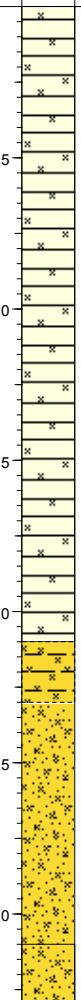


Hand Auger Borehole Logs

HAND AUGER LOG

HOLE Id: **HA01**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977952.08 mN (NZTM2000) 1741519.68 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 17/05/2018 |
| R.L.: 137.10m | DRILL METHOD: HA | HOLE FINISHED: 17/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|--|-----|-----|-----|---|---------------|-------------------------|---|---|---|---------|--------|-----------|--|------------|---------------------------------|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/0mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | 100 | HA | HA | | | | | | | | | | ● 150/77 kPa ● 147/86 kPa ● 132/61 kPa ● 110/37 kPa ● 138/61 kPa ● 110/61 kPa ● UTP | | 137 | 0.5 |  | M | Vst | | 0.0m: Silty CLAY; dark yellow. Very stiff, moist, low to moderate plasticity. 2.1m: Clayey SILT; dark yellowish brown with occasional dark orange and light brown streaks. Very stiff, moist, moderate plasticity. 2.3m: Sandy SILT with trace clay; dark yellowish brown. Very stiff, moist, low plasticity to non plastic. 3.1m: Grades; hard. |
| | | | | DRY: 17/05/2018 Measured 5 mins after borehole completed. | 135 | 2.0 | 3.0 | H | 3.3m: Refusal | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 133 | 4.0 | | | | | |
| | | | | | | | | | | | | | | | 134 | 4.5 | | | | | |

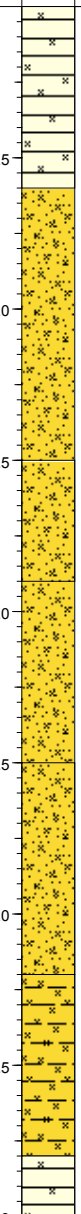
COMMENTS: Borehole refused at 3.3 m bgl. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
3.3m

HAND AUGER LOG

HOLE Id: **HA02**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977506.67 mN (NZTM2000) 1742186.20 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 17/05/2018 |
| R.L.: 176.90m | DRILL METHOD: HA | HOLE FINISHED: 17/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|--|---|---|---|---|---|-------------------------|---|---|--|---------|--------|-----------|--|------------|---------------------------------|---|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | | 100 | HA | | | | | | | | | | ● 156/55 kPa ● 113/46 kPa ● 98/21 kPa ● 61/18 kPa ● 171/40 kPa ● 113/24 kPa ● 184/64 kPa ● 193/37 kPa | | 176 | 0.5 |  | M | Vst | 10 2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 | 0.0m: Silty CLAY; dark yellowish brown. Very stiff, moist, moderate plasticity. |
| | | | | 0.6m: Sandy SILT with trace clay; dark reddish brown. Very stiff, moist, non plastic. | | | | | | | | | | | | | | | | | |
| | | | | 1.5m: Grades; stiff to very stiff. | | | | | | | | | | | | | | | | | |
| | | | | 1.9m: Sandy SILT; dark yellowish brown. Stiff, moist, non plastic. | | | | | | | | | | | | | | | | | |
| | | | | 2.5m: Grades; very stiff. | | | | | | | | | | | | | | | | | |
| | | | | 3.2m: Clayey SILT with trace sand and organics; dark yellowish brown streaked light pink with occasional dark brown. Very stiff, moist, low plasticity. Occasional dark brown organic streaks. | | | | | | | | | | | | | | | | | |
| | | | | 3.8m: Silty CLAY; light brown streaked dark orange. Very stiff, moist to wet, low to moderate plasticity. | | | | | | | | | | | | | | | | | |
| | | | | 4m: END OF BOREHOLE | | | | | | | | | | | | | | | | | |

COMMENTS: Target depth reached. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
4m

HandAugerLog - 5/04/2019 11:32:37 a.m. - Produced with Core-GS by GeRoc

Scale 1:25

Rev.: A

HAND AUGER LOG

HOLE Id: **HA05**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977806.37 mN (NZTM2000) 1742737.09 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 12/04/2018 |
| R.L.: 198.00m | DRILL METHOD: HA | HOLE FINISHED: 12/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|--|-------------------|--------|---------------------------------|---|-----|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|---------------|----------------------------------|---------------------------------|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | DRY: 12/04/2018 Measured 5 mins after borehole completed. | 100 | HA | | | | | | | | | | ● 157/52 kPa | | 197 | 0.0 | [Graphic Log] | M | Vst | 100 | 0.0m: Silty CLAY with trace organics; dark yellowish brown. Very stiff, moist, low plasticity. Organics; rootlets and organic clay. |
| | | | | ● 183/58 kPa | | 0.5 | 0.3m: Clayey SILT with trace sand; dark yellowish brown. Very stiff, moist, low plasticity. Sand; fine to medium. | | | | | | | | | | | | | | |
| | | | | ● 137/23 kPa | | 1.0 | 0.8m: Sandy SILT, trace clay, trace black carbonaceous material; dark yellowish brown speckled black. Very stiff, moist, non plastic. Sand; fine to medium. | | | | | | | | | | | | | | |
| | | | | ● 99/23 kPa | | 1.5 | 0.95m: Sandy SILT with minor organics and trace gravel; dark yellowish brown mottled dark brown. Very stiff, moist, non plastic. Organics; organic silt. Gravel; fine, subrounded, light yellowish brown siltstone. | | | | | | | | | | | | | | |
| | | | | ● 93/41 kPa | | 2.0 | 1.6m: Grades; stiff, minor clay. | | | | | | | | | | | | | | |
| | | | | ● 90/29 kPa | | 2.5 | 2.0m: Clayey SILT with trace sand; dark yellowish brown. Stiff, moist, low plasticity. Sand; fine. | | | | | | | | | | | | | | |
| | | | | ● 73/29 kPa | | 3.0 | 3.5m: Grades; very stiff. | | | | | | | | | | | | | | |
| | | | | ● 151/50 kPa | | 3.5 | | | | | | | | | | | | | | | |
| | | | | ● 140/52 kPa | | 4.0 | 3.7m: Clayey SILT, trace fine to medium sand, trace black carbonaceous material; light brown streaked dark yellowish brown, speckled dark brown. Very stiff, moist to wet, moderate plasticity. | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

COMMENTS: Target depth reached. SV# 649 measured undrained shear strength with correction factor of 1.47. No groundwater encountered within borehole.

Hole Depth
4m

Scale 1:25

Rev.: A

HandAugerLog - 5/04/2019 11:32:39 a.m. - Produced with Core-GS by GeRoc

HAND AUGER LOG

HOLE Id: **HA07**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977930.29 mN (NZTM2000) 1742602.65 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 12/04/2018 |
| R.L.: 187.00m | DRILL METHOD: HA | HOLE FINISHED: 12/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: OPRI |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|------------|--------------------|---|--|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | MOISTURE CONDITION | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: Sandy SILT, trace rootlets; brownish grey. Firm to stiff, moist, low plasticity. Sand; fine. | |
| Residual Soil | 100 | HA | | | | | | | | | | | | | | | | | | | 0.2m: Sandy SILT, trace clay, trace rootlets; brown mottled orange. Very stiff, moist, low to moderate plasticity. | |
| | | | | | | | | | | | | | | | | | | | | | 0.3m: Silty CLAY; orange brown. Very stiff, moist, moderate plasticity. | |
| | | | | | | | | | | | | | | | | | | | | | 1.5m: becomes pinkish brown. | |
| | | | | | | | | | | | | | | | | | | | | | 1.6m: Clayey SILT; pinkish brown. Very stiff, moist, low to moderate plasticity. | |
| | | | | | | | | | | | | | | | | | | | | | 1.7m: SILT with minor sand and clay; dark orange mottled light brown. Very stiff, moist, low to moderate plasticity. Sand; fine. | |
| | | | | | | | | | | | | | | | | | | | | | 1.9m: Grades; stiff, some clay. | |
| | | | | | | | | | | | | | | | | | | | | 2.4m: Sandy SILT with trace clay; light brown. Very stiff, moist, low plasticity. Sand; fine. | | |
| | | | | | | | | | | | | | | | | | | | | | 2.9m: Grades; stiff, light brown streaked dark yellowish brown. | |
| | | | | | | | | | | | | | | | | | | | | | 3.2m: SILT with minor clay and trace sand; brownish orange. Stiff, moist to wet, low to moderate plasticity. Sand; fine. | |
| | | | | | | | | | | | | | | | | | | | | | 4m: END OF BOREHOLE | |

COMMENTS: Target depth reached. SV# 649 measured undrained shear strength with correction factor of 1.47. No groundwater encountered within borehole.

Hole Depth
4m

Scale 1:25

HandAugerLog - 5/04/2019 11:32:40 a.m. - Produced with Core-GS by GeRoc

Rev.: A

HAND AUGER LOG

HOLE Id: **HA09**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978075.14 mN (NZTM2000) 1741681.42 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 28/05/2018 |
| R.L.: 85.70m | DRILL METHOD: HA | HOLE FINISHED: 28/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|-------|-------------------|---|---------------------------------|---|---|---|---|---|-------------------------|---|--------------|--------------|--------------|-------------|--------------|-------------|----------------------------------|---------------------------------|--|---|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | W | VSt | | 0.0m: Clayey SILT with trace sand and organics; brown. Very stiff, wet, moderate plasticity. Sand; medium. Organics; decomposing plant material. | | |
| Residual Soil | 100 | HA | 05/05/2018 3.5m. Measured 5 mins after borehole completed. | | | | | | | | | | ● 95/34 kPa | | 85 | | M | St | | 0.2m: Silty CLAY with trace fine sand; dark brownish yellow. Stiff, moist, moderate plasticity. | | |
| | | | | | | | | | | | | | | ● 116/31 kPa | | | | | VSt | | 0.6m: Sandy SILT with trace clay; dark brownish yellow. Very stiff, moist, moderate plasticity. Sand; medium. | |
| | | | | | | | | | | | | | | | ● 92/15 kPa | | | | | St | | 1.5m: Clayey SILT with minor sand and trace gravel; dark yellowish brown streaked light and dark brown. Stiff, moist, moderate plasticity. Sand; medium. Gravel; fine, subangular, manganese-stained gravel. |
| | | | | | | | | | | | | | | | ● 77/18 kPa | | | | | VSt | | 2.3m: SILT with minor sand and trace clay; dark yellowish brown streaked dark brown. Very stiff, moist, non-plastic. Manganese staining. |
| | | | | | | | | | | | | | | | | ● 181/61 kPa | | | | | W | |
| | | | | | | | | | | | | ● 129/37 kPa | | | | | | | | | | |
| | | | | | | | | | | | | | ● 165/58 kPa | | | | | | | | | |
| | | | | | | | | | | | | | ● 132/49 kPa | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | 4m: END OF BOREHOLE | | |

COMMENTS: Target depth reached. SV# 132 measured undrained shear strength with correction factor of 1.53. Groundwater measured at 3.6 m bgl.

Hole Depth
4m

Scale 1:25

Rev.: A

HandAugerLog - 5/04/2019 11:32:41 a.m. - Produced with Core-GS by GeRoc

HAND AUGER LOG

HOLE Id: **HA13**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978615.46 mN (NZTM2000) 1741366.81 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 13/04/2018 |
| R.L.: 74.00m | DRILL METHOD: HA | HOLE FINISHED: 13/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|--|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|-------------|------------|---------------------------------|--|---|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: Organic SILT; dark brown. Stiff, wet, low plasticity. Organics; decomposing plant material. | |
| Residual Soil | DRY: 12/04/2018 Measured 5 mins after borehole completed. | 100 | HA | | | | | | | | | | ● 183/58 kPa | | 0.5 | | | | | | | 0.05m: Sandy SILT with some clay; light brown. Very stiff, moist, low plasticity. Sand; fine to medium. |
| | | | | | | | | | | | | | ● UTP | | 1.0 | | | | | | | 0.6m: Clayey SILT with some sand and trace organics; light brown streaked dark brown. Very stiff, moist, low plasticity. Organics; silt and rootlets from nearby tree. |
| CW Pakiri | | | | | | | | | | | | | | 73 | | | | | | 0.9m: Clayey SILT with minor sand; dark orange brown. Hard, moist, low plasticity. Sand; fine to medium. | | |
| | | | | | | | | | | | | | | 72 | | | | | | 1m: Refusal | | |
| | | | | | | | | | | | | | | 71 | | | | | | | | |
| | | | | | | | | | | | | | | 70 | | | | | | | | |

COMMENTS: Borehole refused at 1.0 m bgl. SV# 649 measured undrained shear strength with correction factor of 1.47. No groundwater encountered within borehole.

Hole Depth
1m

HAND AUGER LOG

HOLE Id: **HA14**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978417.89 mN (NZTM2000) 1741573.50 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 13/04/2018 |
| R.L.: 78.00m | DRILL METHOD: HA | HOLE FINISHED: 13/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|---|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------------|---------|--------|-----------|-------------|--------------------|------------|---------------------------------|----------------------|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | | 0.0m: Organic clayey SILT; dark brownish yellow mottled dark brown. Stiff, wet, moderate plasticity. Organics; dark brown staining and decomposing plant material. |
| Residual Soil | | 100 | HA | | | | | | | | | | ● 90/50 kPa | | | | | | | | | 0.1m: Silty CLAY; dark brownish yellow. Stiff, moist, moderate plasticity. |
| CW Pakiri | DRY: 13/04/2018 Measured 5 mins after HA completed | | | | | | | | | | | | ● UTP | | | | | | | | | 0.65m: Sandy SILT with trace clay; dark yellowish brown. Hard, moist, non plastic. Sand; fine to medium. |
| | | | | | | | | | | | | | | | | | | | | | | 0.8m: Refusal |


COMMENTS: Borehole refused at 0.8 m bgl. SV# 649 measured undrained shear strength with correction factor of 1.47. No groundwater encountered within borehole.

Hole Depth
0.8m

HAND AUGER LOG

HOLE Id: **HA15**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978333.76 mN (NZTM2000) 1741727.82 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 13/04/2018 |
| R.L.: 88.00m | DRILL METHOD: HA | HOLE FINISHED: 13/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | |
|--|--|-------------------|--------|---|---|---|---|---|---|-------------------------|---|---|-------|--|--------|-----------|-------------|---|------------|------------------------------------|--|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | |
| CW Pakiri | DRY: 13/04/2018 Measured 5 mins after borehole completed. | 100 | HA | | | | | | | | | | | <ul style="list-style-type: none"> ● >204 kPa ● UTP ● UTP ● UTP | | 87 | 0.0 |  | D-M | H | 10 | 100 | 0.0m: SILT with minor clay; dark yellowish brown. Hard, dry to moist, non plastic. |
| | | | | 0.3m: Clayey SILT; dark yellowish brown mottled dark brown. Hard, moist, low plasticity. | | | | | | | | | | | | | | | | | | | |
| | | | | 0.5m: Silty CLAY; dark yellowish brown. Hard, moist, moderate plasticity. | | | | | | | | | | | | | | | | | | | |
| | | | | 0.6m: Clayey SILT; dark yellowish brown mottled dark brown. Hard, moist to wet, low plasticity. | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | 0.9m: SILT with trace to minor clay; dark yellowish brown mottled dark brown. Hard, moist to wet, non-plastic. | | |
| | | | | | | | | | | | | | | | | | | | | | 1.1m: Refusal | | |

COMMENTS: Borehole refused at 1.1 m bgl. SV# 649 measured undrained shear strength with correction factor of 1.47. No groundwater encountered within borehole.

Hole Depth
1.1m

HAND AUGER LOG

HOLE Id: **HA16**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978397.49 mN (NZTM2000) 1742001.56 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 07/06/2018 |
| R.L.: 105.00m | DRILL METHOD: HA | HOLE FINISHED: 07/06/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|-----|--------------------------------|---|---|-------------------------|---|---|--------------|---------|--------|---|------------------------------------|------------|---------------------------------|----------------------|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | 100 | HA | HA | | | | | | | | | | ● 135/6 kPa | | 104 | 0.5 | [Yellow soil with black 'x' marks] | D | Vst | 10 | 0.0m: Clayey SILT with trace sand; dark yellowish brown. Very stiff, dry, low plasticity to non-plastic. |
| | | | | ● 193/43 kPa | | 1.0 | 0.6m: Grades; minor fine sand. | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | ● >214 kPa | | 103 | 1.5 | [Yellow soil with black 'x' marks] | M | H | 10 | 1.1m: Sandy SILT with trace clay; dark yellowish brown. Very stiff, moist, non-plastic. Sand; fine. |
| | | | | | | | | | | | | | ● 184/46 kPa | | 2.0 | 1.4m: Grades; hard. | | | | | |
| | | | | | | | | | | | | | ● UTP | | 2.5 | 1.6m: minor clay. | | | | | |
| | | | | | | | | | | | | | ● UTP | | 2.8 | 2.0m: Grades; very stiff. | | | | | |
| | | | | | | | | | | | | | | | 3.0 | 2.3m: mottled dark brown. | | | | | |
| | | | | | | | | | | | | | | | 3.5 | 2.5m: Grades; hard. | | | | | |
| | | | | | | | | | | | | | | | 4.0 | 2.6m: Sandy SILT with trace clay; dark yellowish brown. Hard, moist, non-plastic to low plasticity. | | | | | |
| | | | | | | | | | | | | | | | 4.5 | 2.8m: Refusal | | | | | |

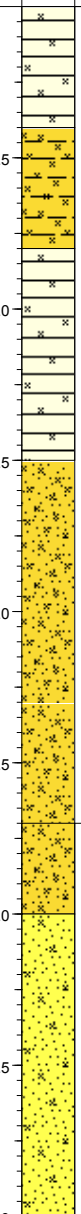
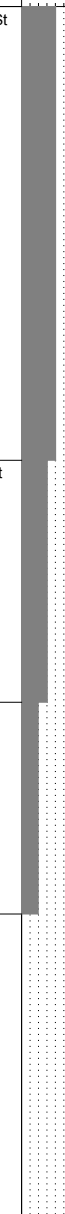
COMMENTS: Borehole refused at 2.8 m. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
2.8m

HAND AUGER LOG

HOLE Id: **HA17**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978154.16 mN (NZTM2000) 1742141.08 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 07/06/2018 |
| R.L.: 117.00m | DRILL METHOD: HA | HOLE FINISHED: 07/06/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|--|---|---|---|---|---|-------------------------|---|---|---|---------|--------|--|-------------|------------|--|---|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | | 100 | HA | | | | | | | | | | ● 150/40 kPa ● 116/49 kPa ● 80/21 kPa ● 73/28 kPa ● 49/24 kPa ● 150/31 kPa ● 122/24 kPa | | 116 |  | M | Vst |  | 0.0m: Silty CLAY with trace organics; light yellowish brown streaked light grey. Very stiff, moist, moderate to high plasticity. Organics; decomposing plant material. 0.3m: no organics, light grey ceases. 0.4m: Clayey SILT; dark brownish yellow mottled dark orange. Very stiff, moist, moderate plasticity. 0.8m: Silty CLAY; dark reddish brown. Very stiff, moist, moderate plasticity. 1.3m: Grades; dark yellowish brown. Trace medium sand. 1.5m: Sandy SILT; dark reddish brown. Stiff, moist, non-plastic to low plasticity. Sand; fine. 2.3m: Grades; firm. 2.6m: mottled dark brownish black (manganese staining). 2.7m: Grades; wet to saturated. 3.0m: Silty fine SAND; dark brownish yellow streaked dark brown. Tightly packed, wet, uniformly graded. Limonite streaks 3.7m: dark brownish black streaks cease. Trace clay. | 4m: END OF BOREHOLE |
| | | | | DRY: 07/06/2018 Measured 5 mins after borehole completed. | | | | | | | | | | | | | | | | | |

COMMENTS: Target depth reached. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
4m

Scale 1:25

Rev.: A

HandAugerLog - 5/04/2019 11:32:47 a.m. - Produced with Core-GS by GeRoc

HAND AUGER LOG

HOLE Id: **HA18**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978720.67 mN (NZTM2000) 1742348.53 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 18/05/2018 |
| R.L.: 206.50m | DRILL METHOD: HA | HOLE FINISHED: 18/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|--|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|---------------|---------------|---------------------------------|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | DRY: 18/05/2018 Measured 5 mins after borehole completed. | 100 | HA | | | | | | | | | | ● 113/37 kPa | | 206 | 0.5 | [Graphic Log] | M | Vst | | 0.0m: Silty CLAY; dark yellowish brown. Very stiff, moist, moderate plasticity. |
| | | | | | | | | | | | | | ● 80/24 kPa | | | 1.0 | [Graphic Log] | | St | | 0.6m: Clayey SILT with trace fine sand; dark reddish brown. Very stiff, moist, low plasticity. Sand; fine. 0.9m: Grades; stiff. |
| | | | | | | | | | | | | | ● 61/15 kPa | | 205 | 1.5 | [Graphic Log] | | | | 1.2m: trace coarse subangular sand; white. Broken to silt within fingers. 1.4m: occasional dark brownish black streaks. |
| | | | | | | | | | | | | | ● 61/24 kPa | | | 2.0 | [Graphic Log] | | | | 1.9m: Grades; moist to wet. |
| | | | | | | | | | | | | | ● 92/37 kPa | | 204 | 2.5 | [Graphic Log] | | | | 2.9 - 2.95m: black streaks (manganese). |
| | | | | | | | | | | | | | ● 61/18 kPa | | | 3.0 | [Graphic Log] | | | | 3.1m: Grades; dark orange brown streaked light pink. |
| | | | | | | | | | | | | | ● 107/24 kPa | | 203 | 3.5 | [Graphic Log] | | Vst | | 3.5m: Grades; very stiff. |
| | | | | | | | | | | | | | ● 122/46 kPa | | | 4.0 | [Graphic Log] | | | | 3.7m: Clayey SILT with minor gravel; dark yellowish brown streaked dark brown. Very stiff, moist, low plasticity. Gravel; fine, subangular siltstone. |
| | | | | | | | | | | | | | | | | 4.0 | [Graphic Log] | | | | 4m: END OF BOREHOLE |
| | | | | | | | | | | | | | | | | 202 | 4.5 | [Graphic Log] | | | |

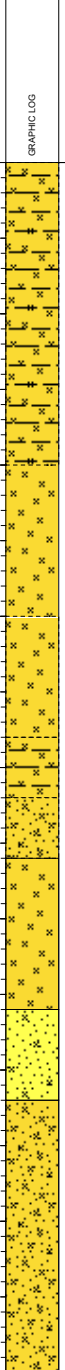
COMMENTS: Target depth reached. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
4m

HAND AUGER LOG

HOLE Id: **HA19**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977979.68 mN (NZTM2000) 1741867.10 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 28/05/2018 |
| R.L.: 92.10m | DRILL METHOD: HA | HOLE FINISHED: 28/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--|---------------------------------|---|---|---|---|---|-------------------------|----|-----|---------------------|--------------|--------|-----------|--|--|---------------------------------|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Residual Soil | 100 | HA | DRY: 28/05/2018 Measured 5 mins after borehole completed. | | | | | | | | | | | ● 104/52 kPa | 92 | 0.0 |  | M | VSt | 10 | 0.0m: Clayey SILT; dark yellowish brown. Very stiff, moist, low to medium plasticity. |
| | | | | | | | | | | | | | | ● 86/31 kPa | 91 | 0.5 | | 0.6m: Trace medium sand. | | | |
| | | | | | | | | | | | | | | ● 107/24 kPa | 91 | 1.0 | | 0.8m: Minor medium sand and trace specks of black carbonaceous material. | | | |
| | | | | | | | | | | | | | | ● 132/28 kPa | 91 | 1.5 | | 1.0m: SILT with minor clay and sand; dark yellowish brown. Stiff, moist, low to moderate plasticity. | | | |
| | | | | | | | | | | | | | | ● 116/49 kPa | 90 | 2.0 | | 1.5m: Grades; very stiff. | | | |
| | | | | | | | | | | | | | | ● 119/37 kPa | 90 | 2.5 | | 1.9m: Clayey SILT; light brown. Very stiff, moist low to moderate plasticity. | | | |
| | | | | | | | | | | | | | | ● 184/31 kPa | 89 | 3.0 | | 2.1m: Sandy SILT; light brown streaked dark orange. Very stiff, moist, low plasticity. Sand; medium to coarse siltstone. | | | |
| | | | | | | | | | | | | | | | 89 | 3.5 | | 2.3m: SILT with minor clay; light brown with occasional dark orange streaks. Very stiff, moist, low plasticity. | | | |
| | | | | | | | | | | | | | | | 89 | 4.0 | | 2.8m: Silty medium SAND; light brown streaked dark orange. Tightly packed, moist, uniformly graded. | | | |
| | | | | | | | | | | | | | | | 88 | 4.5 | | 3.1m: Sandy SILT with trace clay; light brown streaked dark orange. Very stiff, moist, low plasticity. Sand; fine to medium. | | | |
| | | | | | | | | | | | 88 | 4.0 | 4m: END OF BOREHOLE | | | | | | | | |

COMMENTS: Target depth reached. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
4m

Scale 1:25

Rev.: A

HAND AUGER LOG

HOLE Id: **HA20**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977751.01 mN (NZTM2000) 1742250.66 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 26/05/2018 |
| R.L.: 95.20m | DRILL METHOD: HA | HOLE FINISHED: 26/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|--|-------------------|--------|------------------------------------|---|---|---|---|---|-------------------------|---|---|-------|-------------|-----------------------|-----------|-------------|-----------------------|---------------|------------------------------------|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Residual Soil | DRY: 26/05/2018 Measured 5 mins after borehole completed. | 100 | HA | | | | | | | | | | | ● 70/21 kPa | 95 | | | M | St | 10 2.5 5.0 10.0 20.0 | 0.0m: Clayey SILT with trace fine sand; dark brownish yellow. Stiff, moist, low to moderate plasticity. | |
| | | | | | | | | | | | | | | ● 83/31 kPa | 0.5 | | | | | | 0.8m: Sandy SILT with trace clay; dark yellowish brown. Stiff, moist, low plasticity to non plastic. Sand; fine. | |
| | | | | | | | | | | | | | | | ● 89/24 kPa | 1.0 | | | | | | 1.2m: Clayey SILT with minor sand; dark yellowish brown. Stiff, moist, low plasticity. Sand; fine. |
| | | | | | | | | | | | | | | | ● 110/15 kPa ● UTP | 1.5 | | | | | | 1.8m: Sandy SILT; brown. Stiff, moist, non plastic. Sand; fine to medium. 2.0m: Grades; very stiff. 2.05m: Grades; hard. |
| | | | | | | | | | | | | | | 2.0 | | | H | | 2.1m: Refusal | | | |
| | | | | | | | | | | | | | | 2.5 | | | | | | | | |
| | | | | | | | | | | | | | | 3.0 | | | | | | | | |
| | | | | | | | | | | | | | | 3.5 | | | | | | | | |
| | | | | | | | | | | | | | | 4.0 | | | | | | | | |
| | | | | | | | | | | | | | | 4.5 | | | | | | | | |

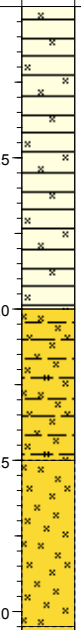
COMMENTS: Borehole refused at 2.1 m. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
2.1m

HAND AUGER LOG

HOLE Id: **HA21**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|------------------------|---|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977698.82 mN (NZTM2000) 1741799.07 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 17/05/2018 |
| R.L.: 173.30m | DRILL METHOD: HA | HOLE FINISHED: 17/05/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | |
|--|-------|-------------------|--------|---|---|---|---|---|---|-------------------------|---|---|---|---------|--------|-----------|--|--------------------|------------|---------------------------------|----------------------|---|---------------|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | |
| Residual Soil | | 100 | HA | | | | | | | | | | ● 153/92 kPa ● 153/73 kPa ● 193/24 kPa ● 150/21 kPa ● UTP | | 173 | 0.5 |  | M | Vst | | | 0.0m: Silty CLAY; dark yellowish brown. Very stiff, moist, low to moderate plasticity. | |
| | | | | 1.0m: Clayey SILT; dark orange brown. Very stiff, moist, low plasticity. | | | | | | | | | | | | | | | | | | | |
| | | | | 1.5m: SILT with minor sand; dark yellowish brown. Very stiff, moist, non plastic. Sand; fine. | | | | | | | | | | | | | | | | | | | |
| | | | | 1.7m: Trace dark brown streaks. | | | | | | | | | | | | | | | | | | | |
| | | | | 2.0m: SILT with minor fine to medium sand; dark yellowish brown. Hard, moist, non plastic. | | | | | | | | | | | | | | | | | | | |
| CW Pakiri | DRY | | | | | | | | | | | | | | | | | | | | | 2.05m: SILT with minor fine to medium sand; dark yellowish brown. Hard, moist, non plastic. | |
| | | | | | | | | | | | | | | | | | | | | | | | 2.1m: Refusal |

COMMENTS: Borehole refused at 2.1 m bgl. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
2.1m

HAND AUGER LOG

| |
|--------------------------------|
| HOLE Id: HA22 |
| Hole Location: Refer site plan |
| SHEET: 1 OF 1 |

| | | |
|---|------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977606.37 mN (NZTM2000) 1741416.16 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 07/06/2018 |
| R.L.: 158.00m | DRILL METHOD: HA | HOLE FINISHED: 07/06/2018 |
| DATUM: NZVD2016 | | DRILLED BY: RLXB |
| | | LOGGED BY: RLXB CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------|-------------------|--------|------------------------------------|---|---|---|---|---|---|-------------------------|--------------|-------|---------|--------|-----------|-------------|-------------------------------------|------------------------------------|--|--|-----|--|--|--|--|--|--|---|-----|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|---|-----|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | 0.0 | 0.0 | W | St | | 0.0m: Organic SILT; dark brown. Stiff, wet, non plastic. Organics; decomposing plant material. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residual Soil | | 100 | HA | | | | | | | | | ● 168/80 kPa | | 0.5 | | M | VSt | | | 1.0m: Silty CLAY; dark yellow mottled light grey. Very stiff, moist, moderate plasticity. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ● 150/77 kPa | 1.0 | | | | | | | 1.1m: Clayey SILT; light brownish grey streaked dark yellow. Very stiff, moist, low to moderate plasticity. | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ● 107/46 kPa | | | | | | | | | 1.5 | | | | | | | | 2.0m: Grades; stiff. 2.1m: Trace fine gravel, dark orange, limonite stained | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ● 83/24 kPa | | | | | | | | | | | | | | | | | | 2.0 | | | | | | | | 2.2m: Sandy SILT, trace pockets of sandy silt, trace clay; dark orange streaked dark yellowish brown. Very stiff, moist, non-plastic. Pockets of sandy silt, trace clay are low plasticity 2.5m: Grades; hard. | | | |
| | | | | | | | | | | | | | | | | | | | | | ● UTP | | | | | | | | | | | | | | | | | | | | | | | | | | | 2.5 | | |
| ● UTP | 3.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ● UTP | | | | | | | | | | | | | | | 3.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

COMMENTS: Borehole refused at 3.0 m. SV# 132 measured undrained shear strength with correction factor of 1.53. No groundwater encountered within borehole.

