 | 0.2 | | | | |
| 10.00 | 0.2 | | | | |
| 20.00 | 0.2 | | | | |
| 30.00 | 0.2 | | | | |
| 60.00 | 0.2 | | | | |
| 120.00 | 0.2 | | | | |
| 180.00 | 0.21 | | | | |
| 240.00 | 0.21 | | | | |
| 300.00 | 0.22 | | | | |
| 1380.00 | 0.30 | | | | |
| 1440.00 | 0.31 | | | | |

| | | | | |
|---|---|---|---|---|
| Effective Storage Depth | m | 1.70 | | |
| 75% Effective Storage Depth | m | 1.28 | | |
| (i.e. depth below GL) | m | 0.63 | | |
| 25% Effective Storage Depth | m | 0.43 | | |
| (i.e. depth below GL) | m | 1.48 | | |
| Effective Storage Depth 75%-25% | m | 0.85 | | |
| Time to fall to 75% effective depth | mins | N/A | | |
| Time to fall to 25% effective depth | mins | N/A | | |
| V (75%-25%) | m3 | | | |
| a (50%) | m2 | | | |
| t (75%-25%) | mins | | | |
| **SOIL INFILTRATION RATE** | m/s | **N/A** | | |

| | |
|---|---|
| **DESIGN SOIL INFILTRATION RATE, f** | **N/A** |



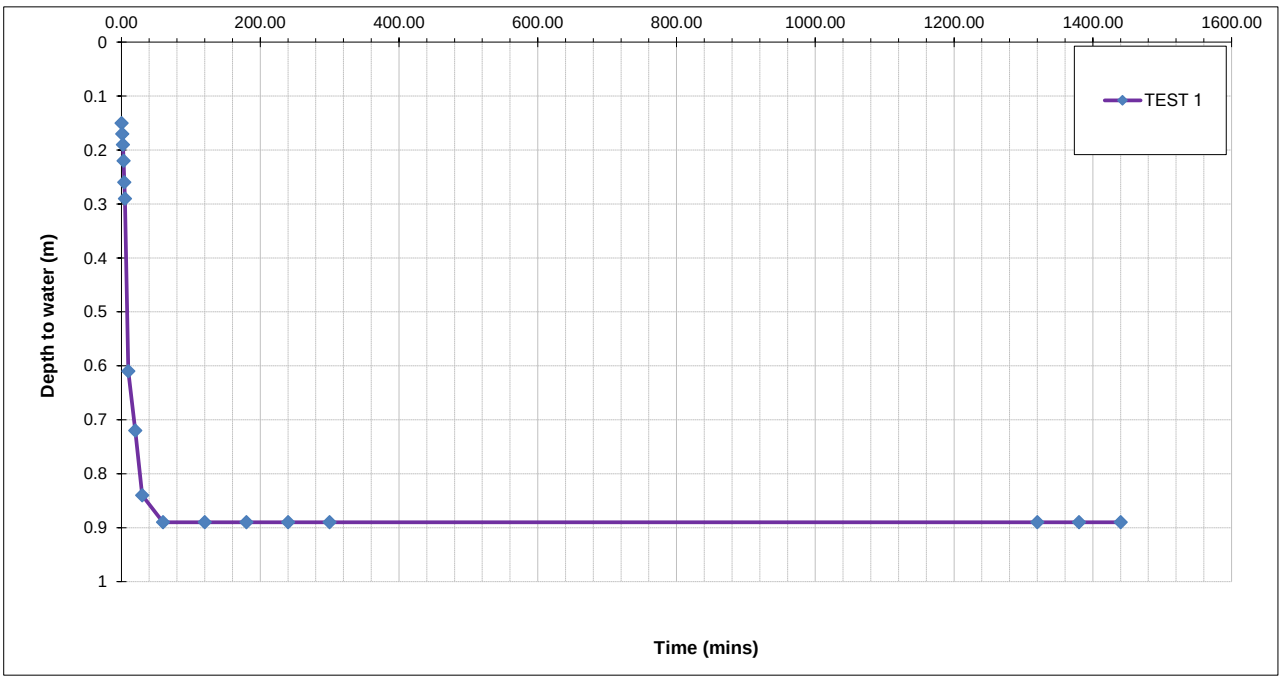
| | | | |
|---|---|---|---|
| | **Site:** Jepps Lane, Barton<br>**Job Number:** 13200<br>**Date of Test:** 26/02/2019 | **Trial Pit Number:** SA103<br>**Length:** 1.90 m<br>**Width:** 0.40 m<br>**Depth:** 1.80 m<br>**Groundwater Level:** N/A m | |

