# TRIAL PIT RECORD

TP No. **TP01**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083
Date: 25/08/2021
Scale: 1:25

Logged By: J.C
Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.30 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble and low boulder content. Gravel is angular to subrounded fine to coarse of brick, sandstone and concrete. Cobbles are angular of brick. Boulders are angular of concrete up to 35cm in diameter. | 0.90 | 149.79 | | |
| | | | 1<br>2<br>3 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble and low boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 30cm in diameter. | | | | |
| | | | | End of trial pit at 3.20m | 3.20 | 147.49 | | |
| | | | 4<br>5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 150.69
**Easting:** 412521.58
**Northing:** 415529.48

Fig No.
TP01

# TRIAL PIT RECORD

| | | |
|---|---|---|
| Site: | Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: | Lidl Great Britain Ltd. | Date: 25/08/2021 |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

TP No. **TP02** Sheet 1 of 1

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| | | | | MADE GROUND: Black ASPHALT. | 0.20 | 151.51 | | |
| ES | 0.30 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subrounded fine to coarse of brick, sandstone and concrete. Cobbles are angular of brick and concrete with occasional fragments of glass. | 0.60 | 151.11 | | |
| ES | 1.00 | | 1 | MADE GROUND: Dark greyish brown clayey gravelly fine to coarse SAND with high cobble and medium boulder content. Gravel is angular to subangular fine to coarse of sandstone, brick and mudstone. Cobbles are angular of brick. Boulders are angular of sandstone up to 30cm in diameter with occasional pockets of soft dark greyish brown slightly gravelly sandy clay. | | | | |
| D | 1.20 | | | | 1.50 | 150.21 | | |
| ES | 2.00 | | 2 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble and boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 35cm in diameter. | | | | |
| | | | | *From 2.60m bgl: Becomes medium strong.* | | | | |
| | | | 3 | | | | | |
| | | | 4 | | | | | |
| | | | | End of trial pit at 4.10m | 4.10 | 147.61 | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Hydraulic breaker utilised to break out rock from 2.60m bgl. 4. Trial pit took approximately 90 minutes to complete. 5. Backfilled with arisings upon completion.

**GL (m AOD)** 151.71
**Easting:** 412536.31
**Northing:** 415489.96

Fig No. TP02

# TRIAL PIT RECORD

| | | |
|---|---|---|
| Site: | Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: | Lidl Great Britain Ltd. | Date: 25/08/2021 |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

TP No. **TP03** Sheet 1 of 1

Logged By: J.C Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| D | 0.10 | | | MADE GROUND: Black ASPHALT. | | | | |
| | | | | | 0.30 | 151.67 | | |
| ES | 0.50 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with low cobble and low boulder content. Gravel is angular to subrounded fine to coarse of brick, sandstone and concrete. Cobbles are angular of brick. Boulders are angular of concrete up to 30cm in diameter. | | | | |
| | | | 1 | | | | | |
| | | | | *Redundant drain encased in concrete recovered at 1.30m bgl.* | | | | |
| | | | | | 1.40 | 150.57 | | |
| ES | 1.50 | | | MADE GROUND: Dark grey to black clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium of sandstone, brick, ash and mudstone. | | | | |
| | | | 2 | | | | | |
| | | | | | 2.30 | 149.67 | | |
| | | | | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | 3 | | | | | |
| | | | | *From 3.60m bgl: Becomes medium strong.* | | | | |
| | | | 4 | | | | | |
| | | | | End of trial pit at 4.35m | 4.35 | 147.62 | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Hydraulic breaker utilised to break out rock from 3.60m bgl. 4. Trial pit took approximately 74 minutes to complete. 5. Backfilled with arisings upon completion.

**GL (m AOD)** 151.97
**Easting:** 412547.65
**Northing:** 415482.31

Fig No. TP03

# TRIAL PIT RECORD

TP No. **TP04**
Sheet 1 of 2

| | |
|---|---|
| Site: Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: Lidl Great Britain Ltd. | Date: 25/08/2021 |
| Method: Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.10 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subrounded fine to coarse of brick, sandstone and concrete. Cobbles are angular of brick and concrete with occasional fragments of glass and wood. | 0.40 | 152.31 | | |
| ES | 0.50 | | | MADE GROUND: Black ASPHALT. | 0.60 | 152.11 | | |
| ES | 1.00 | | 1 | MADE GROUND: Orangish brown sandy angular to subangular fine to coarse GRAVEL of sandstone, mudstone and brick. | 1.40 | 151.31 | | |
| ES | 1.60 | | | MADE GROUND: Dark grey to black slightly gravelly clayey fine to coarse SAND. Gravel is angular to subrounded fine to medium of sandstone, brick, ash and mudstone with slight hydrocarbon odour. | 2.50 | 150.21 | | |
| D | 2.00 | | 2 | | | | | |
| ES | 3.00 | | 3 | Weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | 4 | *From 4.00m bgl: Becomes moderately weak to medium strong.* | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Hydraulic breaker utilised to break out rock from 4.00m bgl. 4. Trial pit took approximately 95 minutes to complete. 5. Backfilled with arisings upon completion.

**GL (m AOD)** 152.71
**Easting:** 412553.16
**Northing:** 415473.06

Fig No.
TP04

# TRIAL PIT RECORD

TP No. **TP04**
Sheet 2 of 2

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 25/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| | | | | Weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | 5.10 | 147.61 | | |
| | | | | End of trial pit at 5.10m | | | | |
| | | | 6 | | | | | |
| | | | 7 | | | | | |
| | | | 8 | | | | | |
| | | | 9 | | | | | |
| | | | 10 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Hydraulic breaker utilised to break out rock from 4.00m bgl. 4. Trial pit took approximately 95 minutes to complete. 5. Backfilled with arisings upon completion.

**GL (m AOD)** 152.71
**Easting:** 412553.16
**Northing:** 415473.06

Fig No. TP04

# TRIAL PIT RECORD

| | | |
|---|---|---|
| Site: | Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: | Lidl Great Britain Ltd. | Date: 26/08/2021 |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

TP No. **TP05** Sheet 1 of 1

Logged By: J.C Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.50 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble and boulder content. Gravel is angular to subrounded fine to coarse of brick, sandstone, concrete and occasional asphalt. Cobbles are angular of brick. Boulders are angular of sandstone and concrete up to 35cm in diameter. *From 0.50m bgl: Intact brick wall encountered at south-western corner of pit.* | | | | |
| | | | 1 | | | | | |
| | | | 2 | | | | | |
| | | | | | 2.90 | 149.16 | | |
| | | | 3 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble and boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 40cm in diameter. | | | | |
| | | | 4 | | | | | |
| | | | | End of trial pit at 4.10m | 4.10 | 147.96 | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 152.06
**Easting:** 412562.20
**Northing:** 415470.57

Fig No. TP05

# TRIAL PIT RECORD

TP No. **TP06**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083
Date: 26/08/2021
Scale: 1:25
Logged By: J.C
Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.30 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subangular fine to coarse of brick, concrete, sandstone and asphalt. Cobbles are angular of brick and concrete with occasional fragments of wood. | | | | |
| ES | 0.90 | | | *From 0.85 to 0.95m bgl: Layer of MADE GROUND: Black ASPHALT in north-western corner of pit.* | 0.95 | 149.19 | | |
| | | | 1 | Weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | 2 | | | | | |
| | | | | End of trial pit at 2.90m | 2.90 | 147.24 | | |
| | | | 3 | | | | | |
| | | | 4 | | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 150.14
**Easting:** 412558.76
**Northing:** 415494.91