Hole Depth
3m

Scale 1:25

HandAugerLog - 5/04/2019 11:32:53 a.m. - Produced with Core-GS by GeRoc

HAND AUGER LOG

HOLE Id: **HA23**
 Hole Location: Proposed TP23
 SHEET: 1 OF 1

| | | |
|---|------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977437.00 mN (NZTM2000) 1741566.00 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 11/04/2018 |
| R.L.: 151.00m | DRILL METHOD: HA | HOLE FINISHED: 11/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: DSA |
| | | LOGGED BY: DSA CHECKED: DSAH |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---------------|---|-------|---------|--------|-----------|-------------|------------|--|---|---|--|--|--|--|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | 0.0m: Fine SAND, minor silt, some roots; dark brown. Loose, moist | | | | | | | |
| Residual Soil | 100 | HA | | | | | | | | | ● 206/43 kPa | | | | | | | | | 0.1m: Sandy SILT, minor lenses of topsoil, trace roots; brown mottled yellowish brown. Very stiff, dry to moist, low plasticity | | | | | | | |
| | | | | | | | | | | | Sample @ 0.4m | | | | | | | | | | | | | | | 0.4m: Sandy SILT, trace roots; yellowish brown. Very stiff to hard, dry to moist, low plasticity | |
| | | | | | | | | | | | ● >221 kPa | | | | | | | | | | | | | | | | 0.6m: Minor pinkish red mottles |
| | | | | | | | | | | | ● 212/51 kPa | | | | | | | | | | | | | | | | 0.7m: SILT, some fine sand, trace rootlets; orange brown mottled reddish pink. Very stiff to hard, dry to moist, non plastic to low plasticity |
| | | | | | | | | | | | Sample @ 1.5m | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | ● 184/38 kPa | | | | | | | | 1.5m: Silty fine SAND; pink minor orange brown mottles. Loosely packed, moist | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 2.0m-2.1m: Sandy SILT; pink mottled light grey. Very stiff, moist, non plastic to low plasticity | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 3.5m-3.6m: Pink | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 3.8m-3.85m: Pocket of light brown mottled brown fine SAND | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 4m: Target depth | | | | | | | | |

COMMENTS: Shear Vane No. 111. Presented shear vane readings have been corrected.

Hole Depth
4m

HandAugerLog - 5/04/2019 11:32:54 a.m. - Produced with Core-GS by GeRoc

Scale 1:25

Rev.: A

HAND AUGER LOG

HOLE Id: **HA24**
 Hole Location: Proposed TP24
 SHEET: 1 OF 1

| | | |
|---|------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977319.00 mN (NZTM2000) 1741258.00 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 11/04/2018 |
| R.L.: 116.00m | DRILL METHOD: HA | HOLE FINISHED: 11/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: DSA |
| | | LOGGED BY: DSA CHECKED: DSAH |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---------------|-------------------------------|---------|--------|-----------|-------------|------------|--|--|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | M | VSt | | 0.0m: SILT, minor clay, trace roots; dark brown. Very stiff, moist, low plasticity | |
| Colluvium | | | | | | | | | | | | | ● 139/47 kPa Sample @ 0.2m | | 0.2 | | | | | 0.2m: SILT, minor fine sand, trace clay; trace rootlets; brown. Very stiff, moist, low plasticity | |
| | | | | | | | | | | | | | ● 161/89 kPa | | 0.5 | | | | | 0.5m: Yellowish brown | |
| | | | | | | | | | | | | | ● 155/57 kPa | | 1.0 | | | | | 0.8m: SILT, some fine sand; brown minor black streaks. Very stiff, moist, low plasticity | |
| | | | | | | | | | | | | | Sample @ 1.0m | | 1.0 | | | | | 1.0m: SILT, trace fine sand, trace fine gravel size pockets of whitish grey silt; light brown. Very stiff, moist, low plasticity | |
| Topsoil | | | | | | | | | | | | | Sample @ 1.5m | | 1.5 | | | | | 1.3m: Silty fine SAND; orange brown mottled black, becoming black from 1.4m. Loose, moist | |
| Residual Soil | | | | | | | | | | | | | ● 191/25 kPa | | 2.0 | | | | | 1.5m: Sandy SILT; dark brown. Stiff, moist, non plastic to low plasticity [Buried Topsoil] | |
| | | | | | | | | | | | | | | | 2.5 | | | | 1.6m: Sandy SILT; light brown mottled yellowish brown. Very stiff, moist, low plasticity | | |
| | | | | | | | | | | | | | ● 187/38 kPa Sample @ 2.3m | | 2.3 | | | | 1.9m: Trace black streaks | | |
| | | | | | | | | | | | | | | | 3.0 | | | | 2.0m: Brown, some black streaks | | |
| | | | | | | | | | | | | | ● 108/43 kPa | | 3.5 | | | | | 2.3m: Light brown mottled grey and orange brown | |
| | | | | | | | | | | | | | Sample @ 3.6m | | 3.6 | | | | | 2.5m: Silty fine SAND; orange brown. Loose, moist | |
| | | | | | | | | | | | | Sample @ 3.9m | | 3.9 | | | | | 2.8m: Sandy SILT; brown. Very stiff, wet, low plasticity | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 3.0m: Fine SAND, minor silt, becoming silty fine SAND from 3.1m; brown. Loose, wet | | |
| | | | | | | | | | | | | | | 4.5 | | | | | 3.4m: Dark brown with black streaks | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 3.6m: Brown mottled light brown | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 3.7m: Orange brown | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 3.85m: Silty fine SAND; dark brown. Loose, wet | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 3.95m: Fine SAND, some silt; brown mottled light brown. Loosely packed, wet | | |
| | | | | | | | | | | | | | | 4.0 | | | | | 4m: Target depth | | |

COMMENTS: Shear Vane No. 111. Presented shear vane readings have been corrected.

Hole Depth
4m

Scale 1:25

Rev.: A

HAND AUGER LOG

HOLE Id: **HA25**
 Hole Location: Proposed TP25
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977263.00 mN (NZTM2000) 1741036.00 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 10/04/2018 |
| R.L.: 112.00m | DRILL METHOD: HA | HOLE FINISHED: 10/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: DSA |
| | | LOGGED BY: OPRI |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|----------------------------------|---------------------------------|----------------------|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: Sandy SILT, some roots; dark brown. Firm, wet, low plasticity |
| Residual Soil | 100 | HA | | | | | | | | | | | | | | | | | | | 0.1m: Clayey SILT, minor roots; light orange brown. Very stiff, moist to wet, moderate to high plasticity |
| | | | | | | | | | | | | | | | | | | | | | 0.4m: Some dark orange brown mottles |
| | | | | | | | | | | | | | | | | | | | | | 0.5m: Clayey SILT, minor fine sand; orange brown. Very stiff, moist to wet, moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 1.0m: SILT, some fine sand, trace to minor clay; reddish brown. Very stiff, moist to wet, low to moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 1.3m: Becomes sandy SILT, trace clay; brown with minor black carbonaceous streaks. Very stiff to hard, moist to wet, moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 1.5m: Silty fine SAND; light brown. Loosely packed, moist to wet |
| | | | | | | | | | | | | | | | | | | | | | 1.9m: Sandy SILT; brown. Stiff, moist to wet, low plasticity. Sand is fine to medium. |
| | | | | | | | | | | | | | | | | | | | | | 2.3m: Becomes light brown sandy SILT. Sand is fine |
| | | | | | | | | | | | | | | | | | | | | | 2.5m: Sandy SILT, some pockets of silty fine SAND; light brown. Very stiff, moist to wet, low plasticity |
| | | | | | | | | | | | | | | | | | | | | | 3.0m: Becomes wet |
| | | | | | | | | | | | | | | | | | | | | | 4m: Target depth |

COMMENTS: Shear Vane No. 111. Presented shear vane readings have been corrected.

Hole Depth
4m

HAND AUGER LOG

HOLE Id: **HA26**
 Hole Location: Proposed TP26
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977161.00 mN (NZTM2000) 1740622.00 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 10/04/2018 |
| R.L.: 74.00m | DRILL METHOD: HA | HOLE FINISHED: 10/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: DSA |
| | | LOGGED BY: OPRI |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|------------|---------------------------------|----------------------|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: Sandy SILT, some roots; dark brown. Firm, moist to wet, low plasticity |
| Residual Soil | 100 | HA | | | | | | | | | | | | | | | | | | | 0.1m: Clayey SILT, minor fine sand, some roots, trace topsoil inclusions; brown. Hard, moist, low to moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 0.55m: Fine SAND, trace silt; orange brown. Loosely packed, moist |
| | | | | | | | | | | | | | | | | | | | | | 0.7m: Sandy SILT, trace clay; light brown. Very stiff to hard, moist, low to moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 0.75m: Fine to medium SAND; orange brown. Loosely packed, moist |
| | | | | | | | | | | | | | | | | | | | | | 1.0m: Silty fine SAND, trace roots; orange brown with black streaks. Loosely packed, moist |
| 1.3m: Fine SAND, minor silt; brown. Loosely packed, moist | | | | | | | | | | | | | | | | | | | | | |
| 1.6m: Becomes light brown | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | 4m: Target depth |

COMMENTS: Shear Vane No. 111. Presented shear vane readings have been corrected.

Hole Depth
4m

HAND AUGER LOG

HOLE Id: **HA27**
 Hole Location: Proposed TP27
 SHEET: 1 OF 1

| | | |
|---|------------------------|---------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5977270.00 mN (NZTM2000) 1740222.00 mE | DRILL TYPE: Hand Auger | HOLE STARTED: 10/04/2018 |
| R.L.: 49.00m | DRILL METHOD: HA | HOLE FINISHED: 10/04/2018 |
| DATUM: NZVD2016 | | DRILLED BY: DSA |
| | | LOGGED BY: OPRI |
| | | CHECKED: DSA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|------------|---------------------------------|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/30mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: Sandy SILT, some roots; dark brown. Firm, moist, non plastic to low plasticity |
| Residual Soil | | 100 | HA | | | | | | | | | | | | | | | | | | 0.05m: Fine SAND, trace silt; brown. Loosely packed, dry |
| | | | | | | | | | | | | | | | | | | | | | 0.2m: Sandy SILT, trace rootlets; brown. Very stiff to hard, dry to moist, low to moderate plasticity |
| | | | | | | | | | | | | | | | | | | | | | 0.4m: Fine SAND; light orange brown. Loosely packed, dry to moist |
| | | | | | | | | | | | | | | | | | | | | | 0.6m: Becomes fine SAND, minor silt |
| | | | | | | | | | | | | | | | | | | | | | 0.8m: Fine SAND; light orange brown. Loosely packed, dry to moist |
| | | | | | | | | | | | | | | | | | | | | | 1.1m: Becomes light greyish brown mottled orange brown |
| | | | | | | | | | | | | | | | | | | | | | 1.8m: Sandy SILT; light brown. Very stiff, moist, low plasticity |
| | | | | | | | | | | | | | | | | | | | | | 1.9m: Fine SAND; light greyish brown mottled orange brown. Loosely packed, dry to moist |
| | | | | | | | | | | | | | | | | | | | | | 2.5m: Silty fine SAND; light orange brown. Loosely packed, moist |
| | | | | | | | | | | | | | | | | | | | | | 2.7m: Becomes light greyish brown |
| | | | | | | | | | | | | | | | | | | | | | 2.8m: SILT, trace fine sand; greyish brown. Hard, moist, low plasticity |
| | | | | | | | | | | | | | | | | | | | | | 2.85m: Refusal |

COMMENTS: Shear Vane No. 111. Presented shear vane readings have been corrected.

Hole Depth
2.85m

HAND AUGER LOG

HOLE Id: **HA32**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978610.00 mN (NZTM2000) 1740095.49 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 34.55m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------------------------------|-------------------|---------------|------------------------------------|------------------|---|---|---|---|-------------------------|--------------|--------------|-------|---------------|---------------|------------------|--|-------------------------------------|--|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | 0.0m: SILT; dark brown. Firm, moist, non plastic | |
| Residual Soil | 100 | HA | | | | | | | | | | ● 159/64 kPa | 34 | 0.5 | [Graphic Log] | M | Vst | [Shear Strength] | 0.2m: Clayey SILT; light brown and yellowish brown. Very stiff, most, low plasticity | | |
| | | | | | | | | | | | | ● 116/52 kPa | | | | | | | 0.6m: yellowish brown mottled light greyish white | | |
| | | | | | | | | | | | | ● 112/57 kPa | | | | | | | 1.0m: Stiff | | |
| | | | | | | | | | | | | ● 92/53 kPa | | | | | | | | | |
| | | | | | | | | | | | | ● 96/37 kPa | | | | | | | | | |
| | | | | | | | | | | | | ● 101/49 kPa | | | | | | | 1.8m: Very stiff | | |
| | | | | | | | | | | | | ● 142/56 kPa | | | | | | | | | |
| ● 168/64 kPa | 32 | 2.5 | [Graphic Log] | Vst | [Shear Strength] | 1.9m: SILT, some clay; light greyish white mottled yellowish brown. Very stiff, moist, low plasticity | | | | | | | | | | | | | | | |
| ● 175/52 kPa | | | | | | 2.7m: SILT; white mottled orange brown. Very stiff, moist, non plastic | | | | | | | | | | | | | | | |
| CW Northland Allochthon | DRY: 13/08/2018 on completion | | | | | | | | | | ● 172/63 kPa | 31 | 3.5 | [Graphic Log] | | [Shear Strength] | 3.5m: SILT; grey. Very stiff, moist, non plastic | | | | |
| | | | | | | | | | | | ● 115/72 kPa | | | | | | | | | | |
| | | | | | | | | | | | ● 132/58 kPa | | | | | | | | | | |
| | | | | | | | | | | | ● 161/98 kPa | 30 | 4.0 | [Graphic Log] | | [Shear Strength] | 4m: Target depth | | | | |
| | | | | | | | | | | ● 194/76 kPa | | | | | | | | | | | |

COMMENTS:

Hole Depth
4m

HAND AUGER LOG

HOLE Id: **HA33**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978708.37 mN (NZTM2000) 1740176.02 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 35.22m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|---------------------------------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|-------------|------------|---------------------------------|--|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | 35 | | TS | M | Vst | | 0.0m: SILT; dark brown. Firm, moist, non plastic 0.1m: yellowish brown and brown | |
| Residual Soil | | | | | | | | | | | | | ● 147/52 kPa | | | | | St | | 0.3m: Clayey SILT; yellowish brown. Very stiff, moist, low plasticity 0.5m: stiff, low to medium plasticity 0.6m: medium plasticity, yellowish brown mottled light greyish white | |
| | | | | | | | | | | | | | ● 98/46 kPa | 0.5 | | | | | | | |
| | | | | | | | | | | | | | ● 87/49 kPa | | | | | | | | |
| | | | | | | | | | | | | | ● 69/37 kPa | 1.0 | | | | | | | |
| | | | | | | | | | | | | | ● 58/26 kPa | 1.5 | | | | | | 1.4m: low plasticity | |
| | | | | | | | | | | | | | ● 72/29 kPa | | | | | | | 1.5m: SILT, some clay; yellowish brown mottled light greyish white. Stiff, moist, low plasticity to non plastic | |
| | | | | | | | | | | | | | ● 115/38 kPa | 2.0 | | | | Vst | | 1.6m: Clayey SILT; yellowish brown and light grey. Stiff, moist, low to medium plasticity | |
| | | | | | | | | | | | | | ● 149/49 kPa | 2.5 | | | | | | 1.8m: SILT, some clay; light brownish white. Stiff, moist, low plasticity 2.0m: Very stiff | |
| | | | | | | | | | | | | | ● >201 kPa | | | | | | | 2.2m: non plastic, yellowish brown mottled light brown | |
| | | | | | | | | | | | | | ● 132/47 kPa | 3.0 | | | | | | 2.6m: brown and light greenish grey | |
| CW Northland Allochthon | 13/08/2018 3.5m water inflow | | | | | | | | | | | | ● 132/57 kPa | 3.5 | | | | | | 2.9m: SILT; light grey and brown. Very stiff, moist, non plastic | |
| | | | | | | | | | | | | | ● 150/21 kPa | | | | | | 3.5m: water inflow | | |
| | | | | | | | | | | | | | ● 161/76 kPa | 4.0 | | | | | | 3.7m: grey, with minor gravel | |
| | | | | | | | | | | | | | | 4.0 | | | | | | 4m: Target depth | |

COMMENTS:

Hole Depth
4m

Scale 1:25

HAND AUGER LOG

HOLE Id: **HA34**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978584.22 mN (NZTM2000) 1740249.40 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 43.35m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|-------------|------------|---|--|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | M | Vst | | 0.0m: SILT; dark brown becoming brown and yellowish brown from 0.1m. Very stiff, moist, non plastic; | |
| Residual Soil | 100 | HA | | | | | | | | | | | ● 138/61 kPa | 43 | | | St-Vst | | 0.3m: Clayey SILT; yellowish brown. Very stiff, moist, medium plasticity | | |
| | | | | | | | | | | | | | ● 101/55 kPa | 0.5 | | | | | 0.9m: low plasticity, yellowish brown and light greyish white | | |
| | | | | | | | | | | | | | ● 98/46 kPa | 1.0 | | | | | | | |
| CW Northland Allochthon | 100 | HA | | | | | | | | | | | ● 89/53 kPa | 42 | | | Vst | | 1.7m: SILT; light brownish grey mottled yellowish brown. Very stiff, moist, non plastic | | |
| | | | | | | | | | | | | | ● 101/43 kPa | 1.5 | | | | | | | |
| | | | | | | | | | | | | | ● 125/44 kPa | 2.0 | | | | | | | |
| | | | | | | | | | | | | | ● 167/76 kPa | 2.5 | | | | | | | |
| | 100 | HA | | | | | | | | | | | ● 190/70 kPa | 41 | | | Vst-H | | 2.6m: SILT; dark brown and grey. Very stiff to hard, non plastic, moist | | |
| | | | | | | | | | | | | | ● >201 kPa | 3.0 | | | | | 2.9m: dry to moist, grey mottled orange brown | | |
| | | | | | | | | | | | | | ● >201 kPa | 3.5 | | | | | | | |
| | | | | | | | | | | | | | ● 184/52 kPa | 40 | | | | | | | |
| | | | | | | | | | | | | | ● UTP | 4.0 | | | | | | 4m: Target depth | |
| | | | | | | | | | | | | | | 39 | | | | | | | |
| | | | | | | | | | | | | | | 4.5 | | | | | | | |

COMMENTS:

Hole Depth
4m

HAND AUGER LOG

HOLE Id: **HA35**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978553.83 mN (NZTM2000) 1740421.92 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 47.58m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | |
|--|-------------------------------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|------------|--------------------|---------------------------------|--|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | | 0.0m: SILT; brown. Very stiff, moist, non plastic | |
| Residual Soil | 100 | HA | | | | | | | | | | | | | | | | | | | 0.1m: Clayey SILT; light grey mottled yellowish brown. Very stiff, moist, low plasticity | |
| | | | | | | | | | | | | | | | | | | | | | 0.5m: medium plasticity, light greyish white mottled yellowish brown | |
| | | | | | | | | | | | | | | | | | | | | | | |
| CW Northland Allochthon | DRY: 13/08/2018 on completion | | | | | | | | | | | | | | | | | | | | 1.8m: SILT with limestone gravel; grey and brown. Hard, moist, non plastic | |
| | | | | | | | | | | | | | | | | | | | | | 2.35m: dry, friable, grey, difficult to auger | |
| | | | | | | | | | | | | | | | | | | | | | 2.6m: non plastic, moist, greyish brown | |
| | | | | | | | | | | | | | | | | | | | | | 3.0m: very hard to auger | |
| | | | | | | | | | | | | | | | | | | | | | 3m: Refusal | |

COMMENTS:

Hole Depth
3m

Scale 1:25

HAND AUGER LOG

HOLE Id: **HA36**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978418.00 mN (NZTM2000) 1740296.09 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 56.76m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------------------------------|-------------------|--------|------------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|---------|--------|-----------|-------------|----------------------------------|------------------------------------|-------------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | ● 188/53 kPa | | 56.76 | 0.0 - 0.2 | TS | M | Vst | 100 | 0.0m: SILT; dark brown. Very stiff, moist, non plastic 0.2m: brown and yellowish brown |
| Residual Soil | 100 | HA | | | | | | | | | | | ● 136/60 kPa | | 56 | 0.2 - 0.5 | | | | 100 | 0.5m: Clayey SILT; yellowish brown. Very stiff, moist, low plasticity |
| | | | | | | | | | | | | | ● 115/57 kPa | | 56 | 0.5 - 1.0 | | | | 100 | 1.0m: SILT, some clay; yellowish brown mottled light greyish white. Very stiff, moist, low to no plasticity |
| | | | | | | | | | | | | | ● 118/57 kPa | | 56 | 1.0 - 1.5 | | | | 100 | |
| | | | | | | | | | | | | | ● 116/49 kPa | | 56 | 1.5 - 2.0 | | | | 100 | |
| CW Northland Allochthon | DRY: 13/08/2018 on completion | | | | | | | | | | | | ● 168/52 kPa | | 55 | 2.0 - 2.5 | | | | 100 | 1.8m: SILT; light brownish grey. Very stiff, moist, non plastic |
| | | | | | | | | | | | | | ● 127/40 kPa | | 55 | 2.5 - 2.6 | | | | 100 | 2.6m: SILT; grey and brown. Hard, dry to moist, non plastic |
| | | | | | | | | | | | | | ● 172/61 kPa | | 54 | 2.6 - 3.0 | | D-M | H | 100 | 3.2m: becomes grey, dry, friable |
| | | | | | | | | | | | | | ● >201 kPa | | 54 | 3.0 - 3.2 | | | | 100 | 3.2m: Refusal |
| | | | | | | | | | | | | | ● UTP | | 53 | 3.2 - 3.5 | | | | 100 | |
| | | | | | | | | | | | | | | | 53 | 3.5 - 4.0 | | | | 100 | |
| | | | | | | | | | | | | | | | 52 | 4.0 - 4.5 | | | | 100 | |
| | | | | | | | | | | | | | | | 52 | 4.5 - 5.0 | | | | 100 | |

COMMENTS:

Hole Depth
3.2m

Scale 1:25

HAND AUGER LOG

HOLE Id: HA37
Hole Location: Refer site plan
SHEET: 1 OF 1

PROJECT: Auckland Regional Landfill LOCATION: Wayby Valley JOB No.: 1005069.1120
CO-ORDINATES: 5978278.52 mN (NZTM2000) 1740901.78 mE DRILL TYPE: 50mm hand auger HOLE STARTED: 13/08/2018
R.L.: 74.45m DRILL METHOD: HA HOLE FINISHED: 13/08/2018
DATUM: NZVD2016 LOGGED BY: RBE CHECKED: AGRA

| GEOLOGICAL | | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------|-------------------|--------|---------------------------------|---|---|---|---|---|---|-------------------------|--|-------|---------|--------|-----------|-------------|------------|---|---------------------------------|---|---|--|--|--|--|------|-----|--|--|--|--|--|--|--|------|-----|--|--|--|--|--|--|------|-----|--|--|--|------------------|--|--|------|-----|--|--|--|--|--|--|------|-----|--|--|--|--|--|--|------|-----|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | MOISTURE CONDITION | STRENGTH/DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | 74.45 | 0.0 | TS | M | VSt | 10 | 0.0m: SILT; dark brown then brown and yellowish brown. Very stiff, moist, non plastic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CW Pakiri | 100 | HA | | | | | | | | | | <ul style="list-style-type: none"> 124/49 kPa 161/58 kPa UTP UTP >201 kPa >201 kPa >201 kPa 184/40 kPa 173/29 kPa >201 kPa UTP UTP 178/33 kPa | 74.0 | 0.5 | | | | | 0.2m: SILT; yellowish brown. Very stiff, moist, non plastic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | VSt-H | | 0.7m: Sandy SILT; yellowish brown. Very stiff, moist, non plastic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | 73.0 | 1.0 | | | 0.9m: friable, brown, difficult to auger | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 72.0 | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 71.0 | 2.0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 70.0 | 2.5 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 70.0 | 3.0 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 70.0 | 3.5 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4m: Target depth | | | | | | | | | | | | | | | | | | | | | | |

COMMENTS:

Hole Depth 4m

HAND AUGER LOG

HOLE Id: **HA38**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978256.02 mN (NZTM2000) 1740377.47 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 55.08m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------------------------------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|-------|---------|--------|-----------|-------------|----------------------------------|--|----------------------|---|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING MOISTURE CONDITION | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | 55 | 0.0 | | M | Vst | 0.0m: SILT; dark brown. Very stiff, moist, non plastic | | |
| Residual Soil | 100 | HA | | | | | | | | | | | | 54 | 0.2 | | St-VSt | | 0.2m: SILT; orange brown. Very stiff, moist, non plastic | | |
| | | | | | | | | | | | | | | | | | | | 1.0m: dark brown mottled black | | |
| CW Northland Allochthon | DRY: 13/08/2018 on completion | | | | | | | | | | | | | 1.5 | 1.5 | | D-M | H | 1.5m: Sandy SILT and silty SAND; yellowish brown mottled blackish brown. Hard, moist, non plastic 1.7m: grey, dry | | |
| | | | | | | | | | | | | | | 53 | 2.0 | | | | 1.8m: Refusal | | |
| | | | | | | | | | | | | | | 52 | 2.5 | | | | | | |
| | | | | | | | | | | | | | | 51 | 3.0 | | | | | | |
| | | | | | | | | | | | | | | 50 | 3.5 | | | | | | |
| | | | | | | | | | | | | | | 49 | 4.0 | | | | | | |
| | | | | | | | | | | | | | | 48 | 4.5 | | | | | | |

COMMENTS:

Hole Depth
1.8m

HAND AUGER LOG

| | | |
|--|------------------------------------|--|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978128.09 mN (NZTM2000) 1740905.62 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 76.90m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | | | |
|--|-------|-------------------|-------------------|------------------------------------|---|---|---|--------------|---|-------------------------|---|--------------|-------|---------|--------|-----------|-------------|------------|------------------------------------|--|--|--|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations | | |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | | | | 0.0m: SILT; dark brown. Very stiff, moist, non plastic 0.1m: SILT; orange brown. Very stiff, moist, non plastic | | | |
| CW Pakiri | 100 | HA | DRY 13/08/2018 | | | | | | | | | ● 184/75 kPa | | 76 | | | | | | | 0.8m: Sandy SILT; orange brown. Very stiff, moist, non plastic | | |
| | | | | | | | | | | | | ● 161/75 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● 145/52 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● 164/75 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● >201 kPa | | | | | | | | | | 1.2m: SILT; orange brown. Very stiff to hard, moist, non plastic 1.5m: reddish orange brown | |
| | | | | | | | | | | | | ● >201 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● >201 kPa | | | | | | | | | | | 1.7m: Sandy SILT; reddish orange brown. Hard, moist, non plastic |
| | | | | | | | | | | | | ● 187/20 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● 153/26 kPa | | | | | | | | | | | |
| | | | | | | | | | | | | ● 107/27 kPa | | | | | | | | | | | 2.0m: SILT; pinkish brown. Very stiff, moist, non plastic 2.1m: Sandy SILT; light brown. Hard, moist, non plastic |
| | | | | | | | | ● 178/58 kPa | | | | | | | | | | | | | | | |
| | | | | | | | | ● >201 kPa | | | | | | | | | | | | | | | |
| | | | | | | | | ● >201 kPa | | | | | | | | | | | | | | | |
| | | | | | | | | ● >201 kPa | | | | | | | | | | | | | | | |
| | | | | | | | | ● >201 kPa | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 4m: Target depth | | | | |

COMMENTS:

Hole Depth
4m

Scale 1:25

HAND AUGER LOG

HOLE Id: **HA40**
 Hole Location: Refer site plan
 SHEET: 1 OF 1

| | | |
|---|-----------------------------|------------------------------|
| PROJECT: Auckland Regional Landfill | LOCATION: Wayby Valley | JOB No.: 1005069.1120 |
| CO-ORDINATES: 5978107.74 mN (NZTM2000) 1740358.97 mE | DRILL TYPE: 50mm hand auger | HOLE STARTED: 13/08/2018 |
| R.L.: 59.54m | DRILL METHOD: HA | HOLE FINISHED: 13/08/2018 |
| DATUM: NZVD2016 | | DRILLED BY: GEOTECHNICS |
| | | LOGGED BY: RBE CHECKED: AGRA |

| GEOLOGICAL | | | | | | | | | | ENGINEERING DESCRIPTION | | | | | | | | | | | |
|--|-------|-------------------|--------|---------------------------------|---|---|---|---|---|-------------------------|---|---|--------------|--------------|--------|-----------|-------------|------------|--|---|--|
| GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION | WATER | CORE RECOVERY (%) | METHOD | SCALA PENETROMETER (Blows/50mm) | | | | | | | | | TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | WEATHERING | STRENGTH DENSITY CLASSIFICATION | SHEAR STRENGTH (kPa) | Description and Additional Observations |
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | |
| Topsoil | | | | | | | | | | | | | | | | | M | Vst | | 0.0m: SILT; brown. Very stiff, moist, non plastic | |
| Residual Soil | | 100 | HA | | | | | | | | | | ● 138/49 kPa | | | | St-Vst | | 0.1m: Clayey SILT; yellowish brown. Very stiff, moist, medium plasticity | | |
| | | | | | | | | | | | | | | ● 112/52 kPa | | | | | | 0.4m: Clayey SILT; yellowish brown. Stiff to very stiff, moist, medium plasticity | |
| | | | | | | | | | | | | | | ● 84/34 kPa | | | | | | | 1.0m: low plasticity, yellowish brown mottled light brown |
| CW Northland Allochthon | | 100 | HA | | | | | | | | | | ● 112/43 kPa | | | | Vst-H | | 1.4m: SILT, with minor limestone gravel; light brown. Very stiff to hard, moist, non plastic | | |
| | | | | | | | | | | | | | ● 184/55 kPa | | | | | | | | 1.9m: SILT; light yellowish grey. Very stiff to hard, moist, non plastic |
| | | | | | | | | | | | | | ● >201 kPa | | | | | | | | 2.2m: dry to moist light greyish brown, minor limestone gravel |
| | | | | | | | | | | | | | ● 152/52 kPa | | | | | | 2.6m: dry to moist, friable, grey, refusal at 2.7 | | |
| | | | | | | | | | | | | | ● UTP | | | | | | | | |
| | | | | | | | | | | | | | ● UTP | | | | | | | | 2.7m: Refusal |

COMMENTS:

Hole Depth
2.7m

Scale 1:25

Test Pit Logs

EXCAVATION LOG

EXCAVATION No.: **TP3**

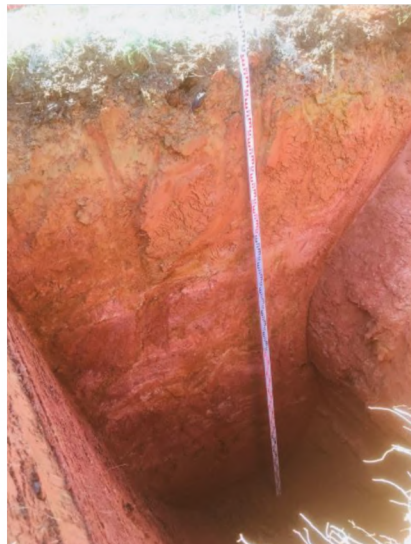
Hole Location: Refer Site Plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5977349.00 mN (NZTM2000) 1742551.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 05/04/2018 | |
| R.L.: 178.40m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 05/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | |
|------------------|---------|-------|-------------------------------------|--|---------|--------|-------------|-------------|--|----------------------------------|------------------------------------|--------------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE WEATHERING CONDITION | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1-3 | | | 1-18 | <ul style="list-style-type: none"> ● 37/19 kPa ● 139/63 kPa ● 80/28 kPa | | 178 | 0.0m | TS | 0.0m: SILT, some roots; brown. Firm, wet, low plasticity | W / RS | F | | | Tsoil |
| | | | | ● 108/31 kPa | | 177 | 0.2m | | 0.2m: SILT, some fine sand, minor rootlets; reddish brown, trace black streaks. Stiff to very stiff, moist to wet, low plasticity | M-W / RS | St-Vst | | | Residual Soil |
| | | | | ● 105/28 kPa Sample Bulk Bag @ 1.0m | | 177 | 0.15 - 0.3m | | 0.15 - 0.3m: Organic CLAY with decomposing wood fragments; light brown. Firm, wet, high plasticity [only present in eastern side of TP - SV 37/19 kPa] | | | | | |
| | | | | ● 93/31 kPa | | 177 | 0.2 - 0.3m | | 0.2 - 0.3m: Clayey SILT, minor rootlets; orange brown, trace black streaks. Stiff to very stiff, moist to wet, moderate plasticity [only present in northern side of TP - SV 139/63 kPa] | | | | | |
| | | | | | | 177 | 0.5m | | 0.5m: Some lenses of Sandy SILT, non-plastic to low plasticity. Trace rootlets. | | | | | |
| | | | | Sample Bulk Bag @ 3.0m ● 118/31 kPa | | 176 | 1.8m | | 1.8m: Silty fine SAND, with lenses of fine SAND, trace rootlets; light pink mottled light grey and orange brown. Loosely packed, moist to wet. | | L | | | |
| | | | | ● 87/37 kPa | | 175 | 2.8m | | 2.8m: SILT, trace clay, trace lenses of reddish pink fine SAND; light pink mottled orange brown, yellowish brown and light grey. Very stiff, moist to wet, low plasticity | | Vst | | | |
| | | | | | | 175 | 3.5m | | 3.5m: Silty fine SAND, some pockets of SILT, minor fine sand; light pink mottled light grey and orange brown. Loosely packed, moist to wet. | | L | | | |
| | | | | | | 174 | 4.0m | | 4m: Target depth | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

