TP07

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

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Excavation ID: TP08

client: Opus International Consultants Pty Ltd
principal: Queanbeyan City Council
project: Ellerton Drive Extension
location: Queanbeyan NSW

date excavated: 01 May 2014
date completed: 01 May 2014

Excavation information

method: 13 Tonne Excavator
excavation method: Excavator
excavation dimensions: 2.2 m long 0.2 m wide
dCP id.: 

material substance

SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components

material description

5101520
water
moisture
condition
consistency / relative density

Sandy CLAY: low plasticity, pale brown, fine grained sand.

SHALE: grey, highly weathered, low to medium strength.

Test pit TP08 terminated at 1.2 m Refusal on Bedrock.

classification symbol & soil description based on Unified Classification System

moisture

D dry
M moist
W wet

consistency / relative density

VS very soft
S soft
F firm
SI stiff
SSI very stiff
H hard

SPT - sample recovered
Nc SPT with solid cone

Wp plastic limit
WL liquid limit

no resistance ranging to refusal
10-Oct-12 water
level on date shown
water inflow
water outflow
**Sandy CLAY:** low plasticity, pale brown, fine grained sand.

**SHALE:** grey, highly weathered, low to medium strength.
<table>
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<tbody>
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<td>project</td>
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<td>title</td>
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</tr>
<tr>
<td>project no</td>
<td>GEOTFYSH9703AA</td>
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<tr>
<td>fig no</td>
<td>9</td>
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<tr>
<td>rev</td>
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</tr>
</tbody>
</table>
Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine to medium grained, sub-angular gravel.

Test pit TP10 terminated at 1.9 m
Bucket Refusal
<table>
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<th>original size</th>
<th>A4</th>
<th>client: Opus International Consultants Pty Ltd</th>
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</thead>
<tbody>
<tr>
<td>project:</td>
<td>Ellerton Drive Extension</td>
<td>title:</td>
<td>TEST PIT PROFILE</td>
<td>project no: GEOTFYSH9703AA</td>
<td>fig no:</td>
<td>10</td>
<td>rev:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**TOPSOIL:** Sandy SILT: low liquid limit, dark brown, fine grained sand.

Gravelly CLAY: low plasticity, orange, fine to medium grained, angular gravel.

SHALE: grey, highly weathered, low to medium strength.

Test pit TP11 terminated at 1.5 m Refusal on Bedrock

---

### Excavation Information

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>Classification Symbol</th>
<th>Soil Type</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>None</td>
<td>Water</td>
<td>nil</td>
<td>Cl</td>
<td>TOPSOIL</td>
<td>TOPSOIL: Sandy SILT: low liquid limit, dark brown, fine grained sand.</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CL</td>
<td>Gravelly CLAY: low plasticity, orange, fine to medium grained, angular gravel.</td>
</tr>
<tr>
<td>BH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SHALE</td>
<td>SHALE: grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

---

### Soil Description

- **Undisturbed Sample:** 
  - Diluted to match 10-Oct-12 water level on date shown
  - Water inflow
  - Water outflow

- **Classification Symbol & Soil Description:**
  - Based on Unified Classification System
  - D = dry
  - M = moist
  - W = wet
  - Vs = very stiff
  - H = hard
  - L = loose
  - MD = medium dense
  - D = dense
  - VD = very dense

---

### Additional Observations

- No resistance ranging to refusal

---

### Hand Penetrometer (kPa)

- VS = very soft
- S = soft
- F = firm
- SI = stiff
- VSI = very stiff
- H = hard
- L = loose
- MD = medium dense
- D = dense
- VD = very dense

---

### Moisture

- dry
- moist
- wet

---

### Consistency / Relative Density

- very soft
- soft
- firm
- stiff
- very stiff
- hard
- loose
- medium dense
- dense
- very dense

---

### DCP (blows/100 mm)

- very soft
- soft
- firm
- stiff
- very stiff
- hard
- loose
- medium dense
- dense
- very dense
Sandy CLAY: low plasticity, pale brown, fine grained sand.

Becoming orang-brown, with some fine to medium grained, angular gravel

Test pit TP12 terminated at 1.7 m
Bucket Refusal
TEST PIT PROFILE

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension

drawn: SB
approved: BC
date: 20/06/2014
scale: N.T.S.
original size: A4

fig no: GEOTFYSH9703AA
project no: 12
rev:
TOPSOIL: Sandy SILT: low liquid limit, dark brown, fine grained sand.

CLAY: low plasticity, brown-grey.

Gravelly CLAY: low plasticity, red-brown, fine to medium grained, angular gravel.

Silty CLAY: low plasticity, pale grey, high plasticity clay fines with some rootlets.

with some coarse grained angular shale gravel

Test pit TP13 terminated at 3.4 m 
Target depth
TP13

client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA fig no: 13 rev:
**Engineering Log - Excavation**

**Excavation ID:** TP14  
**Client:** Opus International Consultants Pty Ltd  
**Principal:** Queanbeyan City Council  
**Project:** Ellerton Drive Extension  
**Location:** Queanbeyan NSW

**Excavation Information**

- **Method:** Excavator
- **Equipment:** 13 Tonne Excavator
- **Excavation Dimensions:** 1.7 m long, 0.4 m wide
- **DCP:**

**Material Substance**

- **SOIL TYPE:** Sandy CLAY: low plasticity, brown, fine grained sand.
- **SOIL TYPE:** SANDSTONE: fine grained, grey, highly weathered, low to medium strength.

**Graphic Log**

- **SL (m):**
  - 0.5
  - 1.0
  - 1.5
- **Penetration Depth (m):**
  - 0.5
  - 1.0
  - 1.5

**Test Pit TP14 Terminated at 1.6 m Refusal on Bedrock**

---

**Excavation Method:** Excavator

**Penetration:** no resistance ranging to refusal

**Water:**
- 10-Oct-12 water level on site shown
- Water inflow
- Water outflow

**Samples & Field Tests**

- **Un** undisturbed sample
- **D** disturbed sample
- **B** bulk disturbed sample
- **E** environmental sample
- **HP** hand penetrometer (kPa)
- **N** standard penetration test (SPT)
- **Nc** SPT with solid cone
- **VS** vane shear bulk remoulded
- **Wp** plastic limit
- **Wl** liquid limit
- **Refusal**

**Classification Symbol & Soil Description**

- **CL**
- **Wp**
- **F**

**Consistency / Relative Density**

- **VS** very soft
- **S** soft
- **F** firm
- **SI** stiff
- **VSI** very stiff
- **H** hard
- **MD** medium dense
- **D** dense
- **VD** very dense

---

**Engineering Log - Excavation**

**Excavation ID:** TP14  
**Sheet:** 1 of 1  
**Project No.:** GEOTFYSH9703AA  
**Date Excavated:** 02 May 2014  
**Date Completed:** 02 May 2014  
**Logged By:** BC  
**Checked By:** DB
client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA fig no: 14 rev:
**Engineering Log - Excavation**

**Client:** Opus International Consultants Pty Ltd  
**Principal:** Queanbeyan City Council  
**Project:** Ellerton Drive Extension  
**Location:** Queanbeyan NSW

- **Excavation ID:** TP15  
- **Date excavated:** 14 May 2015  
- **Date completed:** 14 May 2015  
- **Logged by:** BC  
- **Checked by:** DB

**Excavation Information:**
- **Method:** Excavator  
- **Equipment:** 13 Tonne Excavator

**Material Substance:**
- **SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components
- **Material description:**
  - **CL:** Gravely CLAY: low plasticity, brown, fine to medium grained, angular gravel.
  - **VS:** SANDSTONE: fine grained, brown-grey, highly weathered, low to medium strength.

