

FILE

25-01-030.
✓ RDC-3510

29th of September 2008

Rotorua District Council
Private Bag RO 3029
ROTORUA



Attn: Mr Eric Haycock

| | |
|--------------------------|-------------|
| ROTORUA DISTRICT COUNCIL | |
| Referred to: | Parks |
| Rec'd | 31 SEP 2008 |
| Copy to: | EHA |
| Instructions | |

Lab Ref: 08/272

Dear Sir

Sala Street Cemetery Extension.

Please find attached results for hand auger logs carried out on the 23th of September 2008.

Materials encountered were generally Sands and Silts that would be stable to dig in if you are above water table level. The water table was quiet high in the majority of the holes. Hydrogen sulphite was detected in hole 7. Ground temperatures were all below 25 deg C.

Yours faithfully

John O'Connor
Laboratory Manager

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08/272

TEST LOCATIONS



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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 1 (refer attached location plan)**
 Client : **RDC**



Water level (m) : nil
 Reduced level (m) : Unknown

| | |
|------------------------|---------------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| 100 | | | Orange pumice SAND,dense,moist |
| 300 | | | Black sandy organic SOIL,moist,medium dense |
| 850 | 15 | | Orange brown pumice SAND,medium dense,moist. |
| 1150 | 21.5 | | Light brown fine SAND,dense,moist. |
| 1300 | | | Grey med pumice SAND,medium dense,moist. |
| 1400 | 26.2 | | light grey SILT and fine sand,very dence,dry, semi welded. |
| | | | Unable to auger further, end of hole. May be a geothermally weldered layer. |

| Test Methods | Notes |
|--|--------------------------------|
| Shear Strength using a Hand Held Shear Vane: NZ Geotechnical Soc Inc 8/2001 | IANZ accreditation does not |
| Field Description of Soils and Rocks in Engineering Use, NZ Geomechanics Society | apply to material descriptions |

Date tested : 23/09/08
 Date reported : 28/09/08

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Designation : *Laboratory Manager*
 Date : 28/09/08

**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 2 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 1.5
 Reduced level (m) : Unknown

| | |
|-----------------|--------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|---|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 100 | | | TOPSOIL |
| 200 | | | Mottled grey brown fine SAND,loose,moist. |
| 600 | 16.3 | | Grey White medium pumice SAND with small pumice stone medium dense,moist. |
| 840 | | | Dark grey medium to coarse pumice SAND,medium dense,moist. |
| 1050 | 17.7 | | Light brown medium to coarse pumice SAND,medium dense,moist. |
| 1400 | | | Light grey med pumice SAND,dense,moist |
| 1600 | | | Light brown coarse,pumice SAND and GRAVEL,AP 10mm,med dense,wet. |
| 2100 | 20.4 | | Grey med to coarse pumice SAND,saturated,med dense. |
| | | | End of Hole,unable to recover material |

| Test Methods | Notes |
|---|--|
| Shear Strength using a Hand Held Shear Vane: NZ Geotechnical Soc Inc 8/2001 Field Description of Soils and Rocks in Engineering Use, NZ Geomechanics Society | IANZ accreditation does not apply to material descriptions |

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CSF 2068 (13/09/2006)

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**Hand Auger Log
TEST REPORT**

Project : Sala Street, Cemetry Extension
 Location : Hole 3 (refer attached location plan)
 Client : RDC