EXCAVATION LOG

EXCAVATION No.: **TP6**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978152.00 mN (NZTM2000) 1742834.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 04/04/2018 | |
| R.L.: 211.40m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 04/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|----------------------------------|-------------------------|---------|--------|-----------|-------------|--|--------------------|------------|---------------------------------|--------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1-3 | | | 2 | | | 211 | 0.0m | | 0.0m: Sandy SILT, some roots; dark brown. Firm, wet, low plasticity | W | | F | | | Tsoli |
| | | | 3 | | | 211 | 0.1m | | 0.1m: Fine to coarse GRAVEL, some silt, minor fine sand; brown. Loosely packed, wet. | | | | | | Fill |
| | | | 3 | | | 211 | 0.3m | | 0.3m: SILT, trace clay; brown mottled grey and orange brown. Very stiff, wet, moderate plasticity | M | | St | | | Tsoli |
| | | | 4 | ● 136/37 kPa | | 211 | 0.5m | | 0.5m: Sandy SILT trace rootlets; dark brown. Very stiff, moist, low plasticity | | | | | | Residual Soil |
| | | | 4 | Sample Bulk Bag @ 0.8m | | 211 | 0.7m | | 0.7m: SILT, minor to some fine sand, trace clay; light brown. Stiff, moist to wet, low plasticity | | | | | | |
| | | | 5 | ● 77/19 kPa | | 211 | 0.9m | | 0.9m: Becoming sandy silt; light orange brown | | | | | | |
| | | | 8 | | | 210 | 1.5m | | 1.5m: Sandy SILT; white mottled orange brown. Very stiff, moist, non plastic to low plasticity | | | Vst | | CW Pakiri | |
| | | | 10 | ● >216 kPa | | 210 | 2.3m | | 2.3m: Becoming moderately hard to excavate. | | | | | | |
| | | | 11 | Sample Bulk Bag @ 1.8m | | 210 | 2.7m | | 2.7m: Sandy SILT, some fine to coarse gravel size fragments of slightly to moderately weathered, extremely weak to very weak SILTSTONE; white with orange brown limonite staining on defect surfaces. Very stiff to hard, moist, non plastic to low plasticity, fissile. | | | Vst-H | | | |
| | | | 12 | ● >216 kPa | | 209 | 3.0m | | 3.0m: END OF INVESTIGATION | | | | | HW Pakiri | |
| | | | 12 | ● UTP | | 208 | | | | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
3m

Scale 1:29

EXCAVATION LOG

EXCAVATION No.: **TP8**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978080.00 mN (NZTM2000) 1741963.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 05/04/2018 | |
| R.L.: 142.40m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 05/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|-------------------------------------|-------------------------|------------------------|--------|-----------|-------------|--|-----------------------|------------|------------------------------------|--------------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1 2 3 | | | 2 4 6 8 10 12 14 16 18 | | | | | | | | | | 10 25 50 100 200 | | |
| | | | 1 | ● 60/12 kPa | | 142 | 0.0m | TS | 0.0m: Sandy SILT, trace angular gravel and cobbles, trace rootlets; brown. Firm, wet, low plasticity | W | F | | | | Tsoil |
| | | | 2 | | | | 0.2m | | 0.2m: Sandy SILT; pinkish red, trace organic black streaks. Stiff, moist to wet, non plastic to low plasticity. Sand is fine to medium. | M-W | St | | | | Residual Soil |
| | | | 3 | ● 68/20 kPa | | | 1.0m | | | | | | | | |
| | | | 4 | | | | 1.5m | | | | | | | | |
| | | | 5 | ● 92/23 kPa | Sample Bulk Bag @ 1.5m | 141 | 2.1m | | 2.1m: Grading to silty fine to medium SAND; pinkish red. Loosely packed, moist to wet. | M | | | | | |
| | | | 6 | ● 78/26 kPa | | | 2.6m | | 2.6m: Clayey SILT, minor sand; light brown mottled yellowish brown, light grey and reddish brown. Stiff to very stiff, moist, low to moderate plasticity | | St-VSt | | | | |
| | | | 7 | ● 98/35 kPa | | | 3.5m | | 3.5m: SILT, minor clay, some pockets of silty fine sand and sandy silt; light grey mottled yellowish brown and reddish brown, trace black streaks, minor limonite staining. Stiff, moist, low plasticity, fissile. | | St | | | | |
| | | | 8 | ● 98/20 kPa | | | 4.0m | | | | | | | | |
| | | | 9 | ● 129/43 kPa | Sample Bulk Bag @ 3.8m | 139 | 4.1m | | 4.1m: Target depth | | | | | | |
| | | | 10 | ● 75/40 kPa | | | | | | | | | | | |
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SKETCH / PHOTO:



COMMENTS:

Hole Depth
4.1m

Scale 1:37

EXCAVATION LOG

EXCAVATION No.: **TP10**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978696.00 mN (NZTM2000) 1742785.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 04/04/2018 | |
| R.L.: 237.20m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 04/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|-------------------------------------|---------------------------------------|---------|--------|-----------|---|--|-----------------------|------------|------------------------------------|--------------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| | | | | | | | | | | | | | | | |
| 1-3 | | | 2-18 | ● 79/36 kPa Sample Bulk Bag @ 0.1m | | 237 | 0.0m | 0.0m: Sandy SILT, some roots; brown. Firm, wet, low plasticity | | W | F | St | | | Top Soil |
| | | | | ● 63/35 kPa | | | 0.1m | 0.1m: Clayey SILT, trace roots; light brown. Stiff, wet, low to moderate plasticity | | | | | | | |
| | | | | ● 65/36 kPa Sample Bulk Bag @ 1.0m | | | 0.3m | 0.3m: Clayey SILT, minor roots, some pockets of organic grey silty clay; orange brown. Stiff, wet, moderate plasticity [organic odour] | | | | | | | |
| | | | | ● 63/37 kPa | | 236 | 1.0m | 1.0m: Organic silty CLAY, minor roots; greyish brown and dark grey. Stiff, wet, moderate to high plasticity | | | | | | | |
| | | | | ● 66/37 kPa | | | 1.5m | | | | | | | | |
| | | | | ● 115/52 kPa | | | 2.0m | 1.9m: Sandy SILT; orange brown. Very stiff, moist, low plasticity | | M | St-Vst | | | | Residual Soil |
| | | | | ● 93/29 kPa | | | 2.5m | 2.4m: Sandy SILT; light pink mottled reddish pink & orange brown. Stiff, wet, non plastic to low plasticity | | W | St | | | | |
| | | | | Sample Bulk Bag @ 3.0m | | | 3.0m | | | | | | | | |
| | | | | ● 43/13 kPa | | 234 | 3.2m | 3.2m: Sandy SILT, some pockets of orange brown silty fine SAND; Light pink, minor black staining. Firm to stiff, wet, non plastic to low plasticity. | | | | F-St | | | |
| | | | | ● 49/17 kPa | | | 3.5m | | | | | | | | |
| | | | | ● 29/14 kPa ● 43/14 kPa | | | 4.0m | 4.0m: SILT, some fine sand, some lenses of fine sand and silty fine sand; light pink mottled reddish pink, light grey and orange brown. Firm to stiff, wet, non plastic to low plasticity | | | | | | | |
| | | | | | | | 4.5m | 4.5m: Target depth | | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4.5m

Scale 1:42

EXCAVATION LOG

EXCAVATION No.: **TP11**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978548.00 mN (NZTM2000) 1742406.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 04/04/2018 | |
| R.L.: 206.30m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 04/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|----------------------------------|-----------------------------------|------------------------|--------|-----------|-------------|---|--------------------|------------|---------------------------------|--|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1 2 3 | | | 2 4 6 8 10 12 14 16 18 | | | | | | | | | | 10 20 30 40 50 60 70 80 90 100 200 | | |
| | | | 10 | | | | | | 0.0m: Sandy SILT, some roots; dark brown. Stiff, moist, low plasticity | M | F | | | | Tsoli |
| | | | 6 | • >201 kPa Sample Bulk Bag @ 0.3m | | 206 | | | 0.2m: Silty fine to medium SAND; reddish orange and pinkish red, some black streaks. Loosely packed, wet. | W | L | | | | Residual Soil |
| | | | 4 | • 129/20 kPa | | 0.5 | | | | | | | | | |
| | | | 5 | | | 1.0 | | | | | | | | | |
| | | | 4 | • 164/22 kPa | | 205 | | | | | | | | | |
| | | | 2 | | | 1.5 | | | 1.6m: Fine to medium SAND, minor silt; orange brown mottled yellow brown and reddish orange. Loosely packed, wet | | | | | | |
| | | | 3 | | | 2.0 | | | 1.8m: Yellowish brown with minor black streaks | | | | | | |
| | | | 5 | | Sample Bulk Bag @ 1.8m | 204 | | | | | | | | | |
| | | | 6 | | | 2.5 | | | | | | | | | |
| | | | 6 | | | 3.0 | | | | | | | | | |
| | | | 6 | | | 3.5 | | | 3.2m: Fine to medium SAND, minor silt; light brown, with yellowish brown and orange brown limonite staining and minor black carbonaceous streaks. Loosely packed, moist. [Recovered as angular cobbles size blocks] | M | | | | | CW Pakiri |
| | | | 7 | | | 4.0 | | | 3.5m: Grading to fine to coarse SAND, trace silt | | | | | | |
| | | | 6 | | Sample Bulk Bag @ 3.9m | 203 | | | | | | | | | |
| | | | 11 | | | 202 | | | 4m: Target depth | | | | | | |
| | | | 9 | | | | | | | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

EXCAVATION LOG

EXCAVATION No.: **TP12**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978713.00 mN (NZTM2000) 1742026.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 05/04/2018 | |
| R.L.: 184.80m | | EQUIPMENT: 13 tonne excavator | | EXCAV. FINISHED: 05/04/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | | GEOLOGICAL | | | | | | |
|----------------------------|---------|-------|---|--|---------|--------|--|---|--|-----------------------|------------|------------------------------------|--------------------------------------|--|---------------|
| PENETRATION 1 2 3 | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) 2 4 6 8 10 12 14 16 18 | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| | | | | | | | | | | | | | | | |
| | | | | ● 155/29 kPa | | 184.8 | 0.0 | 0.0m: Sandy SILT, some roots; brown. Firm, wet, low plasticity | W | | F-St | | | | Tsoil |
| | | | | ● 58/14 kPa | | | 0.1m: SILT, some fine to coarse gravel and cobbles, minor clay, some decomposing wood; brown mottled orange brown. Firm, wet, low to moderate plasticity | M-W | | Vst | | | | | |
| | | | | ● 75/32 kPa Sample Bulk Bag @ 1.3m | | | 0.2m: Pocket of organic clayey SILT; grey, moderate to high plasticity | | | | | | | | |
| | | | | ● 72/58 kPa | | | 0.2m: Sandy SILT, trace rootlets; pink mottled dark orange brown and light brown, some black streaks. Stiff to very stiff, moist to wet, non plastic to low plasticity. Sand is fine to medium. | | | | | | | | |
| | | | | ● 101/75 kPa | | | 2.2m: Silty fine to medium SAND, trace pockets of silt, minor sand; pink mottled light brown and orange brown, minor black streaks. Loosely packed, moist to wet. 2.3m: Light brown mottled yellow brown and orange brown, minor black streaks | | | L | | | | | Residual Soil |
| | | | | Sample Bulk Bag @ 3.8m | | | 3.4m: Grading to fine to coarse SAND, minor to some silt; light brown minor yellow brown and orange brown mottles. Loosely packed, moist to wet | | | | | | | | |
| | | | | | | | 4.0m: Target depth | | | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

Rev.: A

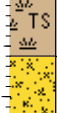
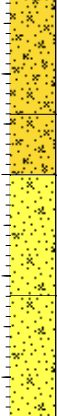
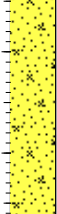
EXCAVATION LOG

EXCAVATION No.: **TP28**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--------------------------------|-----------------------------|--|-----------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5977551.00 mN (NZTM2000) 1743010.00 mE | EXPOSURE METHOD: TP | EXCAV. STARTED: 02/05/2018 | | | |
| R.L.: 233.00m | EQUIPMENT: 13 Tonne excavator | EXCAV. FINISHED: 02/05/2018 | | | |
| DATUM: NZVD2016 | OPERATOR: Clear Water Dredging | LOGGED BY: DSA | | CHECKED BY: DSAH | |
| DIMENSIONS: 3.5m by 1.8m | | | | | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|-------------------------------------|--|---------|--------|-----------|---|---|-----------------------|------------|------------------------------------|--------------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1 2 3 | | | 2 4 6 8 10 12 14 16 18 | <ul style="list-style-type: none"> 66/25 kPa 81/25 kPa Sample Bulk Bag @ 0.5m | | 232 | 0.0 - 0.5 |  | <p>0.0m: Organic sandy SILT, some roots; dark brown. Firm, wet, low plasticity</p> <p>0.3m: SILT, minor fine sand; light brown. Stiff, wet, low plasticity</p> | W | F | 10 25 50 100 200 | | Tsoil | |
| | | | | <ul style="list-style-type: none"> 120/19 kPa Sample Bulk Bag @ 1.5m | | 231 | 0.5 - 2.7 |  | <p>1.2m: Sandy SILT; light brown, minor black staining. Very stiff, wet, non-plastic to low plasticity</p> <p>1.5m: Fine SAND, minor silt; light brown minor grey and reddish brown mottles. Loosely packed, wet</p> <p>2.1m: Fine SAND, minor silt; reddish brown, minor black carbonaceous streaks. Loosely packed, wet</p> | | St | | Vst | | Residual Soil |
| | | | | <ul style="list-style-type: none"> Sample Bulk Bag @ 3.0m | | 230 | 2.7 - 3.5 |  | <p>2.7m: Fine SAND; light greyish brown, some black carbonaceous streaks. Loosely packed, wet</p> <p>3.0 - 3.5m: Boulder size corestone approx 0.8m by 0.5m comprising slightly weathered, dark grey, fine SANDSTONE. Very weak to weak. Outer part of core stone recovered as angular cobble size blocks of extremely weak fine SANDSTONE with black carbonaceous staining</p> | | L | | | | CW Pakiri |
| | | | | | | 229 | 4.0 | | 4m: Target depth | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37




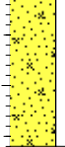
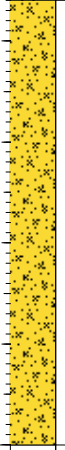
EXCAVATION LOG

EXCAVATION No.: **TP29**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5977561.00 mN (NZTM2000) 1741758.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 02/05/2018 | |
| R.L.: 200.30m | | EQUIPMENT: 13 Tonne excavator | | EXCAV. FINISHED: 02/05/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|----------------------------------|---------------------------------------|---------|--------|------------|--|---|--------------------|------------|---------------------------------|--------------------------------|--|---------------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1-3 | | | 2-18 | ● 166/47 kPa | | 200 | 0.0m |  | 0.0m: Sandy SILT, some roots; dark brown. Firm, wet, low plasticity | | | Vst | 10-20 | | Tsoil |
| | | | | ● 63/19 kPa Sample Bulk Bag @ 1.0m | | 199 | 0.05m |  | 0.05m: SILT, minor clay, trace fine sand; yellowish brown. Very stiff, wet, moderate plasticity [absent on road-side of test pit] | | | St | 20-30 | | |
| | | | | | | 198 | 0.3m |  | 0.3m: SILT, minor to some fine sand, some pockets of silty fine SAND; reddish brown. Stiff, wet, non plastic to low plasticity | | | L | 30-40 | | |
| | | | | Sample Bulk Bag @ 2.0m | | 197 | 0.6m |  | 0.6m: Becomes silty fine SAND, some pockets of sandy silt; reddish brown. Loosely packed, wet | | | Vst | 40-50 | | Residual Soil |
| | | | | ● 209/51 kPa | | 196 | 1.8m |  | 1.8m: SILT, minor to some fine sand, some pockets of silty fine SAND; light pink mottled orange brown and grey. Very stiff to hard, wet, low plasticity | | | | | | |
| | | | | ● 171/28 kPa | | | 3.7 - 4.0m | | 3.7 - 4.0m: Boulder size corestone (approx 300mm by 200mm) comprising moderately weathered, brown, fine SANDSTONE. Very weak. | | | | | | |
| | | | | 21 >> | | | 4m | | 4m: Target depth | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

EXCAVATION LOG

EXCAVATION No.: **TP30**

Hole Location: Refer site plan

SHEET: 1 OF 1

| | | | | | |
|---|--|--------------------------------|--|-----------------------------|--|
| PROJECT: Auckland Regional Landfill | | LOCATION: Wayby Valley | | JOB No.: 1005069.1120 | |
| CO-ORDINATES: 5978053.00 mN (NZTM2000) 1741268.00 mE | | EXPOSURE METHOD: TP | | EXCAV. STARTED: 02/05/2018 | |
| R.L.: 143.60m | | EQUIPMENT: 13 Tonne excavator | | EXCAV. FINISHED: 02/05/2018 | |
| DATUM: NZVD2016 | | OPERATOR: Clear Water Dredging | | LOGGED BY: DSA | |
| | | DIMENSIONS: 3.5m by 1.8m | | CHECKED BY: DSAH | |

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|----------------------------------|--|---------|--------|-----------|-------------|---|--------------------|------------|---------------------------------|--------------------------------|--|------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1-3 | | | 2-18 | | | | | | | | | | | | |
| | | | 3 | ● 133/22 kPa | | 143 | 0.0m | | 0.0m: Sandy SILT, some roots; brown. Firm, wet, low plasticity | W | | F | | | |
| | | | 4 | | | | 0.2m | | 0.2m: SILT, minor fine sand; brown, minor reddish brown mottles. Very stiff, wet, low plasticity | | | St | | | |
| | | | 5 | | | | 0.4m | | 0.4m: Organic SILT, some clay; grey. Stiff, wet, moderate plasticity | M-W | | | | | |
| | | | 6 | | | | 0.5m | | 0.5m: SILT, trace clay; yellowish brown mottled grey. Very stiff, moist to wet, low plasticity | | | | | | |
| | | | 7 | | | | 1.0m | | 1.0m: SILT, minor fine sand; light grey. Very stiff, wet, low plasticity | | | | | | |
| | | | 8 | ● 142/51 kPa Sample Bulk Bag @ 1.0m | | | 1.5m | | 1.5m: SILT, minor fine sand; light grey. Very stiff, wet, low plasticity | W | | Vst | | | |
| | | | 14 | ● 136/32 kPa | | | 2.0m | | 2.0m: SILT, minor fine sand, minor pockets of silty fine sand; light pink minor light grey and orange brown mottles. Stiff to very stiff, wet, low plasticity | | | Sl-Vst | | | |
| | | | 20 | ● 73/25 kPa | | | 2.8m | | 2.8m: Sandy SILT, some pockets of fine sand; light grey mottled pink and orange brown. Very stiff, wet, non plastic to low plasticity | | | Vst | | | |
| | | | 23 >> | ● 133/35 kPa | | | 3.0m | | 3.0m: Fine SAND, some pockets of SILT, minor fine sand; light pink mottled orange brown and grey. Loosely packed, wet | | | L | | | |
| | | | 26 >> | Sample Bulk Bag @ 3.4m | | | 3.5m | | 3.5 - 3.8m: SILT; orange brown. Stiff to very stiff, wet, low plasticity | | | | | | |
| | | | | Sample Bulk Bag @ 3.7m | | | 4.0m | | 4m: Target depth | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

Rev.: A

EXCAVATION LOG

EXCAVATION No.: **TP31**

Hole Location: Refer site plan

SHEET: 1 OF 1

PROJECT: Auckland Regional Landfill

LOCATION: Wayby Valley

JOB No.: 1005069.1120

CO-ORDINATES: 5978391.00 mN
(NZTM2000) 1741228.00 mE

EXPOSURE METHOD: TP
EQUIPMENT: 13 Tonne excavator

EXCAV. STARTED: 02/05/2018
EXCAV. FINISHED: 02/05/2018

R.L.: 162.10m









OPERATOR: Clear Water Dredging

LOGGED BY: DSA

DATUM: NZVD2016

DIMENSIONS: 5m by 2m

CHECKED BY: DSAH

| EXCAVATION TESTS | | | | ENGINEERING DESCRIPTION | | | | GEOLOGICAL | | | | | | | |
|------------------|---------|-------|-------------------------------------|-------------------------|---------|--------|-----------|---|--|-----------------------|------------|------------------------------------|--------------------------------------|--|-------|
| PENETRATION | SUPPORT | WATER | SCALA PENETROMETER (Blows/100mm) | SAMPLES, TESTS | SAMPLES | RL (m) | DEPTH (m) | GRAPHIC LOG | SOIL NAME, PLASTICITY OR PARTICLE SIZE CHARACTERISTICS, COLOUR, SECONDARY AND MINOR COMPONENTS | MOISTURE CONDITION | WEATHERING | STRENGTH/DENSITY CLASSIFICATION | ESTIMATED SHEAR STRENGTH (kPa) | ORIGIN TYPE, MINERAL COMPOSITION, DEFECTS, STRUCTURE | UNIT |
| 1 2 3 | | | 2 4 6 8 10 12 14 16 18 | | | | | | | | | | 10 25 50 100 200 | | |
| | | | 4 | | | 162 | 0.0m |  | 0.0m: Sandy silt, some fine to coarse gravel; dark brown | F | | | | | Tsoli |
| | | | 3 | | | | 0.3m |  | 0.3m: Silty fine SAND, some cobble to boulder size corestones; brown. Loosely packed, moist to wet | L | | | | Residual Soil | |
| | | | 4 | | | | 0.6m |  | 0.6m: SILT, minor clay, some pockets of fine sand and cobble to boulder size corestones; light grey mottled orange brown and brown. Very stiff, moist, low to moderate plasticity | Vst | | | | | |
| | | | 10 | ● 127/35 kPa | | 161 | 1.0m |  | 1.0m: Sample Bulk Bag @ 1.0m | | | | | | |
| | | | 9 | | | | 1.5m |  | 1.5m: Fine SAND, minor cobble size corestones; brown. Loosely packed, moist to wet | L | | | | HW Pakiri | |
| | | | 8 | | | | 2.5m |  | 2.5m: Highly weathered, brown, fine SANDSTONE. Extremely weak to very weak. Recovered as angular cobbles size blocks, with limonite and black carbonaceous staining [Fine SAND; brown with orange brown and black streaks. Tightly packed] | D | | | | | |
| | | | 7 | | | | 3.5m |  | 3.5m: Some subrounded cobble size corestones comprising slightly weathered, grey, fine SANDSTONE | | | | | | |
| | | | 15 | | | | 3.6m |  | 3.6m: Boulder size corestone comprising slightly weathered, grey, fine SANDSTONE | | | | | | |
| | | | 20 | ● 103/27 kPa | | 160 | 4.0m | | 4m: Target depth | | | | | | |
| | | | | | | 158 | | | | | | | | | |

SKETCH / PHOTO:



COMMENTS:

Hole Depth
4m

Scale 1:37

Lugeon Test Results

Dome Project

Date Start: 20/03/2018

Date End: 23/03/2018

Data entered by: OPRI

Checked by: ALNA

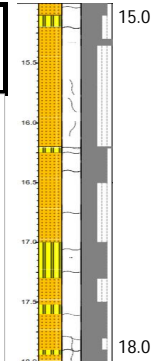
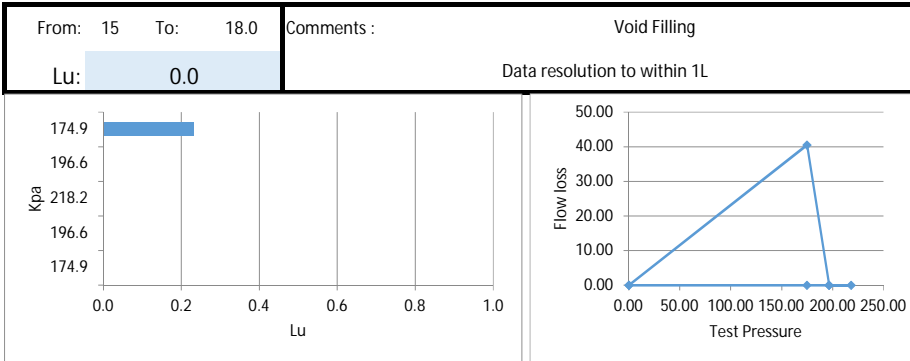
Borehole: BH1

RL Collar: 148.0

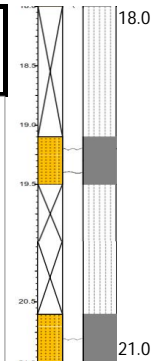
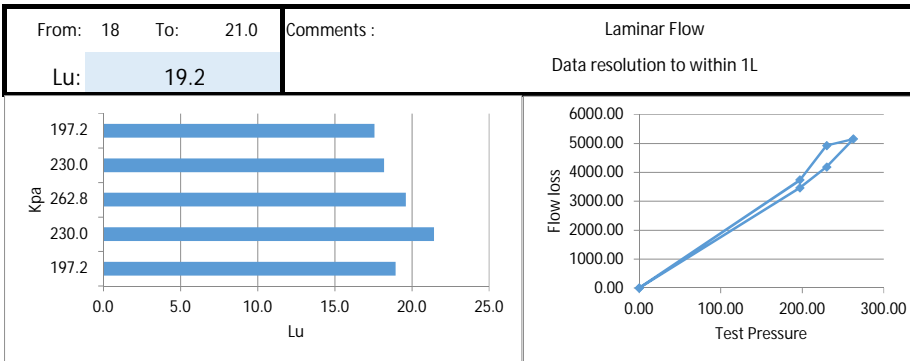
Angle: 90°

Comments :

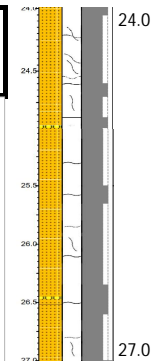
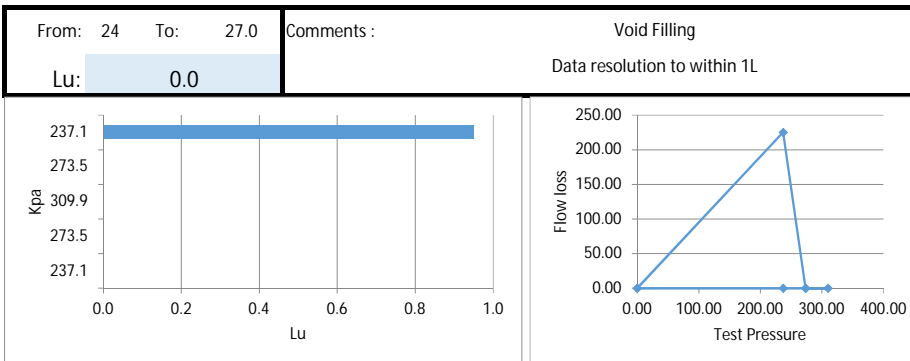
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 15 | 18 | 12.95 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 43 | 131.6 | 174.9 | 640.7 | 641.6 | 0.9 | 15 | 0.2 |
| 65 | 131.6 | 196.6 | 641.7 | 641.7 | 0 | 15 | 0.0 |
| 87 | 131.6 | 218.2 | 641.8 | 641.8 | 0 | 15 | 0.0 |
| 65 | 131.6 | 196.6 | 641.8 | 641.8 | 0 | 15 | 0.0 |
| 43 | 131.6 | 174.9 | 641.9 | 641.9 | 0 | 15 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 321.31 | 0.68 | 13.22 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|-------|------|------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 18 | 21 | 12.95 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 66 | 131.6 | 197.2 | 715.0 | 792.0 | 77.0 | 15 | 17.6 |
| 98 | 131.6 | 230.0 | 799.0 | 892.0 | 93.0 | 15 | 18.2 |
| 131 | 131.6 | 262.8 | 910.0 | 1024.5 | 114.5 | 15 | 19.6 |
| 98 | 131.6 | 230.0 | 1039.0 | 1148.5 | 109.5 | 15 | 21.4 |
| 66 | 131.6 | 197.2 | 1158.0 | 1241.0 | 83.0 | 15 | 18.9 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 356.66 | 0.74 | 13.48 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 24 | 27 | 16.27 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 73 | 164.2 | 237.1 | 1312.0 | 1317.0 | 5.0 | 15 | 0.9 |
| 109 | 164.2 | 273.5 | 1317.0 | 1317.0 | 0.0 | 15 | 0.0 |
| 146 | 164.2 | 309.9 | 1317.0 | 1317.0 | 0.0 | 15 | 0.0 |
| 109 | 164.2 | 273.5 | 1317.0 | 1317.0 | 0.0 | 15 | 0.0 |
| 73 | 164.2 | 237.1 | 1317.0 | 1317.0 | 0.0 | 15 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 459.89 | 0.67 | 12.15 | | | |



Dome Project

Date Start: 20/03/2018

Date End: 23/03/2018

Data entered by: OPRI

Checked by: ALNA

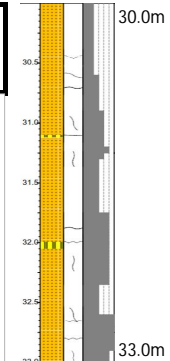
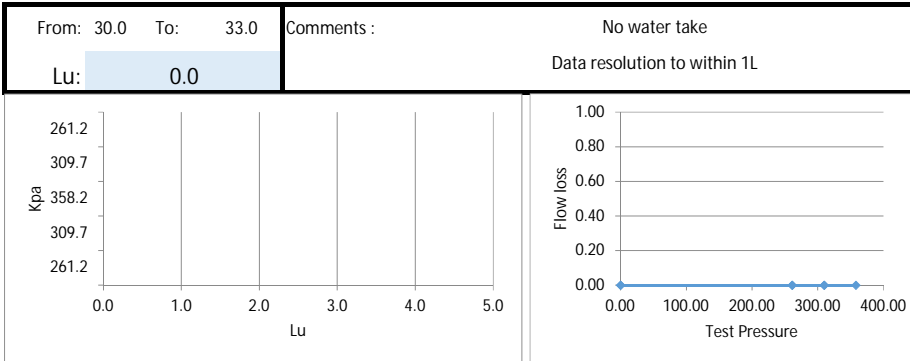
Borehole: BH1

RL Collar: 148.0

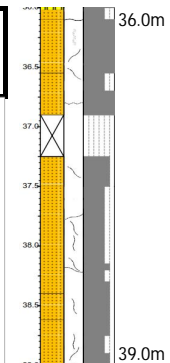
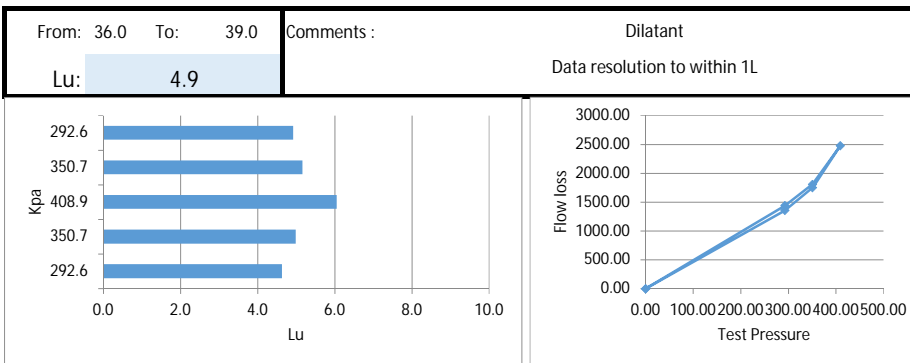
Angle: 90°

Comments :

