



Amended Report

Report No.: 23-04929-2
Initial Date of Issue: 27-Feb-2023 **Date of Re-Issue:** 28-Feb-2023
Client Springbridge Direct Ltd
Client Address: Oxford Road
Denham
Middlesex
UB9 4DF
Contact(s): Ellissa Dunn
Tom Hawkins
Project Springbridge Yard
Quotation No.: Q23-30324 **Date Received:** 14-Feb-2023
Order No.: 130446 **Date Instructed:** 14-Feb-2023
No. of Samples: 2
Turnaround (Wkdays): 10 **Results Due:** 27-Feb-2023
Date Approved: 27-Feb-2023

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: Springbridge Yard

| Client: Springbridge Direct Ltd | Chemtest Job No.: 23-04929 | | | |
|--|-------------------------------------|------------|--------------|------------|
| Quotation No.: Q23-30324 | Chemtest Sample ID.: 1589803 | | | |
| Order No.: 130446 | Client Sample Ref.: Subsoil Sub | | | |
| | Sample Type: SOIL | | | |
| | Date Sampled: 10-Feb-2023 | | | |
| | Time Sampled: 14:00 | | | |
| | Asbestos Lab: DURHAM | | | |
| Determinand | Accred. | SOP | Units | LOD |
| ACM Type | U | 2192 | | N/A |
| Asbestos Identification | U | 2192 | | N/A |
| Moisture | N | 2030 | % | 0.020 |
| Soil Colour | N | 2040 | | N/A |
| Other Material | N | 2040 | | N/A |
| Soil Texture | N | 2040 | | N/A |
| Boron (Hot Water Soluble) | M | 2120 | mg/kg | 0.40 |
| Cyanide (Total) | M | 2300 | mg/kg | 0.50 |
| Arsenic | M | 2455 | mg/kg | 0.5 |
| Cadmium | M | 2455 | mg/kg | 0.10 |
| Chromium | M | 2455 | mg/kg | 0.5 |
| Copper | M | 2455 | mg/kg | 0.50 |
| Mercury | M | 2455 | mg/kg | 0.05 |
| Nickel | M | 2455 | mg/kg | 0.50 |
| Lead | M | 2455 | mg/kg | 0.50 |
| Selenium | M | 2455 | mg/kg | 0.25 |
| Zinc | M | 2455 | mg/kg | 0.50 |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 |
| Aliphatic VPH >C5-C6 | M | 2780 | mg/kg | 0.05 |
| Aliphatic VPH >C6-C7 | M | 2780 | mg/kg | 0.05 |
| Aliphatic VPH >C7-C8 | M | 2780 | mg/kg | 0.05 |
| Aliphatic VPH >C8-C10 | M | 2780 | mg/kg | 0.05 |
| Total Aliphatic VPH >C5-C10 | M | 2780 | mg/kg | 0.25 |
| Aliphatic EPH >C10-C12 | M | 2690 | mg/kg | 2.00 |
| Aliphatic EPH >C12-C16 | M | 2690 | mg/kg | 1.00 |
| Aliphatic EPH >C16-C21 | M | 2690 | mg/kg | 2.1 |
| Aliphatic EPH >C21-C35 | M | 2690 | mg/kg | 3.7 |
| Aliphatic EPH >C35-C40 | N | 2690 | mg/kg | 3.00 |
| Total Aliphatic EPH >C10-C35 | M | 2690 | mg/kg | 10.00 |
| Total Aliphatic EPH >C10-C40 | N | 2690 | mg/kg | 5.00 |
| Aromatic VPH >C5-C7 | M | 2780 | mg/kg | 0.05 |
| Aromatic VPH >C7-C8 | M | 2780 | mg/kg | 0.05 |
| Aromatic VPH >C8-C10 | M | 2780 | mg/kg | 0.05 |
| Total Aromatic VPH >C5-C10 | M | 2780 | mg/kg | 0.25 |
| Aromatic EPH >C10-C12 | M | 2690 | mg/kg | 1.00 |
| Aromatic EPH >C12-C16 | M | 2690 | mg/kg | 1.00 |
| Aromatic EPH >C16-C21 | N | 2690 | mg/kg | 2.00 |
| Aromatic EPH >C21-C35 | M | 2690 | mg/kg | 2.00 |