The test did not reach the 25% or 75% effective storage depth over the 24-hour monitoring period; as such the test has failed.

| TEST 1 | | TEST 2 | | TEST 3 | |
|---|---|---|---|---|---|
| Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) |
| 0.00 | 0.15 | | | | |
| 1.00 | 0.17 | | | | |
| 2.00 | 0.19 | | | | |
| 3.00 | 0.22 | | | | |
| 4.00 | 0.26 | | | | |
| 5.00 | 0.29 | | | | |
| 10.0 | 0.61 | | | | |
| 20.0 | 0.72 | | | | |
| 30.0 | 0.84 | | | | |
| 60.0 | 0.89 | | | | |
| 120.00 | 0.89 | | | | |
| 180.00 | 0.89 | | | | |
| 240.00 | 0.89 | | | | |
| 300.00 | 0.89 | | | | |
| 1320.00 | 0.89 | | | | |
| 1380.00 | 0.89 | | | | |
| 1440.0 | 0.89 | | | | |

| | | | | |
|---|---|---|---|---|
| Effective Storage Depth | m | 1.65 | | |
| 75% Effective Storage Depth | m | 1.24 | | |
| (i.e. depth below GL) | m | 0.56 | | |
| 25% Effective Storage Depth | m | 0.41 | | |
| (i.e. depth below GL) | m | 1.39 | | |
| Effective Storage Depth 75%-25% | m | 0.83 | | |
| Time to fall to 75% effective depth | mins | N/A | | |
| Time to fall to 25% effective depth | mins | N/A | | |
| V (75%-25%) | m3 | | | |
| a (50%) | m2 | | | |
| t (75%-25%) | mins | | | |
| **SOIL INFILTRATION RATE** | m/s | **N/A** | | |

**DESIGN SOIL INFILTRATION RATE, f** **N/A**

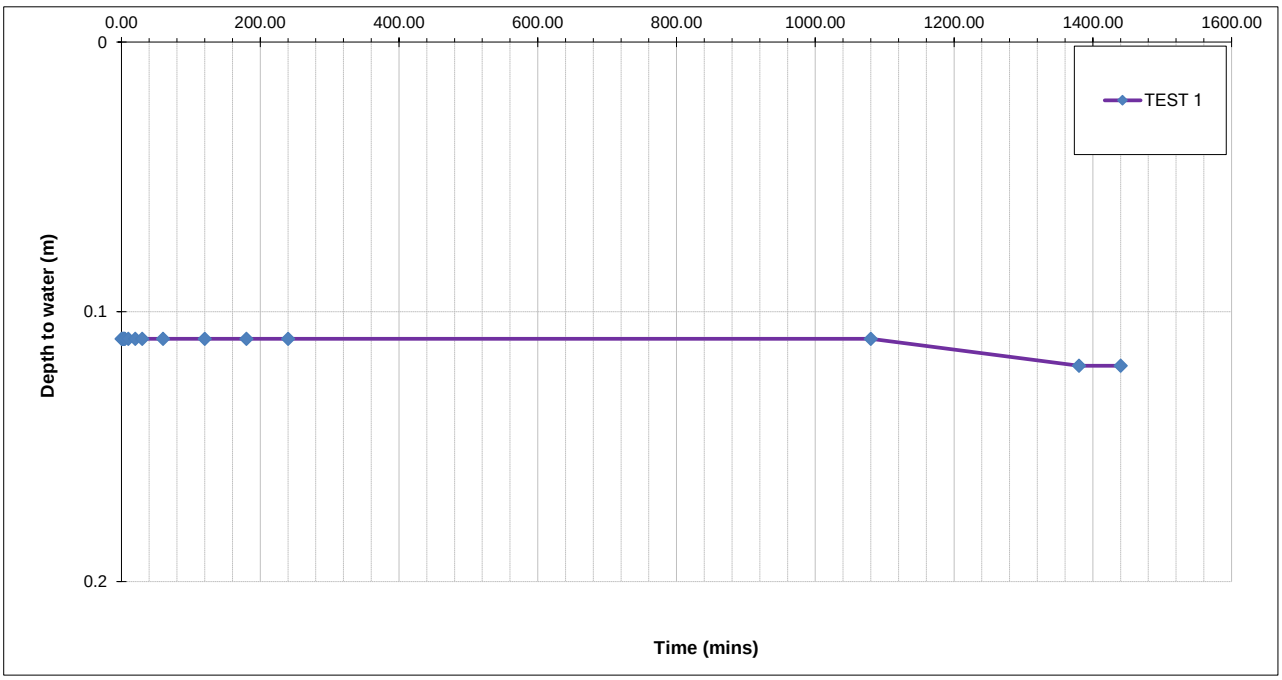


| | | | |
|---|---|---|---|
| | **Site:** | Jepps Lane, Barton | **Trial Pit Number:** SA104 |
| | **Job Number:** | 13200 | **Length:** 1.80 m |
| | **Date of Test:** | 26/02/2019 | **Width:** 0.40 m |
| | | | **Depth:** 1.90 m |
| | | | **Groundwater Level:** N/A m |