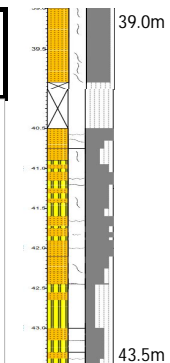
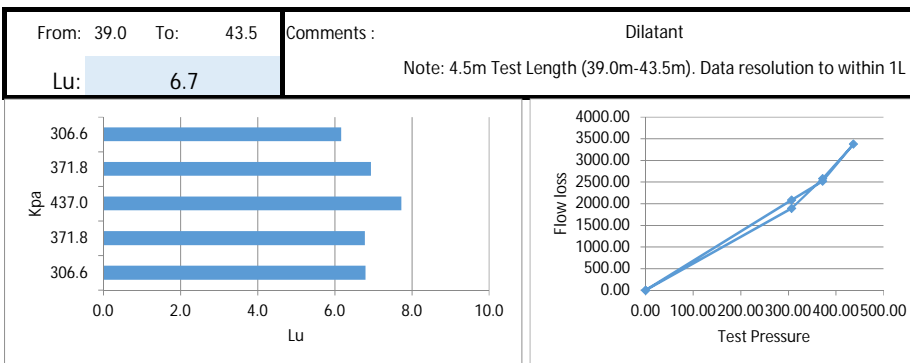
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 30 | Bottom: | 33 | 16.27 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 97 | 164.2 | 261.2 | 1340.0 | 1340.0 | 0.0 | 15 | 0.0 |
| 146 | 164.2 | 309.7 | 1340.0 | 1340.0 | 0.0 | 15 | 0.0 |
| 194 | 164.2 | 358.2 | 1340.0 | 1340.0 | 0.0 | 15 | 0.0 |
| 146 | 164.2 | 309.7 | 1340.0 | 1340.0 | 0.0 | 15 | 0.0 |
| 97 | 164.2 | 261.2 | 1340.0 | 1340.0 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 530.58 | 0.68 | 11.37 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 36 | Bottom: | 39 | 17.5 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 116 | 176.2 | 292.6 | 1387.5 | 1419.5 | 32.0 | 15 | 4.9 |
| 175 | 176.2 | 350.7 | 1423.5 | 1463.7 | 40.2 | 15 | 5.2 |
| 233 | 176.2 | 408.9 | 1471.3 | 1526.3 | 55.0 | 15 | 6.1 |
| 175 | 176.2 | 350.7 | 1528.1 | 1567.0 | 38.9 | 15 | 5.0 |
| 116 | 176.2 | 292.6 | 1567.0 | 1597.1 | 30.1 | 15 | 4.6 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 613.33 | 0.67 | 10.90 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 39 | Bottom: | 43.5 | 17.5 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 130 | 176.2 | 306.6 | 1637.5 | 1679.5 | 42.0 | 15 | 6.2 |
| 196 | 176.2 | 371.8 | 1685.2 | 1742.5 | 57.3 | 15 | 6.9 |
| 261 | 176.2 | 437.0 | 1746.9 | 1821.9 | 75.0 | 15 | 7.7 |
| 196 | 176.2 | 371.8 | 1826.8 | 1882.8 | 56.0 | 15 | 6.8 |
| 130 | 176.2 | 306.6 | 1885.6 | 1931.9 | 46.3 | 15 | 6.8 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 657.51 | 0.66 | 10.59 | | |



Dome Project

Date Start: 20/03/2018

Date End: 23/03/2018

Data entered by: OPRI

Checked by: ALNA

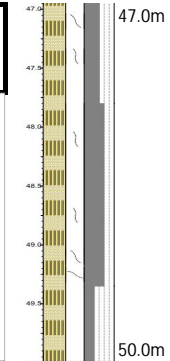
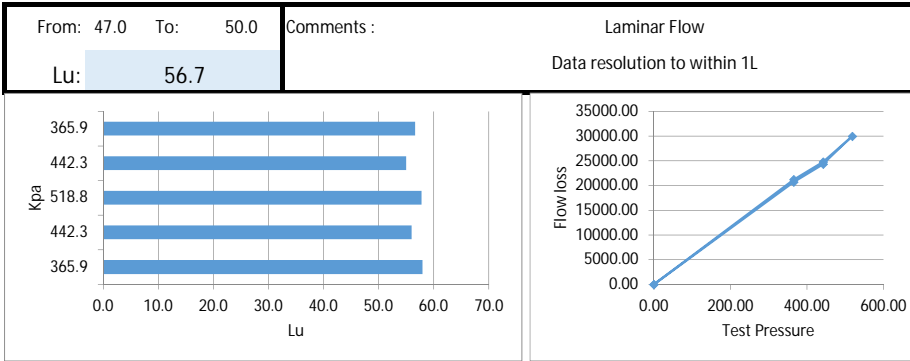
Borehole: BH1

RL Collar: 148.0

Angle: 90°

Comments :

| Test Interval | | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|------|--|
| Top: | 47 | Bottom: | 50 | 21.25 | 0.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu | |
| 153 | 213.0 | 365.9 | 2415.0 | 2875.0 | 460 | 15 | 56.6 | |
| 229 | 213.0 | 442.3 | 2935.0 | 3475.0 | 540 | 15 | 55.0 | |
| 306 | 213.0 | 518.8 | 3560.0 | 4226.0 | 666 | 15 | 57.8 | |
| 229 | 213.0 | 442.3 | 4270.0 | 4820.0 | 550 | 15 | 56.0 | |
| 153 | 213.0 | 365.9 | 4860.0 | 5331.0 | 471 | 15 | 58.0 | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | | 779.68 | 0.67 | 10.70 | | | |



Dome Project

Date Start: 12/04/2018

Date End: 16/04/2018 Data entered by: DSA

Checked by: ALNA

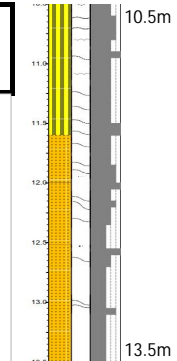
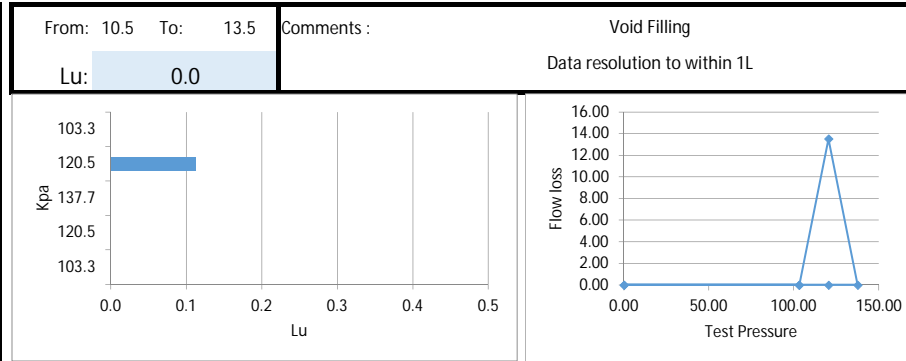
Borehole: BH2

RL Collar: 204.3

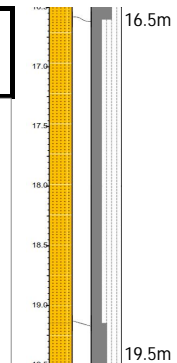
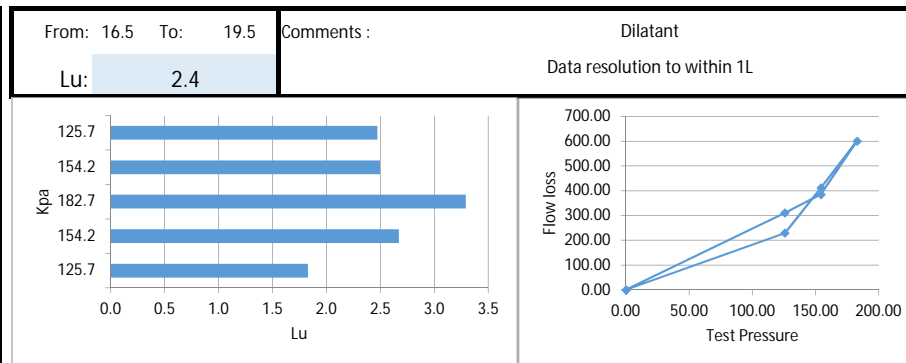
Angle: 90°

Comments :

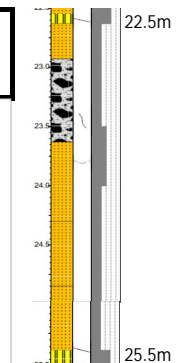
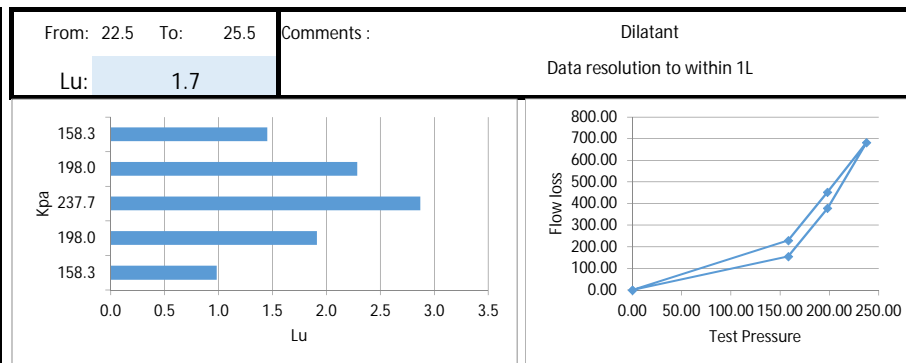
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 10.5 | 13.5 | 6.54 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 35 | 68.8 | 103.3 | 16311.8 | 16311.8 | 0.0 | 10 | 0.0 |
| 52 | 68.8 | 120.5 | 16312.7 | 16312.9 | 0.2 | 10 | 0.1 |
| 69 | 68.8 | 137.7 | 16312.9 | 16312.9 | 0.0 | 10 | 0.0 |
| 52 | 68.8 | 120.5 | 16312.9 | 16312.9 | 0.0 | 10 | 0.0 |
| 35 | 68.8 | 103.3 | 16312.9 | 16312.9 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 205.48 | 0.67 | 11.47 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 16.5 | 19.5 | 6.54 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 57 | 68.8 | 125.7 | 16350.8 | 16355.4 | 4.6 | 10 | 2.5 |
| 85 | 68.8 | 154.2 | 16356.2 | 16361.9 | 5.7 | 10 | 2.5 |
| 114 | 68.8 | 182.7 | 16362.8 | 16371.7 | 8.9 | 10 | 3.3 |
| 85 | 68.8 | 154.2 | 16372.1 | 16378.2 | 6.1 | 10 | 2.7 |
| 57 | 68.8 | 125.7 | 16378.7 | 16382.1 | 3.4 | 10 | 1.8 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 276.17 | 0.66 | 10.15 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 22.5 | 25.5 | 6.54 | 1.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 80 | 78.8 | 158.3 | 16410.7 | 16414.1 | 3.4 | 10 | 1.5 |
| 119 | 78.8 | 198.0 | 16415.6 | 16422.3 | 6.7 | 10 | 2.3 |
| 159 | 78.8 | 237.7 | 16424.1 | 16434.2 | 10.1 | 10 | 2.9 |
| 119 | 78.8 | 198.0 | 16434.4 | 16440.0 | 5.6 | 10 | 1.9 |
| 80 | 78.8 | 158.3 | 16440.2 | 16442.5 | 2.3 | 10 | 1.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 346.86 | 0.69 | 9.90 | | | |



Dome Project

Date Start: 12/04/2018

Date End: 16/04/2018 Data entered by: DSA

Checked by: ALNA

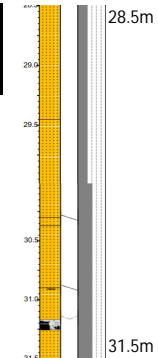
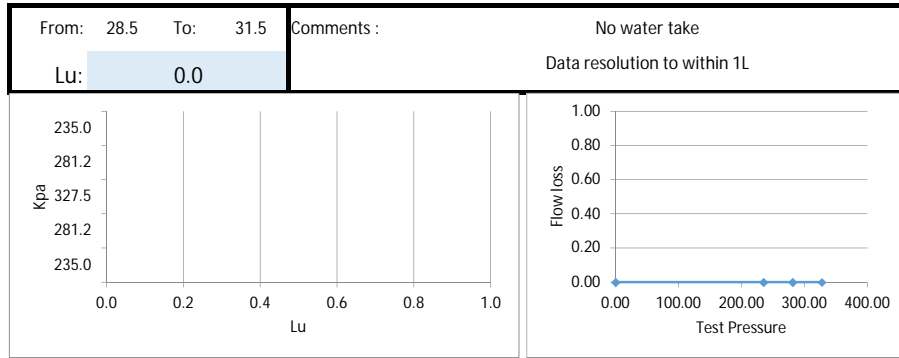
Borehole: BH2

RL Collar: 204.3

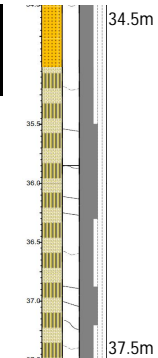
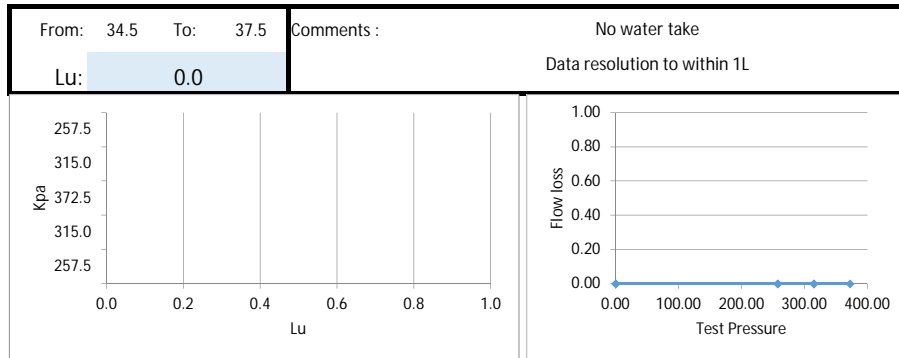
Angle: 90°

Comments :

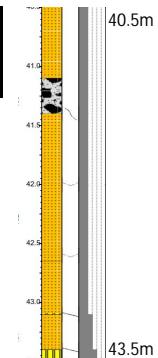
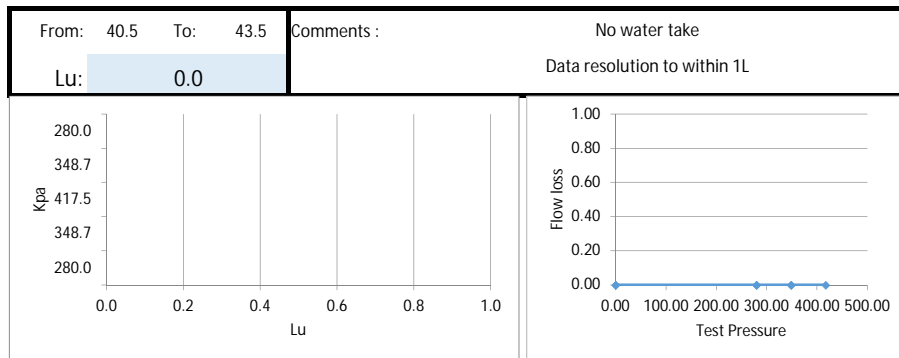
| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|--------------|------|-----|
| Top: | 28.5 | Bottom: | 31.5 | 14.05 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 93 | 142.4 | 235.0 | 16467.7 | 16467.7 | 0.0 | 10 | 0.0 |
| 139 | 142.4 | 281.2 | 16467.7 | 16467.7 | 0.0 | 10 | 0.0 |
| 185 | 142.4 | 327.5 | 16467.7 | 16467.7 | 0.0 | 10 | 0.0 |
| 139 | 142.4 | 281.2 | 16467.7 | 16467.7 | 0.0 | 10 | 0.0 |
| 93 | 142.4 | 235.0 | 16467.7 | 16467.7 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 491.15 | 0.67 | 10.92 | | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|--------------|------|-----|
| Top: | 34.5 | Bottom: | 37.5 | 14.05 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 115 | 142.4 | 257.5 | 16494.1 | 16494.1 | 0.0 | 10 | 0.0 |
| 173 | 142.4 | 315.0 | 16494.1 | 16494.1 | 0.0 | 10 | 0.0 |
| 230 | 142.4 | 372.5 | 16494.1 | 16494.1 | 0.0 | 10 | 0.0 |
| 173 | 142.4 | 315.0 | 16494.2 | 16494.2 | 0.0 | 10 | 0.0 |
| 115 | 142.4 | 257.5 | 16494.2 | 16494.2 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 561.84 | 0.66 | 10.35 | | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|--------------|------|-----|
| Top: | 40.5 | Bottom: | 43.5 | 14.05 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 138 | 142.4 | 280.0 | 16512.2 | 16512.2 | 0.0 | 10 | 0.0 |
| 206 | 142.4 | 348.7 | 16512.2 | 16512.2 | 0.0 | 10 | 0.0 |
| 275 | 142.4 | 417.5 | 16512.2 | 16512.2 | 0.0 | 10 | 0.0 |
| 206 | 142.4 | 348.7 | 16512.2 | 16512.2 | 0.0 | 10 | 0.0 |
| 138 | 142.4 | 280.0 | 16512.3 | 16512.3 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 632.53 | 0.66 | 9.94 | | | |



Dome Project

Date Start: 12/04/2018

Date End: 16/04/2018 Data entered by: DSA

Checked by: ALNA

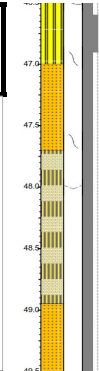
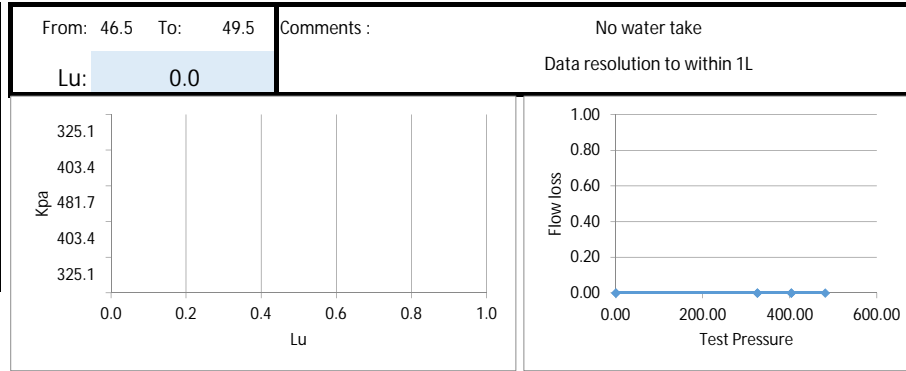
Borehole: BH2

RL Collar: 204.3

Angle: 90°

Comments :

| Test Interval | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | 46.5 | Bottom: | 49.5 | 16.7 | | | |
| | | | | 0.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 157 | 168.4 | 325.1 | 16555.7 | 16555.7 | 0.0 | 10 | 0.0 |
| 235 | 168.4 | 403.4 | 16555.7 | 16555.7 | 0.0 | 10 | 0.0 |
| 313 | 168.4 | 481.7 | 16555.7 | 16555.7 | 0.0 | 10 | 0.0 |
| 235 | 168.4 | 403.4 | 16555.7 | 16555.7 | 0.0 | 10 | 0.0 |
| 157 | 168.4 | 325.1 | 16555.7 | 16555.7 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 729.20 | 0.66 | 10.03 | | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

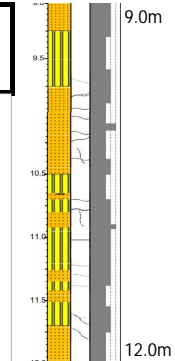
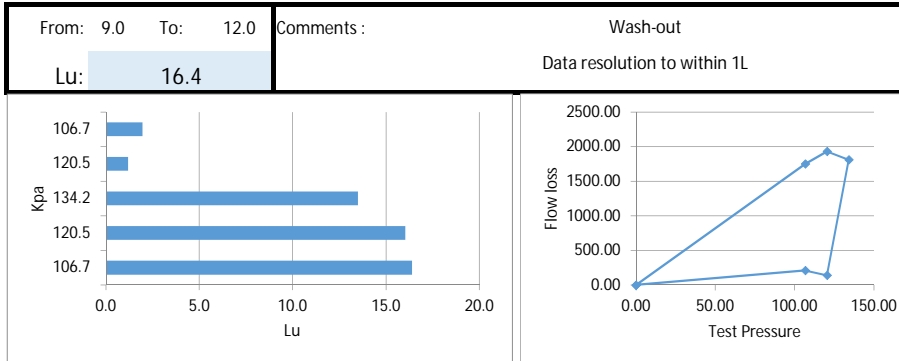
Borehole: BH3

RL Collar: 245.5

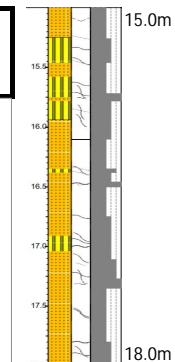
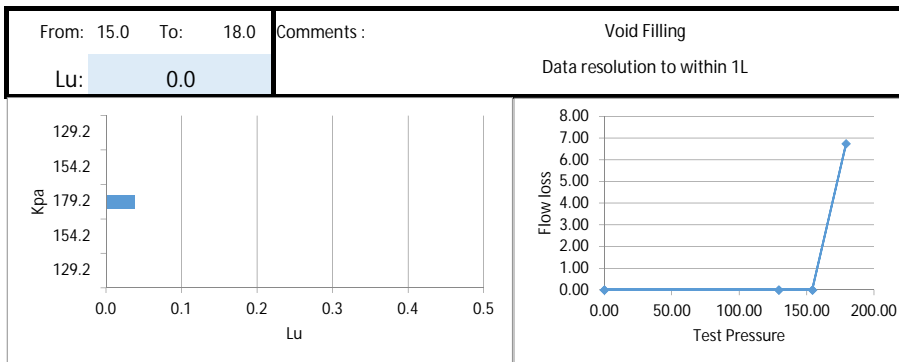
Angle: 90°

Comments :

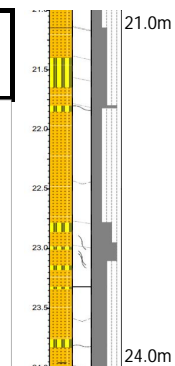
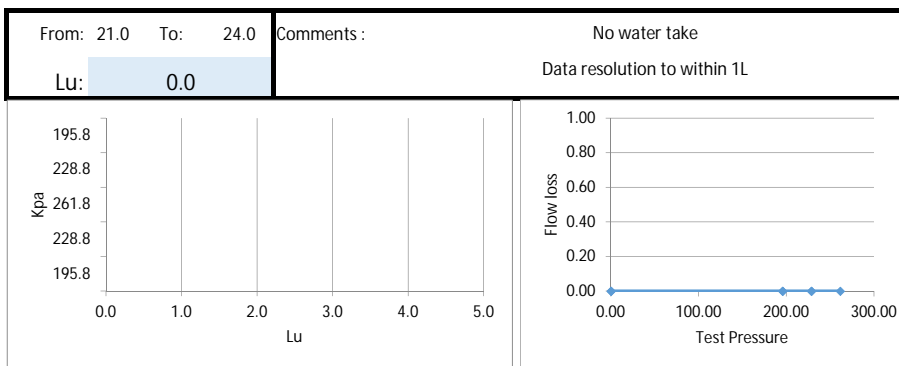
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 9 | 12 | 7.6 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 28 | 79.2 | 106.7 | 16626.6 | 16629.7 | 3.1 | 10 | 2.0 |
| 41 | 79.2 | 120.5 | 16630.9 | 16633.0 | 2.1 | 10 | 1.2 |
| 55 | 79.2 | 134.2 | 16633.4 | 16660.2 | 26.8 | 10 | 13.5 |
| 41 | 79.2 | 120.5 | 16662.7 | 16691.3 | 28.6 | 10 | 16.0 |
| 28 | 79.2 | 106.7 | 16693.4 | 16719.3 | 25.9 | 10 | 16.4 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 198.19 | 0.68 | 12.78 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 15 | 18 | 7.6 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 50 | 79.2 | 129.2 | 16784.9 | 16784.9 | 0.0 | 10 | 0.0 |
| 75 | 79.2 | 154.2 | 16784.9 | 16784.9 | 0.0 | 10 | 0.0 |
| 100 | 79.2 | 179.2 | 16784.9 | 16785.0 | 0.1 | 10 | 0.0 |
| 75 | 79.2 | 154.2 | 16785.0 | 16785.0 | 0.0 | 10 | 0.0 |
| 50 | 79.2 | 129.2 | 16785.0 | 16785.0 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 268.88 | 0.67 | 10.86 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 21 | 24 | 12.75 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 66 | 129.7 | 195.8 | 16861.4 | 16861.4 | 0.0 | 10 | 0.0 |
| 99 | 129.7 | 228.8 | 16861.4 | 16861.4 | 0.0 | 10 | 0.0 |
| 132 | 129.7 | 261.8 | 16861.4 | 16861.4 | 0.0 | 10 | 0.0 |
| 99 | 129.7 | 228.8 | 16861.4 | 16861.4 | 0.0 | 10 | 0.0 |
| 66 | 129.7 | 195.8 | 16861.4 | 16861.4 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 390.05 | 0.67 | 11.63 | | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

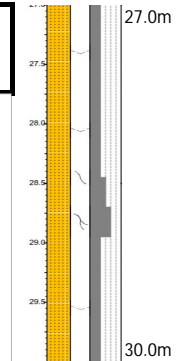
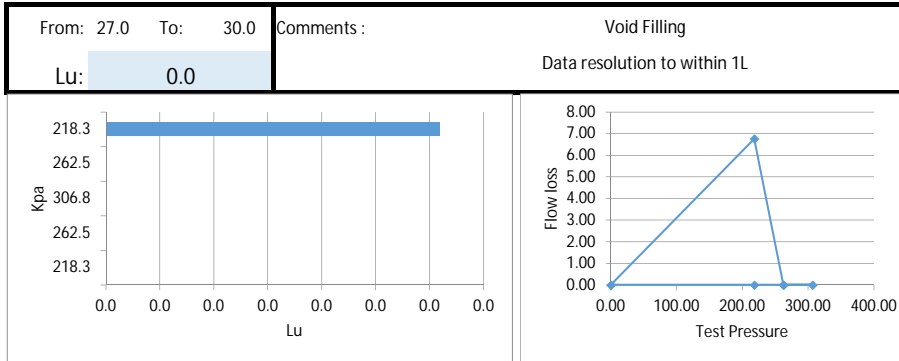
Borehole: BH3

RL Collar: 245.5

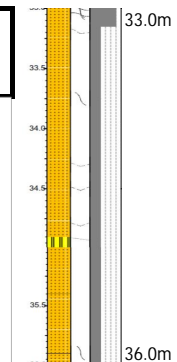
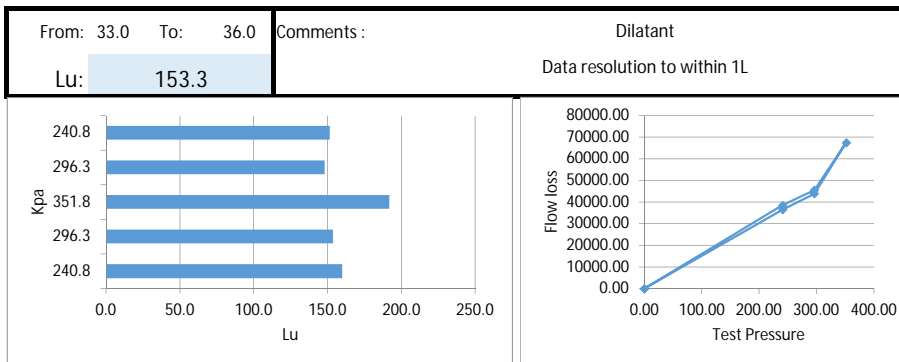
Angle: 90°

Comments :

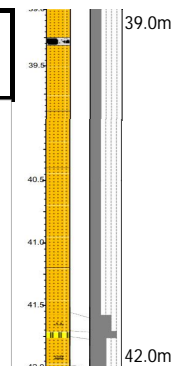
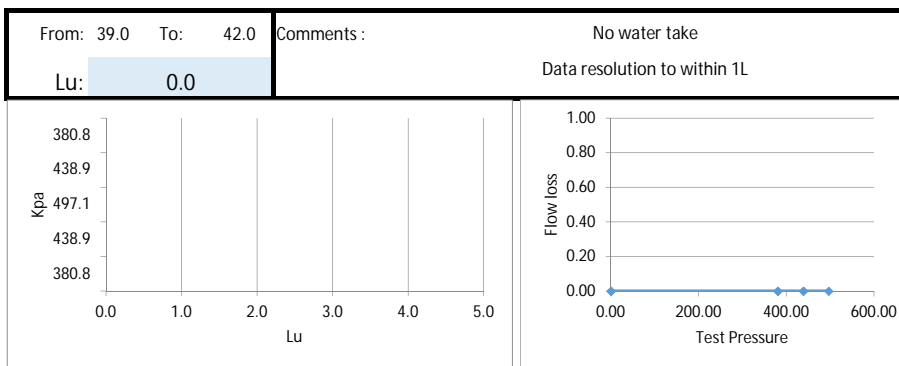
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 27 | Bottom: | 30 | 12.75 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 89 | 129.7 | 218.3 | 16944.0 | 16944.1 | 0.1 | 10 | 0.0 |
| 133 | 129.7 | 262.5 | 16944.1 | 16944.1 | 0.0 | 10 | 0.0 |
| 177 | 129.7 | 306.8 | 16944.1 | 16944.1 | 0.0 | 10 | 0.0 |
| 133 | 129.7 | 262.5 | 16944.1 | 16944.1 | 0.0 | 10 | 0.0 |
| 89 | 129.7 | 218.3 | 16944.1 | 16944.1 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 460.74 | 0.67 | 10.76 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 33 | Bottom: | 36 | 12.75 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 111 | 129.7 | 240.8 | 17236.0 | 17776.0 | 540 | 10 | 151.5 |
| 167 | 129.7 | 296.3 | 17834.0 | 18484.0 | 650 | 10 | 148.2 |
| 222 | 129.7 | 351.8 | 18572.0 | 19571.0 | 999 | 10 | 191.8 |
| 167 | 129.7 | 296.3 | 19640.0 | 20314.0 | 674 | 10 | 153.6 |
| 111 | 129.7 | 240.8 | 20367.0 | 20937.0 | 570 | 10 | 159.9 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 531.43 | 0.66 | 10.20 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 39 | Bottom: | 42 | 26.5 | | 0.5 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 116 | 264.4 | 380.8 | 21028.6 | 21028.6 | 0.0 | 10 | 0.0 |
| 175 | 264.4 | 438.9 | 21028.6 | 21028.6 | 0.0 | 10 | 0.0 |
| 233 | 264.4 | 497.1 | 21028.6 | 21028.6 | 0.0 | 10 | 0.0 |
| 175 | 264.4 | 438.9 | 21028.6 | 21028.6 | 0.0 | 10 | 0.0 |
| 116 | 264.4 | 380.8 | 21028.6 | 21028.6 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 736.87 | 0.67 | 12.27 | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

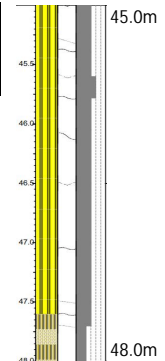
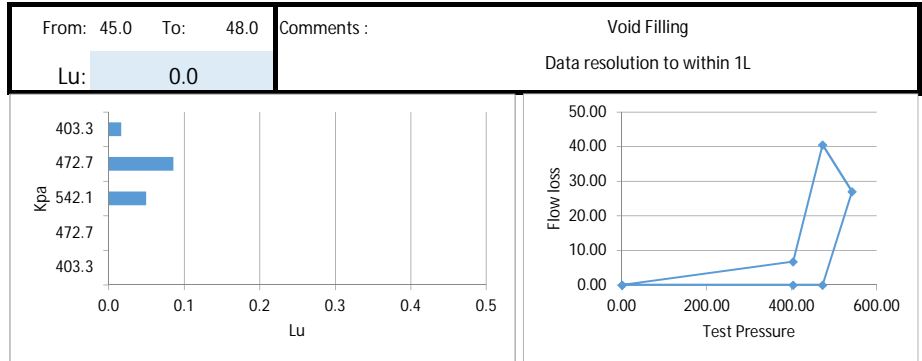
Borehole: BH3