**Soil Tests:**
- **Test pit TP15 terminated at 1.5 m Refusal on Bedrock**

**Excavation ID:** TP15  
**Excavation sheet:** 1 of 1  
**Project no.:** GEOTFYSH9703AA

---

**Classification Symbol & Soil Description:**
Based on Unified Classification System

**Moisture:**
- **D:** Dry
- **M:** Moist
- **W:** Wet
- **L:** Loose
- **MD:** Medium Dense
- **D:** Dense

**Consistency & Relative Density:**
- **VS:** Very Soft
- **S:** Soft
- **F:** Firm
- **SI:** Stiff
- **VSt:** Very Stiff
- **H:** Hard
- **L:** Loose
- **MD:** Medium Dense
- **D:** Dense
- **VD:** Very Dense

**Support & Penetration:**
- **N:** Natural Exposure
- **X:** Existing Excavation
- **BH:** Backhoe Bucket
- **B:** Bulldozer Blade
- **R:** Ripper
- **E:** Excavator

**Water & Samples:**
- **N:** None
- **S:** Shoring
- **10-Oct-12 Water level on date shown**
- **Water Inflow**
- **Water Outflow**
- **No resistance ranging to refusal**
- **Hand Penetrometer:**
  - **100 mm**
  - **(kPa)**
  - **(uncorrected kPa)**

---

**Drawings:**
- **CDF_0_9_DBC.GLB**
- **Log COF EXCAVATION + PSP/DCP GEOTFYSH09703AA.GPJ**
- **<<DrawingFile>> 27/06/2014 15:41**
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

**Excavation ID:** TP16  
**date excavated:** 02 May 2014  
**date completed:** 02 May 2014  
**logged by:** BC  
**checked by:** DB

#### Excavation Information

<table>
<thead>
<tr>
<th>SOIL TYPE</th>
<th>material description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>Sandy CLAY: low plasticity, pale brown, fine grained sand, with rootlets.</td>
</tr>
<tr>
<td>CL</td>
<td>Sandy CLAY: low plasticity, orange, fine grained sand with some fine grained, angular gravel.</td>
</tr>
<tr>
<td>SANDSTONE</td>
<td>fine grained, grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

Test pit TP16 terminated at 1.0 m Refusal on Bedrock

#### Material Substance

<table>
<thead>
<tr>
<th>water penetration</th>
<th>soil tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>no resistance ranging to refusal</td>
<td></td>
</tr>
</tbody>
</table>

#### Environmental Sample

- **hand penetrometer (kPa)**
  - VS
  - R
- **standard penetration test (SPT)**
  - N
  - Nc
  - SPT - sample recovered
- **vane shear; peak/remoulded (uncorrected kPa)**
  - Vs
  - Wp
  - Wl
- **disturbed sample #mm diameter**
  - D
- **undisturbed sample #mm diameter**
  - U
- **bulk disturbed sample**
  - B

#### Consistency / Relative Density

- **very soft**
- **soft**
- **firm**
- **stiff**
- **very stiff**
- **hard**
- **very loose**
- **medium dense**
- **dense**
- **very dense**

---

**Cozy: 0.98 MB, PDF COF EXCAVATION + PSP/DCP GEOTFYSH09703AA.GPJ <<DrawingFile>> 27/06/2014 15:41**
TP16

client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA

fig no: 16
Excavation ID: TP17

**client:** Opus International Consultants Pty Ltd
**principal:** Queanbeyan City Council
**project:** Ellerton Drive Extension
**location:** Queanbeyan NSW

**Excavation Method:** Excavator
**Excavation Dimensions:** 1.6 m long 0.4 m wide
**DCP id.:**

**Soil Type:**
- Sandy CLAY: low plasticity, brown, fine grained sand, with rootlets.
- SANDSTONE: fine grained, grey-brown, highly weathered, low to medium strength.

**Refusal:**
- Test pit TP17 terminated at 0.6 m Refusal on Bedrock.

**Support:**
- No support

**Penetration:**
- No resistance ranging to refusal

**Water:**
- 10-Oct-12 water level on date shown

**Samples & Field Tests:**
- Undisturbed sample #mm diameter
- Disturbed sample
- Bulk disturbed sample
- Environmental sample
- SPT - Sample recovered
- SPT with solid cone
- Vane shear; peak/remoulded

**Classification Symbol & Soil Description:**
- Based on Unified Classification System

**Consistency / Relative Density:**
- VS very soft
- D dry
- S soft
- F firm
- SI stiff
- VSi very stiff
- H hard
- M moist
- Po fines
- W wet
- Md dense
- LD loose
- MD medium dense
- D very dense
- VD very dense
<table>
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**client:** Opus International Consultants Pty Ltd  
**project:** Ellerton Drive Extension  
**title:** TEST PIT PROFILE  
**project no:** GEOTFYSH9703AA  
**fig no:** 17
**SANDY CLAY:** low plasticity, brown, fine grained sand, trace fine grained, angular gravel.

**SANDSTONE:** fine grained, brown-grey, highly weathered, low to medium strength.

Test pit TP18 terminated at 1.4 m Refusal on Bedrock
TP18

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

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project no: GEOTFYSH9703AA
fig no: 18
rev:
**Engineering Log - Excavation**

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

<table>
<thead>
<tr>
<th>position:</th>
<th>E: 704711; N: 6084436 (WGS84 Zone 55)</th>
<th>surface elevation: 650.00m (AHD)</th>
<th>pit orientation:</th>
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</thead>
<tbody>
<tr>
<td>equipment type:</td>
<td>6 Tonne Excavator</td>
<td>excavation method: Excavator</td>
<td>excavation dimensions: 1.5 m long 0.4 m wide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>excavation information</th>
<th>material substance</th>
<th>SOIL TYPE:</th>
<th>plasticity or particle characteristic, colour, secondary and minor components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>samples &amp; field tests</td>
<td>material description</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>depth (m)</th>
<th>material description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, sub-angular gravel.</td>
</tr>
<tr>
<td>1.0</td>
<td>SANDSTONE: fine grained, grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

| Test pit TP19 terminated at 0.7 m |
| Refusal on Bedrock |

**Excavation ID:** TP19  
**date excavated:** 02 May 2014  
**date completed:** 02 May 2014

---

**excavation information**

<table>
<thead>
<tr>
<th>method</th>
<th>support</th>
<th>samples &amp; field tests</th>
<th>classification symbol</th>
<th>material description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td></td>
<td>CL</td>
<td>Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, sub-angular gravel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**graphic log**

- No New Excavation
- New Excavation

---

**Soil Description**

- **CL:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, sub-angular gravel.
- **SANDSTONE:** fine grained, grey, highly weathered, low to medium strength.

**Additional Observations**

- Test pit TP19 terminated at 0.7 m
- Refusal on Bedrock
## Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

### Excavation Information
- **Excavation Method:** Excavator
- **Excavation Dimensions:** 3.0 m long x 1.0 m wide
- **Equipment Type:** 13 Tonne Excavator
- **DCP ID:**

### Material Substance

<table>
<thead>
<tr>
<th>SOIL TYPE</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAY</td>
<td>low plasticity, pale brown, with rootlets.</td>
</tr>
<tr>
<td>Gravelly CLAY</td>
<td>low plasticity, orange-brown, fine to medium grained, angular to sub-angular gravel.</td>
</tr>
</tbody>
</table>

### Samples & Field Tests

<table>
<thead>
<tr>
<th>Water</th>
<th>Test pit TP20 terminated at 3.0 m Target depth</th>
</tr>
</thead>
</table>

### Support & Water

- **N:** natural exposure
- **X:** existing excavation
- **BH:** backhoe bucket
- **B:** bulldozer blade
- **R:** ripper
- **E:** excavator

### Penetration

- **N:** no resistance ranging to refusal
- **X:** low-Oct-12 water level on date shown
- **BH:** water inflow
- **B:** water outflow
- **R:** refusal
- **E:** refusal

### Classification Symbol & Soil Description

Based on Unified Classification System

### Moisture

<table>
<thead>
<tr>
<th>Soil Condition</th>
<th>Relative Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>dry</td>
</tr>
<tr>
<td>M</td>
<td>moist</td>
</tr>
<tr>
<td>W</td>
<td>wet</td>
</tr>
<tr>
<td>VS</td>
<td>very soft</td>
</tr>
<tr>
<td>S</td>
<td>soft</td>
</tr>
<tr>
<td>F</td>
<td>firm</td>
</tr>
<tr>
<td>SI</td>
<td>stiff</td>
</tr>
<tr>
<td>VS</td>
<td>very stiff</td>
</tr>
<tr>
<td>H</td>
<td>hard</td>
</tr>
<tr>
<td>Pb</td>
<td>friable</td>
</tr>
<tr>
<td>VL</td>
<td>very loose</td>
</tr>
<tr>
<td>L</td>
<td>loose</td>
</tr>
<tr>
<td>MD</td>
<td>medium dense</td>
</tr>
<tr>
<td>D</td>
<td>dense</td>
</tr>
<tr>
<td>VD</td>
<td>very dense</td>
</tr>
</tbody>
</table>

### Additional Observations
- Test pit TP20 terminated at 3.0 m Target depth
<table>
<thead>
<tr>
<th>drawn</th>
<th>SB</th>
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<td>N.T.S.</td>
</tr>
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<td>A4</td>
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</table>