Results - Soil

Project: Springbridge Yard

| Client: Springbridge Direct Ltd | Chemtest Job No.: 23-04929 | | | |
|--|-------------------------------------|------------|--------------|------------|
| Quotation No.: Q23-30324 | Chemtest Sample ID.: 1589803 | | | |
| Order No.: 130446 | Client Sample Ref.: Subsoil Sub | | | |
| | Sample Type: SOIL | | | |
| | Date Sampled: 10-Feb-2023 | | | |
| | Time Sampled: 14:00 | | | |
| | Asbestos Lab: DURHAM | | | |
| Determinand | Accred. | SOP | Units | LOD |
| Aromatic EPH >C35-C40 | N | 2690 | mg/kg | 1.00 |
| Total Aromatic EPH >C10-C35 | M | 2690 | mg/kg | 5.00 |
| Total Aromatic EPH >C10-C40 | N | 2690 | mg/kg | 10.00 |
| Total VPH >C5-C10 | M | 2780 | mg/kg | 0.50 |
| Total EPH >C10-C35 | M | 2690 | mg/kg | 10.00 |
| Total EPH >C10-C40 | N | 2690 | mg/kg | 10.00 |
| Naphthalene | N | 2700 | mg/kg | 0.010 |
| Acenaphthylene | N | 2700 | mg/kg | 0.010 |
| Acenaphthene | N | 2700 | mg/kg | 0.010 |
| Fluorene | N | 2700 | mg/kg | < 0.010 |
| Phenanthrene | N | 2700 | mg/kg | 0.010 |
| Anthracene | N | 2700 | mg/kg | 0.010 |
| Fluoranthene | N | 2700 | mg/kg | 0.16 |
| Pyrene | N | 2700 | mg/kg | 1.8 |
| Benzo[a]anthracene | N | 2700 | mg/kg | 0.010 |
| Chrysene | N | 2700 | mg/kg | 0.69 |
| Benzo[b]fluoranthene | N | 2700 | mg/kg | 0.84 |
| Benzo[k]fluoranthene | N | 2700 | mg/kg | 0.87 |
| Benzo[a]pyrene | N | 2700 | mg/kg | 0.29 |
| Indeno(1,2,3-c,d)Pyrene | N | 2700 | mg/kg | 0.72 |
| Dibenz(a,h)Anthracene | N | 2700 | mg/kg | < 0.010 |
| Benzo[g,h,i]perylene | N | 2700 | mg/kg | < 0.010 |
| Total Of 16 PAH's | N | 2700 | mg/kg | 8.2 |
| Benzene | M | 2760 | µg/kg | 1.0 |
| Toluene | M | 2760 | µg/kg | < 1.0 |
| Ethylbenzene | M | 2760 | µg/kg | < 1.0 |
| m & p-Xylene | M | 2760 | µg/kg | < 1.0 |
| o-Xylene | M | 2760 | µg/kg | < 1.0 |
| Total Phenols | M | 2920 | mg/kg | 0.10 |
| | | | | 0.16 |