RL Collar: 245.5

Angle: 90°

Comments :

| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 45 | Bottom: | 48 | 26.5 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 139 | 264.4 | 403.3 | 21158.0 | 21158.1 | 0.1 | 10 | 0.0 |
| 208 | 264.4 | 472.7 | 21158.1 | 21158.7 | 0.6 | 10 | 0.1 |
| 278 | 264.4 | 542.1 | 21158.8 | 21159.2 | 0.4 | 10 | 0.0 |
| 208 | 264.4 | 472.7 | 21159.2 | 21159.2 | 0.0 | 10 | 0.0 |
| 139 | 264.4 | 403.3 | 21159.2 | 21159.2 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 807.56 | 0.67 | 11.66 | | |



Dome Project

Date Start: 10/05/2018

Date End: 14/05/2018 Data entered by: ALNA Checked by: ALNA

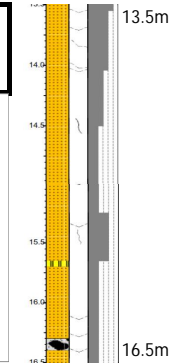
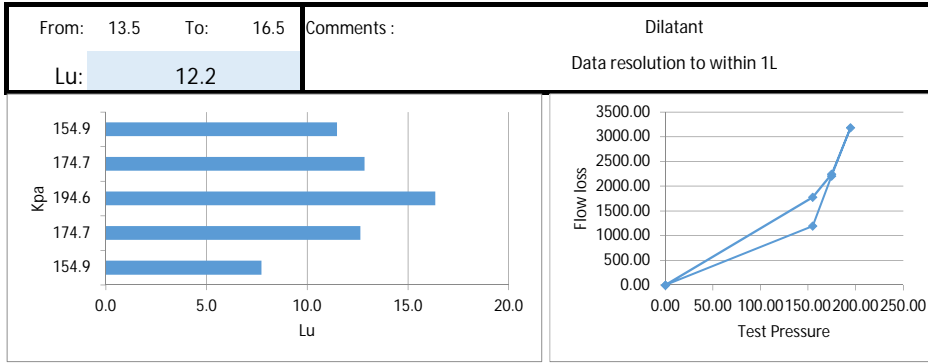
Borehole: BH4

RL Collar: 193.7

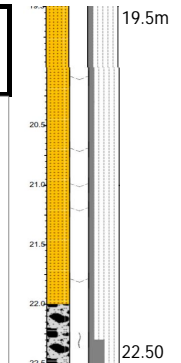
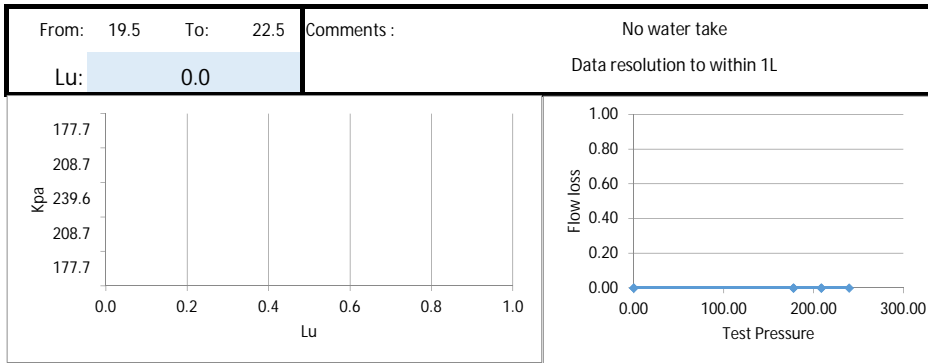
Angle: 90°

Comments :

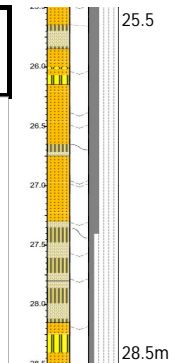
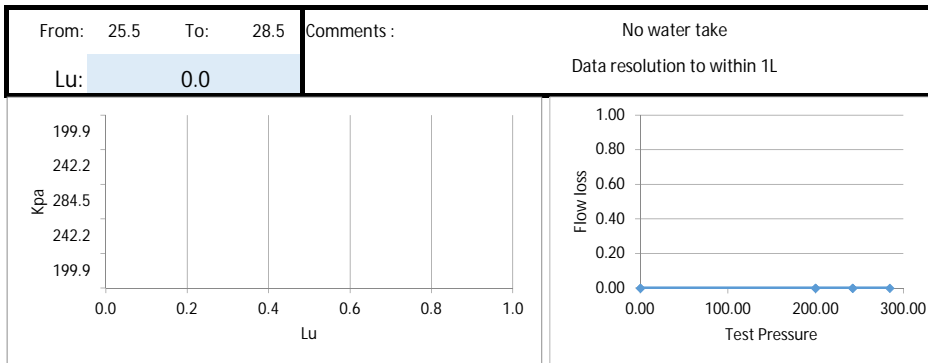
| Test Interval | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | 13.5 | Bottom: | 16.5 | 11.25 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 40 | 115.2 | 154.9 | 11072.3 | 11098.6 | 26.3 | 10 | 11.5 |
| 60 | 115.2 | 174.7 | 11108.0 | 11141.2 | 33.2 | 10 | 12.8 |
| 79 | 115.2 | 194.6 | 11149.7 | 11196.8 | 47.1 | 10 | 16.3 |
| 60 | 115.2 | 174.7 | 11198.6 | 11231.3 | 32.7 | 10 | 12.6 |
| 40 | 115.2 | 154.9 | 11231.5 | 11249.2 | 17.7 | 10 | 7.7 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 286.98 | 0.68 | 12.97 | | |



| Test Interval | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 19.5 | Bottom: | 22.5 | 11.25 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 63 | 115.2 | 177.7 | 11252.5 | 11252.5 | 0.0 | 10 | 0.0 |
| 94 | 115.2 | 208.7 | 11252.9 | 11252.9 | 0.0 | 10 | 0.0 |
| 124 | 115.2 | 239.6 | 11252.9 | 11252.9 | 0.0 | 10 | 0.0 |
| 94 | 115.2 | 208.7 | 11252.9 | 11252.9 | 0.0 | 10 | 0.0 |
| 63 | 115.2 | 177.7 | 11252.9 | 11252.9 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 357.67 | 0.67 | 11.41 | | |



| Test Interval | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 25.5 | Bottom: | 28.5 | 11.25 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 85 | 115.2 | 199.9 | 11253 | 11253 | 0.0 | 10 | 0.0 |
| 127 | 115.2 | 242.2 | 11253 | 11253 | 0.0 | 10 | 0.0 |
| 169 | 115.2 | 284.5 | 11253 | 11253 | 0.0 | 10 | 0.0 |
| 127 | 115.2 | 242.2 | 11253 | 11253 | 0.0 | 10 | 0.0 |
| 85 | 115.2 | 199.9 | 11253 | 11253 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 428.36 | 0.66 | 10.54 | | |



Dome Project

Date Start: 10/05/2018

Date End: 14/05/2018

Data entered by: ALNA

Checked by: ALNA

Borehole: BH4

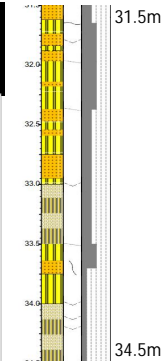
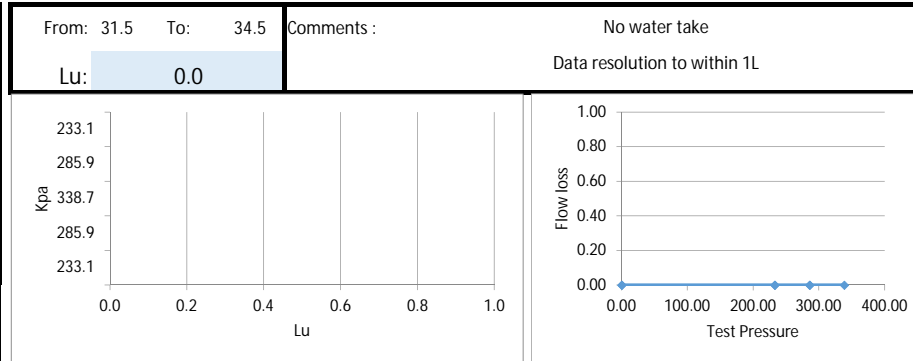
RL Collar: 193.7

Angle:

Comments :

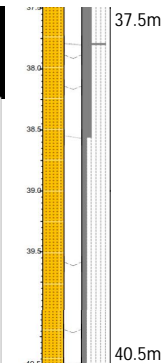
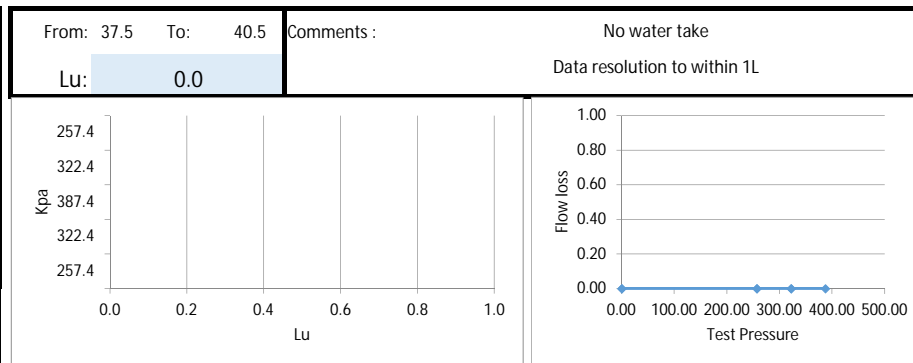
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|---------------|---------|-------|---------|--------------------|------|--------------|--|
| Top: | Bottom: | Start | Finish | Flow | time | Lu | |
| 31.5 | 34.5 | 11254 | 11254.3 | 0.0 | 15 | 0.0 | |
| 106 | 127.4 | 233.1 | 11254.3 | 0.0 | 15 | 0.0 | |
| 159 | 127.4 | 285.9 | 11254.3 | 0.0 | 15 | 0.0 | |
| 211 | 127.4 | 338.7 | 11254.3 | 0.0 | 15 | 0.0 | |
| 159 | 127.4 | 285.9 | 11254.3 | 0.0 | 15 | 0.0 | |
| 106 | 127.4 | 233.1 | 11254.3 | 0.0 | 15 | 0.0 | |

| Pressure Checks | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre |
|-----------------|---------------------|----------------------------|--------------------------|
| | 511.31 | 0.66 | 10.26 |



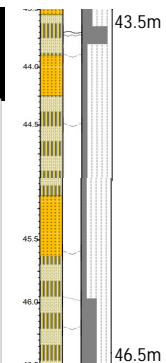
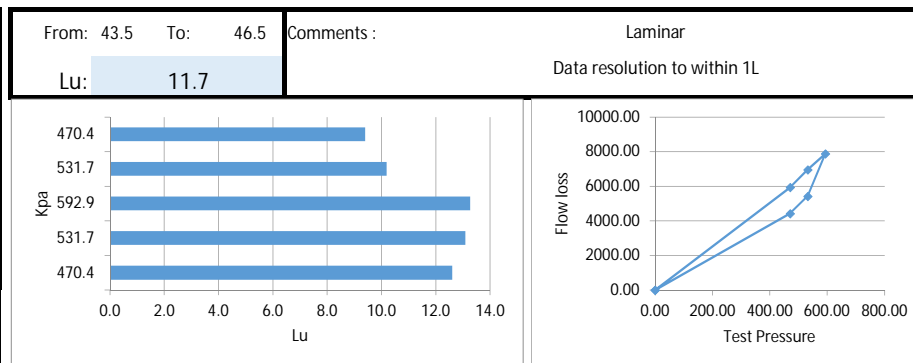
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|---------------|---------|---------|---------|--------------------|------|--------------|--|
| Top: | Bottom: | Start | Finish | Flow | time | Lu | |
| 37.5 | 40.5 | 11254.8 | 11254.8 | 0.0 | 10 | 0.0 | |
| 130 | 127.4 | 257.4 | 11254.8 | 0.0 | 10 | 0.0 | |
| 195 | 127.4 | 322.4 | 11254.8 | 0.0 | 10 | 0.0 | |
| 260 | 127.4 | 387.4 | 11254.8 | 0.0 | 10 | 0.0 | |
| 195 | 127.4 | 322.4 | 11254.8 | 0.0 | 10 | 0.0 | |
| 130 | 127.4 | 257.4 | 11254.8 | 0.0 | 10 | 0.0 | |

| Pressure Checks | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre |
|-----------------|---------------------|----------------------------|--------------------------|
| | 582.00 | 0.67 | 9.93 |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|---------------|---------|---------|---------|--------------------|------|--------------|--|
| Top: | Bottom: | Start | Finish | Flow | time | Lu | |
| 43.5 | 46.5 | 11333.5 | 11425.6 | 65.5 | 10 | 9.4 | |
| 123 | 347.9 | 470.4 | 11333.5 | 65.5 | 10 | 9.4 | |
| 184 | 347.9 | 531.7 | 11345.4 | 80.2 | 10 | 10.2 | |
| 245 | 347.9 | 592.9 | 11439.0 | 116.5 | 10 | 13.3 | |
| 184 | 347.9 | 531.7 | 11575.0 | 103.0 | 10 | 13.1 | |
| 123 | 347.9 | 470.4 | 11694.0 | 87.8 | 10 | 12.6 | |

| Pressure Checks | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre |
|-----------------|---------------------|----------------------------|--------------------------|
| | 873.19 | 0.68 | 13.18 |



Dome Project

Date Start: 16/05/2018

Date End: 17/05/2018

Data entered by: DSA

Checked by: ALNA

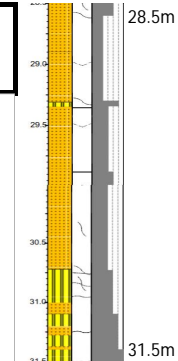
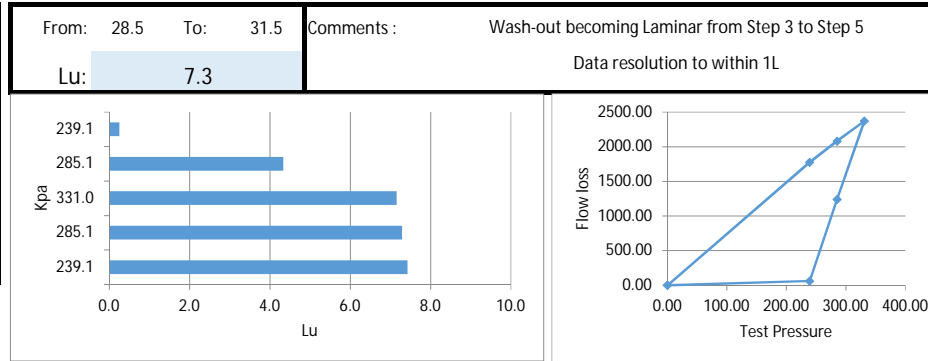
Borehole: BH5

RL Collar: 161.2

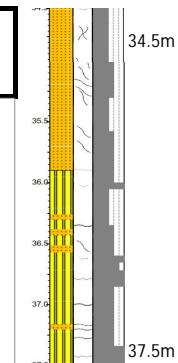
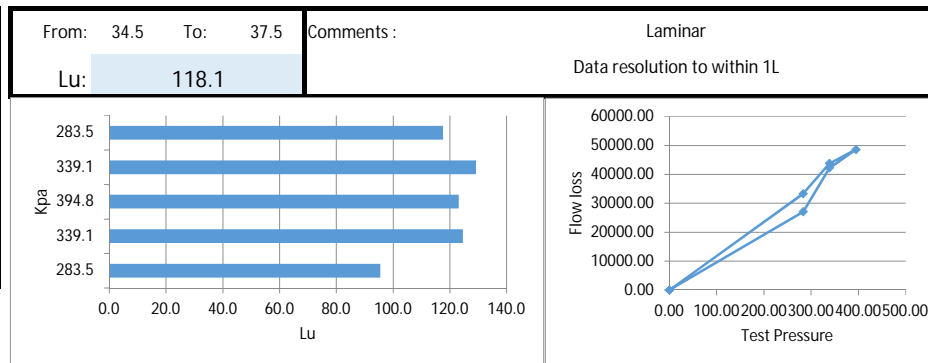
Angle: 90°

Comments :

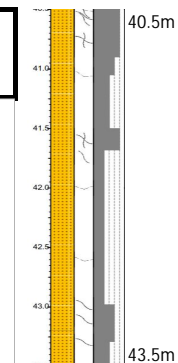
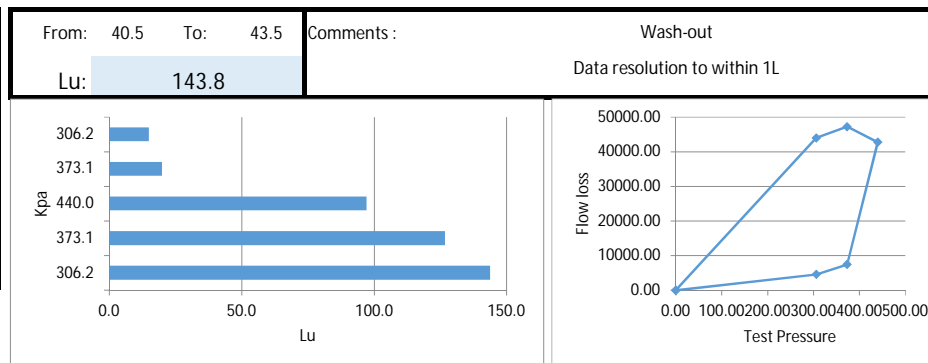
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 28.5 | 31.5 | 14.54 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 92 | 147.2 | 239.1 | 23001.7 | 23002.6 | 0.9 | 10 | 0.3 |
| 138 | 147.2 | 285.1 | 23003.6 | 23021.9 | 18.3 | 10 | 4.3 |
| 184 | 147.2 | 331.0 | 23025.0 | 23060.1 | 35.1 | 10 | 7.2 |
| 138 | 147.2 | 285.1 | 23063.0 | 23093.8 | 30.8 | 10 | 7.3 |
| 92 | 147.2 | 239.1 | 23096.0 | 23122.3 | 26.3 | 10 | 7.4 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 495.95 | 0.67 | 11.03 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 34.5 | 37.5 | 17.1 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 111 | 172.3 | 283.5 | 23455 | 23949 | 494 | 10 | 117.7 |
| 167 | 172.3 | 339.1 | 24020 | 24669 | 649 | 10 | 129.3 |
| 223 | 172.3 | 394.8 | 24710 | 25430 | 720 | 10 | 123.2 |
| 167 | 172.3 | 339.1 | 25480 | 26106 | 626 | 10 | 124.7 |
| 111 | 172.3 | 283.5 | 26300 | 26701 | 401 | 10 | 95.5 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 591.73 | 0.67 | 10.97 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 40.5 | 43.5 | 17.1 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 134 | 172.5 | 306.2 | 26985 | 27052.8 | 68 | 10 | 15.0 |
| 201 | 172.5 | 373.1 | 27059 | 27169.2 | 110 | 10 | 19.9 |
| 268 | 172.5 | 440.0 | 27210 | 27843 | 633 | 10 | 97.2 |
| 201 | 172.5 | 373.1 | 27890 | 28590 | 700 | 10 | 126.7 |
| 134 | 172.5 | 306.2 | 28620 | 29272 | 652 | 10 | 143.8 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 662.42 | 0.66 | 10.48 | | | |



Dome Project

Date Start: 16/05/2018

Date End: 17/05/2018

Data entered by: DSA

Checked by: ALNA

Borehole: BH5

RL Collar: 161.2

Angle: 90°

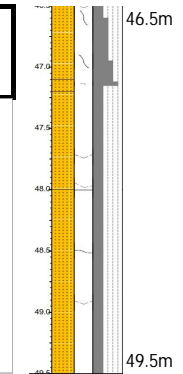
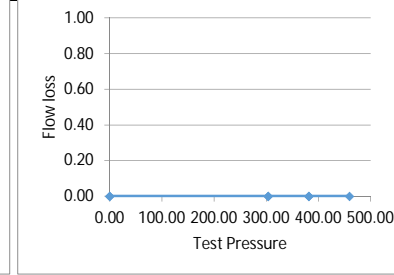
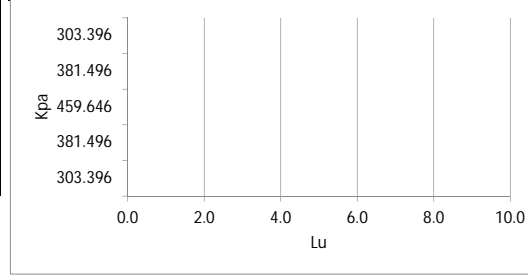
Comments :

| Test Interval | | | | Ground Water Level | Gauge Height |
|---------------|------|---------|------|--------------------|--------------|
| Top: | 46.5 | Bottom: | 49.5 | 14.54 | 0.5 |

| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
|----------------|-------------|---------------|--------------|---------------|------|------|-----|
| 156 | 147.2 | 303.396 | N/A | N/A | N/A | 10 | N/A |
| 234 | 147.2 | 381.496 | N/A | N/A | N/A | 10 | N/A |
| 312 | 147.2 | 459.646 | N/A | N/A | N/A | 10 | N/A |
| 234 | 147.2 | 381.496 | N/A | N/A | N/A | 10 | N/A |
| 156 | 147.2 | 303.396 | N/A | N/A | N/A | 10 | N/A |

| Pressure Checks | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre |
|-----------------|---------------------|----------------------------|--------------------------|
| | 708.03 | 0.65 | 9.58 |

| From: | To: | Comments : |
|-------|------|---|
| 46.5 | 49.5 | Unable to fill rod string with pump on full (due to water loss) |



Dome Project

Date Start: 8/05/2018

Date End: 10/05/2018 Data entered by: DSA

Checked by: ALNA

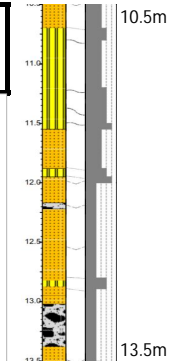
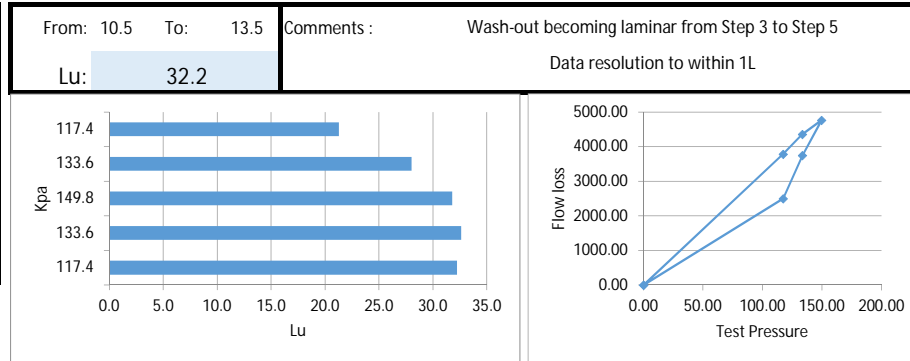
Borehole: BH6

RL Collar: 128.0

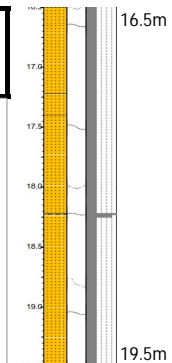
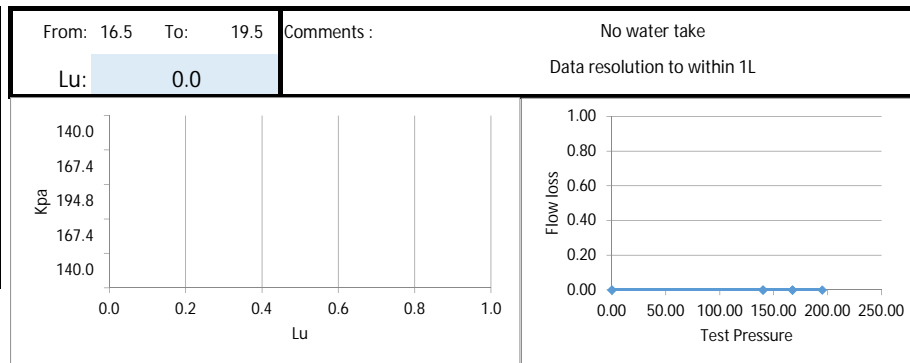
Angle: 90°

Comments :

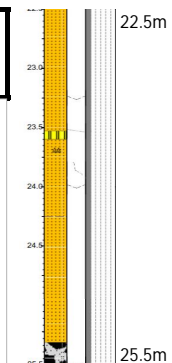
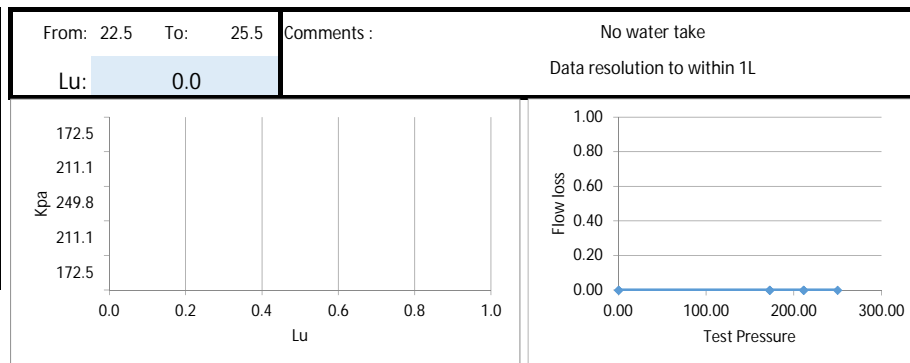
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 10.5 | 13.5 | 8.2 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 32 | 85.1 | 117.4 | 21224.5 | 21261.5 | 37.0 | 10 | 21.3 |
| 49 | 85.1 | 133.6 | 21267.0 | 21322.4 | 55.4 | 10 | 28.0 |
| 65 | 85.1 | 149.8 | 21328.0 | 21398.5 | 70.5 | 10 | 31.8 |
| 49 | 85.1 | 133.6 | 21404.0 | 21468.5 | 64.5 | 10 | 32.6 |
| 32 | 85.1 | 117.4 | 21475.0 | 21531.0 | 56.0 | 10 | 32.2 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 221.74 | 0.68 | 12.48 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 16.5 | 19.5 | 8.2 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 55 | 85.1 | 140.0 | 21561.3 | 21561.3 | 0.0 | 10 | 0.0 |
| 82 | 85.1 | 167.4 | 21561.3 | 21561.3 | 0.0 | 10 | 0.0 |
| 110 | 85.1 | 194.8 | 21561.3 | 21561.3 | 0.0 | 10 | 0.0 |
| 82 | 85.1 | 167.4 | 21561.3 | 21561.3 | 0.0 | 10 | 0.0 |
| 55 | 85.1 | 140.0 | 21561.3 | 21561.3 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 292.44 | 0.67 | 10.82 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 22.5 | 25.5 | 8.2 | 1.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 77 | 95.1 | 172.5 | 21603.1 | 21603.1 | 0.0 | 10 | 0.0 |
| 116 | 95.1 | 211.1 | 21603.1 | 21603.1 | 0.0 | 10 | 0.0 |
| 155 | 95.1 | 249.8 | 21603.1 | 21603.1 | 0.0 | 10 | 0.0 |
| 116 | 95.1 | 211.1 | 21603.1 | 21603.1 | 0.0 | 10 | 0.0 |
| 77 | 95.1 | 172.5 | 21603.1 | 21603.1 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 363.13 | 0.69 | 10.41 | | | |



Dome Project

Date Start: 8/05/2018

Date End: 10/05/2018 Data entered by: DSA

Checked by: ALNA

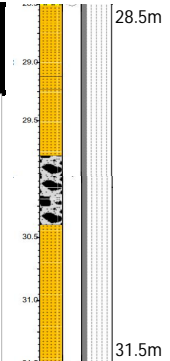
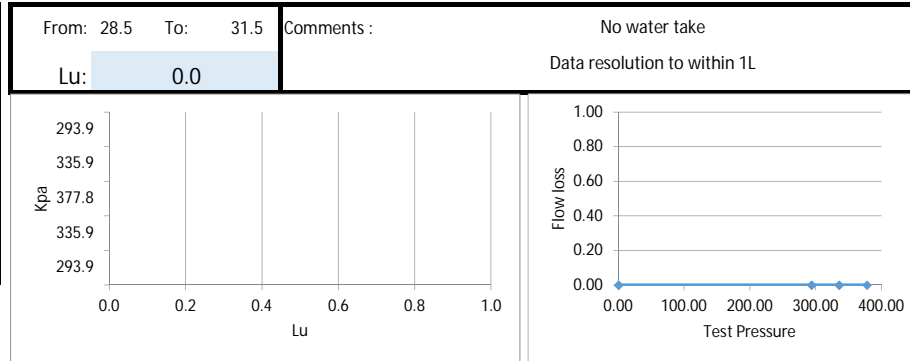
Borehole: BH6

RL Collar: 128.0

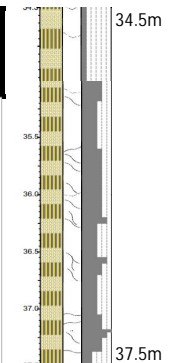
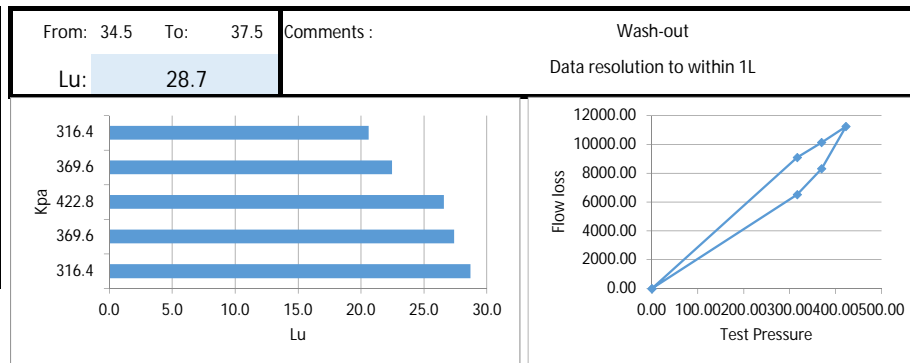
Angle: 90°

Comments :