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

project no: GEOTFYSH9703AA fig no: 20 rev: 20
**Engineering Log - Excavation**

**client:** Opus International Consultants Pty Ltd

**principal:** Queanbeyan City Council

**project:** Ellerton Drive Extension

**location:** Queanbeyan NSW

**Excavation ID:** TP21

**date excavated:** 14 May 2014

**date completed:** 14 May 2014

**logged by:** BC

**checked by:** DB

---

### Soil Description

#### Topsoil: Clayey Silts
- Low liquid limit, dark brown

#### Clay: Low plasticity, pale grey, trace fine grained, angular gravel

#### Gravelly Clay: Low plasticity, orange, fine grained, sub-angular gravel

#### Sandstone: Fine grained, grey, highly weathered, low to medium strength

### Excavation Information

- **Surface Elevation:** 637.53m (AHD)
- **Pit Orientation:** E: 704886; N: 6084445 (WGS84 Zone 55)

### Excavation Method
- **Equipment Type:** 6 Tonne Excavator
- **Excavation Method:** Excavator

### Material Substance

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOPSOIL: Clayey Silt</td>
<td>Low liquid limit, dark brown</td>
</tr>
<tr>
<td>CLAY</td>
<td>Low plasticity, pale grey, trace fine grained, angular gravel</td>
</tr>
<tr>
<td>Gravelly CLAY</td>
<td>Low plasticity, orange, fine grained, sub-angular gravel</td>
</tr>
<tr>
<td>SANDSTONE</td>
<td>Fine grained, grey, highly weathered, low to medium strength</td>
</tr>
</tbody>
</table>

### Additional Observations
- **Test pit TP21 terminated at 1.7 m Refusal on Bedrock**
TP21

client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA  fig no: 21  rev:
### Sandstone: Fine Grained, Yellow-Grey, Highly Weathered, Low to Medium Strength.

Test Pit TP22 terminated at 1.1 m Refusal on Bedrock.

### Soil Description

- **CL:** Sandy Clay: low plasticity, yellow-brown, fine grained sand with some fine to medium grained, sub-angular gravel.

### Environmental Sample

- **Sandy Clay:** low plasticity, yellow-brown, fine grained sand with some fine to medium grained, sub-angular gravel.

### Moisture and Consistency

- **Sandy Clay:** plastic limit, liquid limit, consistency, relative density.

### Soil Description Based on Unified Classification System

- **CL:** Sandy Clay: low plasticity, yellow-brown, fine grained sand with some fine to medium grained, sub-angular gravel.

### Support

- **N:** None
- **S:** Shoring

### Excavation Information

- **Method:** Natural exposure
- **Penetration:** No resistance ranging to refusal
- **Water:** 10-Oct-12 zero
- **Samples & Field Tests:** Unconfined compressive strength (kPa)
- **Classification Symbol:** CL
- **Soil Description:** Sandy Clay: low plasticity, yellow-brown, fine grained sand with some fine to medium grained, sub-angular gravel.

### Consistency / Relative Density

- **Sandy Clay:** Very Soft (VS)
- **Slopes:** Trench and Excavation 1:1.5

### Excavation ID:

- **TP22**

### Client:

- **Opus International Consultants Pty Ltd**

### Principal:

- **Queanbeyan City Council**

### Project:

- **Ellerton Drive Extension**

### Location:

- **Queanbeyan NSW**
<table>
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</table>

client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA

fig no: 22

rev:
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW  
**Excavation ID:** TP23  
**date excavated:** 14 May 2014  
**date completed:** 14 May 2014  
**logged by:** BC  
**checked by:** DB

---

### Excavation Information

- **Method:** 13 Tonne Excavator  
- **Excavation Method:** Excavator  
- **Excavation Dimensions:** 3.0 m long x 1.0 m wide  
- **Equipment Type:** 13 Tonne Excavator

### Material Substance

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>Sandy CLAY: low plasticity, brown, fine grained sand.</td>
</tr>
<tr>
<td>CH</td>
<td>Silty CLAY: low plasticity, orange, medium plasticity clay, with some fine grained, sub-angular gravel.</td>
</tr>
<tr>
<td>SANDSTONE</td>
<td>Fine grained, orange-grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

**SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components

### Soil Description

- **Classification Symbol:** CL, CH, SANDSTONE, BEDROCK
- **Undisturbed Sample:** mm diameter
- **Disturbed Sample:** bulk disturbed sample
- **Environmental Sample:** hand penetrometer (kPa)
- **SPT:** standard penetration test (SPT), sample recovered, SPT with solid cone
- **Vane Shear:** peak/remoulded (uncorrected kPa)

### Consistency / Relative Density

<table>
<thead>
<tr>
<th>Moisture</th>
<th>Dry</th>
<th>Moist</th>
<th>Wet</th>
<th>Plastic Limit</th>
<th>Liquid Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>S</td>
<td>M</td>
<td>W</td>
<td>Wp</td>
<td>Wi</td>
</tr>
</tbody>
</table>

### Support

- **Type:** Natural Exposure (N), Excavator (E), Shirring (S), Excavator Shoring (BH)
- **Penetration:** no resistance ranging to refusal
- **Water:** 10-Oct-12 water level on date shown

---

**Graphic Log:**  
**Drawing File:** CDF_0_9_15_G.jpg, GPX, CDF EXCAVATION + PSP/DCP  
**Date:** 27/06/2014 15:42  
**Additional Observations:** Test pit TP23 terminated at 2.2 m Refusal on Bedrock.
Client: Opus International Consultants Pty Ltd
Principal: Queanbeyan City Council
Project: Ellerton Drive Extension
Location: Queanbeyan NSW

Excavation ID: TP24
Excavation Method: Excavator
Excavation Dimensions: 1.6 m long 0.4 m wide

SOIL TYPE: Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.

SANDBSTONE: fine grained, grey-brown, highly weathered, low to medium strength.

Test pit TP24 terminated at 1.1 m Refusal on Bedrock.

CLAY

Bedrock

Colluvium

Moisture Condition:
- Wp to Fb
- H to L
- very soft to firm
- soft to very stiff
- stiff to very dense
- loose to medium dense
- dense

Consistency / Relative Density:
- VS very soft
- S soft
- F firm
- SI stiff
- VS very stiff
- SI very stiff
- H hard
- W wet
- WB very loose
- VL very dense
- L loose
- MD medium dense
- D dense
- VD very dense

Classification Symbol & Soil Description:
- based on Unified Classification System

Penetration:
- no resistance ranging to refusal

Samples & Field Tests:
- undisturbed sample
- disturbed sample
- bulk disturbed sample
- environmental sample
- hand penetrometer (kPa)
- standard penetration test (SPT)
- SPT - sample recovered
- SPT with solid cone
- vane shear peak/remoulded
- (uncorrected kPa)
- refusal

Support:
- N natural exposure
- X existing excavation
- BH backhoe bucket
- B bulldozer blade
- R ripper
- E excavator

Methods:
- N none
- S shoring
TP24

<table>
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</thead>
<tbody>
<tr>
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<tr>
<td>date</td>
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</table>

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE
project no: GEOTFYSH9703AA  fig no: 24  rev:
### Engineering Log - Excavation

**Excavation ID:** TP25  
**Sheet No.:** 1 of 1  
**Project No.:** GEOTFYSH9703AA

<table>
<thead>
<tr>
<th>Client:</th>
<th>Opus International Consultants Pty Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal:</td>
<td>Queanbeyan City Council</td>
</tr>
<tr>
<td>Project:</td>
<td>Ellerton Drive Extension</td>
</tr>
<tr>
<td>Location:</td>
<td>Queanbeyan NSW</td>
</tr>
</tbody>
</table>

**Excavation Information:**
- **Date excavated:** 02 May 2014  
- **Date completed:** 02 May 2014  
- **Logged by:** BC  
- **Checked by:** DB

**Position:** E: 704891; N: 6084257 (WGS84 Zone 55)  
**Surface Elevation:** 639.62m (AHD)  
**Pit Orientation:**
- **Excavation ID:** TP25  
- **Excavation Sheet:** project no.  
- **Excavation Date:** 02 May 2014  
- **Date excavated:** 02 May 2014  
- **Logged by:** BC  
- **Checked by:** DB

**Excavation Equipment:**
- **Type:** 13 Tonne Excavator

**Excavation Dimensions:**
- **Length:** 0.0 m  
- **Width:** 0.0 m

**Excavation Method:** Excavator

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
<th>Penetration</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>natural exposure</td>
<td>no resistance ranging to refusal</td>
<td>no water inflow</td>
<td>Vs, D, N, B, HP, N*, Nc, VS, Wp, Wl, W, Refusal</td>
<td>SANDSTONE: fine grained, grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

**Test Pit TP25 Terminated at 0.9 m Refusal on Bedrock**

**Classification Symbol & Soil Description:**
- **Based on Unified Classification System**

**Consistency / Relative Density:**
- **Moisture:**
  - VS (very soft)
  - S (soft)
  - F (firm)
  - SI (stiff)
  - VS (very stiff)
  - H (hard)
  - P (plastic)
  - W (wet)
  - VL (very loose)
  - L (loose)
  - MD (medium dense)
  - D (dense)
  - VD (very dense)