Fig No.
TP06

# TRIAL PIT RECORD

TP No. **TP07**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 26/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.60 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with high cobble and low boulder content. Gravel is angular to subrounded fine to coarse of brick, limestone, sandstone, concrete and rare asphalt. Cobbles are angular of brick. Boulders are angular of sandstone up to 80cm in diameter. | 1.30 | 148.34 | | |
| | | | | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble and low boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 25 cm in diameter. | 3.00 | 146.64 | | |
| | | | | End of trial pit at 3.00m | | | | |

1 2 3 4 5

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 149.64
**Easting:** 412541.52
**Northing:** 415518.94

Fig No. TP07

# TRIAL PIT RECORD

TP No. **TP08**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 26/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.10 | | | MADE GROUND: Grass over dark brown sandy gravelly TOPSOIL. Gravel is angular to subrounded fine to medium of brick and sandstone with many rootlets. | 0.30 | 149.93 | | |
| ES | 0.90 | | 1 | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble and low boulder content. Gravel is angular to subrounded fine to coarse of brick, concrete and sandstone. Cobbles are angular of brick. Boulders are angular of sandstone up to 40cm in diameter. | 1.10 | 149.13 | | |
| | | | 2<br>3 | Weak yellowish brown SANDSTONE. Recovered as angular to subrounded fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | | End of trial pit at 3.50m | 3.50 | 146.73 | | |
| | | | 4<br>5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 150.23
**Easting:** 412515.61
**Northing:** 415542.42

Fig No. TP08

# TRIAL PIT RECORD

TP No. **TP09**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083
Date: 26/08/2021
Scale: 1:25
Logged By: J.C
Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.20 | | | MADE GROUND: Grass over dark brown slightly clayey sandy gravelly TOPSOIL. Gravel is angular to subangular fine to medium of brick and sandstone with many rootlets. | 0.40 | 148.77 | | |
| ES | 0.50 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with high cobble and medium boulder content. Gravel is angular to subrounded fine to coarse of brick, concrete and sandstone. Cobbles are angular of brick. Boulders are angular of sandstone up to 60cm in diameter. | 1.05 | 148.12 | | |
| ES | 1.20 | | | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | 3.30 | 145.87 | | |
| | | | | End of trial pit at 3.30m | | | | |

1 2 3 4 5

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 149.17
**Easting:** 412516.21
**Northing:** 415555.96

Fig No. TP09

# TRIAL PIT RECORD

| | | |
|---|---|---|
| Site: | Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: | Lidl Great Britain Ltd. | Date: 25/08/2021 |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

TP No. **TP10** Sheet 1 of 1

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.20 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with high cobble content. Gravel is angular to subrounded fine to coarse of brick, concrete, sandstone and limestone. Cobbles are angular of brick and sandstone with frequent fragments of wood. | 0.80 | 148.46 | | |
| ES | 1.00 | | 1 | Weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | 2 | | | | | |
| | | | 3 | End of trial pit at 3.00m | 3.00 | 146.26 | | |
| | | | 4 | | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 149.26
**Easting:** 412532.98
**Northing:** 415534.84

Fig No. TP10

# TRIAL PIT RECORD

TP No. **TP11**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 26/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.20 | | | MADE GROUND: Dark brown slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is angular to subrounded fine to coarse of brick, sandstone, mudstone and limestone. Cobbles are angular of brick and sandstone. | 0.60 | 147.62 | | |
| | | | | Weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble content. Cobbles are angular of sandstone. | | | | |
| | | | 1 | | | | | |
| | | | 2 | | | | | |
| | | | 3 | End of trial pit at 3.00m | 3.00 | 145.22 | | |
| | | | 4 | | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 148.22
**Easting:** 412544.59
**Northing:** 415540.83

Fig No. TP11

# TRIAL PIT RECORD

TP No. **TP12**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 26/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.40 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subangular fine to coarse of brick, concrete, sandstone and asphalt. Cobbles are angular of brick and concrete with occasional fragments of glass | 0.80 | 148.32 | | |
| ES | 1.00 | | 1 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subangular fine to coarse sandy gravel with medium cobble and low boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 40cm in diameter. | | | | |
| | | | 2 | | | | | |
| | | | 3 | End of trial pit at 3.00m | 3.00 | 146.12 | | |
| | | | 4 | | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 149.12
**Easting:** 412570.61
**Northing:** 415506.18

Fig No. TP12

# TRIAL PIT RECORD

TP No. **TP13**
Sheet 1 of 1

| | |
|---|---|
| Site: | Blackmoorfoot Road, Huddersfield |
| Client: | Lidl Great Britain Ltd. |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. |

Contract No: C9083

Date: 26/08/2021

Scale: 1:25

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.20 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subrounded fine to coarse of brick, concrete, sandstone and asphalt. Cobbles are angular of brick and sandstone. | 0.65 | 147.53 | | |
| | | | 1<br>2 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subrounded fine to coarse sandy gravel with medium cobble and boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 30cm in diameter. | 2.80 | 145.38 | | |
| | | | 3<br>4<br>5 | End of trial pit at 2.80m | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 148.18
**Easting:** 412585.43
**Northing:** 415507.27

Fig No. TP13

# TRIAL PIT RECORD

| | | |
|---|---|---|
| Site: | Blackmoorfoot Road, Huddersfield | Contract No: C9083 |
| Client: | Lidl Great Britain Ltd. | Date: 26/08/2021 |
| Method: | Kobelco SK270SRLC-5 with 900mm toothed bucket. | Scale: 1:25 |

TP No. **TP14** Sheet 1 of 1

Logged By: J.C | Checked By: AMG

| SAMPLE DETAILS | | | | STRATA RECORD | | | | |
|---|---|---|---|---|---|---|---|---|
| Type | Depth From - To(m) | Vane Results (kN/m2) {}{ppm} | Ground -water | Description | Depth (m) | Level (m AOD) | Legend | Backfill |
| ES | 0.30 | | | MADE GROUND: Dark brown very gravelly fine to coarse SAND with medium cobble content. Gravel is angular to subangular fine to coarse of brick, concrete, sandstone and asphalt. Cobbles are angular of brick. | | | | |
| ES | 0.75 | | | *From 0.70 to 0.80m bgl: Layer of MADE GROUND: Black ASPHALT in south western corner of pit.* | 0.80 | 148.47 | | |
| | | | 1 | Moderately weak yellowish brown SANDSTONE. Recovered as angular to subrounded fine to coarse sandy gravel with medium cobble and boulder content. Cobbles are angular of sandstone. Boulders are angular of sandstone up to 30cm in diameter. | | | | |
| | | | 2 | | | | | |
| | | | | End of trial pit at 2.90m | 2.90 | 146.37 | | |
| | | | 3 | | | | | |
| | | | 4 | | | | | |
| | | | 5 | | | | | |

Remarks and Groundwater Observations

1. Trial pit remained dry and stable. 2. Terminated in competent strata. 3. Backfilled with arisings upon completion.

**GL (m AOD)** 149.27
**Easting:** 412586.92
**Northing:** 415487.35

Fig No. TP14

# APPENDIX C

# LABORATORY ANALYSIS RESULTS

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

# Final Report

| | | | |
|---|---|---|---|
| **Report No.:** | 21-30245-1 | | |
| **Initial Date of Issue:** | 10-Sep-2021 | | |
| **Client** | Sirius Geotechnical Ltd | | |
| **Client Address:** | 4250 (Downstairs)<br>Thorpe Park<br>Park Approach<br>Leeds<br>West Yorkshire<br>LS15 8GB | | |
| **Contact(s):** | Adrian Grant<br>Jack Clarke | | |
| **Project** | C9083 Blackmoorfoot Road | | |
| **Quotation No.:** | | **Date Received:** | 01-Sep-2021 |
| **Order No.:** | 21590/C9083/JC | **Date Instructed:** | 01-Sep-2021 |
| **No. of Samples:** | 20 | | |
| **Turnaround (Wkdays):** | 7 | **Results Due:** | 09-Sep-2021 |
| **Date Approved:** | 10-Sep-2021 | | |
| **Approved By:** | | | |
| **Details:** | Rachel Robertson, Deputy Technical Manager | | |