Results - Subsoil Report

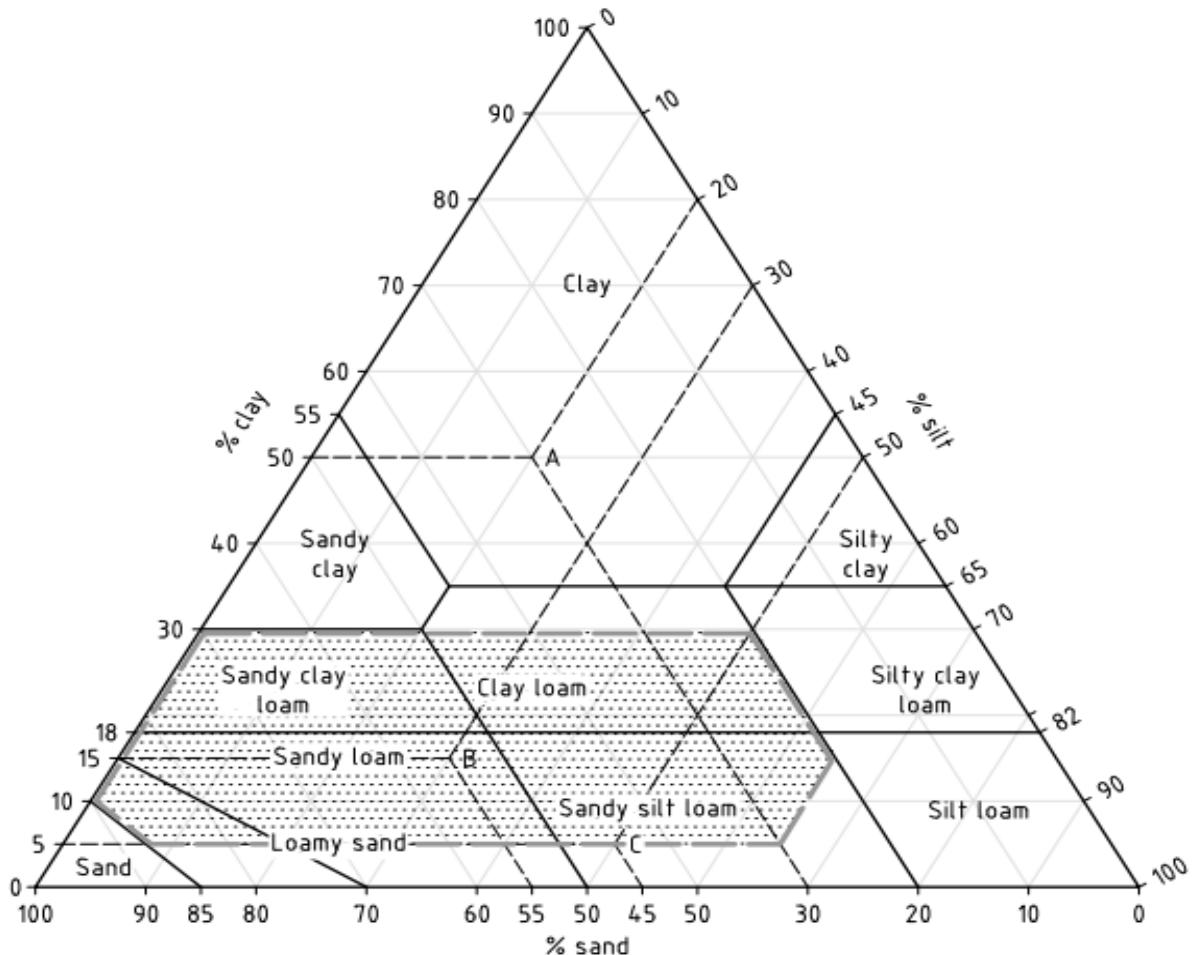
BS8601:2013

Chemtest Job No.: 23-04929
Chemtest Sample ID.: 1589803
 Client Sample Ref.: Subsoil Sub
 Sample Location:
Client Sample ID.:
 Top Depth (m):
 Bottom Depth (m):
 Date Sampled: 10-Feb-2023
 Time Sampled:

| Parameter | Units | Multipurpose Range | Result | Compliant with Multipurpose Range? (Y/N) | Compliant with Specific Purpose Range? (Y/N) | |
|---|-------|-------------------------|------------|--|--|-------|
| Texture | | | | | Acid | Calc. |
| Clay content | % | | 5.0 | | | |
| Silt content | % | | 10.000 | | | |
| Sand content | % | | 85 | | | |
| Soil texture class | | See Attached Chart | Loamy Sand | YES | | |
| Mass Loss on Ignition | % | <2 | 1.3 | YES | | |
| Stone Content | % m/m | | | | | |
| >2mm | | 0-40 | 14 | YES | | |
| >20mm | | 0-20 | < 0.020 | YES | | |
| >50mm | | 0 | < 0.020 | YES | | |
| Soil pH value | | 5.5-8.5 | 8.4 | YES | NO | YES |
| Carbonate (Calcareous only) | % | | < 0.10 | | | NO |
| Electrical Conductivity | µS/cm | If >2800 do ESP | 1100 | YES | | |
| Exchangeable sodium | % | <15 | 1.1 | YES | | |
| Available Calcium | mg/l | | 400 | | | |
| Available Sodium | mg/l | | 28 | | | |
| Phytotoxic Contaminants (by soil pH) | | < 6.0 6.0-7.0 > 7.0 | | | | |
| Zinc (Nitric Acid extract) | mg/kg | <200 | <200 | 160 | YES | |
| Copper (Nitric Acid extract) | mg/kg | <100 | <135 | 46 | YES | |
| Nickel (Nitric Acid extract) | mg/kg | <60 | <75 | 15 | YES | |
| Visible Contaminants | % mm | | | | | |
| >2mm | | <0.5 | 0.000 | YES | | |
| of which plastics | | <0.25 | 0.000 | YES | | |
| man-made sharps | | zero in 1kg | 0.000 | YES | | |

Subsoil:
Texture Classification Chart

BS3882:2015



Key



Area within which the texture of subsoil is required to fall

NOTE Examples of textural classification are as follows.

- Soil A with 30% sand, 20% silt and 50% clay is in the "clay" textural class.
- Soil B with 55% sand, 30% silt and 15% clay is in the "sandy loam" textural class.
- Soil C with 45% sand, 50% silt and 5% clay is in the "sandy silt loam" textural class.

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Test Methods

| SOP | Title | Parameters included | Method summary |
|------|---|--|--|
| 2010 | pH Value of Soils | pH | pH Meter |
| 2020 | Electrical Conductivity | Electrical conductivity (EC) of aqueous extract or calcium sulphate solution for topsoil | Measurement of the electrical resistance of a 2:1 water/soil extract. |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS) | Moisture content | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C. |
| 2040 | Soil Description(Requirement of MCERTS) | Soil description | As received soil is described based upon BS5930 |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium | Boron; Sulphate; Magnesium; Chromium | Aqueous extraction / ICP-OES |
| 2192 | Asbestos | Asbestos | Polarised light microscopy / Gravimetry |
| 2260 | Carbonate | Carbonate | Titration |
| 2300 | Cyanides & Thiocyanate in Soils | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate | Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser. |
| 2400 | Cations | Cations | ICP-MS |
| 2450 | Acid Soluble Metals in Soils | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc | Acid digestion followed by determination of metals in extract by ICP-MS. |
| 2455 | Acid Soluble Metals in Soils | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc | Acid digestion followed by determination of metals in extract by ICP-MS. |
| 2490 | Hexavalent Chromium in Soils | Chromium [VI] | Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide. |
| 2620 | LOI 440 | LOI 440 Trommel Fines | Determination of the proportion by mass that is lost from a soil by ignition at 440°C. |
| 2690 | EPH A/A Split | Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40 | Acetone/Heptane extraction / GCxGC FID detection |
| 2700 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds) |
| 2760 | Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS | Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule | Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds. |
| 2780 | VPH A/A Split | Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8-C10 | Water extraction / Headspace GCxGC FID detection |
| 2920 | Phenols in Soils by HPLC | Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded. | 60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection. |

Report Information

Key

| | |
|-----|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |
| SOP | Standard operating procedure |
| LOD | Limit of detection |

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

-
- A - Date of sampling not supplied
 - B - Sample age exceeds stability time (sampling to extraction)
 - C - Sample not received in appropriate containers
 - D - Broken Container
 - E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com