**Additional Observations:**
- **Undisturbed Sample:**
  - #mm diameter

**Hand Penetrometer:**
- **Depth:** (kPa)
  - 0.5
  - 1.0
  - 1.5
  - 2.0
  - 2.5
  - 3.0
  - 3.5
  - 4.0

**Vane Shear:**
- **Peak/Remoulded**
  - (uncorrected kPa)

---

*Note: The diagram and tables provide detailed information on excavation methods, sample tests, and soil characteristics.*
TP25

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension

TEST PIT PROFILE

drawn | SB
---|---
approved | BC
date | 20/06/2014
scale | N.T.S.
original size | A4

project no: GEOTFYSH9703AA fig no: 25 rev:
**Engineering Log - Excavation**

**Excavation ID:** TP26  
**Date excavated:** 02 May 2014  
**Date completed:** 02 May 2014  
**Logged by:** BC  
**Checked by:** DB

**Client:** Opus International Consultants Pty Ltd  
**Principal:** Queanbeyan City Council  
**Project:** Ellerton Drive Extension  
**Location:** Queanbeyan NSW

**Position:** E: 704846; N: 6084181 (WGS84 Zone 55)  
**Surface Elevation:** 647.97m (AHD)  
**Pit Orientation:**

**Equipment Type:** 13 Tonne Excavator  
**Excavation Method:** Excavator  
**Excavation Dimensions:** 0.0 m long 0.0 m wide

### Excavation Information

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>0.0</td>
<td>None Observed</td>
</tr>
</tbody>
</table>

**SANDSTONE:** fine grained, brown/grey, highly weathered, low to medium strength.

Test pit TP26 terminated at 0.7 m Refusal on Bedrock

**SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components

**Bedrock:**

<table>
<thead>
<tr>
<th>Water</th>
<th>Support</th>
<th>Samples &amp; Field Tests</th>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>N100</td>
<td>SANDSTONE: fine grained, brown/grey, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

**Classification Symbol & Soil Description:**

- **Consistency / Relative Density:**
  - VS = Very Soft
  - S = Soft
  - F = Firm
  - SI = Stiff
  - VSI = Very Stiff
- **Moisture:**
  - M = Moist
  - W = Wet
  - L = Luke
  - MD = Medium Dense
- **Density:**
  - D = Dense
  - VD = Very Dense

**Penetration:**

- **N** = Natural Exposure
- **X** = Existing Excavation
- **BH** = Backhoe Bucket
- **B** = Bulldozer Blade
- **R** = Ripper
- **E** = Excavator

**Support:**

- **N** = None
- **S** = Shoring

**Samples & Field Tests:**

- **U** = Undisturbed Sample #mm diameter
- **D** = Disturbed Sample
- **B** = Bulk Disturbed Sample
- **E** = Environmental Sample
- **HP** = Hand Penetrometer (kPa)
- **N** = Standard Penetration Test (SPT)
- **Nc** = SPT - Sample Recovered
- **VS** = Vane Shear Test
- **Wl** = Plastic Limit
- **Wp** = Liquid Limit
- **R** = Refusal
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<tr>
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</thead>
<tbody>
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<td>fig no</td>
<td>26</td>
</tr>
<tr>
<td>rev</td>
<td></td>
</tr>
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</table>
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

**Excavation ID:** TP27  
**date excavated:** 14 May 2014  
**date completed:** 14 May 2014  
**logged by:** BC  
**checked by:** DB

<table>
<thead>
<tr>
<th>position: E: 704849; N: 6084131 (WGS84 Zone 55)</th>
<th>surface elevation: 640.82m (AHD)</th>
<th>pit orientation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>equipment type: 6 Tonne Excavator</td>
<td>excavation method: Excavator</td>
<td>excavation dimensions: 0.0 m long 0.0 m wide</td>
</tr>
<tr>
<td>DCP id.:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components

**material description:**
- Silt GRAVEL: fine to coarse grained, angular, brown.
- SANDSTONE: fine grained, orange-grey, highly weathered, low to medium strength.

**SAMPLING:**
- Test pit TP27 terminated at 0.6 m Refusal on Bedrock.

---

**sample tests:**
- moisture
- consistency / relative density

**classification symbol & soil description based on Unified Classification System:**
- very soft (VS)
- soft (S)
- firm (F)
- stiff (SI)
- very stiff (VSI)
- hard (H)
- medium dense (MD)
- dense (D)
- very dense (VD)

---

**penetration:**
- no resistance ranging to refusal

**samples & field tests:**
- undisturbed sample
- disturbed sample
- bulk disturbed sample
- environmental sample
- hand penetrometer (kPa)
- standard penetration test (SPT)
- SPT - sample recovered
- SPT with solid cone
- vane shear/peak/remouded
- plastic limit
- liquid limit

**support:**
- natural exposure
- existing excavation
- hoe bucket
- bulldozer blade
- ripper
- excavator

---

**excavation information:**
- depth (m)
- material description
- SOIL TYPE
- water
- samples & field tests

---

**graphic log:**
- CDF_0_9_04BA.GLB  Log  COF EXCAVATION + PSP/DCP  GEOTFYSH09703AA.GPJ  <<DrawingFile>>  27/06/2014 15:42
SANDSTONE: fine grained, orange-grey, highly weathered, low to medium strength.

BEDROCK

Test pit TP28 terminated at 0.7 m Refusal on Bedrock
Engineering Log - Excavation

client: Opus International Consultants Pty Ltd
principal: Queanbeyan City Council
project: Ellerton Drive Extension
location: Queanbeyan NSW
position: E: 704855; N: 6083901 (WGS84 Zone 55)
surface elevation: 630.38m (AHD)

Excavation ID: TP29
date excavated: 02 May 2014
date completed: 02 May 2014
logged by: BC
checked by: DB

Excavation information
- Excavation ID: TP29
- Excavation method: Excavator
- Excavation dimensions: 1.6 m long 0.4 m wide
- Equipment type: 6 Tonne Excavator

Samples & field tests
- Soil type: Sandy CLAY: low plasticity, pale brown, fine grained sand.
- Sandstone: fine grained, grey-brown, highly weathered, low to medium strength.

SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components

Test pit TP29 terminated at 0.7 m Refusal on Bedrock

Excavation method: excavator
Excavation dimensions: 1.6 m long 0.4 m wide
Equipment type: 6 Tonne Excavator

Support: None
Penetration: no resistance ranging to refusal

Consistency / relative density
- CL: Sandy CLAY
- SANDSTONE: fine grained, grey-brown, highly weathered, low to medium strength.

Classification symbol & soil description
- Based on Unified Classification System

Moisture
- D: dry
- M: moist
- W: wet

Consistency
- VS: very soft
- S: soft
- F: firm
- SI: stiff
- VSIs: very stiff
- H: hard

Plastic limit
- Wp: plastic limit

Liquid limit
- WL: liquid limit

Density
- MD: medium dense
- D: dense
- VL: very loose
- L: loose
- MD: medium dense
- D: dense
- VL: very loose
- L: loose

Support
- N: none
- S: shoring

Penetration
- Water
  - 10-Oct-12 water level on date shown
  - Water inflow
  - Water outflow

Samples & field tests
- U#: undisturbed sample
- D: disturbed sample
- B: bulk disturbed sample
- E: environmental sample
- HP: hand penetrometer (kPa)
- N: standard penetration test (SPT)
- N*: SPT - sample recovered
- NC: SPT with solid cone
- VS: vane shear peak/remoulded
- (uncorrected kPa)
- R: refusal

Consistency
- Hp: Hand penetrometer (kPa)
- Fb: Field penetrating resistance (kPa)
TEST PIT PROFILE

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension

drawn: SB
approved: BC
date: 20/06/2014
scale: N.T.S.
original size: A4

project no: GEOTFYSH9703AA
fig no: 29
rev:
**Engineering Log - Excavation**

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

---

**Excavation ID:** TP30  
**sheet:** 1 of 1  
**project no.:** GEOTFYSH9703AA  
**date excavated:** 05 May 2014  
**date completed:** 05 May 2014  
**logged by:** BC  
**checked by:** DB

---

**Surface Elevation:** 623.22m (AHD)  
**Pit Orientation:** E: 704838; N: 6083823 (WGS84 Zone 55)

---

**Excavation Information**

<table>
<thead>
<tr>
<th>Excavation ID</th>
<th>TP30</th>
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<tbody>
<tr>
<td>Date excavated</td>
<td>05 May 2014</td>
</tr>
<tr>
<td>Date completed</td>
<td>05 May 2014</td>
</tr>
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<td>Logged by</td>
<td>BC</td>
</tr>
<tr>
<td>Checked by</td>
<td>DB</td>
</tr>
</tbody>
</table>

**Excavation Method:** Excavator  
**Excavation Dimensions:** 1.0 m long 0.4 m wide  
**Equipment Type:** 6 Tonne Excavator

---

**Material Substance**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components</th>
</tr>
</thead>
<tbody>
<tr>
<td>-623.0</td>
<td>Topsoil: Sandy Silt; low liquid limit, brown, fine-grained sand.</td>
</tr>
<tr>
<td>-622.5</td>
<td>Sandstone: fine-grained, pale yellow, highly weathered, low to medium strength.</td>
</tr>
</tbody>
</table>

---

**Additional Observations:**

Test pit TP30 terminated at 0.6 m Refusal on Bedrock.