# Results - Miscellaneous Solid

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270483 | 1270488 | 1270498 |
| | | | Sample Location: | | TP04 | TP06 | TP14 |
| | | | Sample Type: | | MISCSOLID | MISCSOLID | MISCSOLID |
| | | | Top Depth (m): | | 0.5 | 0.90 | 0.75 |
| | | | Date Sampled: | | 25-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | |
| Chromatogram (TPH) | N | | | N/A | See Attached | See Attached | See Attached |
| Diesel Present | N | 2670 | | N/A | False | False | False |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | 190 | 290 | 160 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | 6900 | 7600 | 7200 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10 | 7100 | 7900 | 7300 |
| Naphthalene | N | 2700 | mg/kg | 0.10 | < 0.10 | < 0.10 | 0.12 |
| Acenaphthylene | N | 2700 | mg/kg | 0.10 | < 0.10 | < 0.10 | 0.46 |
| Acenaphthene | N | 2700 | mg/kg | 0.10 | < 0.10 | < 0.10 | 1.2 |
| Fluorene | N | 2700 | mg/kg | 0.10 | < 0.10 | < 0.10 | 0.60 |
| Phenanthrene | N | 2700 | mg/kg | 0.10 | < 0.10 | 10 | 1.5 |
| Anthracene | N | 2700 | mg/kg | 0.10 | < 0.10 | 6.3 | 1.8 |
| Fluoranthene | N | 2700 | mg/kg | 0.10 | < 0.10 | 57 | 20 |
| Pyrene | N | 2700 | mg/kg | 0.10 | < 0.10 | 61 | 25 |
| Benzo[a]anthracene | N | 2700 | mg/kg | 0.10 | < 0.10 | 25 | 8.1 |
| Chrysene | N | 2700 | mg/kg | 0.10 | < 0.10 | 22 | 7.7 |
| Benzo[b]fluoranthene | N | 2700 | mg/kg | 0.10 | < 0.10 | 38 | 18 |
| Benzo[k]fluoranthene | N | 2700 | mg/kg | 0.10 | < 0.10 | 18 | 8.6 |
| Benzo[a]pyrene | N | 2700 | mg/kg | 0.10 | < 0.10 | 32 | 15 |
| Indeno(1,2,3-c,d)Pyrene | N | 2700 | mg/kg | 0.10 | < 0.10 | 17 | 9.5 |
| Dibenz(a,h)Anthracene | N | 2700 | mg/kg | 0.10 | < 0.10 | 4.4 | 3.6 |
| Benzo[g,h,i]perylene | N | 2700 | mg/kg | 0.10 | < 0.10 | 16 | 6.6 |
| Coronene | N | 2700 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Total Of 17 PAH's | N | 2700 | mg/kg | 2.0 | < 2.0 | 310 | 130 |
| N-Nitrosodimethylamine | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Phenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Chlorophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 1,3-Dichlorobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 1,4-Dichlorobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 1,2-Dichlorobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Methylphenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Bis(2-Chloroisopropyl)Ether | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Hexachloroethane | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| N-Nitrosodi-n-propylamine | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Methylphenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Nitrobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Isophorone | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Nitrophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,4-Dimethylphenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Bis(2-Chloroethoxy)Methane | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,4-Dichlorophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |

# Results - Miscellaneous Solid

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270483 | 1270488 | 1270498 |
| | | | Sample Location: | | TP04 | TP06 | TP14 |
| | | | Sample Type: | | MISCSOLID | MISCSOLID | MISCSOLID |
| | | | Top Depth (m): | | 0.5 | 0.90 | 0.75 |
| | | | Date Sampled: | | 25-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | |
| 1,2,4-Trichlorobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Naphthalene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Chloroaniline | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Hexachlorobutadiene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Chloro-3-Methylphenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Methylnaphthalene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Nitrophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Hexachlorocyclopentadiene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,4,6-Trichlorophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,4,5-Trichlorophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Chloronaphthalene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Nitroaniline | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Acenaphthylene | N | 2790 | mg/kg | 0.50 | < 0.50 | 0.73 | < 0.50 |
| Dimethylphthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,6-Dinitrotoluene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Acenaphthene | N | 2790 | mg/kg | 0.50 | < 0.50 | 9.4 | < 0.50 |
| 3-Nitroaniline | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Dibenzofuran | N | 2790 | mg/kg | 0.50 | < 0.50 | 2.4 | < 0.50 |
| 4-Chlorophenylphenylether | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2,4-Dinitrotoluene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Fluorene | N | 2790 | mg/kg | 0.50 | < 0.50 | 7.3 | < 0.50 |
| Diethyl Phthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Nitroaniline | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 2-Methyl-4,6-Dinitrophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Azobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| 4-Bromophenylphenyl Ether | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Hexachlorobenzene | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Pentachlorophenol | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Phenanthrene | N | 2790 | mg/kg | 0.50 | < 0.50 | 46 | 1.7 |
| Anthracene | N | 2790 | mg/kg | 0.50 | < 0.50 | 21 | < 0.50 |
| Carbazole | N | 2790 | mg/kg | 0.50 | < 0.50 | 0.95 | < 0.50 |
| Di-N-Butyl Phthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Fluoranthene | N | 2790 | mg/kg | 0.50 | < 0.50 | 140 | 3.2 |
| Pyrene | N | 2790 | mg/kg | 0.50 | < 0.50 | 120 | 2.9 |
| Butylbenzyl Phthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Benzo[a]anthracene | N | 2790 | mg/kg | 0.50 | < 0.50 | 54 | 1.8 |
| Chrysene | N | 2790 | mg/kg | 0.50 | < 0.50 | 48 | 1.7 |
| Bis(2-Ethylhexyl)Phthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Di-N-Octyl Phthalate | N | 2790 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Benzo[b]fluoranthene | N | 2790 | mg/kg | 0.50 | < 0.50 | 61 | 2.1 |

# Results - Miscellaneous Solid

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270483 | 1270488 | 1270498 |
| | | | Sample Location: | | TP04 | TP06 | TP14 |
| | | | Sample Type: | | MISCSOLID | MISCSOLID | MISCSOLID |
| | | | Top Depth (m): | | 0.5 | 0.90 | 0.75 |
| | | | Date Sampled: | | 25-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | |
| Benzo[k]fluoranthene | N | 2790 | mg/kg | 0.50 | < 0.50 | 23 | 0.78 |
| Benzo[a]pyrene | N | 2790 | mg/kg | 0.50 | < 0.50 | 56 | 1.6 |
| Indeno(1,2,3-c,d)Pyrene | N | 2790 | mg/kg | 0.50 | < 0.50 | 23 | 0.92 |
| Dibenz(a,h)Anthracene | N | 2790 | mg/kg | 0.50 | < 0.50 | 6.0 | < 0.50 |
| Benzo[g,h,i]perylene | N | 2790 | mg/kg | 0.50 | < 0.50 | 28 | 0.99 |
| Moisture | N | | % | 0.10 | < 0.10 | < 0.10 | < 0.10 |
| Interpretive Report | N | | | N/A | See Below | See Below | See Below |
| SVOC TIC | N | 2790 | mg/kg | N/A | None Detected | None Detected | None Detected |

Sample 1270483 does not contain coal tar contamination. Dibenzothiophene, a biomarker present in coal tar has not been detected by SVOC analysis. This, in conjunction with the low PAH contamination, confirms the absence of coal tar in this sample.

Sample 1270488 is inconclusive for contain coal tar contamination. Dibenzothiophene, a biomarker present in coal tar has not been detected by SVOC analysis. This, in conjunction with the elevated PAH contamination, means we cannot confirm the absence of coal tar in this sample.