The test did not reach the 25% or 75% effective storage depth over the 24-hour monitoring period; as such the test has failed.

| | | TEST 1 | TEST 2 | TEST 3 |
|---|---|---|---|---|
| | | Time(min) / Depth to Water (m) | Time(min) / Depth to Water (m) | Time(min) / Depth to Water (m) |
| | | 0.00 0.11 | | |
| | | 1.00 0.11 | | |
| | | 2.00 0.11 | | |
| | | 3.00 0.11 | | |
| | | 4.00 0.11 | | |
| | | 5.00 0.11 | | |
| | | 10.00 0.11 | | |
| | | 20.00 0.11 | | |
| | | 30.00 0.11 | | |
| | | 60.00 0.11 | | |
| | | 120.00 0.11 | | |
| | | 180.00 0.11 | | |
| | | 240.00 0.11 | | |
| | | 1080.00 0.11 | | |
| | | 1380.00 0.12 | | |
| | | 1440.00 0.12 | | |
| Effective Storage Depth | m | 1.79 | | |
| 75% Effective Storage Depth | m | 1.34 | | |
| (i.e. depth below GL) | m | 0.56 | | |
| 25% Effective Storage Depth | m | 0.45 | | |
| (i.e. depth below GL) | m | 1.45 | | |
| Effective Storage Depth 75%-25% | m | 0.90 | | |
| Time to fall to 75% effective depth | mins | N/A | | |
| Time to fall to 25% effective depth | mins | N/A | | |
| V (75%-25%) | m3 | | | |
| a (50%) | m2 | | | |
| t (75%-25%) | mins | | | |
| **SOIL INFILTRATION RATE** | m/s | **N/A** | | |

| | |
|---|---|
| **DESIGN SOIL INFILTRATION RATE, f** | **N/A** |



| | | | |
|---|---|---|---|
| | **Site:** | Jepps Lane, Barton | **Trial Pit Number:** SA105 |
| | **Job Number:** | 13200 | **Length:** 1.80 m |
| | **Date of Test:** | 26/02/2019 | **Width:** 0.40 m |
| | | | **Depth:** 1.80 m |
| | | | **Groundwater Level:** N/A m |

The test did not reach the 25% or 75% effective storage depth over the 24-hour monitoring period; as such the test has failed.

| TEST 1 | | TEST 2 | | TEST 3 | |
|---|---|---|---|---|---|
| Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) | Time(min) | Depth to Water (m) |
| 0.00 | 0 | | | | |
| 1.00 | 0 | | | | |
| 2.00 | 0.00 | | | | |
| 3.00 | 0 | | | | |
| 4.00 | 0 | | | | |
| 5.00 | 0 | | | | |
| 10.00 | 0 | | | | |
| 20.00 | 0 | | | | |
| 30.00 | 0 | | | | |
| 60.00 | 0.02 | | | | |
| 120.00 | 0.03 | | | | |
| 180.00 | 0.05 | | | | |
| 1260.00 | 0.1 | | | | |
| 1320.00 | 0.1 | | | | |
| 1380.00 | 0.11 | | | | |
| 1440.00 | 0.11 | | | | |

| | | | | |
|---|---|---|---|---|
| Effective Storage Depth | m | 1.80 | | |
| 75% Effective Storage Depth | m | 1.35 | | |
| (i.e. depth below GL) | m | 0.45 | | |
| 25% Effective Storage Depth | m | 0.45 | | |
| (i.e. depth below GL) | m | 1.35 | | |
| Effective Storage Depth 75%-25% | m | 0.90 | | |
| Time to fall to 75% effective depth | mins | N/A | | |
| Time to fall to 25% effective depth | mins | N/A | | |
| V (75%-25%) | m3 | | | |
| a (50%) | m2 | | | |
| t (75%-25%) | mins | | | |
| **SOIL INFILTRATION RATE** | m/s | **N/A** | | |

**DESIGN SOIL INFILTRATION RATE, f** **N/A**