---

**Support & Water:**

<table>
<thead>
<tr>
<th>Support</th>
<th>Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Natural exposure</td>
</tr>
<tr>
<td>X</td>
<td>Existing excavation</td>
</tr>
<tr>
<td>BH</td>
<td>Backhoe bucket</td>
</tr>
<tr>
<td>B</td>
<td>Bulldozer blade</td>
</tr>
<tr>
<td>R</td>
<td>Ripper</td>
</tr>
<tr>
<td>E</td>
<td>Excavator</td>
</tr>
<tr>
<td>S</td>
<td>Shoring</td>
</tr>
<tr>
<td>N</td>
<td>Natural exposure</td>
</tr>
<tr>
<td>S</td>
<td>Shoring</td>
</tr>
</tbody>
</table>

---

**Material Description**

- Topsoil: Sandy Silt; low liquid limit, brown, fine-grained sand.
- Sandstone: fine-grained, pale yellow, highly weathered, low to medium strength.

---

**Classification Symbol & Soil Description**

<table>
<thead>
<tr>
<th>Consistency / Relative Density</th>
<th>Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS</td>
<td>Very soft</td>
</tr>
<tr>
<td>S</td>
<td>Soft</td>
</tr>
<tr>
<td>F</td>
<td>Firm</td>
</tr>
<tr>
<td>SI</td>
<td>Stiff</td>
</tr>
<tr>
<td>VSI</td>
<td>Very stiff</td>
</tr>
<tr>
<td>H</td>
<td>Hard</td>
</tr>
<tr>
<td>MD</td>
<td>Medium dense</td>
</tr>
<tr>
<td>D</td>
<td>Dense</td>
</tr>
<tr>
<td>VL</td>
<td>Very loose</td>
</tr>
<tr>
<td>L</td>
<td>Loose</td>
</tr>
<tr>
<td>W</td>
<td>Wet</td>
</tr>
<tr>
<td>M</td>
<td>Moist</td>
</tr>
<tr>
<td>Dc</td>
<td>Saturated</td>
</tr>
</tbody>
</table>

---

**Excavation Log - Excavation**

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>Classification Symbol</th>
<th>Consistency / Relative Density</th>
<th>Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Natural exposure</td>
<td>No resistance ranging to refusal</td>
<td>undisturbed sample</td>
<td>Topsoil</td>
<td>VS</td>
<td>Very soft</td>
</tr>
<tr>
<td>X</td>
<td>Existing excavation</td>
<td>10-Oct-12 water table on date shown</td>
<td>disturbed sample</td>
<td>Sandy Silt</td>
<td>S</td>
<td>Soft</td>
</tr>
<tr>
<td>BH</td>
<td>Backhoe bucket</td>
<td>Water inflow</td>
<td>bulk disturbed sample</td>
<td>Fine Grained Sand</td>
<td>F</td>
<td>Firm</td>
</tr>
<tr>
<td>B</td>
<td>Bulldozer blade</td>
<td>Water outflow</td>
<td>environmental sample</td>
<td>Pale Yellow Sandstone</td>
<td>SI</td>
<td>Stiff</td>
</tr>
<tr>
<td>R</td>
<td>Ripper</td>
<td></td>
<td>HP</td>
<td>Hand penetrometer (kPa)</td>
<td>VSI</td>
<td>Very stiff</td>
</tr>
<tr>
<td>E</td>
<td>Excavator</td>
<td></td>
<td>N</td>
<td>Standard penetration test (SPT)</td>
<td>H</td>
<td>Hard</td>
</tr>
<tr>
<td>S</td>
<td>Shoring</td>
<td></td>
<td>N*</td>
<td>SPT - sample recovered</td>
<td>Dc</td>
<td>Saturated</td>
</tr>
<tr>
<td>N</td>
<td>Natural exposure</td>
<td></td>
<td>Vs</td>
<td>Vane shear peak remoulded</td>
<td>W</td>
<td>Plastic limit</td>
</tr>
<tr>
<td>S</td>
<td>Shoring</td>
<td></td>
<td>R</td>
<td>Refusal</td>
<td>Wl</td>
<td>Liquid limit</td>
</tr>
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</table>

---

**Graphic Log**

- Depth (m): -630.0, -625.0, -620.0, -615.0, -610.0, -605.0, -600.0, -595.0, -590.0, -585.0, -580.0, -575.0, -570.0, -565.0, -560.0, -555.0, -550.0, -545.0, -540.0, -535.0, -530.0, -525.0, -520.0, -515.0, -510.0, -505.0, -500.0, -495.0, -490.0, -485.0, -480.0, -475.0, -470.0, -465.0, -460.0, -455.0, -450.0, -445.0, -440.0, -435.0, -430.0, -425.0, -420.0, -415.0, -410.0, -405.0, -400.0, -395.0, -390.0, -385.0, -380.0, -375.0, -370.0, -365.0, -360.0, -355.0, -350.0, -345.0, -340.0, -335.0, -330.0, -325.0, -320.0, -315.0, -310.0, -305.0, -300.0, -295.0, -290.0, -285.0, -280.0, -275.0, -270.0, -265.0, -260.0, -255.0, -250.0, -245.0, -240.0, -235.0, -230.0, -225.0, -220.0, -215.0, -210.0, -205.0, -200.0, -195.0, -190.0, -185.0, -180.0, -175.0, -170.0, -165.0, -160.0, -155.0, -150.0, -145.0, -140.0, -135.0, -130.0, -125.0, -120.0, -115.0, -110.0, -105.0, -100.0, -95.0, -90.0, -85.0, -80.0, -75.0, -70.0, -65.0, -60.0, -55.0, -50.0, -45.0, -40.0, -35.0, -30.0, -25.0, -20.0, -15.0, -10.0, -5.0, -0.0, 0.0, 5.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0, 55.0, 60.0, 65.0, 70.0, 75.0, 80.0, 85.0, 90.0, 95.0, 100.0, 105.0, 110.0, 115.0, 120.0, 125.0, 130.0, 135.0, 140.0, 145.0, 150.0, 155.0, 160.0, 165.0, 170.0, 175.0, 180.0, 185.0, 190.0, 195.0, 200.0, 205.0, 210.0, 215.0, 220.0, 225.0, 230.0, 235.0, 240.0, 245.0, 250.0, 255.0, 260.0, 265.0, 270.0, 275.0, 280.0, 285.0, 290.0, 295.0, 300.0, 305.0, 310.0, 315.0, 320.0, 325.0, 330.0, 335.0, 340.0, 345.0, 350.0, 355.0, 360.0, 365.0, 370.0, 375.0, 380.0, 385.0, 390.0, 395.0, 400.0, 405.0, 410.0, 415.0, 420.0, 425.0, 430.0, 435.0, 440.0, 445.0, 450.0, 455.0, 460.0, 465.0, 470.0, 475.0, 480.0, 485.0, 490.0, 495.0, 500.0, 505.0, 510.0, 515.0, 520.0, 525.0, 530.0, 535.0, 540.0, 545.0, 550.0, 555.0, 560.0, 565.0, 570.0, 575.0, 580.0, 585.0, 590.0, 595.0 |

---

**Graphic Log Description**

- Topsoil: Sandy Silt; low liquid limit, brown, fine-grained sand.
- Sandstone: fine-grained, pale yellow, highly weathered, low to medium strength.