Sample 1270498 does not contain coal tar contamination. Dibenzothiophene, a biomarker present in coal tar has not been detected by SVOC analysis. This, in conjunction with the low PAH contamination, confirms the absence of coal tar in this sample.

# Results - Soil

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | | **Chemtest Job No.:** | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quotation No.: | | | | **Chemtest Sample ID.:** | 1270479 | 1270480 | 1270481 | 1270482 | 1270484 | 1270485 | 1270486 | 1270487 |
| | | | | Sample Location: | TP01 | TP02 | TP02 | TP03 | TP04 | TP04 | TP05 | TP06 |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 0.30 | 2.00 | 1.00 | 0.5 | 1.00 | 1.60 | 0.50 | 0.30 |
| | | | | Date Sampled: | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| | | | | Asbestos Lab: | DURHAM | | | | DURHAM | | DURHAM | |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | |
| ACM Type | U | 2192 | | N/A | - | | | | - | | - | |
| Asbestos Identification | U | 2192 | | N/A | No Asbestos Detected | | | | No Asbestos Detected | | No Asbestos Detected | |
| Moisture | N | 2030 | % | 0.020 | 6.9 | 5.3 | 10 | 7.3 | 7.8 | 9.7 | 6.7 | 5.6 |
| Soil Colour | N | 2040 | | N/A | Brown | Brown | Black | Brown | Brown | Black | Brown | Brown |
| Other Material | N | 2040 | | N/A | Stones and Wood | Stones | Stones | Stones | Stones | None | Stones and Roots | Stones |
| Soil Texture | N | 2040 | | N/A | Loam | Sand | Loam | Gravel | Gravel | Loam | Loam | Loam |
| pH | M | 2010 | | 4.0 | 8.1 | 8.6 | | 9.4 | 8.8 | | 9.4 | 9.6 |
| Sulphate (2:1 Water Soluble) as SO4 | M | 2120 | g/l | 0.010 | 1.5 | 0.017 | | 0.036 | 0.024 | | 0.94 | 0.10 |
| Calorific Value | N | 2140 | MJ/kg | 0.10 | | | 0.80 | | | 1.0 | | |
| Sulphate (Total) | M | 2430 | % | 0.010 | 0.32 | 0.033 | | < 0.010 | 0.032 | | 0.44 | 0.20 |
| Arsenic | M | 2450 | mg/kg | 1.0 | 36 | 3.6 | | 3.5 | 4.3 | | 13 | 12 |
| Cadmium | M | 2450 | mg/kg | 0.10 | 0.59 | < 0.10 | | 0.26 | 0.30 | | 0.30 | 0.32 |
| Chromium | M | 2450 | mg/kg | 1.0 | 40 | 12 | | 40 | 44 | | 24 | 24 |
| Copper | M | 2450 | mg/kg | 0.50 | 130 | 9.4 | | 16 | 13 | | 22 | 22 |
| Mercury | M | 2450 | mg/kg | 0.10 | 0.40 | < 0.10 | | < 0.10 | < 0.10 | | 0.21 | 0.30 |
| Nickel | M | 2450 | mg/kg | 0.50 | 33 | 9.4 | | 36 | 39 | | 23 | 22 |
| Lead | M | 2450 | mg/kg | 0.50 | 390 | 17 | | 24 | 16 | | 120 | 90 |
| Selenium | M | 2450 | mg/kg | 0.20 | < 0.20 | < 0.20 | | < 0.20 | < 0.20 | | < 0.20 | < 0.20 |
| Zinc | M | 2450 | mg/kg | 0.50 | 250 | 25 | | 64 | 60 | | 92 | 84 |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | < 0.50 | < 0.50 | | < 0.50 | < 0.50 | | < 0.50 | < 0.50 |
| Total Organic Carbon | M | 2625 | % | 0.20 | 2.6 | 1.1 | | 0.99 | 0.48 | | 1.6 | 1.9 |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aliphatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | 18 | < 1.0 | |
| Aliphatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | 9.6 | < 1.0 | |
| Aliphatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aliphatic TPH >C16-C21 | M | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aliphatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | 4.6 | < 1.0 | | | < 1.0 | 58 | 130 | |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | < 5.0 | < 5.0 | | | < 5.0 | 85 | 130 | |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aromatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | 5.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aromatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | 71 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aromatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | 63 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | 130 | < 1.0 | | | < 1.0 | 21 | 6.1 | |
| Aromatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | 580 | < 1.0 | | | < 1.0 | 120 | 260 | |

# Results - Soil

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | | **Chemtest Job No.:** | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quotation No.: | | | | **Chemtest Sample ID.:** | 1270479 | 1270480 | 1270481 | 1270482 | 1270484 | 1270485 | 1270486 | 1270487 |
| | | | | Sample Location: | TP01 | TP02 | TP02 | TP03 | TP04 | TP04 | TP05 | TP06 |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 0.30 | 2.00 | 1.00 | 0.5 | 1.00 | 1.60 | 0.50 | 0.30 |
| | | | | Date Sampled: | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 25-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| | | | | Asbestos Lab: | DURHAM | | | | DURHAM | | DURHAM | |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | 850 | < 5.0 | | | < 5.0 | 140 | 270 | |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | 860 | < 10 | | | < 10 | 230 | 400 | |
| Naphthalene | M | 2700 | mg/kg | 0.10 | 2.9 | < 0.10 | | < 0.10 | < 0.10 | | < 0.10 | < 0.10 |
| Acenaphthylene | M | 2700 | mg/kg | 0.10 | 0.91 | < 0.10 | | < 0.10 | < 0.10 | | < 0.10 | < 0.10 |
| Acenaphthene | M | 2700 | mg/kg | 0.10 | 0.59 | < 0.10 | | < 0.10 | < 0.10 | | < 0.10 | < 0.10 |
| Fluorene | M | 2700 | mg/kg | 0.10 | 0.65 | < 0.10 | | < 0.10 | < 0.10 | | < 0.10 | < 0.10 |
| Phenanthrene | M | 2700 | mg/kg | 0.10 | 4.0 | < 0.10 | | < 0.10 | < 0.10 | | 1.9 | 3.2 |
| Anthracene | M | 2700 | mg/kg | 0.10 | 1.3 | < 0.10 | | < 0.10 | < 0.10 | | 0.82 | 1.8 |
| Fluoranthene | M | 2700 | mg/kg | 0.10 | 7.7 | 0.39 | | < 0.10 | < 0.10 | | 4.5 | 15 |
| Pyrene | M | 2700 | mg/kg | 0.10 | 8.2 | 0.45 | | < 0.10 | < 0.10 | | 5.5 | 16 |
| Benzo[a]anthracene | M | 2700 | mg/kg | 0.10 | 4.8 | 0.25 | | < 0.10 | < 0.10 | | 2.8 | 6.7 |
| Chrysene | M | 2700 | mg/kg | 0.10 | 4.9 | 0.20 | | < 0.10 | < 0.10 | | 2.7 | 5.9 |
| Benzo[b]fluoranthene | M | 2700 | mg/kg | 0.10 | 6.4 | < 0.10 | | < 0.10 | < 0.10 | | 3.4 | 8.9 |
| Benzo[k]fluoranthene | M | 2700 | mg/kg | 0.10 | 3.5 | < 0.10 | | < 0.10 | < 0.10 | | 1.6 | 4.3 |
| Benzo[a]pyrene | M | 2700 | mg/kg | 0.10 | 4.8 | < 0.10 | | < 0.10 | < 0.10 | | 3.0 | 7.4 |
| Indeno(1,2,3-c,d)Pyrene | M | 2700 | mg/kg | 0.10 | 3.2 | < 0.10 | | < 0.10 | < 0.10 | | 2.0 | 4.6 |
| Dibenz(a,h)Anthracene | M | 2700 | mg/kg | 0.10 | 1.1 | < 0.10 | | < 0.10 | < 0.10 | | 1.3 | 1.5 |
| Benzo[g,h,i]perylene | M | 2700 | mg/kg | 0.10 | 2.7 | < 0.10 | | < 0.10 | < 0.10 | | 1.7 | 4.0 |
| Total Of 16 PAH's | M | 2700 | mg/kg | 2.0 | 58 | < 2.0 | | < 2.0 | < 2.0 | | 31 | 79 |
| Benzene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Toluene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Ethylbenzene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| m & p-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| o-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Methyl Tert-Butyl Ether | M | 2760 | µg/kg | 1.0 | < 1.0 | < 1.0 | | | < 1.0 | < 1.0 | < 1.0 | |
| Total Phenols | M | 2920 | mg/kg | 0.10 | < 0.10 | < 0.10 | | < 0.10 | < 0.10 | | < 0.10 | < 0.10 |