Water level (m) : 1.5
 Reduced level (m) : Unknown

Project No : 289806
 Lab Ref No : 08/272
 Client Ref No :

| Test Results | | | |
|--------------|---------------|-------------------|---|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 100 | | | TOPSOIL |
| 500 | | | Grey black mottled SAND and SOIL,med dense,moist |
| 850 | 16.5 | | grey black meduin SAND,medium dense,moist. |
| 1000 | 17 | | Black fine SAND and soil (organic), moist to wet,loose. |
| 1200 | | | Grey brown SILT,trace clay.moist to wet.firm |
| 1250 | | | Black SILT,trace clay,slightly plastic,soft,wet. |
| 1300 | 19 | | Light brown SILT,trace clay,slightly plastic,soft,wet. |
| | | | |
| 2000 | 23 | | Light brown med SAND,saturated,loose. |
| | | | End of Hole,unable to recover material |

| Test Methods | Notes |
|--|--------------------------------|
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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 4 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 1.4
 Reduced level (m) : Unknown

| | |
|-----------------|--------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 100 | | | TOPSOIL |
| 200 | | | Light brown SILT,medium dense,moist. |
| | 16.6 | | light brown grey fine SAND,medium dense,loose,moist. |
| 1100 | 18.2 | | |
| 1200 | | | Dark brown loose fine SAND and SILT,wet. |
| | | | Brown medium coarse,pumice SAND,saturated,medium dense to loose. |
| 1900 | 21.3 | | |
| | | | End of Hole,unable to recover material |

| Test Methods | Notes |
|--|--------------------------------|
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CSF 2068 (13/09/2006)

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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 5 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 1.2
 Reduced level (m) : Unknown

| | |
|-----------------|--------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| 250 | | | Mixed SOIL and rubble/GRAVEL, AP 65, loose, dry |
| 300 | | | Black brown SILT, moist, firm. |
| 600 | 15.9 | | Light brown SILT, moist, firm. |
| 900 | | | Dark brown SILT, trace of clay, wet, soft, slightly plastic. |
| | 19.2 | | Light brown grey medium SAND, medium dense, moist to wet. |
| 1500 | 19.4 | | |
| | 20 | | Gery SAND, saturated, loose. |
| 2500 | | | End of Hole |

| Test Methods | Notes |
|--|--|
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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 6 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 1.1
 Reduced level (m) : Unknown

| | |
|-----------------|--------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|--|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 100 | | | TOPSOIL |
| 600 | 21.2 | | Brown white SILT,firm ,moist. |
| 1600 | 23.7 |  | Brown grey medium SAND,wet,medium dense to loose. |
| 2300 | 23 | | Gery SAND,saturated,loose. Able to push auger from 1600mm to 2300mm |
| | | | End of Hole,unable to recover sample |

| Test Methods | Notes |
|---|--|
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**Hand Auger Log
TEST REPORT**

Project : Sala Street, Cemetry Extension
 Location : Hole 7 (refer attached location plan)
 Client : RDC



Water level (m) : 1.5
 Reduced level (m) : Unknown

| | |
|-----------------|--------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|---|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| 100 | | | grey SAND,medium dense,moist. |
| 600 | 24 | | Light brown pumice SAND and GRAVEL AP 20mm,dense,moist. |
| 900 | | | Black brown fine SAND and silty SOIL (organic),soft,wet. |
| 1200 | 25.7 | | Black grey organic SILT,wet,soft,roots. |
| | | ▽ | Hydrogen Sulphide @ minus 1.3m |
| 1800 | | | Grey SAND,saturated,medium dense to loose. |
| 2000 | | | Black organic SILT,trace of clay,slightly plastic,soft,wet. |
| 2300 | 22.3 | | Grey SAND,saturated,medium dense to loose. |
| | | | End of Hole,unable to recover sample |

| Test Methods | Notes |
|--|--------------------------------|
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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 8 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 1.4
 Reduced level (m) : unknown

| | |
|------------------------|---------------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| 200 | | | Light brown pumice SAND and GRAVEL, AP 50, med dense, moist. |
| 500 | 22.5 | | Yellow brown fine SAND, trace silt, moist, med dense. |
| 700 | | | Dark brown fine SAND, moist, wet. |
| 1000 | 16.2 | | Black organic SILT, roots, wet, firm to soft. |
| 1400 | | ▽ | White grey fine SAND, wet, loose. |
| 2300 | 18.4 | | White grey fine SAND, saturated, loose. |
| | | | End of Hole, unable to recover sample |