---

**Additional Observations**

Test pit TP30 terminated at 0.6 m Refusal on Bedrock.
<table>
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client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA

fig no: 30

rev: 3
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW  
**position:** E: 704825; N: 6083786 (WGS84 Zone 55)  
**surface elevation:** 618.41m (AHD)  
**pit orientation:**  

<table>
<thead>
<tr>
<th>excavation information</th>
<th>material substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>method</td>
<td>support</td>
</tr>
<tr>
<td>water</td>
<td>samples &amp; field tests</td>
</tr>
<tr>
<td>GL (m)</td>
<td>depth (m)</td>
</tr>
<tr>
<td>graphic log</td>
<td>material description</td>
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<tr>
<td>SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components</td>
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<tr>
<td>soil description based on Unified Classification System</td>
<td></td>
</tr>
<tr>
<td>undisturbed sample ##mm diameter</td>
<td></td>
</tr>
<tr>
<td>disturbed sample</td>
<td></td>
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<tr>
<td>bulk disturbed sample</td>
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</tr>
<tr>
<td>environmental sample</td>
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</tr>
<tr>
<td>hand penetrometer (kPa)</td>
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<tr>
<td>SPT - sample recovered</td>
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</tr>
<tr>
<td>SPT with solid cone</td>
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</tr>
<tr>
<td>vane shear/hempooned</td>
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</tr>
<tr>
<td>(uncorrected kPa)</td>
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</tr>
<tr>
<td>refusal</td>
<td></td>
</tr>
<tr>
<td>moisture</td>
<td></td>
</tr>
<tr>
<td>penetration</td>
<td></td>
</tr>
<tr>
<td>resistance ranging to refusal</td>
<td></td>
</tr>
<tr>
<td>10-Oct-12 water level on date shown</td>
<td></td>
</tr>
<tr>
<td>no resistance</td>
<td></td>
</tr>
<tr>
<td>water inflow</td>
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<td>water outflow</td>
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</tr>
<tr>
<td>consistency / relative density</td>
<td></td>
</tr>
<tr>
<td>soil description</td>
<td></td>
</tr>
<tr>
<td>VS very soft</td>
<td></td>
</tr>
<tr>
<td>S soft</td>
<td></td>
</tr>
<tr>
<td>F firm</td>
<td></td>
</tr>
<tr>
<td>SI stiff</td>
<td></td>
</tr>
<tr>
<td>VS very stiff</td>
<td></td>
</tr>
<tr>
<td>H hard</td>
<td></td>
</tr>
<tr>
<td>M moist</td>
<td></td>
</tr>
<tr>
<td>W wet</td>
<td></td>
</tr>
<tr>
<td>Pb friable</td>
<td></td>
</tr>
<tr>
<td>VL very loose</td>
<td></td>
</tr>
<tr>
<td>L loose</td>
<td></td>
</tr>
<tr>
<td>MD medium dense</td>
<td></td>
</tr>
<tr>
<td>D dense</td>
<td></td>
</tr>
<tr>
<td>VD very dense</td>
<td></td>
</tr>
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</table>

**TOPSOIL:** Sandy SILT: low liquid limit, brown, fine grained sand.  
**CL:** Sandy CLAY: low plasticity, pale grey, fine grained sand, with some fine grained, angular gravel.  
**SANDSTONE:** fine grained, grey, highly weathered, low to medium strength.  

Test pit TP31 terminated at 1.3 m Refusal on Bedrock

**CONCLUSION:**

- TOPSOIL: Sandy SILT  
- CL: Sandy CLAY  
- SANDSTONE: fine grained, grey, highly weathered, low to medium strength.
TP31

client: Opus International Consultants Pty Ltd

project: Ellerton Drive Extension

title: TEST PIT PROFILE

project no: GEOTFYSH9703AA fig no: 31 rev:

drawn SB
approved BC

date 20/06/2014

scale N.T.S.

original size A4
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

---

**Excavation ID:** TP32  
**date excavated:** 05 May 2014  
**date completed:** 05 May 2014  
**logged by:** BC  
**checked by:** DB

---

**Surface Elevation:** 617.57 m (AHD)  
**Pit Orientation:** E: 704809; N: 6083749 (WGS84 Zone 55)

---

**Excavation Information**

<table>
<thead>
<tr>
<th>Devel.</th>
<th>Support</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>SOIL TYPE</th>
<th>Material Description</th>
<th>COEFFICIENT OF CONSISTENCY</th>
<th>SOIL CLASSIFICATION SYMBOL</th>
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<td></td>
<td>CL</td>
<td>Sandy CLAY: low plasticity, orange, fine grained sand, with some fine grained, angular gravel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SHALE</td>
<td>SHALE: grey, highly weathered, low to medium strength.</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Test pit TP32 terminated at 0.8 m Refusal on Bedrock</td>
<td></td>
<td></td>
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---

**Material Substance**

<table>
<thead>
<tr>
<th>Water &amp; Support</th>
<th>Penetration</th>
<th>Samples &amp; Field Tests</th>
<th>Classification Symbol</th>
<th>Consistency / Relative Density</th>
<th>Moisture</th>
<th>Soil Description</th>
<th>Based On Unified Classification System</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
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</table>

---

**Additional Observations**

- **COLLUVIUM**
- **BEDROCK**

---

**Excavation Method:** Excavator  
**Equipment Type:** 6 Tonne Excavator

---

**Excavation Dimensions:** 1.5 m long 0.4 m wide

---

**Environmental Conditions:**
- **Moisture:** SPT (blows/100 mm)  
- **Consistency:** Relative Density (kPa)  
- **Penetration:** Water

---

**Testing Methods:**
- **Samples & Field Tests:**
  - Standard Penetration Test (SPT)
  - SPT - Sample Recovered
  - SPT with Solid Cone
  - Vane Shear Test
  - Refusal
  - Hand Penetro-meter (kPa)

---

**Other Information:**
- **Excavation ID:** TP32  
- **Graphic Log:** COF_EXCAVATION_09703AA.GPJ  
- **Database:** GEOFYSH9703AA

---

**References:**
- **Excavation Methods:**
  - Excavator
  - Ripper
  - Excavator

---

**Support Systems:**
- **N** natural exposure
- **X** existing excavation
- **BH** backhoe bucket
- **B** bulldozer blade
- **R** ripper
- **E** excavator

---

**Penetration:**
- **No resistance:** Refusal to refusal
- **10-Oct-12 Water:** Level on date shown
- **Water Inflow:** Water inflow
- **Water Outflow:** Water outflow

---

**Classification Symbol:**
- **VS** very soft
- **S** soft
- **F** firm
- **SI** stiff
- **VSF** very stiff
- **H** hard
- **W** wet
- **VL** very loose
- **L** loose
- **MD** medium dense
- **D** dense
- **VD** very dense
TP32

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

<table>
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<th>SB</th>
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<td>N.T.S.</td>
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## Engineering Log - Excavation

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<td>GEOFYSH9703AA</td>
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</tbody>
</table>

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

### Excavation Information
- **Method:** Excavator
- **Excavation dimensions:** 1.0 m long, 0.4 m wide
- **Excavation dimensions:** 1.0 m long, 0.4 m wide
- **Equipment:** 6 Tonne Excavator
- **Support:** N - natural exposure, X - existing excavation, BH - backhoe bucket, B - bulldozer blade, R - ripper, E - excavator
- **Support:** N - natural exposure, X - existing excavation, BH - backhoe bucket, B - bulldozer blade, R - ripper, E - excavator

### Material Substance

<table>
<thead>
<tr>
<th>SOIL TYPE</th>
<th>material description</th>
</tr>
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<tbody>
<tr>
<td>TOPSOIL: Sand Silt</td>
<td>low liquid limit, brown, fine grained sand, with rootlets.</td>
</tr>
<tr>
<td>SHALE:</td>
<td>grey, highly weathered, low to medium strength.</td>
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</table>

Test pit TP33 terminated at 0.6 m Refusal on Bedrock.

### Water Inflow
- 10-Oct-12 water level on date shown
- Water inflow
- Water outflow

### Water Penetration
- No resistance ranging to refusal

### Support
- N - natural exposure
- X - existing excavation
- BH - backhoe bucket
- B - bulldozer blade
- R - ripper
- E - excavator
- S - shoring

### Classification Symbol & Soil Description

#### Moisture
- D - dry
- M - moist
- W - wet
- H - hard
- L - loose
- MD - medium dense
- D - dense
- VD - very dense

#### Consistency / Relative Density
- VS - very soft
- F - firm
- SI - stiff
- VSI - very stiff
- H - hard
- L - loose
- MD - medium dense
- D - dense
- VD - very dense

#### DCP (blows/100 mm)
- 0 - no resistance
- 1 - ranging to 10

#### Hard Penetrometer (kPa)
- VS - very soft
- F - firm
- SI - stiff
- VSI - very stiff
- H - hard
- L - loose
- MD - medium dense
- D - dense
- VD - very dense

#### Refusal
- N - none
- B - backhoe bucket
- E - excavator
- D - dense
- VD - very dense
TP33

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE
project no: GEOTFYSH9703AA
fig no: 33

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<td>N.T.S.</td>
</tr>
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<td>original size</td>
<td>A4</td>
</tr>
</tbody>
</table>
**Sandy CLAY**: low plasticity, pale brown, fine grained sand, with some fine grained, sub-angular gravel.