# Results - Soil

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | | **Chemtest Job No.:** | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quotation No.: | | | | **Chemtest Sample ID.:** | 1270489 | 1270490 | 1270491 | 1270492 | 1270493 | 1270494 | 1270495 | 1270496 |
| | | | | Sample Location: | TP07 | TP08 | TP09 | TP09 | TP10 | TP11 | TP12 | TP13 |
| | | | | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | | Top Depth (m): | 0.60 | 0.10 | 0.20 | 1.20 | 0.20 | 0.20 | 1.00 | 0.20 |
| | | | | Date Sampled: | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| | | | | Asbestos Lab: | | DURHAM | DURHAM | | DURHAM | DURHAM | DURHAM | DURHAM |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | |
| ACM Type | U | 2192 | | N/A | | - | - | | - | - | - | - |
| Asbestos Identification | U | 2192 | | N/A | | No Asbestos Detected | No Asbestos Detected | | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |
| Moisture | N | 2030 | % | 0.020 | 3.9 | 13 | 6.3 | 5.5 | 7.7 | 5.6 | 4.8 | 5.7 |
| Soil Colour | N | 2040 | | N/A | Brown | Brown | Black | Brown | Grey | Brown | Brown | Black |
| Other Material | N | 2040 | | N/A | Stones | Roots and Stones | Roots and Stones | Stones | Stones | Stones and Roots | Stones | Stones |
| Soil Texture | N | 2040 | | N/A | Sand | Loam | Loam | Sand | Loam | Loam | Sand | Loam |
| pH | M | 2010 | | 4.0 | 8.8 | 8.4 | 8.2 | 8.7 | 8.8 | 8.6 | 9.2 | 8.8 |
| Sulphate (2:1 Water Soluble) as SO4 | M | 2120 | g/l | 0.010 | 0.13 | < 0.010 | 0.031 | < 0.010 | 0.039 | 0.021 | < 0.010 | 0.12 |
| Calorific Value | N | 2140 | MJ/kg | 0.10 | | | | | | | | |
| Sulphate (Total) | M | 2430 | % | 0.010 | 0.13 | 0.21 | 0.12 | < 0.010 | 0.24 | 0.041 | < 0.010 | 0.11 |
| Arsenic | M | 2450 | mg/kg | 1.0 | 21 | 32 | 37 | 2.0 | 30 | 12 | 2.7 | 13 |
| Cadmium | M | 2450 | mg/kg | 0.10 | 0.33 | 0.37 | 0.38 | < 0.10 | 0.33 | 0.11 | < 0.10 | 0.69 |
| Chromium | M | 2450 | mg/kg | 1.0 | 18 | 19 | 21 | 16 | 22 | 8.7 | 18 | 24 |
| Copper | M | 2450 | mg/kg | 0.50 | 39 | 61 | 80 | 9.8 | 70 | 21 | 8.6 | 27 |
| Mercury | M | 2450 | mg/kg | 0.10 | 0.47 | 0.60 | 0.77 | < 0.10 | 1.1 | 0.76 | < 0.10 | 0.35 |
| Nickel | M | 2450 | mg/kg | 0.50 | 17 | 24 | 25 | 13 | 20 | 8.0 | 11 | 16 |
| Lead | M | 2450 | mg/kg | 0.50 | 100 | 200 | 230 | 11 | 370 | 51 | 8.0 | 73 |
| Selenium | M | 2450 | mg/kg | 0.20 | 0.25 | 0.65 | 0.70 | < 0.20 | < 0.20 | 0.23 | < 0.20 | < 0.20 |
| Zinc | M | 2450 | mg/kg | 0.50 | 75 | 310 | 170 | 46 | 700 | 30 | 25 | 65 |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 |
| Total Organic Carbon | M | 2625 | % | 0.20 | 4.3 | 6.8 | 4.5 | 0.31 | 5.0 | 1.5 | 0.27 | 2.5 |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | 2.0 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | 8.9 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C16-C21 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aliphatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | | 25 | 37 | | 32 | < 1.0 | 5.9 | 54 |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | 16 | < 1.0 | < 1.0 | < 1.0 |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | | 25 | 37 | | 59 | < 5.0 | 5.9 | 54 |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | 30 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | | 14 | < 1.0 | | 190 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | | 21 | < 1.0 | | 210 | < 1.0 | < 1.0 | < 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | | 72 | 7.1 | | 390 | < 1.0 | 10 | 25 |
| Aromatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | | 370 | 74 | | 1500 | < 1.0 | 280 | 360 |

# Results - Soil

**Project: C9083 Blackmoorfoot Road**

| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 | 21-30245 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270489 | 1270490 | 1270491 | 1270492 | 1270493 | 1270494 | 1270495 | 1270496 |
| | | | Sample Location: | | TP07 | TP08 | TP09 | TP09 | TP10 | TP11 | TP12 | TP13 |
| | | | Sample Type: | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | | | Top Depth (m): | | 0.60 | 0.10 | 0.20 | 1.20 | 0.20 | 0.20 | 1.00 | 0.20 |
| | | | Date Sampled: | | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 | 26-Aug-2021 |
| | | | Asbestos Lab: | | | DURHAM | DURHAM | | DURHAM | DURHAM | DURHAM | DURHAM |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | | | | | | | | |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | | 480 | 81 | | 2300 | < 5.0 | 290 | 390 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | | 510 | 120 | | 2400 | < 10 | 290 | 440 |
| Naphthalene | M | 2700 | mg/kg | 0.10 | < 0.10 | 15 | < 0.10 | < 0.10 | 13 | < 0.10 | < 0.10 | 0.20 |
| Acenaphthylene | M | 2700 | mg/kg | 0.10 | < 0.10 | 1.4 | < 0.10 | < 0.10 | 1.2 | < 0.10 | < 0.10 | 0.60 |
| Acenaphthene | M | 2700 | mg/kg | 0.10 | < 0.10 | 4.0 | < 0.10 | < 0.10 | 1.9 | < 0.10 | < 0.10 | 0.29 |
| Fluorene | M | 2700 | mg/kg | 0.10 | < 0.10 | 3.2 | < 0.10 | < 0.10 | 1.6 | < 0.10 | < 0.10 | 0.25 |
| Phenanthrene | M | 2700 | mg/kg | 0.10 | 2.9 | 18 | 2.5 | 0.73 | 13 | < 0.10 | 2.1 | 2.5 |
| Anthracene | M | 2700 | mg/kg | 0.10 | 0.98 | 4.0 | 0.47 | 0.15 | 2.7 | < 0.10 | 1.3 | 0.98 |
| Fluoranthene | M | 2700 | mg/kg | 0.10 | 6.2 | 19 | 4.9 | 1.3 | 16 | 0.98 | 7.0 | 11 |
| Pyrene | M | 2700 | mg/kg | 0.10 | 5.8 | 20 | 4.6 | 1.1 | 16 | 0.75 | 4.6 | 8.7 |
| Benzo[a]anthracene | M | 2700 | mg/kg | 0.10 | 3.4 | 7.8 | 2.5 | 0.48 | 8.7 | 0.42 | 1.8 | 4.5 |
| Chrysene | M | 2700 | mg/kg | 0.10 | 3.2 | 10 | 2.6 | 0.91 | 9.5 | 0.40 | 2.2 | 5.0 |
| Benzo[b]fluoranthene | M | 2700 | mg/kg | 0.10 | 3.9 | 11 | 2.8 | 0.74 | 9.1 | < 0.10 | 2.0 | 6.3 |
| Benzo[k]fluoranthene | M | 2700 | mg/kg | 0.10 | 2.2 | 4.3 | 1.5 | 0.62 | 4.1 | < 0.10 | 1.1 | 3.0 |
| Benzo[a]pyrene | M | 2700 | mg/kg | 0.10 | 4.3 | 7.3 | 2.4 | 0.48 | 6.4 | < 0.10 | 1.4 | 4.8 |
| Indeno(1,2,3-c,d)Pyrene | M | 2700 | mg/kg | 0.10 | 2.4 | 3.9 | 1.3 | < 0.10 | 3.5 | < 0.10 | 0.96 | 3.7 |
| Dibenz(a,h)Anthracene | M | 2700 | mg/kg | 0.10 | 1.5 | 2.0 | 0.55 | < 0.10 | 1.4 | < 0.10 | 0.48 | 1.5 |
| Benzo[g,h,i]perylene | M | 2700 | mg/kg | 0.10 | 3.1 | 4.4 | 1.7 | < 0.10 | 3.7 | < 0.10 | 0.79 | 3.1 |
| Total Of 16 PAH's | M | 2700 | mg/kg | 2.0 | 40 | 140 | 28 | 6.5 | 110 | 2.6 | 26 | 56 |
| Benzene | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Toluene | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Ethylbenzene | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| m & p-Xylene | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| o-Xylene | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Methyl Tert-Butyl Ether | M | 2760 | µg/kg | 1.0 | | < 1.0 | < 1.0 | | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Total Phenols | M | 2920 | mg/kg | 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |