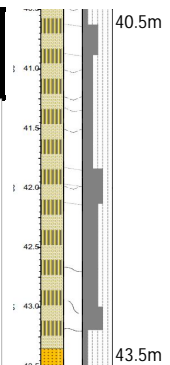
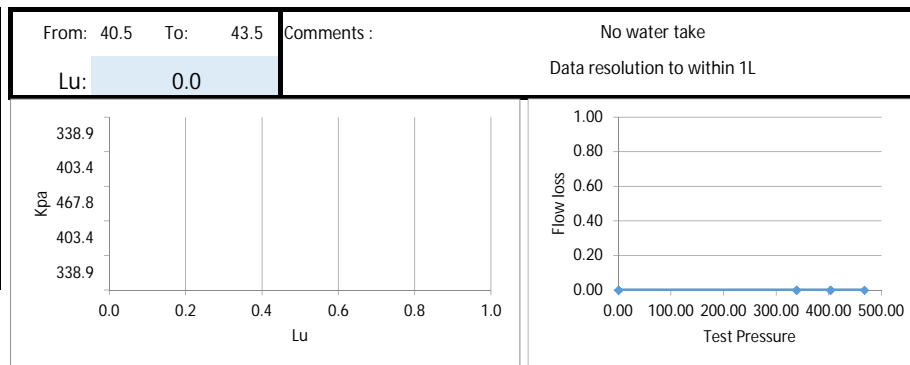
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 28.5 | 31.5 | 20.95 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 84 | 210.0 | 293.9 | 21625.2 | 21625.2 | 0.0 | 10 | 0.0 |
| 126 | 210.0 | 335.9 | 21625.2 | 21625.2 | 0.0 | 10 | 0.0 |
| 168 | 210.0 | 377.8 | 21625.2 | 21625.2 | 0.0 | 10 | 0.0 |
| 126 | 210.0 | 335.9 | 21625.2 | 21625.2 | 0.0 | 10 | 0.0 |
| 84 | 210.0 | 293.9 | 21625.2 | 21625.2 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 558.77 | 0.68 | 12.59 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|-------|------|------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 34.5 | 37.5 | 20.95 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 106 | 210.0 | 316.4 | 21757.0 | 21853.5 | 96.5 | 10 | 20.6 |
| 160 | 210.0 | 369.6 | 21864.0 | 21987.0 | 123.0 | 10 | 22.5 |
| 213 | 210.0 | 422.8 | 22001.0 | 22167.5 | 166.5 | 10 | 26.6 |
| 160 | 210.0 | 369.6 | 22182.0 | 22332.0 | 150.0 | 10 | 27.4 |
| 106 | 210.0 | 316.4 | 22346.0 | 22480.5 | 134.5 | 10 | 28.7 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 629.46 | 0.67 | 11.74 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 40.5 | 43.5 | 20.95 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 129 | 210.0 | 338.9 | 22639.6 | 22639.6 | 0.0 | 10 | 0.0 |
| 193 | 210.0 | 403.4 | 22639.6 | 22639.6 | 0.0 | 10 | 0.0 |
| 258 | 210.0 | 467.8 | 22639.6 | 22639.6 | 0.0 | 10 | 0.0 |
| 193 | 210.0 | 403.4 | 22639.6 | 22639.6 | 0.0 | 10 | 0.0 |
| 129 | 210.0 | 338.9 | 22639.6 | 22639.6 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 700.15 | 0.67 | 11.14 | | | |



Dome Project

Date Start: 8/05/2018

Date End: 10/05/2018 Data entered by: DSA

Checked by: ALNA

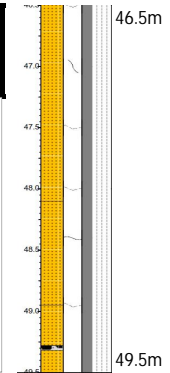
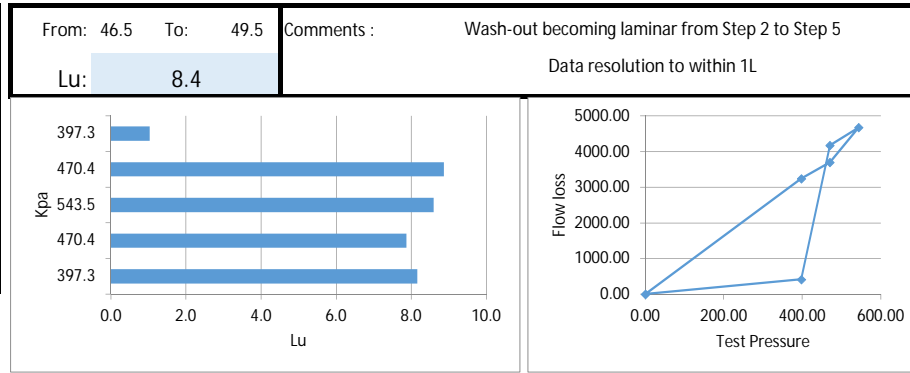
Borehole: BH6

RL Collar: 128.0

Angle: 90°

Comments :

| Test Interval | | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|--|
| Top: | 46.5 | Bottom: | 49.5 | 25.14 | 0.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu | |
| 146 | 251.1 | 397.3 | 22724.7 | 22730.8 | 6.1 | 10 | 1.0 | |
| 219 | 251.1 | 470.4 | 22733.8 | 22795.6 | 61.8 | 10 | 8.9 | |
| 292 | 251.1 | 543.5 | 22801.0 | 22870.2 | 69.2 | 10 | 8.6 | |
| 219 | 251.1 | 470.4 | 22877.0 | 22931.8 | 54.8 | 10 | 7.9 | |
| 146 | 251.1 | 397.3 | 22938.0 | 22986.0 | 48.0 | 10 | 8.2 | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | | 811.91 | 0.67 | 11.32 | | | |



Dome Project

Date Start: 26/03/2018

Date End: 29/03/2018

Data entered by: ALNA

Checked by:

ALNA

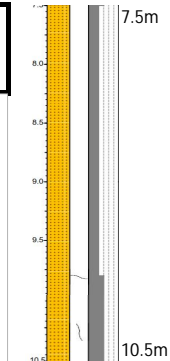
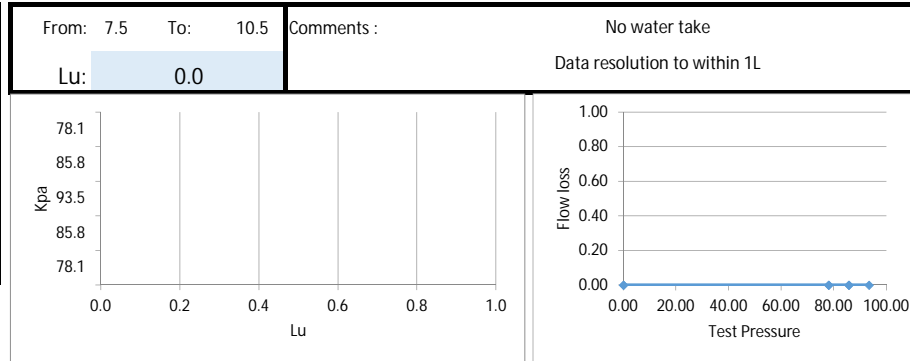
Borehole: BH7

RL Collar: TBC

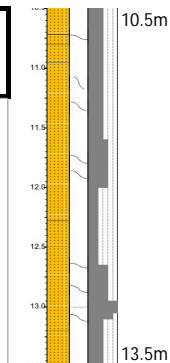
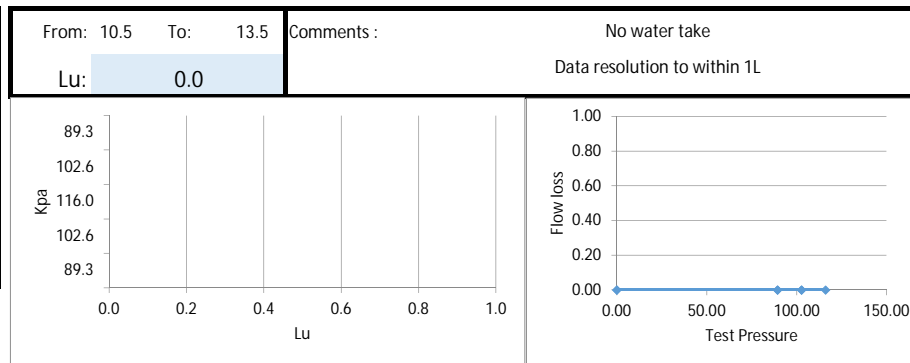
Angle: 90°

Comments :

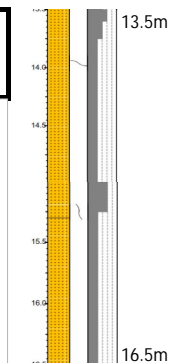
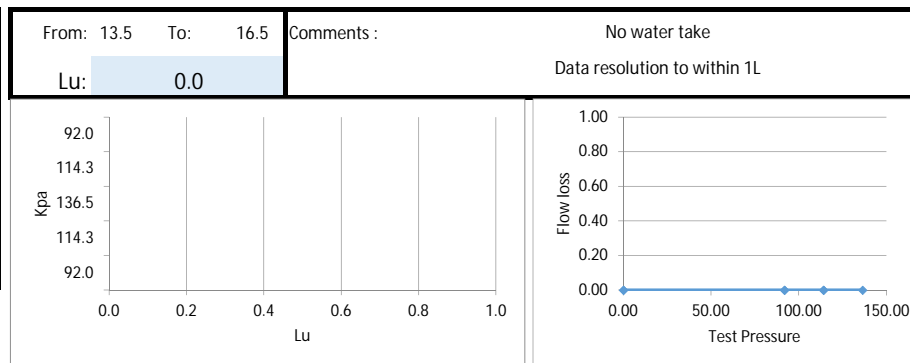
| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 7.5 | Bottom: | 10.5 | 4.9 | 1.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 15 | 62.7 | 78.1 | 7406.4 | 7406.4 | 0.0 | 15 | 0.0 |
| 23 | 62.7 | 85.8 | 7406.4 | 7406.4 | 0.0 | 15 | 0.0 |
| 31 | 62.7 | 93.5 | 7406.4 | 7406.4 | 0.0 | 15 | 0.0 |
| 23 | 62.7 | 85.8 | 7406.4 | 7406.4 | 0.0 | 15 | 0.0 |
| 15 | 62.7 | 78.1 | 7406.4 | 7406.4 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 154.06 | 0.61 | 10.39 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 10.5 | Bottom: | 13.5 | 4.9 | 1.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 27 | 62.7 | 89.3 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 40 | 62.7 | 102.6 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 53 | 62.7 | 116.0 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 40 | 62.7 | 102.6 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 27 | 62.7 | 89.3 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 189.40 | 0.61 | 9.66 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 13.5 | Bottom: | 16.5 | 3.34 | 1.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 45 | 47.4 | 92.0 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 67 | 47.4 | 114.3 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 89 | 47.4 | 136.5 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 67 | 47.4 | 114.3 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| 45 | 47.4 | 92.0 | 7408.7 | 7408.7 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 209.46 | 0.65 | 9.10 | | |



Dome Project

Date Start: 26/03/2018

Date End: 29/03/2018 Data entered by: ALNA Checked by: ALNA

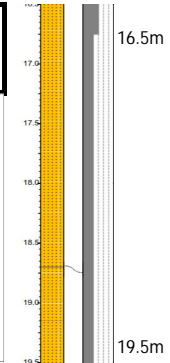
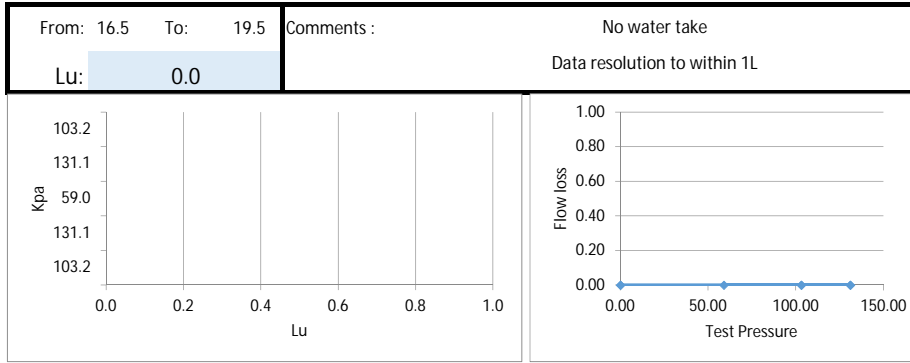
Borehole: BH7

RL Collar: TBC

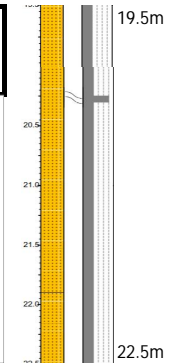
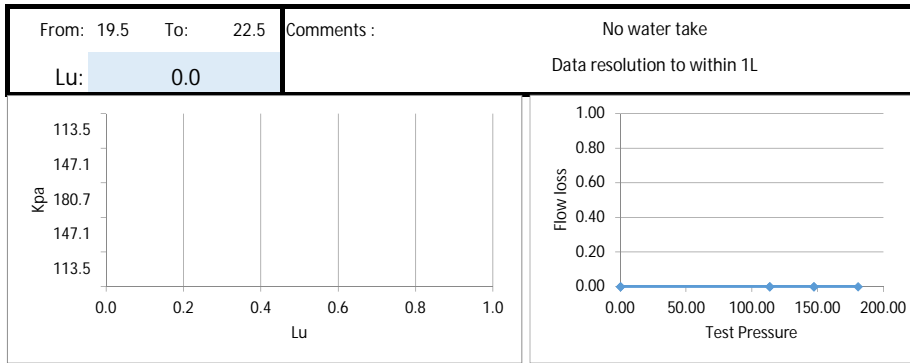
Angle: 90°

Comments :

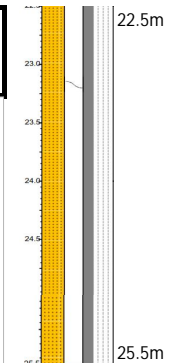
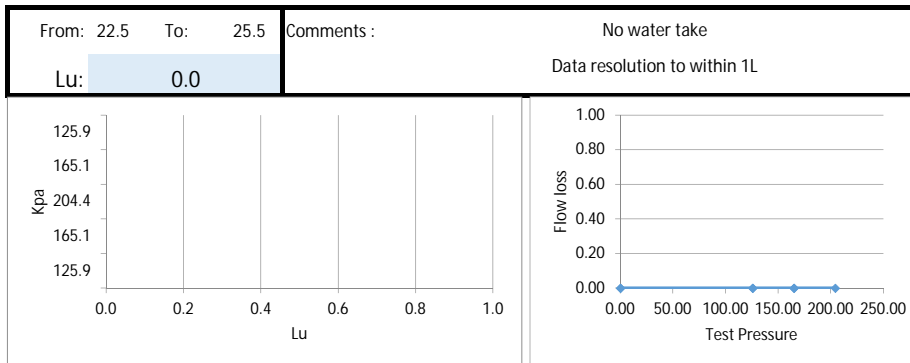
| Test Interval | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|----|
| Top: | Bottom: | Start | Finish | Flow | Lu | |
| 16.5 | 19.5 | 3.34 | 1.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | Lu |
| 56 | 47.4 | 103.2 | 7408.7 | 7408.7 | 0.0 | 15 |
| 84 | 47.4 | 131.1 | 7408.7 | 7408.7 | 0.0 | 15 |
| 12 | 47.4 | 59.0 | 7408.7 | 7408.7 | 0.0 | 15 |
| 84 | 47.4 | 131.1 | 7408.7 | 7408.7 | 0.0 | 15 |
| 56 | 47.4 | 103.2 | 7408.7 | 7408.7 | 0.0 | 15 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | 244.81 | 0.24 | 3.28 | | |



| Test Interval | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|----|
| Top: | Bottom: | Start | Finish | Flow | Lu | |
| 19.5 | 22.5 | 3.23 | 1.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | Lu |
| 67 | 46.4 | 113.5 | 7411.6 | 7411.6 | 0.0 | 15 |
| 101 | 46.4 | 147.1 | 7411.6 | 7411.6 | 0.0 | 15 |
| 134 | 46.4 | 180.7 | 7411.6 | 7411.6 | 0.0 | 15 |
| 101 | 46.4 | 147.1 | 7411.6 | 7411.6 | 0.0 | 15 |
| 67 | 46.4 | 113.5 | 7411.6 | 7411.6 | 0.0 | 15 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | 279.08 | 0.65 | 8.61 | | |



| Test Interval | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|----|
| Top: | Bottom: | Start | Finish | Flow | Lu | |
| 22.5 | 25.5 | 3.34 | 1.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | Lu |
| 78 | 47.4 | 125.9 | 7411.8 | 7411.8 | 0.0 | 15 |
| 118 | 47.4 | 165.1 | 7411.8 | 7411.8 | 0.0 | 15 |
| 157 | 47.4 | 204.4 | 7411.8 | 7411.8 | 0.0 | 15 |
| 118 | 47.4 | 165.1 | 7411.8 | 7411.8 | 0.0 | 15 |
| 78 | 47.4 | 125.9 | 7411.8 | 7411.8 | 0.0 | 15 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | 315.50 | 0.65 | 8.51 | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

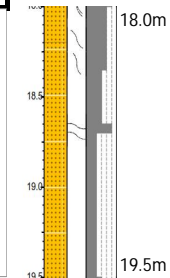
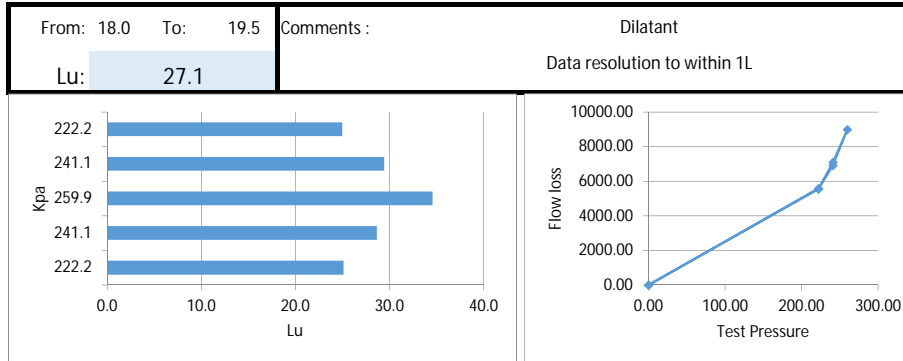
Borehole: BH8

RL Collar: 208.2

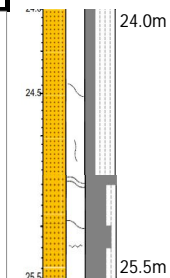
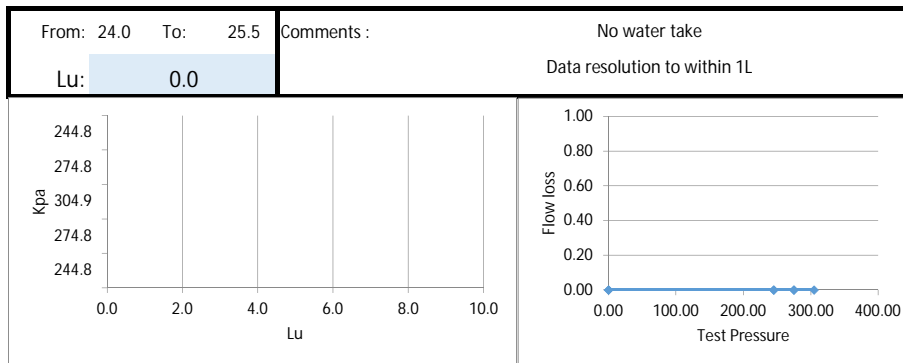
Angle: 90°

Comments :

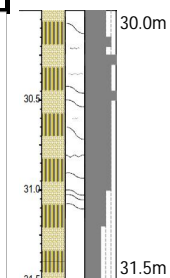
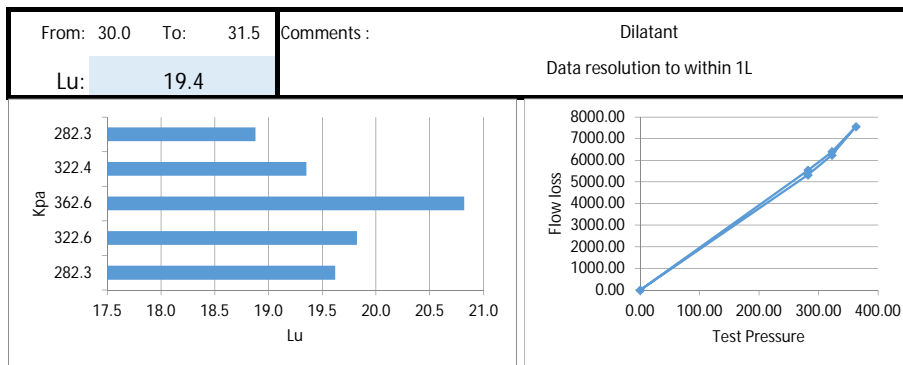
| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | 18.0 | Bottom: | 19.5 | 17.15 | 1.7 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 38 | 184.7 | 222.2 | 8786.2 | 8868.4 | 82.2 | 10 | 25.0 |
| 56 | 184.7 | 241.1 | 8875.6 | 8980.7 | 105.1 | 10 | 29.4 |
| 75 | 184.7 | 259.9 | 8990.8 | 9123.9 | 133.1 | 10 | 34.6 |
| 56 | 184.7 | 241.1 | 9128.5 | 9230.8 | 102.3 | 10 | 28.7 |
| 38 | 184.7 | 222.2 | 9236 | 9318.7 | 82.7 | 10 | 25.1 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 388.98 | 0.67 | 13.86 | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 24.0 | Bottom: | 25.5 | 17.15 | 1.7 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 60 | 184.7 | 244.8 | 9321.8 | 9321.8 | 0.0 | 10 | 0.0 |
| 90 | 184.7 | 274.8 | 9321.8 | 9321.8 | 0.0 | 10 | 0.0 |
| 120 | 184.7 | 304.9 | 9321.8 | 9321.8 | 0.0 | 10 | 0.0 |
| 90 | 184.7 | 274.8 | 9321.8 | 9321.8 | 0.0 | 10 | 0.0 |
| 60 | 184.7 | 244.8 | 9321.8 | 9321.8 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 459.67 | 0.66 | 12.32 | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | 30.0 | Bottom: | 31.5 | 18.9 | 1.7 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 80 | 201.9 | 282.3 | 9336.3 | 9415.2 | 78.9 | 10 | 18.9 |
| 121 | 201.9 | 322.4 | 9427.4 | 9519.8 | 92.4 | 10 | 19.4 |
| 161 | 201.9 | 362.6 | 9532.5 | 9644.3 | 111.8 | 10 | 20.8 |
| 121 | 201.9 | 322.6 | 9652.1 | 9746.8 | 94.7 | 10 | 19.8 |
| 80 | 201.9 | 282.3 | 9749.2 | 9831.2 | 82.0 | 10 | 19.6 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 547.52 | 0.66 | 11.79 | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

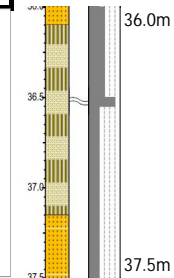
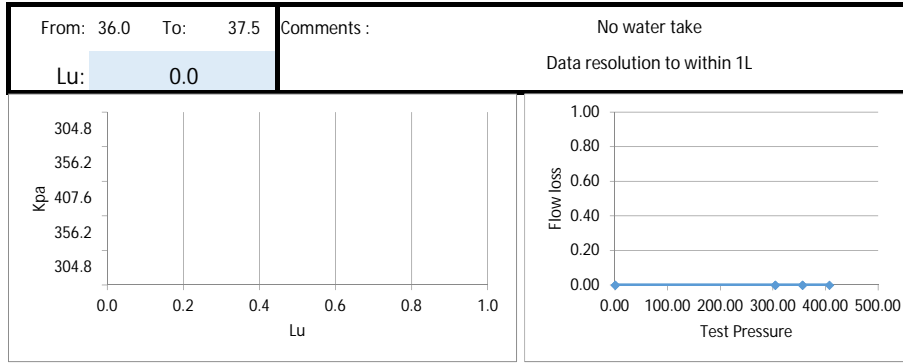
Borehole: BH8

RL Collar: 208.2

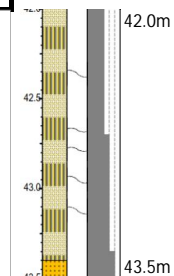
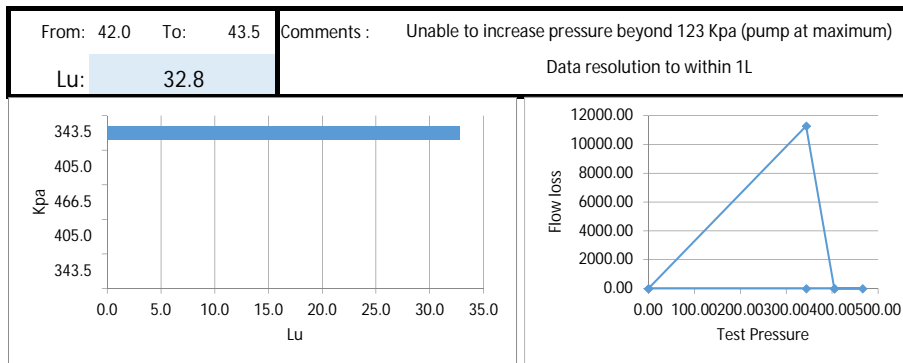
Angle: 90°

Comments :

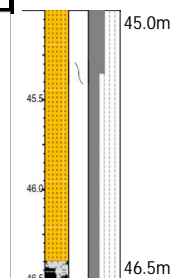
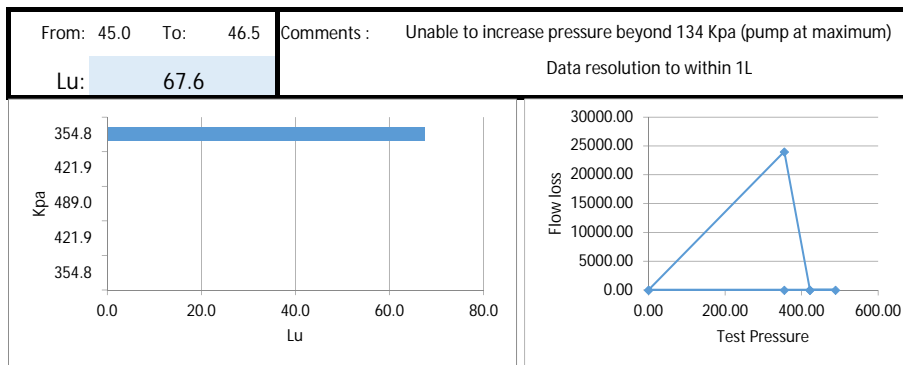
| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|---------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 36.0 | 37.5 | 18.9 | | | | | 1.7 |
| 103 | 201.9 | 304.8 | 9833.6 | 9833.6 | 0.0 | 10 | 0.0 |
| 154 | 201.9 | 356.2 | 9833.6 | 9833.6 | 0.0 | 10 | 0.0 |
| 206 | 201.9 | 407.6 | 9833.6 | 9833.6 | 0.0 | 10 | 0.0 |
| 154 | 201.9 | 356.2 | 9833.6 | 9833.6 | 0.0 | 10 | 0.0 |
| 103 | 201.9 | 304.8 | 9833.6 | 9833.6 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 618.21 | 0.66 | 11.09 | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|---------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | Bottom: | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 42.0 | 43.5 | 20.8 | | | | | 1.7 |
| 123 | 220.5 | 343.5 | 9877.1 | 10043.8 | 166.7 | 10 | 32.8 |
| 185 | 220.5 | 405.0 | | | | | |
| 246 | 220.5 | 466.5 | | | | | |
| 185 | 220.5 | 405.0 | | | | | |
| 123 | 220.5 | 343.5 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 707.52 | 0.66 | 10.91 | | |



| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|---------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | Bottom: | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 45.0 | 46.5 | 20.8 | | | | | 1.7 |
| 134 | 220.5 | 354.8 | 10471.4 | 10826.3 | 354.9 | 10 | 67.6 |
| 201 | 220.5 | 421.9 | | | | | |
| 269 | 220.5 | 489.0 | | | | | |
| 201 | 220.5 | 421.9 | | | | | |
| 134 | 220.5 | 354.8 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 742.87 | 0.66 | 10.69 | | |



Dome Project

Date Start: 26/04/2018

Date End: 30/04/2018 Data entered by: OPRI

Checked by: ALNA

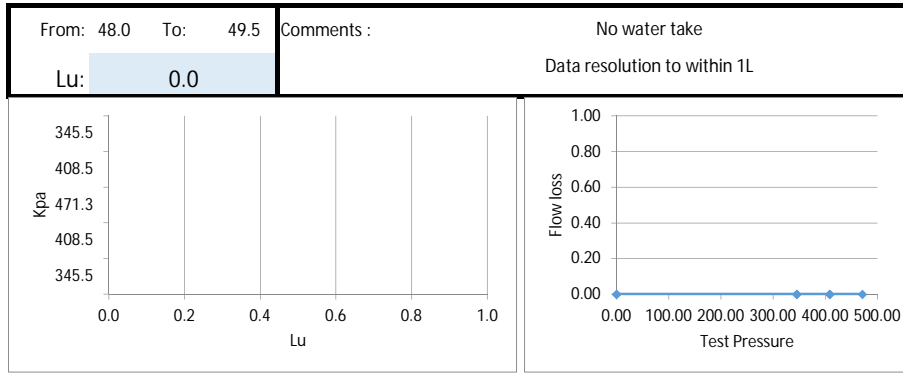
Borehole: BH8

RL Collar: 208.2

Angle: 90°

Comments :

| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|--------------|------|-----|
| Top: | 48.0 | Bottom: | 49.5 | 20.8 | 1.7 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 125 | 220.5 | 345.5 | 11063.7 | 11063.7 | 0.0 | 10 | 0.0 |
| 188 | 220.5 | 408.5 | 11063.7 | 11063.7 | 0.0 | 10 | 0.0 |
| 251 | 220.5 | 471.3 | 11063.7 | 11063.7 | 0.0 | 10 | 0.0 |
| 188 | 220.5 | 408.5 | 11063.7 | 11063.7 | 0.0 | 10 | 0.0 |
| 125 | 220.5 | 345.5 | 11063.7 | 11063.7 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 778.21 | 0.61 | 9.67 | | | |



Dome Project

Date Start: 13/04/2018

Date End: 20/04/2018 Data entered by: OPRI

Checked by: ALNA

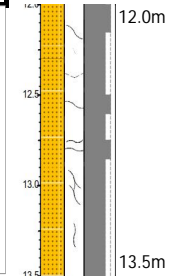
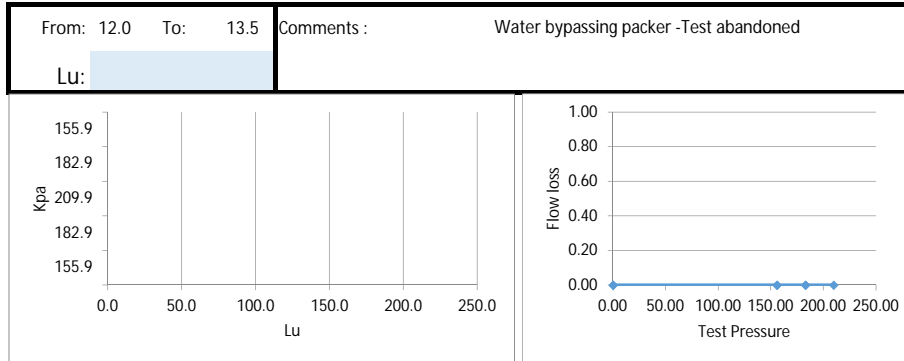
Borehole: BH9

RL Collar: 240.5

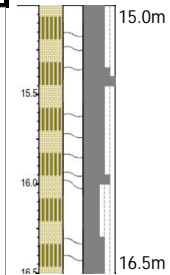
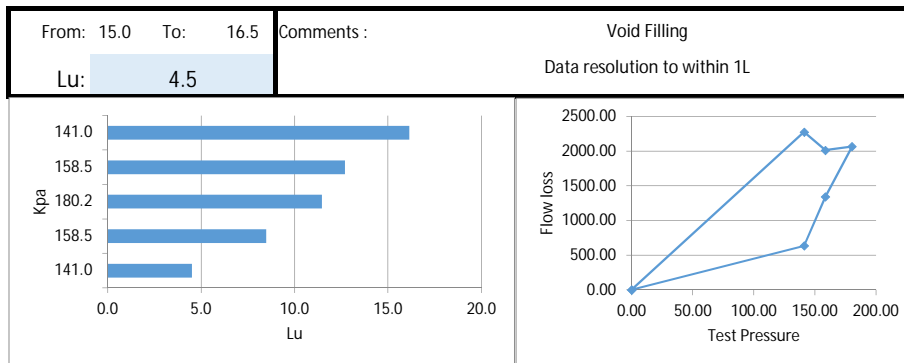
Angle: 90°

Comments :