**SHALE**: grey, highly weathered, low to medium strength.

Refusal on Bedrock

Test pit TP34 terminated at 0.9 m

BEDROCK

**COLLUVIUM**
### Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

**Excavation ID:** TP35  
**Excavation dimensions:** 3.0 m long 1.0 m wide

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>Soil Type</th>
<th>Classification Symbol</th>
<th>Material Description</th>
<th>DCP (blows/100 mm)</th>
<th>Structure and Additional Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>1</td>
<td>0</td>
<td>Silty GRAVEL</td>
<td>fine to medium grained, angular, brown.</td>
<td>D</td>
<td>L to MD</td>
<td>COLLUVIUM</td>
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<tr>
<td>X</td>
<td>X</td>
<td>1</td>
<td>0</td>
<td>SHALE: orange-grey, highly weathered, low to medium strength.</td>
<td>D</td>
<td>L to MD</td>
<td>BEDROCK</td>
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Test pit TP35 terminated at 1.8 m  
Refusal on Bedrock.

**samples & field tests**

- **UC:** undisturbed sample
- **BM:** bulk disturbed sample
- **HS:** hand sample
- **N:** standard penetration test (SPT) sample recovered
- **Nc:** SPT with solid cone
- **kPa:** kilopascal

**classification symbol & soil description** based on Unified Classification System

- **VS:** very soft  
- **S:** soft  
- **F:** firm  
- **SI:** stiff  
- **VSI:** very stiff  
- **H:** hard  
- **M:** moist  
- **P:** plastic  
- **W:** wet  
- **L:** loose  
- **MD:** medium dense  
- **D:** dense  
- **VD:** very dense
## Engineering Log - Excavation

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW  
**date excavated:** 14 May 2014  
**date completed:** 14 May 2014  
**logged by:** BC  
**checked by:** DB

### Samples & Field Tests

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<th>Penetration</th>
<th>Samples &amp; Field Tests</th>
<th>Classification Symbol</th>
<th>Soil Type</th>
<th>Material Description</th>
<th>moisture</th>
<th>consistency/relative density</th>
<th>DCP (blows/100 mm)</th>
<th>Structure and Additional Observations</th>
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<td>N</td>
<td>natural exposure</td>
<td>undisturbed sample</td>
<td>VS</td>
<td>very soft</td>
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<tr>
<td>X</td>
<td>existing excavation</td>
<td>disturbed sample</td>
<td>S</td>
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<tr>
<td>BH</td>
<td>backhoe bucket</td>
<td>bulk disturbed sample</td>
<td>F</td>
<td>firm</td>
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<td></td>
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</tr>
<tr>
<td>B</td>
<td>bulldozer blade</td>
<td>environmental sample</td>
<td>SI</td>
<td>stiff</td>
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<tr>
<td>R</td>
<td>ripper</td>
<td>standard penetration test (SPT)</td>
<td>VS</td>
<td>very stiff</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>E</td>
<td>excavator</td>
<td>SPT with solid cone</td>
<td>VS</td>
<td>very stiff</td>
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<tr>
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### Excavation Information

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<td>model</td>
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### Excavation Information

- **client:** Opus International Consultants Pty Ltd
- **principal:** Queanbeyan City Council
- **project:** Ellerton Drive Extension
- **location:** Queanbeyan NSW
- **date excavated:** 14 May 2014
- **date completed:** 14 May 2014
- **logged by:** BC
- **checked by:** DB

### Soils

- **TOPSOIL:** Clayey SILT: low liquid limit, brown.
- **SHALE:** grey, highly weathered, low to medium strength.

### Test Pit TP36

- Test pit TP36 terminated at 0.4 m Refusal on Bedrock

### Soil Description

- **TOPSOIL:** Clayey SILT: low liquid limit, brown.
- **SHALE:** grey, highly weathered, low to medium strength.

### Environmental Sample

- Undisturbed sample
- Disturbed sample
- Standard penetration test (SPT)
- SPT with solid cone
- Vane shear; peak/remoulded (uncorrected kPa)

### Support

- **N:** none
- **S:** shoring

### Water

- Water inflow
- Water outflow

### Penetration

- Hand penetrometer (kPa)
- Standard penetration test (SPT)
- SPT with solid cone
- Vane shear; peak/remoulded (uncorrected kPa)

### Moisture

- Water inflow
- Water outflow

### Consistency/Relative Density

- Very soft
- Soft
- Firm
- Stiff
- Very stiff
- Hard
- Medium dense
- Dense
- Very dense
### Engineering Log - Excavation

#### client: Opus International Consultants Pty Ltd
#### principal: Queanbeyan City Council
#### project: Ellerton Drive Extension
#### location: Queanbeyan NSW

**Excavation ID:** TP37  
**sheet:** 1 of 1  
**project no.:** GEOFYSH9703AA  
**date excavated:** 14 May 2014  
**date completed:** 14 May 2014  
**logged by:** BC  
**checked by:** DB

#### Excavation Information

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<th>samples &amp; field tests</th>
<th>soil description</th>
<th>classification symbol</th>
<th>hand penetration (kPa)</th>
<th>DCP (blows/100 mm)</th>
<th>structure and additional observations</th>
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<tr>
<td>N</td>
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<td>no resistance ranging to refusal</td>
<td>U# undisturbed sample #mm diameter</td>
<td>TOPSOIL: Clayey SILT: low liquid limit, dark brown, trace fine to medium grained, angular gravel. SHALE: brown-grey, highly weathered, low to medium strength.</td>
<td>&lt;Wl</td>
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<tr>
<td>X</td>
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<td></td>
<td>D disturbed sample</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BH</td>
<td>backhoe bucket</td>
<td></td>
<td>B bulk disturbed sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>bulldozer blade</td>
<td></td>
<td>E environmental sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>ripper</td>
<td></td>
<td>HP hand penetrometer (kPa)</td>
<td></td>
<td></td>
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<tr>
<td>E</td>
<td>excavator</td>
<td></td>
<td>N standard penetration test (SPT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>shorting</td>
<td></td>
<td>N* SPT - sample recovered</td>
<td></td>
<td></td>
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**Excavation ID:** TP37  
**date excavated:** 14 May 2014  
**date completed:** 14 May 2014  
**logged by:** BC  
**checked by:** DB

#### Soil Type

- **SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components

#### Moisture Condition

- **water:**
  - **penetration:**
    - 10-Oct-12 water level on date shown
    - water inflow
    - water outflow

#### Consistency / Relative Density

- **moisture:**
  - **dry:** D
  - **moist:** M
  - **wet:** W

- **consistency / relative density:**
  - **VS:** very soft
  - **S:** soft
  - **F:** firm
  - **SI:** stiff
  - **VSI:** very stiff
  - **H:** hard
  - **VL:** very loose
  - **L:** loose
  - **MD:** medium dense
  - **D:** dense
  - **VD:** very dense

**Exercise: Test Pit TP37 terminated at 1.6 m Refusal on Bedrock**
**Engineering Log - Excavation**

**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

---

**Excavation ID:** TP38  
**date excavated:** 05 May 2014  
**date completed:** 05 May 2014  
**logged by:** BC  
**checked by:** DB

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**Excavation Information**

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<th>penetration</th>
<th>water</th>
<th>samples &amp; field tests</th>
<th>material description</th>
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<tbody>
<tr>
<td></td>
<td>N</td>
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<td></td>
<td></td>
<td>Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine to medium grained, sub-angular gravel.</td>
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</tbody>
</table>

---

**SOIL TYPE**

- plasticity or particle characteristic, colour, secondary and minor components

---

**Classification symbol**

- CL

---

**material description**

- Sandy CLAY

---

**Additional observations**

- Test pit TP38 terminated at 1.8 m  
  Refusal on Bedrock

---

**Excavation Method:** Excavator

---

**Excavation Dimensions:** 1.7 m long 0.4 m wide

---

**Equipment:** 6 Tonne Excavator

---

**Support:** None Observed

---

**Water Inflow:** 10-Oct-12 water level on date shown

---

**Penetration Water:** Water inflow

---

**Penetration Water Outflow:** Water outflow
TP38

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

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<tr>
<td>original size</td>
<td>A4</td>
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</table>
Excavation ID: TP39
sheet: 1 of 1

client: Opus International Consultants Pty Ltd
principal: Queanbeyan City Council
project: Ellerton Drive Extension
location: Queanbeyan NSW

surface elevation: 603.79m (AHD)
pit orientation:

equipment type: 13 Tonne Excavator
equipment type: Excavator
evacuation method: Excavator
evacuation dimensions: 3.0 m long 1.0 m wide
DCP id:

### excavation information

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<thead>
<tr>
<th>penetration</th>
<th>water</th>
<th>samples &amp; field tests</th>
<th>material description</th>
<th>soil description based on Unified Classification System</th>
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<tbody>
<tr>
<td>N</td>
<td>none</td>
<td>N</td>
<td>CLAY: low plasticity, pale grey-brown.</td>
<td>COLLUVIUM</td>
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<td>X</td>
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<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BH</td>
<td>backhoe bucket</td>
<td>BH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>bulldozer blade</td>
<td>B</td>
<td></td>
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</tr>
<tr>
<td>R</td>
<td>ripper</td>
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<tr>
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<td>E</td>
<td></td>
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<td>BH</td>
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<td>ripper</td>
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<tr>
<td>E</td>
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<td>E</td>
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### material substance

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<th>RLL (m)</th>
<th>samples &amp; field tests</th>
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<tr>
<td>600.0</td>
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<td>603.5</td>
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</table>

Test pit TP39 terminated at 2.7 m

Refusal

### soil type

- **CLAY:** low plasticity, pale grey-brown.
- **Gravelly CLAY:** low plasticity, pale grey-brown, fine to coarse grained, sub-angular gravel.