# Results - Soil

**Project: C9083 Blackmoorfoot Road**

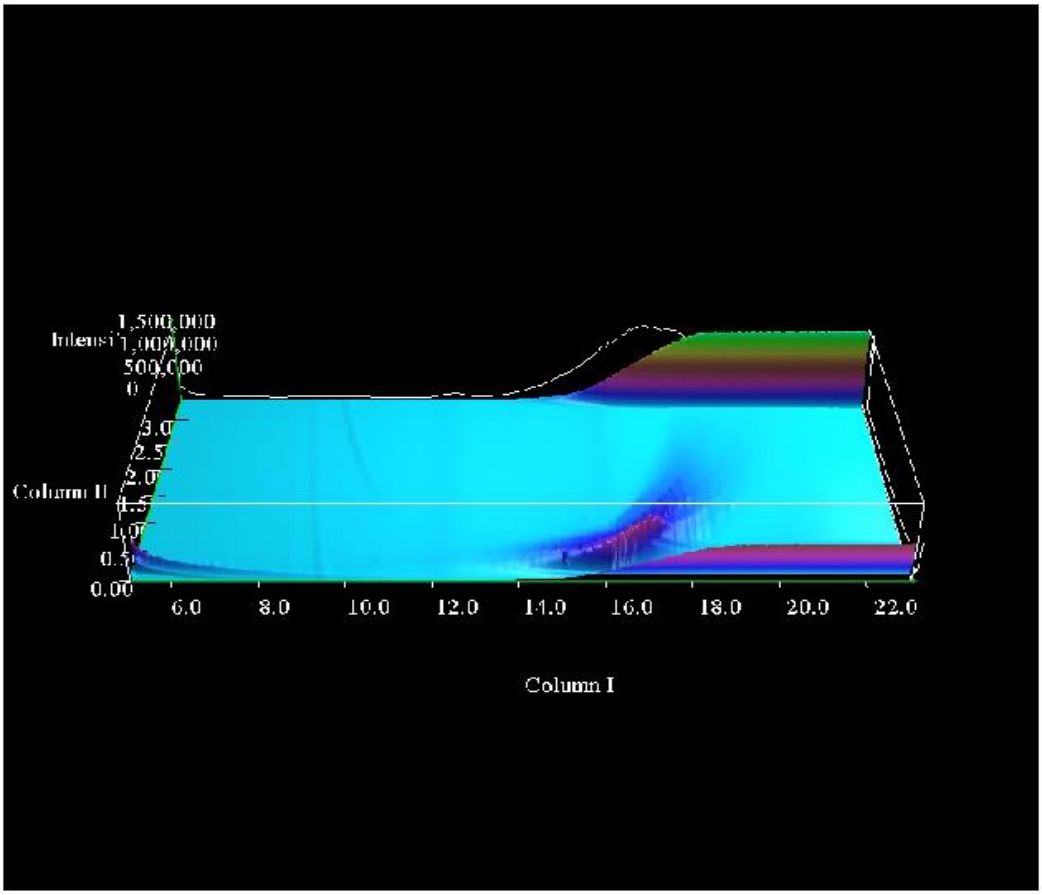
| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 |
|---|---|---|---|---|---|
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270497 |
| | | | Sample Location: | | TP14 |
| | | | Sample Type: | | SOIL |
| | | | Top Depth (m): | | 0.30 |
| | | | Date Sampled: | | 26-Aug-2021 |
| | | | Asbestos Lab: | | DURHAM |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | |
| ACM Type | U | 2192 | | N/A | - |
| Asbestos Identification | U | 2192 | | N/A | No Asbestos Detected |
| Moisture | N | 2030 | % | 0.020 | 4.5 |
| Soil Colour | N | 2040 | | N/A | Grey |
| Other Material | N | 2040 | | N/A | Stones |
| Soil Texture | N | 2040 | | N/A | Loam |
| pH | M | 2010 | | 4.0 | 9.4 |
| Sulphate (2:1 Water Soluble) as SO4 | M | 2120 | g/l | 0.010 | 0.46 |
| Calorific Value | N | 2140 | MJ/kg | 0.10 | |
| Sulphate (Total) | M | 2430 | % | 0.010 | 0.18 |
| Arsenic | M | 2450 | mg/kg | 1.0 | 12 |
| Cadmium | M | 2450 | mg/kg | 0.10 | 0.25 |
| Chromium | M | 2450 | mg/kg | 1.0 | 21 |
| Copper | M | 2450 | mg/kg | 0.50 | 26 |
| Mercury | M | 2450 | mg/kg | 0.10 | 0.49 |
| Nickel | M | 2450 | mg/kg | 0.50 | 19 |
| Lead | M | 2450 | mg/kg | 0.50 | 130 |
| Selenium | M | 2450 | mg/kg | 0.20 | < 0.20 |
| Zinc | M | 2450 | mg/kg | 0.50 | 69 |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | < 0.50 |
| Total Organic Carbon | M | 2625 | % | 0.20 | 1.7 |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C16-C21 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aliphatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | 37 |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | 37 |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Aromatic TPH >C8-C10 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aromatic TPH >C10-C12 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aromatic TPH >C12-C16 | M | 2680 | mg/kg | 1.0 | < 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | 25 |
| Aromatic TPH >C21-C35 | M | 2680 | mg/kg | 1.0 | 330 |