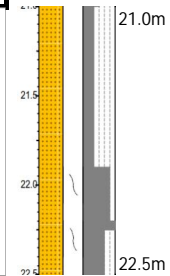
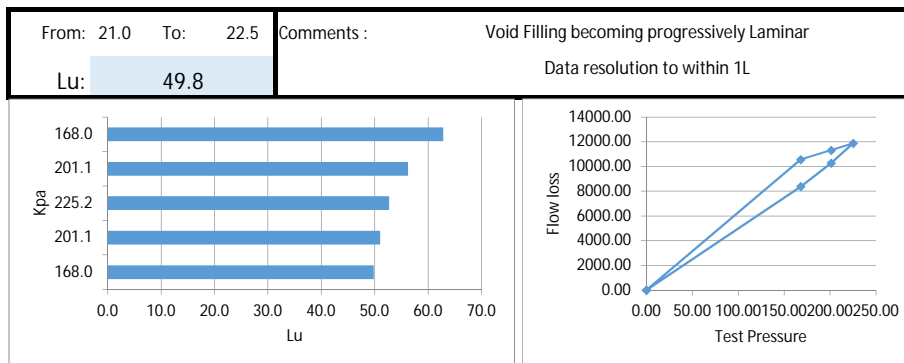
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-----|
| Top: | 12.0 | Bottom: | 13.5 | 9.3 | | 1.1 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 54 | 101.9 | 155.9 | N/A | N/A | 0 | 10 | N/A |
| 81 | 101.9 | 182.9 | N/A | N/A | 0 | 10 | N/A |
| 108 | 101.9 | 209.9 | N/A | N/A | 0 | 10 | N/A |
| 81 | 101.9 | 182.9 | N/A | N/A | 0 | 10 | N/A |
| 54 | 101.9 | 155.9 | N/A | N/A | 0 | 10 | N/A |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 241.36 | 0.87 | 16.46 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|------|
| Top: | 15.0 | Bottom: | 16.5 | 9.3 | | 1.1 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 39 | 101.9 | 141.0 | 7598.7 | 7632.4 | 33.7 | 10 | 16.1 |
| 57 | 101.9 | 158.5 | 7632.4 | 7662.2 | 29.8 | 10 | 12.7 |
| 78 | 101.9 | 180.2 | 7670.4 | 7701 | 30.6 | 10 | 11.5 |
| 57 | 101.9 | 158.5 | 7703.8 | 7723.7 | 19.9 | 10 | 8.5 |
| 39 | 101.9 | 141.0 | 7724 | 7733.4 | 9.4 | 10 | 4.5 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 276.71 | 0.65 | 11.44 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|------|
| Top: | 21.0 | Bottom: | 22.5 | 9.3 | | 1.1 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 66 | 101.9 | 168.0 | 7780.2 | 7936.6 | 156.4 | 10 | 62.9 |
| 99 | 101.9 | 201.1 | 7954.5 | 8122 | 167.5 | 10 | 56.2 |
| 123 | 101.9 | 225.2 | 8136.6 | 8312.3 | 175.7 | 10 | 52.7 |
| 99 | 101.9 | 201.1 | 8325.4 | 8477.4 | 152.0 | 10 | 51.0 |
| 66 | 101.9 | 168.0 | 8485 | 8609 | 124.0 | 10 | 49.8 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 347.40 | 0.65 | 10.35 | | |



Dome Project

Date Start: 13/04/2018

Date End: 20/04/2018 Data entered by: OPRI

Checked by: ALNA

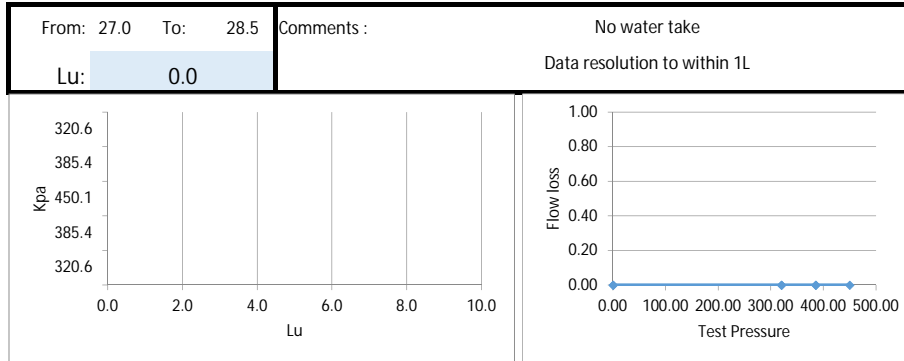
Borehole: BH9

RL Collar: 240.5

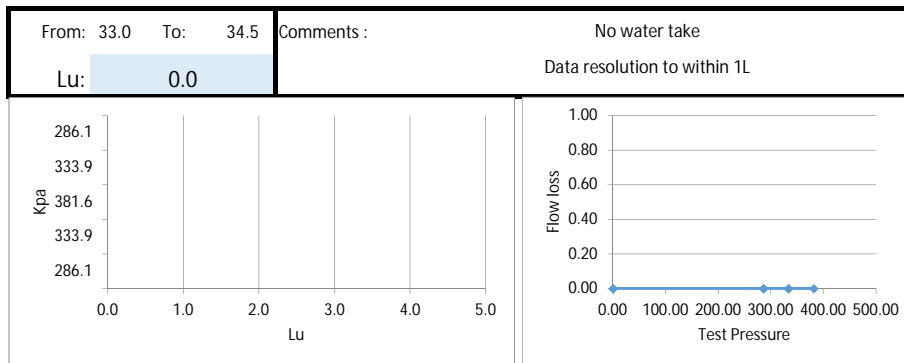
Angle: 90°

Comments :

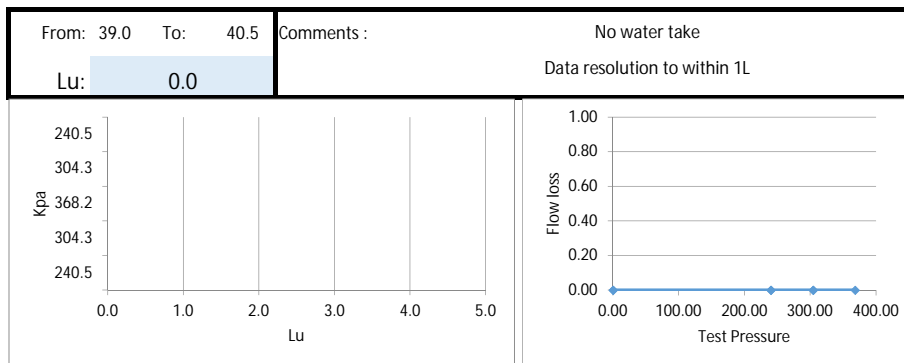
| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | | | | | | |
| 27.0 | 28.5 | | 18.4 | 1.1 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 130 | 191.1 | 320.6 | 8668.5 | 8668.5 | 0.0 | 10 | 0.0 |
| 194 | 191.1 | 385.4 | 8668.5 | 8668.5 | 0.0 | 10 | 0.0 |
| 259 | 191.1 | 450.1 | 8668.5 | 8668.5 | 0.0 | 10 | 0.0 |
| 194 | 191.1 | 385.4 | 8668.5 | 8668.5 | 0.0 | 10 | 0.0 |
| 130 | 191.1 | 320.6 | 8668.5 | 8668.5 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 507.27 | 0.89 | 16.22 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | | | | | | |
| 33.0 | 34.5 | | 18.4 | 1.1 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 95 | 191.1 | 286.1 | 8668.4 | 8668.4 | 0.0 | 10 | 0.0 |
| 143 | 191.1 | 333.9 | 8668.4 | 8668.4 | 0.0 | 10 | 0.0 |
| 191 | 191.1 | 381.6 | 8668.4 | 8668.4 | 0.0 | 10 | 0.0 |
| 143 | 191.1 | 333.9 | 8668.4 | 8668.4 | 0.0 | 10 | 0.0 |
| 95 | 191.1 | 286.1 | 8668.4 | 8668.4 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 577.96 | 0.66 | 11.31 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | | | | | | |
| 39 | 40.5 | | 10.4 | 1.1 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 128 | 112.7 | 240.5 | 8683.1 | 8683.1 | 0.0 | 10 | 0.0 |
| 192 | 112.7 | 304.3 | 8683.1 | 8683.1 | 0.0 | 10 | 0.0 |
| 256 | 112.7 | 368.2 | 8683.1 | 8683.1 | 0.0 | 10 | 0.0 |
| 192 | 112.7 | 304.3 | 8683.1 | 8683.1 | 0.0 | 10 | 0.0 |
| 128 | 112.7 | 240.5 | 8683.1 | 8683.1 | 0.0 | 10 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 570.25 | 0.65 | 9.26 | | |



Dome Project

Date Start: 13/04/2018

Date End: 20/04/2018 Data entered by: OPRI

Checked by: ALNA

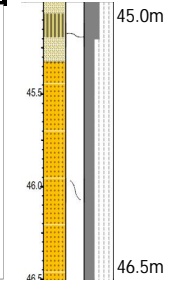
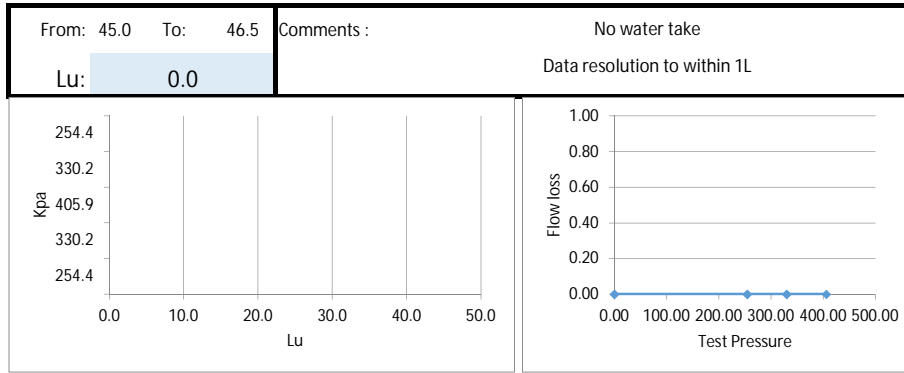
Borehole: BH9

RL Collar: 240.5

Angle: 90°

Comments :

| Test Interval | | | | Ground Water Level | Gauge Height | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|--------------|------|-----|
| Top: | 45.0 | Bottom: | 46.5 | 9.4 | 1.1 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 152 | 102.9 | 254.4 | 8683.3 | 8683.3 | 0.0 | 10 | 0.0 |
| 227 | 102.9 | 330.2 | 8683.3 | 8683.3 | 0.0 | 10 | 0.0 |
| 303 | 102.9 | 405.9 | 8716.1 | 8716.1 | 0.0 | 10 | 0.0 |
| 227 | 102.9 | 330.2 | 8716.1 | 8716.1 | 0.0 | 10 | 0.0 |
| 152 | 102.9 | 254.4 | 8716.1 | 8716.1 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 631.15 | 0.64 | 8.87 | | | |



Dome Project

Date Start: 22/05/2018

Date End: 24/05/2018 Data entered by: DSA

Checked by: ALNA

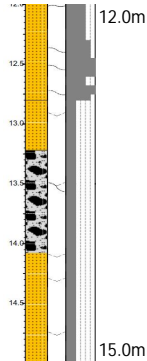
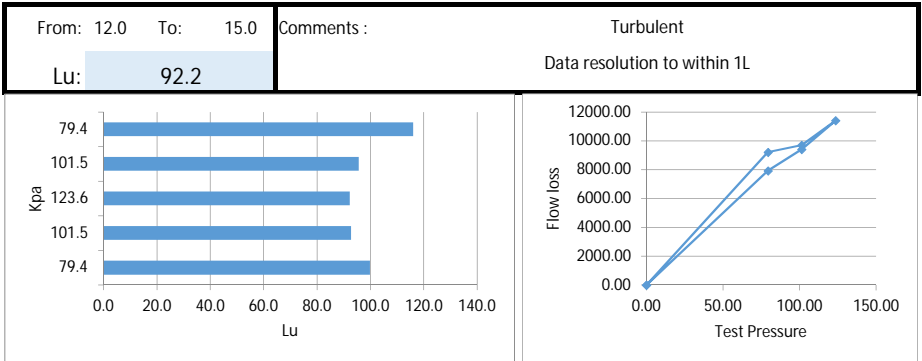
Borehole: BH10

RL Collar: 183.5

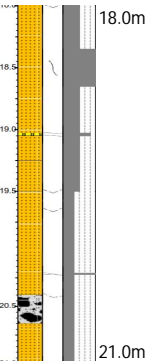
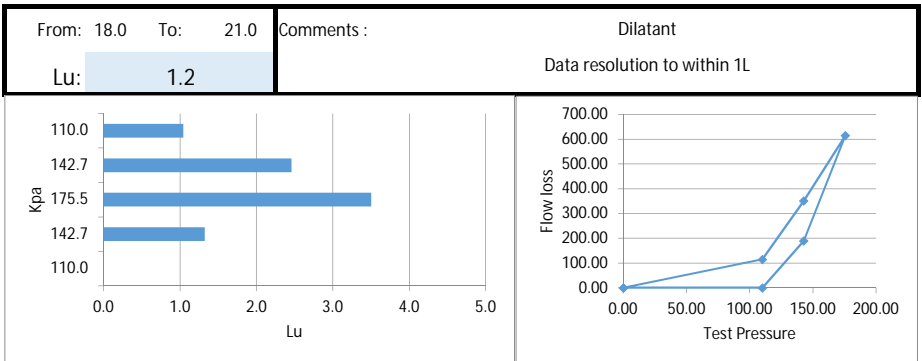
Angle: 90°

Comments :

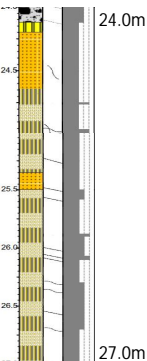
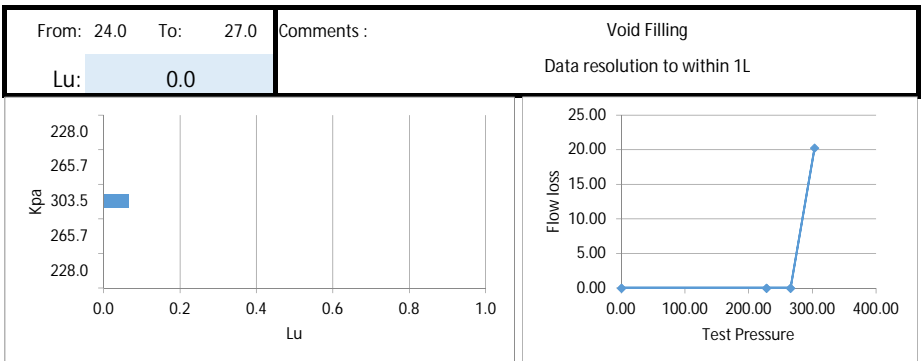
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|-------|------|-------|
| Top: | Bottom: | Start | Finish | Flow | time | | |
| 12.0 | 15 | 3.1 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 44 | 35.084 | 79.4 | 11833.0 | 11969.4 | 136.4 | 10 | 116.0 |
| 66 | 35.084 | 101.5 | 11984.5 | 12128.1 | 143.6 | 10 | 95.6 |
| 89 | 35.084 | 123.6 | 12144.2 | 12313.0 | 168.8 | 10 | 92.2 |
| 66 | 35.084 | 101.5 | 12329.1 | 12468.4 | 139.3 | 10 | 92.7 |
| 44 | 35.084 | 79.4 | 12480.9 | 12598.2 | 117.3 | 10 | 99.8 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 189.44 | 0.65 | 9.15 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | time | | |
| 18.0 | 21 | 4.05 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 66 | 44.4 | 110.0 | 12612.5 | 12614.2 | 1.7 | 10 | 1.0 |
| 98 | 44.4 | 142.7 | 12616.6 | 12621.8 | 5.2 | 10 | 2.5 |
| 131 | 44.4 | 175.5 | 12624.6 | 12633.7 | 9.1 | 10 | 3.5 |
| 98 | 44.4 | 142.7 | 12634.3 | 12637.1 | 2.8 | 10 | 1.3 |
| 66 | 44.4 | 110.0 | 12637.2 | 12637.2 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 269.44 | 0.65 | 9.00 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | time | | |
| 24.0 | 27 | 14.05 | 1.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 76 | 152.4 | 228.0 | 12636.9 | 12636.9 | 0.0 | 10 | 0.0 |
| 113 | 152.4 | 265.7 | 12637.1 | 12637.1 | 0.0 | 10 | 0.0 |
| 151 | 152.4 | 303.5 | 12637.4 | 12637.7 | 0.3 | 10 | 0.1 |
| 113 | 152.4 | 265.7 | 12637.7 | 12637.7 | 0.0 | 10 | 0.0 |
| 76 | 152.4 | 228.0 | 12637.7 | 12637.7 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 438.13 | 0.69 | 11.90 | | | |



Dome Project

Date Start: 22/05/2018

Date End: 24/05/2018 Data entered by: DSA

Checked by: ALNA

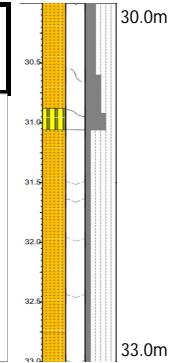
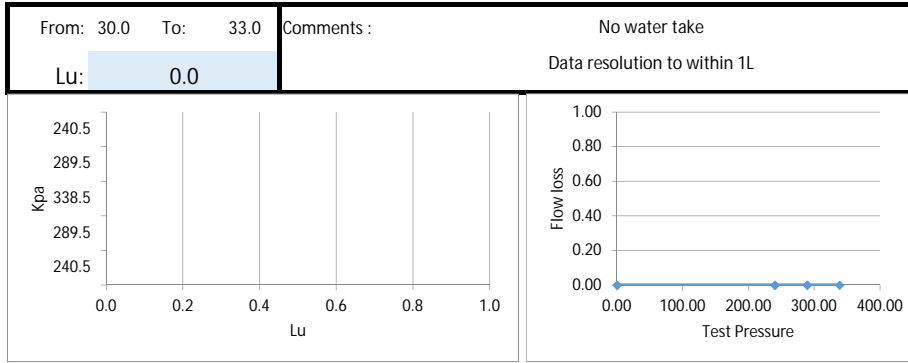
Borehole: BH10

RL Collar: 183.5

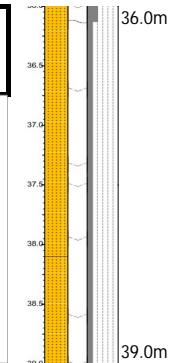
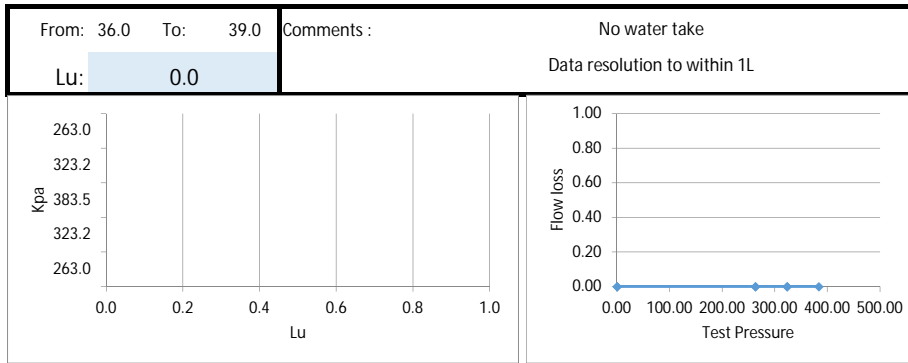
Angle: 90°

Comments :

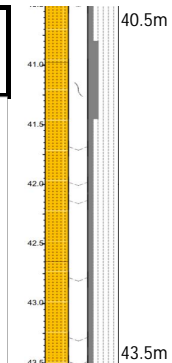
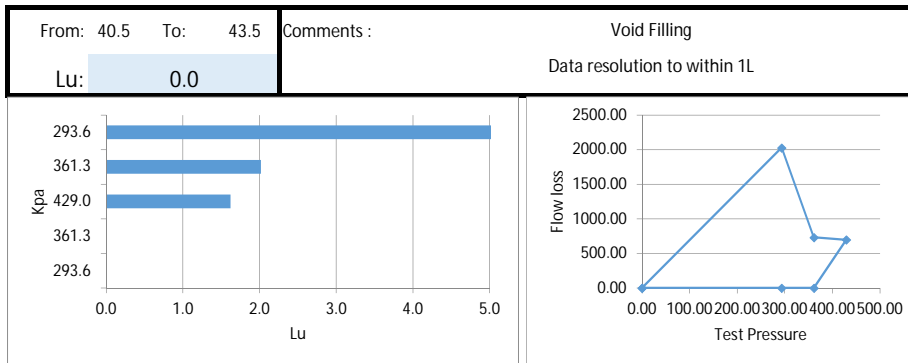
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 30.0 | 33.0 | 14.05 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 98 | 142.4 | 240.5 | 12638 | 12638.1 | 0.0 | 10 | 0.0 |
| 147 | 142.4 | 289.5 | 12638 | 12638.1 | 0.0 | 10 | 0.0 |
| 196 | 142.4 | 338.5 | 12638 | 12638.1 | 0.0 | 10 | 0.0 |
| 147 | 142.4 | 289.5 | 12638 | 12638.1 | 0.0 | 10 | 0.0 |
| 98 | 142.4 | 240.5 | 12638 | 12638.1 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 508.82 | 0.67 | 10.75 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 36.0 | 39.0 | 14.05 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 121 | 142.4 | 263.0 | 12638 | 12637.9 | 0.0 | 10 | 0.0 |
| 181 | 142.4 | 323.2 | 12638 | 12637.9 | 0.0 | 10 | 0.0 |
| 241 | 142.4 | 383.5 | 12638 | 12637.9 | 0.0 | 10 | 0.0 |
| 181 | 142.4 | 323.2 | 12638 | 12637.9 | 0.0 | 10 | 0.0 |
| 121 | 142.4 | 263.0 | 12638 | 12637.9 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 579.52 | 0.66 | 10.23 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 40.5 | 43.5 | 15.65 | 0.5 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 136 | 158.1 | 293.6 | 12647 | 12677 | 30.0 | 10 | 6.9 |
| 203 | 158.1 | 361.3 | 12682 | 12692.5 | 10.8 | 10 | 2.0 |
| 271 | 158.1 | 429.0 | 12695 | 12704.8 | 10.3 | 10 | 1.6 |
| 203 | 158.1 | 361.3 | 12705 | 12704.9 | 0.0 | 10 | 0.0 |
| 136 | 158.1 | 293.6 | 12705 | 12704.9 | 0.0 | 10 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 648.21 | 0.66 | 10.21 | | | |



Dome Project

Date Start: 22/05/2018

Date End: 24/05/2018 Data entered by: DSA

Checked by: ALNA

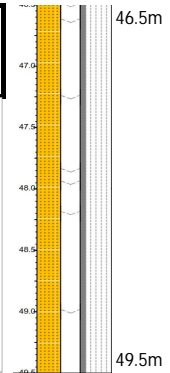
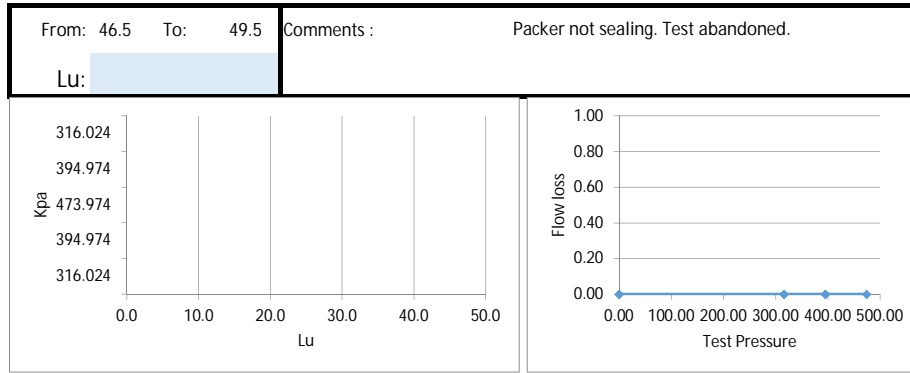
Borehole: BH10

RL Collar: 183.5

Angle: 90°

Comments :

| Test Interval | | Ground Water Level | Gauge Height | | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | 46.5 | Bottom: | 49.5 | 15.65 | | | |
| | | | | 0.5 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 158 | 158.07 | 316.024 | N/A | N/A | N/A | 10 | N/A |
| 237 | 158.07 | 394.974 | N/A | N/A | N/A | 10 | N/A |
| 316 | 158.07 | 473.974 | N/A | N/A | N/A | 10 | N/A |
| 237 | 158.07 | 394.974 | N/A | N/A | N/A | 10 | N/A |
| 158 | 158.07 | 316.024 | N/A | N/A | N/A | 10 | N/A |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 718.91 | 0.66 | 9.87 | | | |



Dome Project

Date Start: 28/03/2018

Date End: 4/04/2018

Data entered by: OPRI

Checked by:

ALNA

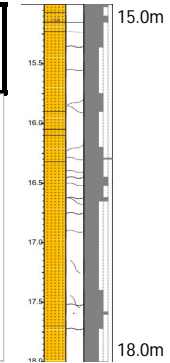
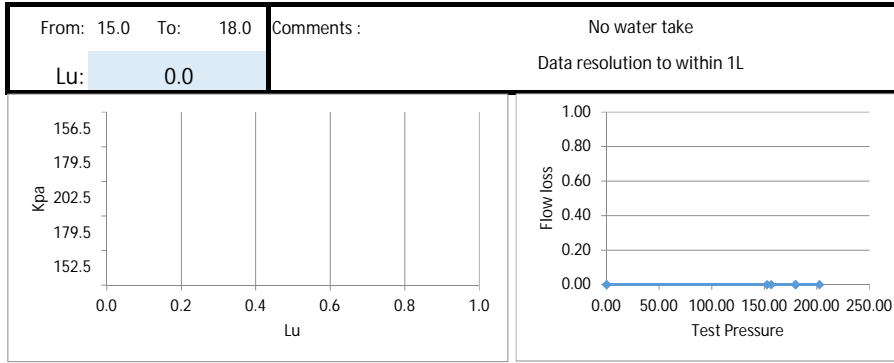
Borehole: BH11

RL Collar: TBC

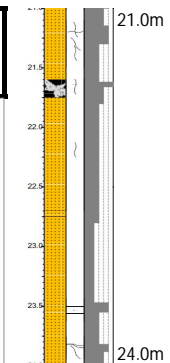
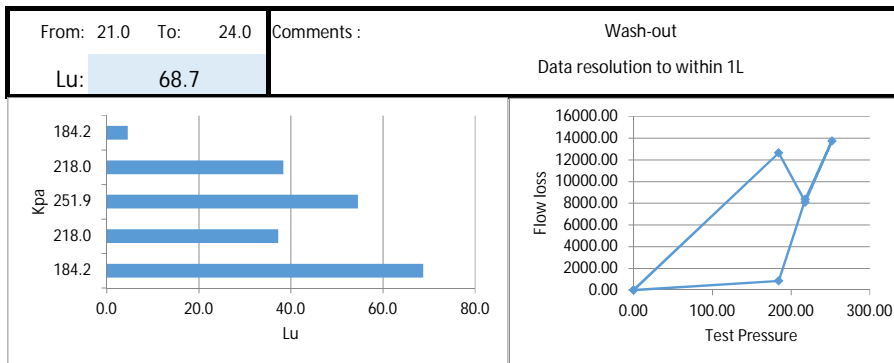
Angle: 90°

Comments :

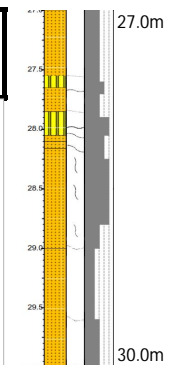
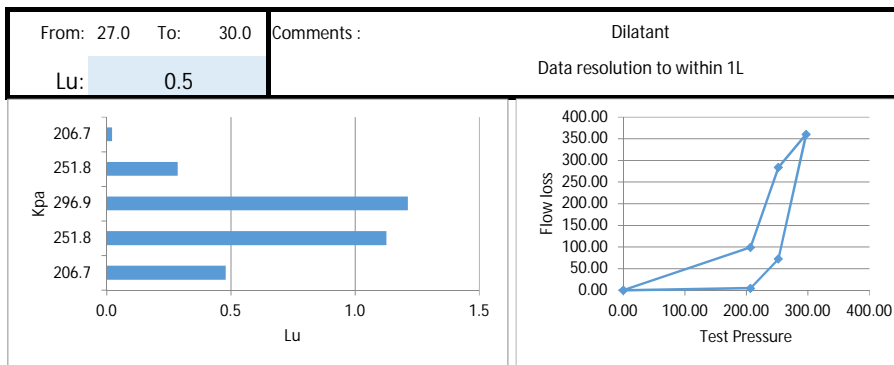
| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | | | | | | |
| 15.0 | 18.0 | | 10.8 | | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 46 | 110.5 | 156.5 | 5386.0 | 5386.0 | 0.0 | 15 | 0.0 |
| 69 | 110.5 | 179.5 | 5386.0 | 5386.0 | 0.0 | 15 | 0.0 |
| 92 | 110.5 | 202.5 | 5386.0 | 5386.0 | 0.0 | 15 | 0.0 |
| 69 | 110.5 | 179.5 | 5386.0 | 5386.0 | 0.0 | 15 | 0.0 |
| 42 | 110.5 | 152.5 | 5386.0 | 5386.0 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 300.24 | 0.67 | 12.28 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|------|
| Top: | Bottom: | | | | | | |
| 21.0 | 24.0 | | 11.4 | | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 68 | 116.4 | 184.2 | 5420.5 | 5439.3 | 18.8 | 15 | 4.6 |
| 102 | 116.4 | 218.0 | 5449.4 | 5635.4 | 186.0 | 15 | 38.4 |
| 136 | 116.4 | 251.9 | 5650.3 | 5955.7 | 305.4 | 15 | 54.6 |
| 102 | 116.4 | 218.0 | 5969.4 | 6150.0 | 180.6 | 15 | 37.3 |
| 68 | 116.4 | 184.2 | 6170.1 | 6451.4 | 281.3 | 15 | 68.7 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 376.82 | 0.67 | 11.20 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | Bottom: | | | | | | |
| 27.0 | 30.0 | | 11.4 | | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 90 | 116.4 | 206.7 | 6482.6 | 6482.7 | 0.1 | 15 | 0.0 |
| 135 | 116.4 | 251.8 | 6483.7 | 6485.3 | 1.6 | 15 | 0.3 |
| 181 | 116.4 | 296.9 | 6486.0 | 6494.0 | 8.0 | 15 | 1.2 |
| 135 | 116.4 | 251.8 | 6495.3 | 6501.6 | 6.3 | 15 | 1.1 |
| 90 | 116.4 | 206.7 | 6501.7 | 6503.9 | 2.2 | 15 | 0.5 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 447.51 | 0.66 | 10.42 | | |



Dome Project

Date Start: 28/03/2018

Date End: 4/04/2018 Data entered by: OPRI

Checked by: ALNA

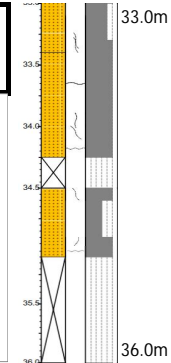
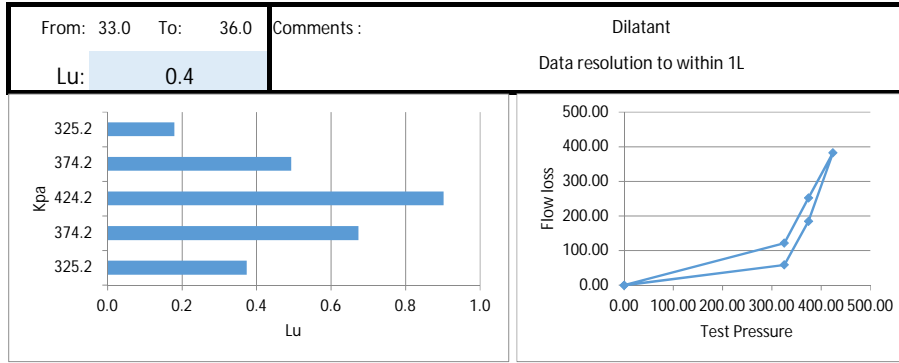
Borehole: BH11