| Test Methods | Notes |
|--|--------------------------------|
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**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 9 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 2.2
 Reduced level (m) : unknown

| | |
|------------------------|---------------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|---|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| 250 | | | Light brown pumice SAND and GRAVEL AP 50, med dense, moist. |
| 600 | 17.1 | | Mixed SAND and SILT ,some gravel, moist, loose. |
| 800 | | | Black organic SILT, trace of clay, organic, firm, moist. |
| 1000 | | | Grey mottled SILT, trace clay, firm, moist. |
| 1900 | 20.6 | | Light grey medium SAND, firm, moist. |
| 2000 | 20.8 | | grey fine SAND, medium dense, moist. |
| 2500 | | | Grey Coarse pumice SAND, saturated, medium dense. |
| 2800 | | | Black organic SILT, trace clay soft, saturated. |
| | | | End of Hole. |

| Test Methods | Notes |
|--|--------------------------------|
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**Hand Auger Log
TEST REPORT**

Project : Sala Street, Cemetry Extension
 Location : Hole 10 (refer attached location plan)
 Client : RDC



Water level (m) : 2
 Reduced level (m) : unknown

Project No : 289806
 Lab Ref No : 08/272
 Client Ref No :

| Test Results | | | |
|--------------|---------------|-------------------|--|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| | | | Brown mixed sandy GRAVEL and soil,med dense,moist. |
| 500 | | | |
| 700 | | | Brown pumice SAND,medium dense,moist. |
| | 14.3 | | |
| 1000 | | | Black brown fine SAND and organic soil,moist,loose. |
| | 15 | | |
| 1400 | | | brown pumice SAND,trace silt,moist,firm |
| 1500 | 15.4 | | Black organic SILT wet,soft. |
| 1700 | | | Light brown fine SAND and SILT,slightly plastic,moist,firm |
| | | | |
| 2050 | 17.9 | | Black organic SILT,wet,soft. |
| | | | |
| 2300 | 18.6 | | Brown coarse SAND,saturated,loose. |
| | | | |
| 2500 | | | Brown SILT,saturated,soft. |
| | | | |
| 2800 | | | Grey SAND,loose,saturated |
| | | | End of Hole. |

| Test Methods | Notes |
|--|--|
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 Date : 28/09/08

**Hand Auger Log
TEST REPORT**

Project : **Sala Street, Cemetry Extension**
 Location : **Hole 11 (refer attached location plan)**
 Client : **RDC**



Water level (m) : 2.1
 Reduced level (m) : unknown

| | |
|------------------------|---------------|
| Project No : | 289806 |
| Lab Ref No : | 08/272 |
| Client Ref No : | |

| Test Results | | | |
|--------------|---------------|-------------------|---|
| Depth (mm) | Ground Temp C | Water Table Level | Material Description |
| 50 | | | TOPSOIL |
| | | | Brown mixed sandy GRAVEL and soil,med dense,moist. |
| 500 | | | |
| | | | Grey mixed SAND and SILT with some AP 50 stone,wet,soft,slightly plastic. |
| 1000 | 15.8 | | |
| | | | Brown fine SAND,moist,loose |
| 1500 | 17.8 | | |
| | | | Black organic SILT,trace of clay,moist to wet,organic roots. |
| 1800 | | | |
| 1900 | | | Grey SAND,loose,moist. |
| 2.1 | | ▽ | Light brown SILT,dense,moist. |
| | 20.9 | | |
| | | | Black SILT,trace of clay,organic,plastic,wet,soft. |
| 2500 | | | |
| | | | End of Hole. |

| Test Methods | Notes |
|--|--|
| Shear Strength using a Hand Held Shear Vane: NZ Geotechnical Soc Inc 8/2001 | IANZ accreditation does not apply to material descriptions |
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