# Results - Soil

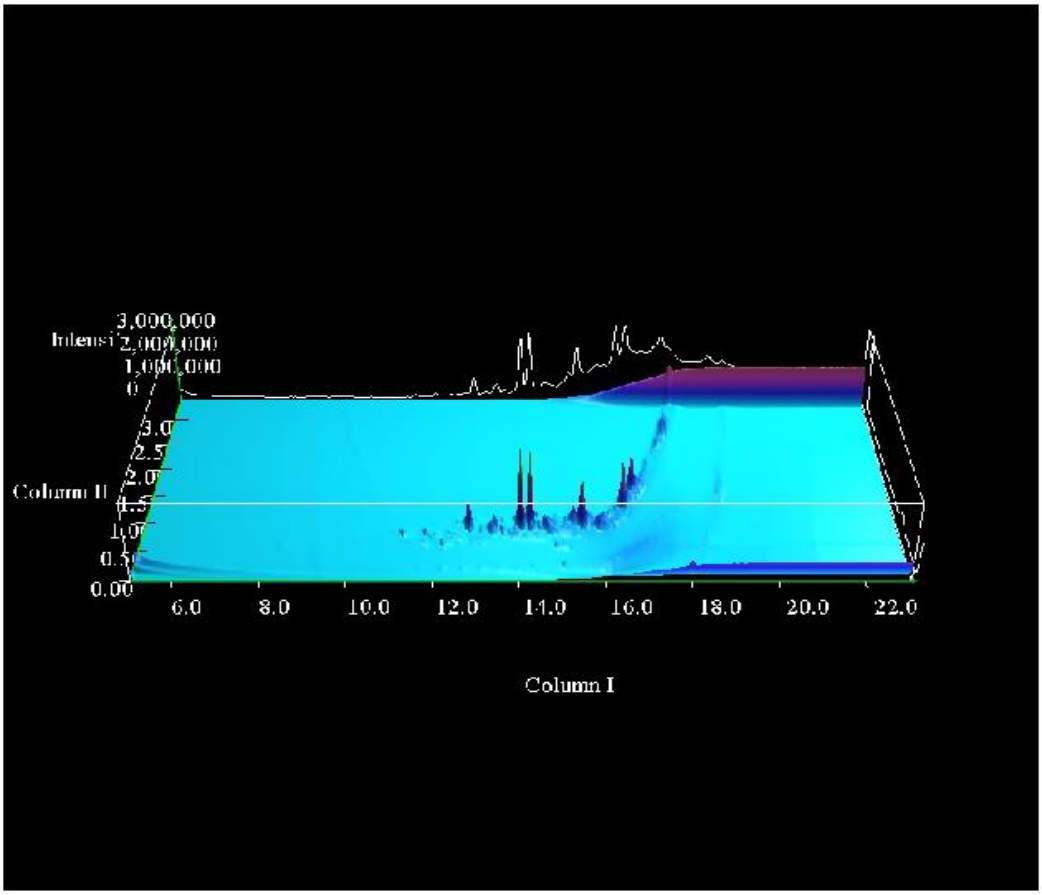
**Project: C9083 Blackmoorfoot Road**

| | | | | | |
|---|---|---|---|---|---|
| **Client: Sirius Geotechnical Ltd** | | | **Chemtest Job No.:** | | 21-30245 |
| Quotation No.: | | | **Chemtest Sample ID.:** | | 1270497 |
| | | | Sample Location: | | TP14 |
| | | | Sample Type: | | SOIL |
| | | | Top Depth (m): | | 0.30 |
| | | | Date Sampled: | | 26-Aug-2021 |
| | | | Asbestos Lab: | | DURHAM |
| **Determinand** | **Accred.** | **SOP** | **Units** | **LOD** | |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | < 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | 350 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | 390 |
| Naphthalene | M | 2700 | mg/kg | 0.10 | 0.25 |
| Acenaphthylene | M | 2700 | mg/kg | 0.10 | 0.61 |
| Acenaphthene | M | 2700 | mg/kg | 0.10 | 0.28 |
| Fluorene | M | 2700 | mg/kg | 0.10 | 0.31 |
| Phenanthrene | M | 2700 | mg/kg | 0.10 | 2.4 |
| Anthracene | M | 2700 | mg/kg | 0.10 | 1.3 |
| Fluoranthene | M | 2700 | mg/kg | 0.10 | 15 |
| Pyrene | M | 2700 | mg/kg | 0.10 | 13 |
| Benzo[a]anthracene | M | 2700 | mg/kg | 0.10 | 6.2 |
| Chrysene | M | 2700 | mg/kg | 0.10 | 6.6 |
| Benzo[b]fluoranthene | M | 2700 | mg/kg | 0.10 | 7.6 |
| Benzo[k]fluoranthene | M | 2700 | mg/kg | 0.10 | 3.4 |
| Benzo[a]pyrene | M | 2700 | mg/kg | 0.10 | 6.0 |
| Indeno(1,2,3-c,d)Pyrene | M | 2700 | mg/kg | 0.10 | 4.6 |
| Dibenz(a,h)Anthracene | M | 2700 | mg/kg | 0.10 | 2.0 |
| Benzo[g,h,i]perylene | M | 2700 | mg/kg | 0.10 | 3.1 |
| Total Of 16 PAH's | M | 2700 | mg/kg | 2.0 | 73 |
| Benzene | M | 2760 | µg/kg | 1.0 | < 1.0 |
| Toluene | M | 2760 | µg/kg | 1.0 | < 1.0 |
| Ethylbenzene | M | 2760 | µg/kg | 1.0 | < 1.0 |
| m & p-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 |
| o-Xylene | M | 2760 | µg/kg | 1.0 | < 1.0 |
| Methyl Tert-Butyl Ether | M | 2760 | µg/kg | 1.0 | < 1.0 |
| Total Phenols | M | 2920 | mg/kg | 0.10 | < 0.10 |

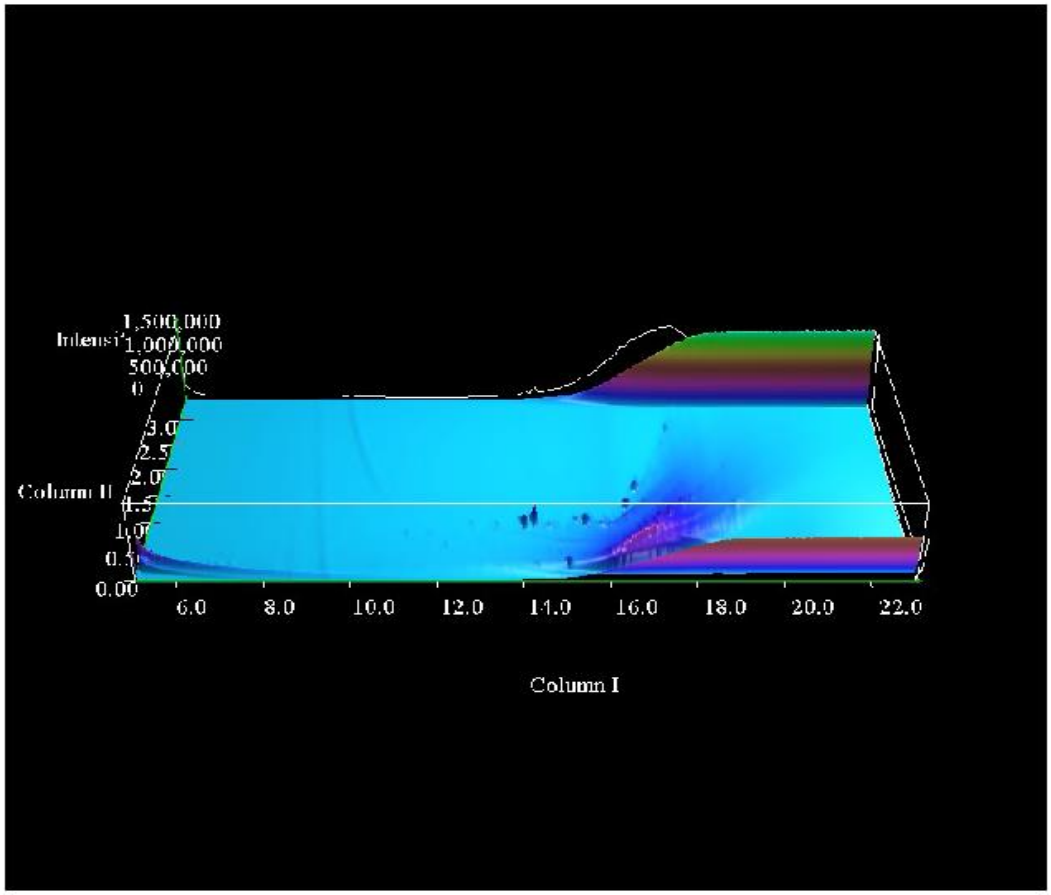
## TPH Chromatogram on Misc Sample: 1270483