RL Collar: TBC

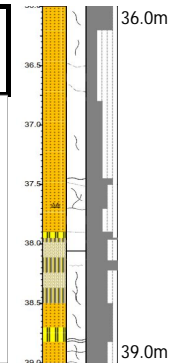
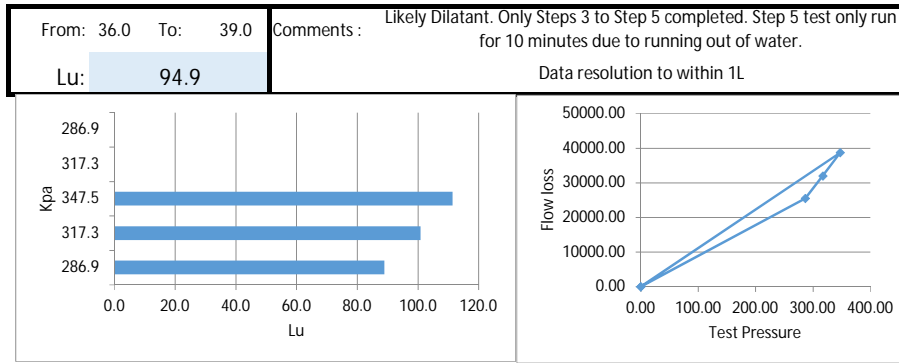
Angle: 90°

Comments :

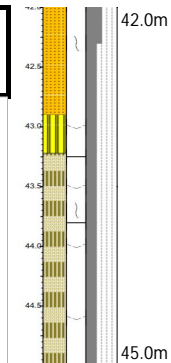
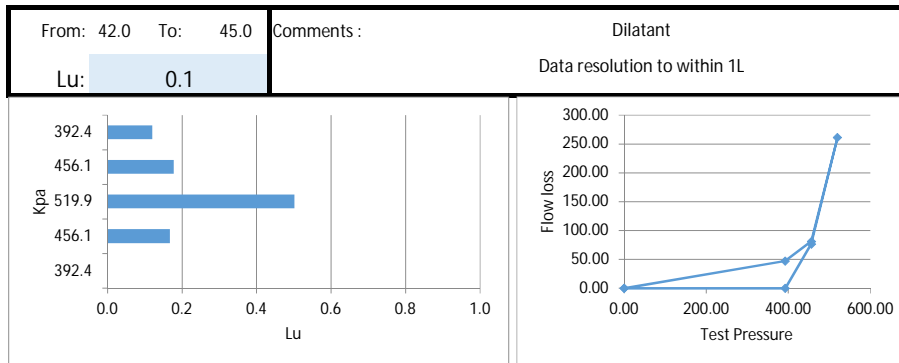
| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 33.0 | Bottom: | 36.0 | 22.6 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 99 | 226.2 | 325.2 | 6610.7 | 6612.0 | 1.3 | 15 | 0.2 |
| 148 | 226.2 | 374.2 | 6612.3 | 6616.4 | 4.1 | 15 | 0.5 |
| 198 | 226.2 | 424.2 | 6617.0 | 6625.5 | 8.5 | 15 | 0.9 |
| 148 | 226.2 | 374.2 | 6626.1 | 6631.7 | 5.6 | 15 | 0.7 |
| 99 | 226.2 | 325.2 | 6632.0 | 6634.7 | 2.7 | 15 | 0.4 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 627.96 | 0.68 | 12.30 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-------|
| Top: | 36.0 | Bottom: | 39.0 | 22.6 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 61 | 226.2 | 286.9 | | | | 15 | |
| 91 | 226.2 | 317.3 | | | | 15 | |
| 121 | 226.2 | 347.5 | 7180.0 | 8040.0 | 860.0 | 15 | 111.4 |
| 91 | 226.2 | 317.3 | 8090.0 | 8801.0 | 711.0 | 15 | 100.9 |
| 61 | 226.2 | 286.9 | 8830.0 | 9208.0 | 378.0 | 10 | 89.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 663.31 | 0.52 | 9.27 | | |



| Test Interval | | | Ground Water Level | | Gauge Height | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-----|
| Top: | 42.0 | Bottom: | 45.0 | 26.54 | 0.5 | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 128 | 264.8 | 392.4 | 9367.0 | 9368.0 | 1.0 | 15 | 0.1 |
| 191 | 264.8 | 456.1 | 9368.1 | 9369.9 | 1.8 | 15 | 0.2 |
| 255 | 264.8 | 519.9 | 9370.3 | 9376.1 | 5.8 | 15 | 0.5 |
| 191 | 264.8 | 456.1 | 9376.2 | 9377.9 | 1.7 | 15 | 0.2 |
| 128 | 264.8 | 392.4 | 9377.9 | 9377.9 | 0.0 | 15 | 0.0 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 772.61 | 0.67 | 11.95 | | |



Dome Project

Date Start: 28/03/2018

Date End: 4/04/2018

Data entered by: OPRI

Checked by: ALNA

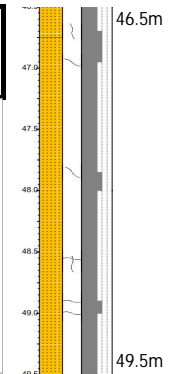
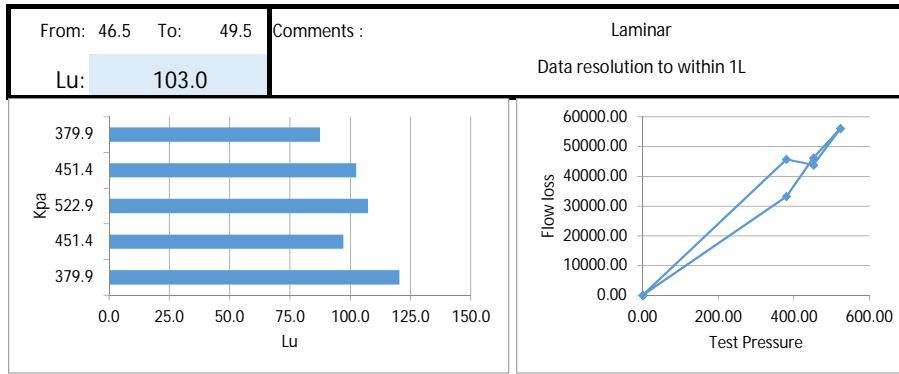
Borehole: BH11

RL Collar: TBC

Angle: 90°

Comments :

| Test Interval | | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|------|-------|--|
| Top: | 46.5 | Bottom: | 49.5 | 22.37 | 1.8 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu | |
| 143 | 236.9 | 379.9 | 9960.0 | 10698.0 | 738 | 15 | 87.5 | |
| 215 | 236.9 | 451.4 | 11524.0 | 12414.0 | 890 | 13 | 102.4 | |
| 286 | 236.9 | 522.9 | 13069.0 | 13651.0 | 582 | 7 | 107.4 | |
| 215 | 236.9 | 451.4 | 14490.0 | 14977.0 | 487 | 7.5 | 97.2 | |
| 143 | 236.9 | 379.9 | 15577.0 | 16254.0 | 677 | 10 | 120.4 | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | | 784.76 | 0.67 | 10.89 | | | |



Dome Project

Date Start: 16/03/2018

Date End: 20/03/2018

Data entered by: OPRI

Checked by:

ALNA

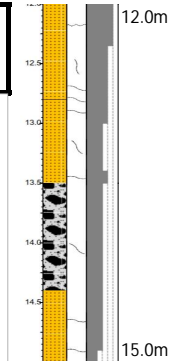
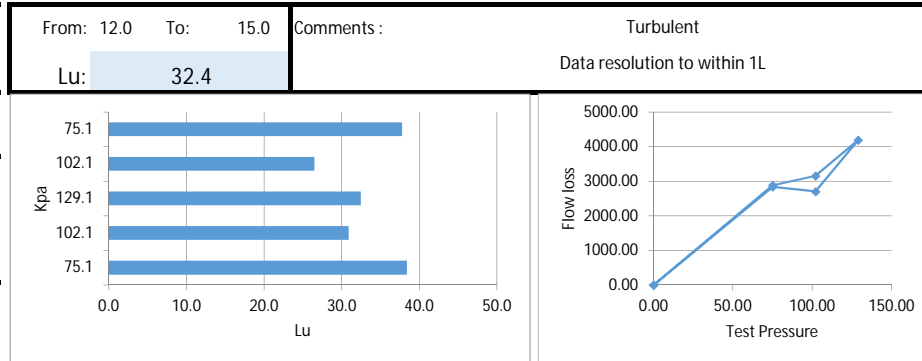
Borehole: BH12

RL Collar: TBC

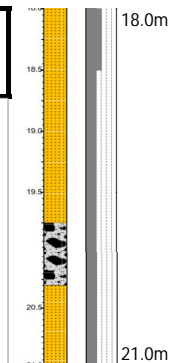
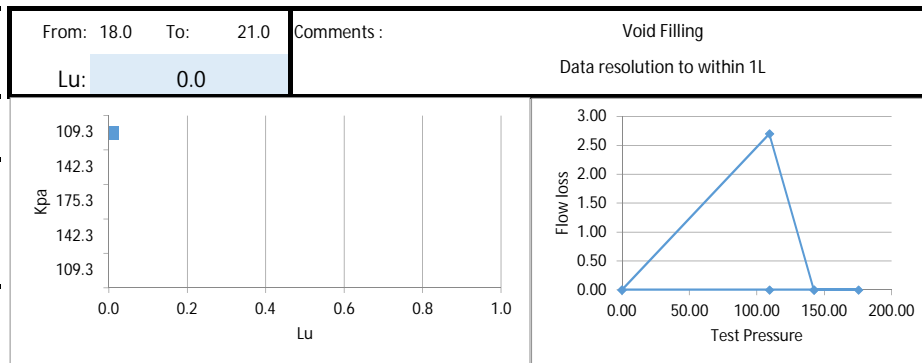
Angle: 90°

Comments :

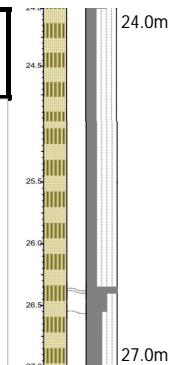
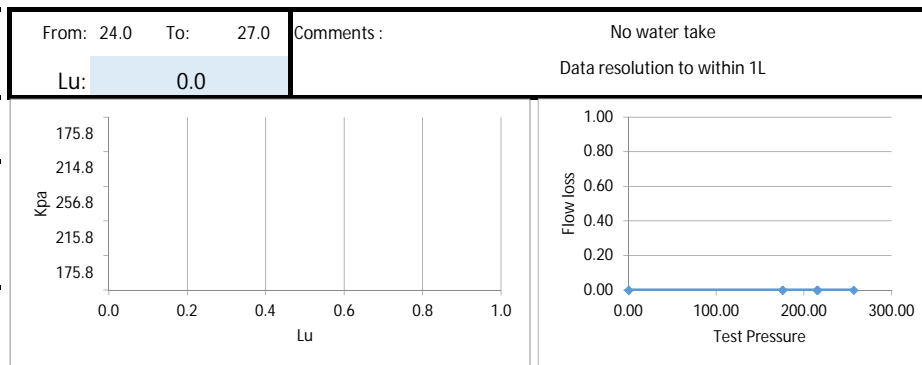
| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|------|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 12.0 | 15.0 | 1.75 | 0.4 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 54 | 21.1 | 75.1 | 6941.0 | 7004.0 | 63.0 | 15 | 37.8 |
| 81 | 21.1 | 102.1 | 7008.0 | 7068.0 | 60.0 | 15 | 26.5 |
| 108 | 21.1 | 129.1 | 7164.0 | 7257.0 | 93.0 | 15 | 32.4 |
| 81 | 21.1 | 102.1 | 7260.0 | 7330.0 | 70.0 | 15 | 30.9 |
| 54 | 21.1 | 75.1 | 7332.0 | 7396.0 | 64.0 | 15 | 38.4 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 176.21 | 0.73 | 9.56 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 18.0 | 21.0 | 4.02 | 0.4 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 66 | 43.3 | 109.3 | 7399.2 | 7399.3 | 0.1 | 15 | 0.0 |
| 99 | 43.3 | 142.3 | 7399.3 | 7399.3 | 0.0 | 15 | 0.0 |
| 132 | 43.3 | 175.3 | 7399.3 | 7399.3 | 0.0 | 15 | 0.0 |
| 99 | 43.3 | 142.3 | 7399.3 | 7399.3 | 0.0 | 15 | 0.0 |
| 66 | 43.3 | 109.3 | 7399.3 | 7399.3 | 0.0 | 15 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 269.15 | 0.65 | 8.99 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | Bottom: | Start | Finish | Flow | Lu | | |
| 24.0 | 27.0 | 8.97 | 0.4 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 84 | 91.8 | 175.8 | 7402.2 | 7402.2 | 0.0 | 15 | 0.0 |
| 123 | 91.8 | 214.8 | 7402.2 | 7402.2 | 0.0 | 15 | 0.0 |
| 165 | 91.8 | 256.8 | 7402.2 | 7402.2 | 0.0 | 15 | 0.0 |
| 124 | 91.8 | 215.8 | 7402.2 | 7402.2 | 0.0 | 15 | 0.0 |
| 84 | 91.8 | 175.8 | 7402.2 | 7402.2 | 0.0 | 15 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 388.35 | 0.66 | 10.07 | | | |



Dome Project

Date Start: 16/03/2018

Date End: 20/03/2018

Data entered by: OPRI

Checked by:

ALNA

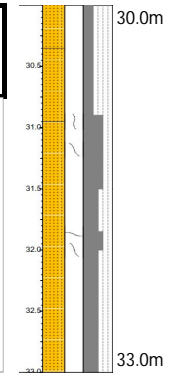
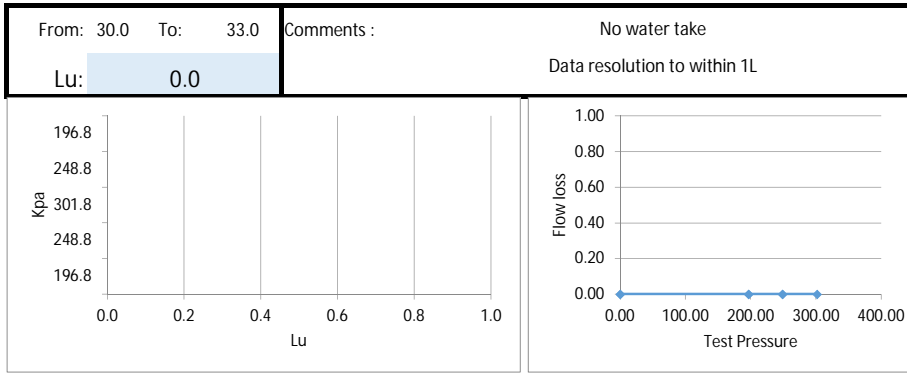
Borehole: BH12

RL Collar: TBC

Angle: 90°

Comments :

| Test Interval | | | Ground Water Level | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-----|
| Top: | 30.0 | Bottom: | 33.0 | 8.97 | | | |
| | | | | 0.4 | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 105 | 91.8 | 196.8 | 7402.5 | 7402.5 | 0.0 | 15 | 0.0 |
| 157 | 91.8 | 248.8 | 7402.5 | 7402.5 | 0.0 | 15 | 0.0 |
| 210 | 91.8 | 301.8 | 7402.5 | 7402.5 | 0.0 | 15 | 0.0 |
| 157 | 91.8 | 248.8 | 7402.5 | 7402.5 | 0.0 | 15 | 0.0 |
| 105 | 91.8 | 196.8 | 7402.5 | 7402.5 | 0.0 | 15 | 0.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 459.04 | 0.66 | 9.58 | | | |



Dome Project

Date Start: 1/03/2018

Date End: 7/03/2018

Data entered by: OPRI

Checked by: ALNA

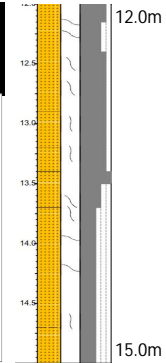
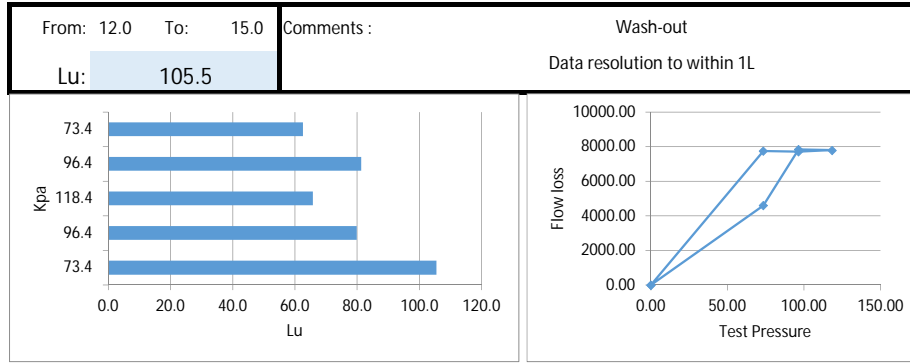
Borehole: BH13

RL Collar: TBC

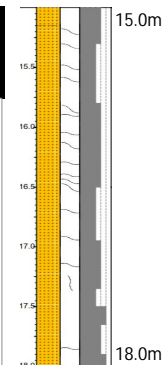
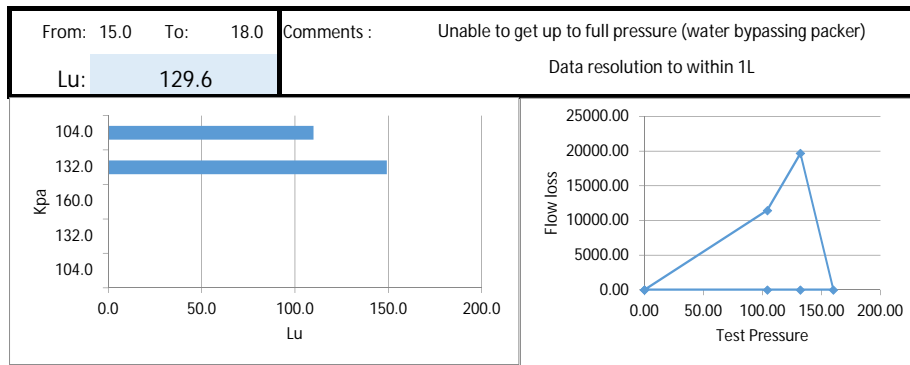
Angle: 90°

Comments :

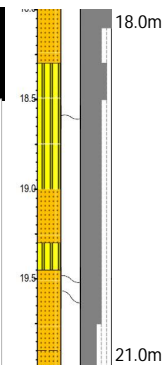
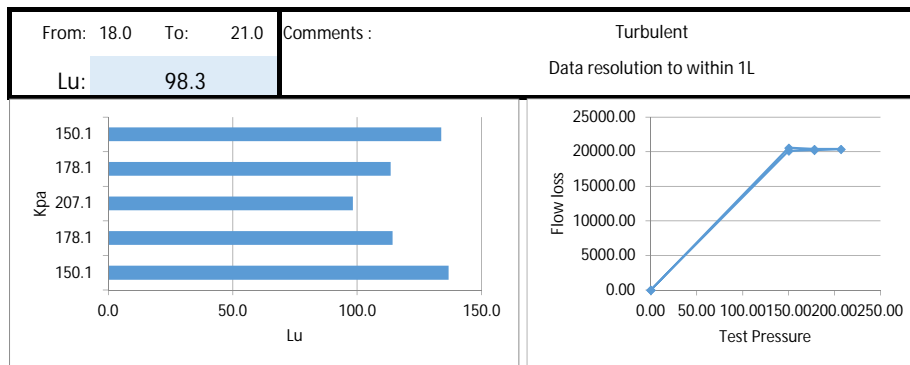
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 12.0 | Bottom: | 15.0 | 2.5 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 45 | 28.4 | 73.4 | 401.0 | 503.0 | 102 | 15 | 62.5 |
| 68 | 28.4 | 96.4 | 527.0 | 701.0 | 174 | 15 | 81.2 |
| 90 | 28.4 | 118.4 | 732.0 | 905.0 | 173 | 15 | 65.8 |
| 68 | 28.4 | 96.4 | 937.0 | 1108.0 | 171 | 15 | 79.8 |
| 45 | 28.4 | 73.4 | 1128.0 | 1300.0 | 172 | 15 | 105.5 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 183.56 | 0.65 | 8.77 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 15.0 | Bottom: | 18.0 | 4.5 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 56 | 48.0 | 104.0 | 1457.0 | 1711.0 | 254 | 15 | 109.9 |
| 84 | 48.0 | 132.0 | 1714.0 | 1889.0 | 175 | 6 | 149.2 |
| 112 | 48.0 | 160.0 | | | | | |
| 84 | 48.0 | 132.0 | | | | | |
| 56 | 48.0 | 104.0 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 238.50 | 0.67 | 9.70 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 18.0 | Bottom: | 21.0 | 9.0 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 58 | 92.1 | 150.1 | 2207.0 | 2653.0 | 446 | 15 | 133.8 |
| 86 | 92.1 | 178.1 | 2686.0 | 3135.0 | 449 | 15 | 113.5 |
| 115 | 92.1 | 207.1 | 3204.0 | 3656.0 | 452 | 15 | 98.3 |
| 86 | 92.1 | 178.1 | 3692.0 | 4144.0 | 452 | 15 | 114.2 |
| 58 | 92.1 | 150.1 | 4173.0 | 4629.0 | 456 | 15 | 136.8 |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 317.95 | 0.65 | 10.62 | | |



Dome Project

Date Start: 1/03/2018

Date End: 7/03/2018

Data entered by: OPRI

Checked by: ALNA

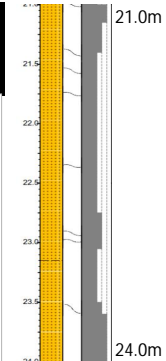
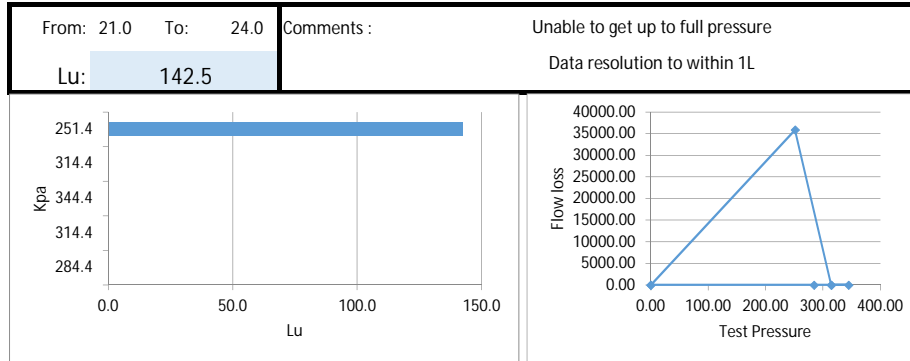
Borehole: BH13

RL Collar: TBC

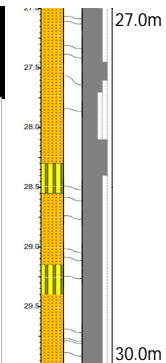
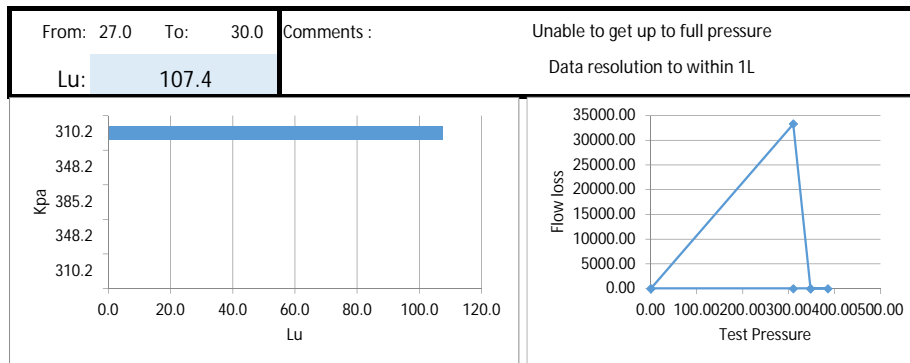
Angle: 90°

Comments :

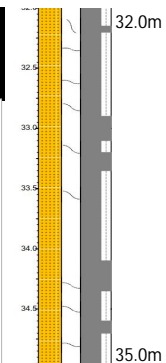
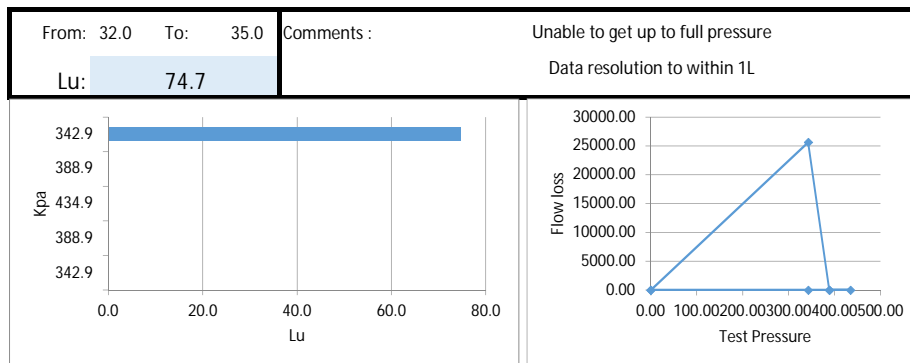
| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 21.0 | Bottom: | 24.0 | 23.34 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 27 | 224.4 | 251.4 | 4775.0 | 5571.0 | 796 | 15 | 142.5 |
| 90 | 224.4 | 314.4 | | | | | |
| 120 | 224.4 | 344.4 | | | | | |
| 90 | 224.4 | 314.4 | | | | | |
| 60 | 224.4 | 284.4 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 493.83 | 0.70 | 15.31 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|-------|
| Top: | 27.0 | Bottom: | 30.0 | 23.6 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 75 | 235.2 | 310.2 | 5800.0 | 6096.0 | 296 | 6 | 107.4 |
| 113 | 235.2 | 348.2 | | | | | |
| 150 | 235.2 | 385.2 | | | | | |
| 113 | 235.2 | 348.2 | | | | | |
| 75 | 235.2 | 310.2 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 567.07 | 0.68 | 13.52 | | |



| Test Interval | | | | Ground Water Level | | Gauge Height | |
|-----------------|-------------|---------------|---------------------|----------------------------|--------------------------|--------------|------|
| Top: | 32.0 | Bottom: | 35.0 | 25.2 | | 0.4 | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 92 | 250.9 | 342.9 | 6282.0 | 6851.0 | 569 | 15 | 74.7 |
| 138 | 250.9 | 388.9 | | | | | |
| 184 | 250.9 | 434.9 | | | | | |
| 138 | 250.9 | 388.9 | | | | | |
| 92 | 250.9 | 342.9 | | | | | |
| Pressure Checks | | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | |
| | | | 641.66 | 0.68 | 12.98 | | |



Dome Project

Date Start: 30/05/2018

Date End: 30/05/2018 Data entered by: DSA

Checked by: ALNA

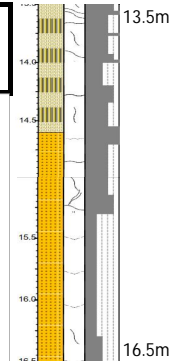
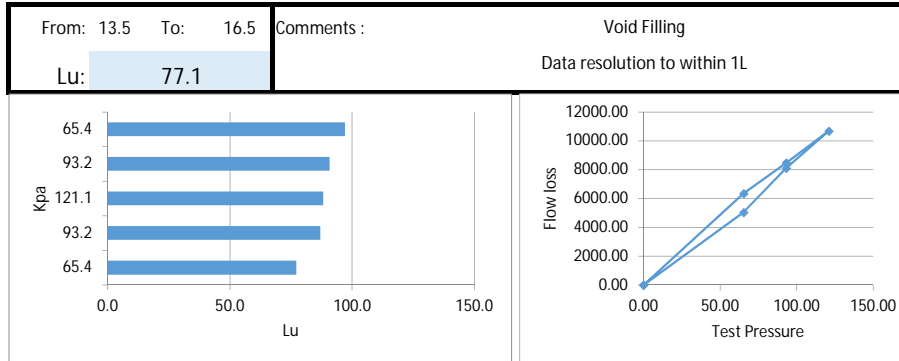
Borehole: BH14

RL Collar: 28.0

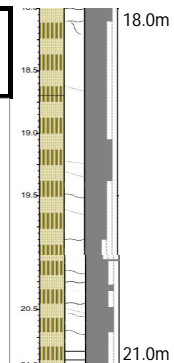
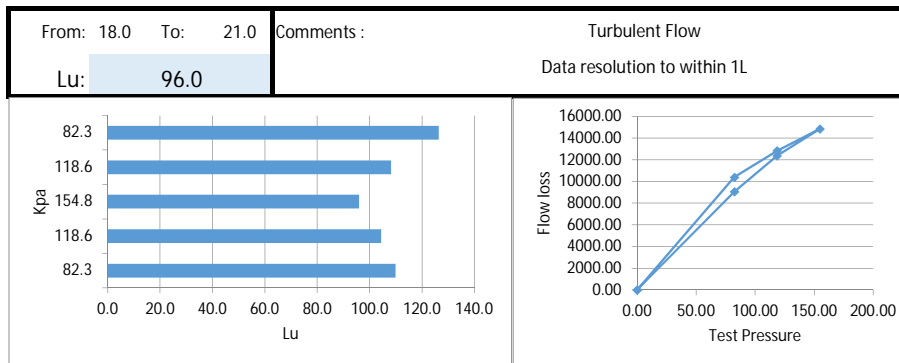
Angle: 90°

Comments :

| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|------|
| Top: | Bottom: | 0.0 | 1.0 | | | | |
| 13.5 | 16.5 | 0.0 | 1.0 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 56 | 9.8 | 65.4 | 12752.0 | 12893.0 | 141 | 15 | 97.1 |
| 83 | 9.8 | 93.2 | 12903.0 | 13091.0 | 188 | 15 | 90.8 |
| 111 | 9.8 | 121.1 | 13108.0 | 13345.0 | 237 | 15 | 88.1 |
| 83 | 9.8 | 93.2 | 13356.0 | 13536.0 | 180 | 15 | 87.0 |
| 56 | 9.8 | 65.4 | 13551.0 | 13663.0 | 112 | 15 | 77.1 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 176.73 | 0.68 | 8.07 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-------|
| Top: | Bottom: | 0.0 | 1.0 | | | | |
| 18.0 | 21.0 | 0.0 | 1.0 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 73 | 9.8 | 82.3 | 13690.0 | 13921.0 | 231 | 15 | 126.4 |
| 109 | 9.8 | 118.6 | 13942.0 | 14227.0 | 285 | 15 | 108.2 |
| 145 | 9.8 | 154.8 | 14245.0 | 14575.0 | 330 | 15 | 96.0 |
| 109 | 9.8 | 118.6 | 14584.0 | 14859.0 | 275 | 15 | 104.4 |
| 73 | 9.8 | 82.3 | 14873.0 | 15074.0 | 201 | 15 | 110.0 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 229.75 | 0.67 | 7.94 | | | |



| Test Interval | | Ground Water Level | | Gauge Height | | | |
|-----------------|-------------|---------------------|----------------------------|--------------------------|------|------|-------|
| Top: | Bottom: | 0.0 | 1.0 | | | | |
| 22.5 | 25.5 | 0.0 | 1.0 | | | | |
| Gauge Pressure | Static head | Test Pressure | Start litres | Finish litres | Flow | time | Lu |
| 89 | 9.8 | 99.2 | 15097.0 | 15379.0 | 282 | 15 | 128.0 |
| 134 | 9.8 | 143.8 | 15418.0 | 15736.0 | 318 | 15 | 99.6 |
| 169 | 9.8 | 178.6 | 15762.0 | 16126.0 | 364 | 15 | 91.8 |
| 134 | 9.8 | 143.8 | 16150.0 | 16422.0 | 272 | 15 | 85.2 |
| 89 | 9.8 | 99.2 | 16432.0 | 16630.0 | 198 | 15 | 89.9 |
| Pressure Checks | | Overburden Pressure | Test Pressure / Overburden | Max Test Pressure /metre | | | |
| | | 282.77 | 0.63 | 7.44 | | | |