## TPH Chromatogram on Misc Sample: 1270488



## TPH Chromatogram on Misc Sample: 1270498



# TPH Interpretation

| Job | Sample | Matrix | Location | Sample Ref | Sample ID | Sample Depth (m) | Gasoline / Diesel Present | TPH Interpretation |
|---|---|---|---|---|---|---|---|---|
| 21-30245 | 1270483 | M | TP04 | | | 0.5 | No | Heavy Oil |
| 21-30245 | 1270488 | M | TP06 | | | 0.90 | No | PAH |
| 21-30245 | 1270498 | M | TP14 | | | 0.75 | No | PAH and Heavy Oil |

# Test Methods

| SOP | Title | Parameters included | Method summary |
|---|---|---|---|
| 2010 | pH Value of Soils | pH | pH Meter |
| 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 |
| 2140 | Calorific Value | Calorific Value | Bomb Calorimeter |
| 2192 | Asbestos | Asbestos | Polarised light microscopy / Gravimetry |
| 2430 | Total Sulphate in soils | Total Sulphate | Acid digestion followed by determination of sulphate in extract by ICP-OES. |
| 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. |
| 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. |
| 2625 | Total Organic Carbon in Soils | Total organic Carbon (TOC) | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2670 | Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40 | Dichloromethane extraction / GC-FID |
| 2680 | TPH A/A Split | Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44 | Dichloromethane 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. |
| 2790 | Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS | Semi-volatile organic compounds(cf. USEPA Method 8270) | Acetone/Hexane extraction / GC-MS |
| 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

# APPENDIX D

# QUALITATIVE RISK ASSESSMENT METHODOLOGY

# Qualitative Risk Assessment Methodology

The approach adopted by Sirius for the qualitative assessment of risk is based upon that given in Annex 4 of NHBC-Environment Agency-CIEH "Guidance for the Safe Development of Housing on Land Affected by Contamination" (2008) and is consistent with other current guidance.

The risk posed by viable contaminant linkages is based upon the consideration of both:

a) the magnitude of the potential consequence (i.e. its severity); and,

b) the probability (likelihood) of that consequence being realised.

The classifications used in this report for consequence and probability are given in Tables 1 and 2, respectively. The derived risk classifications are defined in Table 3.

Where there is no viable contaminant linkage there is no potential risk.

**Table 1. Classification of Consequence**

| Classification | Definition |
|---|---|
| Severe | Contaminant concentrations at the receptor that are likely to result in "significant harm" to human health (as defined in Part 2A of the Environmental Protection Act 1990).<br>Major pollution of controlled waters that could have persistent and/or extensive effects on water quality, for example fish kills, closure of an abstraction, or substantial deterioration in quality of the receiving water body.<br>Major impact on receptor amenity value or major damage to agriculture or commerce.<br>Major damage to an ecosystem that is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population.<br>Catastrophic damage to crops, buildings or property. |
| Medium | Elevated concentrations at the receptor that might result in "significant harm" to human health (as defined in Part 2A of the Environmental Protection Act 1990).<br>A pollution incident that has significant effect on water quality or abstraction potential.<br>An incident that has a marked effect on receptor amenity value, agriculture or commerce.<br>Damage to an ecosystem that may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population.<br>Significant damage to crops, buildings or property. |

| Classification | Definition |
|---|---|
| Mild | Potential human health impact at the receptor point but unlikely to be classified as "significant harm" (as defined in Part 2A of the Environmental Protection Act 1990).<br><br>Pollution of water that will have a small or short-lived effect on water quality and marginal effects on its amenity or resource value or its use in agriculture or commerce.<br><br>Minor or short-lived damage to ecosystems, which is unlikely to result in a substantial adverse change<br><br>Minor damage to crops, buildings or property |
| Minor | No potential measurable detrimental human health impacts at the receptor point.<br><br>Impact on water that will have no or minimal effect on water quality or use.<br><br>No or minor and easily repairable effects on buildings, structures and services. |

**Table 2. Classification of Probability**

| Classification | Definition |
|---|---|
| High | An impact is already occurring or is very likely in the short-term and almost inevitable over the long-term. |
| Medium | It is probable that an event would occur. This is not inevitable but possible in the short-term and likely over the long-term. |
| Low | Circumstances are possible under which an event could occur. However, it is by no means certain that an event will take place, even over the long-term. |
| Unlikely | Circumstances are such that it is improbable that an event would occur even over the very long-term. |

**Table 3. Risk Classification**

| | **Consequence** | | | |
|---|---|---|---|---|
| **Probability** | ***Severe*** | ***Medium*** | ***Mild*** | ***Minor*** |
| ***High*** | Very High | High | Moderate | Low |
| ***Medium*** | High | Moderate | Low to Moderate | Low |
| ***Low*** | Moderate | Low to Moderate | Low | Very Low |
| ***Unlikely*** | Low to Moderate | Low | Very Low | Negligible |

Table 4 provides a context for interpretation of the risk classification categories. The definitions provided are based on those given in CIRIA (2001) "Contaminated Land Risk Assessment. A Guide to Good Practice", Report C552.

**Table 4. Interpretation of Risk Classification Categories**

| Risk Classification | Definition |
|---|---|
| Very High | There is a high probability that severe harm to one or more identified receptors could occur or there is evidence that this is already happening. This risk is likely to result in a substantial liability. Urgent investigation and remediation are likely to be required. |
| High | Harm is likely to be caused to one or more identified receptors. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short-term and are likely over the longer term. |
| Moderate | It is possible that harm could be caused to one or more identified receptors. However, it is relatively unlikely that such harm would be severe. Investigation is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. |
| Low | It is possible that harm could be caused to one or more identified receptors but it is likely that this harm, if realised, would normally be mild. No further investigation is considered necessary to assess risk or environmental liability but investigations could be undertaken if desired to confirm 'baseline' conditions for the purposes of liability management. Remedial works are unlikely to be required. |
| Very Low | There is a low probability that harm could be caused to one or more identified receptors. In the event of such harm being realised, it is likely to be mild, at worst. No further investigation is considered necessary to assess risk or environmental liability but investigations could be undertaken if desired to confirm 'baseline' conditions for the purposes of liability management. Remedial works are very unlikely to be required. |
| Negligible | It is unlikely that harm could be caused to one or more identified receptors. In the event of harm being realised, it is likely to be minor. No further investigation is considered necessary to assess risk or environmental liability. Remedial works are not expected. |

## Sirius Geotechnical Ltd


| | | |
|---|---|---|
| Suite 2 Russel House<br>Mill Road<br>Langley Moor<br>Durham<br>DH7 8HJ | 4245 Park Approach<br>Century Way<br>Thorpe Park<br>Leeds<br>LS15 8GB | Suite 10A<br>Stonecross Place<br>Stonecross Lane North<br>Lowton<br>WA3 2SH |
| 0191 378 9972 | 0113 264 9960 | 01942 718 551 |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