### classification symbol & soil description

- **SOIL TYPE:** plasticity or particle characteristic, colour, secondary and minor components
- **Additional observations:**
  - water inflow
  - water outflow

### support

- **N:** none
- **S:** shoring

### penetration

- **Water:**
  - 10-Oct-12 water level on date shown
  - Water inflow
  - Water outflow

### samples & field tests

- **Unit:** undisturbed sample #mm diameter
- **D:** disturbed sample
- **B:** bulk disturbed sample
- **E:** environmental sample
- **HP:** hand penetrometer (kPa)
- **N:** standard penetration test (SPT)
- **Nv:** SPT - sample recovered
- **Nc:** SPT with solid cone
- **VS:** vane shear (unremoulded)
- **Wp:** plastic limit
- **Wl:** liquid limit
- **R:** refusal

### consistency / relative density

- **VS:** very soft
- **S:** soft
- **H:** hard
- **M:** moist
- **F:** friable
- **W:** wet
- **P:** plastic
- **L:** loose
- **MD:** medium dense
- **VD:** very dense
- **D:** dense
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<td>N.T.S.</td>
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### Excavation Log - Excavation

**Client:** Opus International Consultants Pty Ltd  
**Principal:** Queanbeyan City Council  
**Project:** Ellerton Drive Extension  
**Location:** Queanbeyan NSW

---

**Excavation ID:** TP40  
**Date excavated:** 14 May 2014  
**Date completed:** 14 May 2014  
**Logged by:** BC  
**Checked by:** DB

---

#### Excavation Information

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
<th>Penetration</th>
<th>Water</th>
<th>Samples &amp; Field Tests</th>
<th>Materials &amp; Substance</th>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Clayey SAND: fine grained, reddish-brown, high plasticity clay fines.</td>
</tr>
</tbody>
</table>

#### Material Description

**SOIL TYPE:** Plasticity or particle characteristic, colour, secondary and minor components

<table>
<thead>
<tr>
<th>Moisture Condition</th>
<th>Consistency / Relative Density</th>
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</thead>
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<tr>
<td>D</td>
<td>Very soft</td>
</tr>
<tr>
<td>M</td>
<td>Soft</td>
</tr>
<tr>
<td>W</td>
<td>Very wet</td>
</tr>
<tr>
<td>L</td>
<td>Loose</td>
</tr>
<tr>
<td>VL</td>
<td>Very loose</td>
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</tbody>
</table>

#### Structure and Additional Observations

- Test pit TP40 terminated at 2.3 m
- Refusal on Bedrock

---

#### Soil Description

- **Colluvium:** Orange-brown, highly weathered, low to medium strength.

---

#### Environmental Sample

- **Hand Penetro-meter (kPa):**
  - No resistance ranging to refusal

---

#### Support & Excavation Equipment

- **Excavation Method:** Excavator
- **Excavation Method:** 13 Tonne Excavator
- **Equipment Type:** 13 Tonne Excavator

---

#### Classification Symbol & Soil Description

- **Based on Unified Classification System:**
- **Consistency / Relative Density:**
  - VS: Very soft
  - S: Soft
  - F: Firm
  - SI: Stiff
  - VSI: Very stiff
  - H: Hard
  - Pb: Possible
  - W: Wet
  - MD: Medium dense
  - D: Dense
  - VL: Very loose
  - L: Loose
  - VD: Very dense
### Engineering Log - Excavation

**Excavation ID:** TP41  
**client:** Opus International Consultants Pty Ltd  
**principal:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

- **sheet:** 1 of 1  
- **date excavated:** 14 May 2014  
- **date completed:** 14 May 2014

### Excavation Information

- **Position:** E: 704362; N: 6083409 (WGS84 Zone 55)  
- **Surface Elevation:** 600.79m (AHD)  
- **Pit Orientation:**
  - **Excavation ID:** TP41
  - **Project No.:** GEOTFYSH09703AA
  - **Date Excavated:** 14 May 2014
  - **Date Completed:** 14 May 2014
  - **Logged by:** BC
  - **Checked by:** DB

### Material Substance

- **SOIL TYPE:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.
- **SOIL TYPE:** Silty CLAY: low plasticity, pale orange.
- **SOIL TYPE:** SILTSTONE: orange with black, laminations, extremely weathered, very low strength, remoulds to silt.
- **SOIL TYPE:** Colluvium
- **SOIL TYPE:** Residual
- **SOIL TYPE:** Bedrock

### Excavation Dimensions

- **Excavation Method:** Excavator
- **Excavation Dimensions:** 3.0 m long 1.0 m wide

### Support & Excavation Details

- **Method:** Excavator
- **Penetration:** No resistance ranging to refusal
- **Samples & Field Tests:**
  - **SOIL TYPE:** CL
  - **OBSERVATIONS:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.
  - **OBSERVATIONS:** Silty CLAY: low plasticity, pale orange.
  - **OBSERVATIONS:** SILTSTONE: orange with black, laminations, extremely weathered, very low strength, remoulds to silt.

### Additional Observations

- **Test Pit TP41 Terminated at 3.2 m Target Depth**

### Soil Classification

- **Classification Symbol:**
  - **SOIL TYPE:** Sandy CLAY: CL
  - **SOIL TYPE:** Silty CLAY: CL
  - **SOIL TYPE:** SILTSTONE: CL

- **Soil Description:**
  - **SOIL TYPE:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.
  - **SOIL TYPE:** Silty CLAY: low plasticity, pale orange.
  - **SOIL TYPE:** SILTSTONE: orange with black, laminations, extremely weathered, very low strength, remoulds to silt.

### Water & Moisture Conditions

- **Water Inflow:** 10-Oct-12
- **Water Outflow:**
  - **N:** None
  - **N:** Shoring

---

### Moisture & Consistency

- **SOIL TYPE:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.
- **SOIL TYPE:** Silty CLAY: low plasticity, pale orange.
- **SOIL TYPE:** SILTSTONE: orange with black, laminations, extremely weathered, very low strength, remoulds to silt.

### Soil Description

- **SOIL TYPE:** Sandy CLAY: low plasticity, pale brown, fine grained sand, with some fine grained, angular gravel.
- **SOIL TYPE:** Silty CLAY: low plasticity, pale orange.
- **SOIL TYPE:** SILTSTONE: orange with black, laminations, extremely weathered, very low strength, remoulds to silt.

---

### Summary

- **Purpose:** Detailed description of the excavation process and soil properties.
- **Details:** Includes excavation dimensions, support methods, and soil classification.

---

**Opus International Consultants Pty Ltd**  
**Queanbeyan City Council**  
**Ellerton Drive Extension**  
**Queanbeyan NSW**
TP41

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension
title: TEST PIT PROFILE

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coffey
**Engineering Log - Excavation**

**Excavation ID:** TP42  
**project no.:** GEOTFYSH9703AA  
**client:** Opus International Consultants Pty Ltd  
**principa:** Queanbeyan City Council  
**project:** Ellerton Drive Extension  
**location:** Queanbeyan NSW

**Position:** E: 704337; N: 6083336 (WGS84 Zone 55)  
**Surface elevation:** 607.88m (AHD)  
**Pit orientation:**  

**Equipment type:** 13 Tonne Excavator  
**Excavation method:** Excavator  
**Excavation dimensions:** 3.0 m long 1.0 m wide  
**DCP id.:**

---

### Excavation Information

<table>
<thead>
<tr>
<th>Method</th>
<th>Support</th>
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<th>Samples &amp; Field Tests</th>
<th>Material Substance</th>
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<td>10-Oct-12 water</td>
<td>0.5 water inflow</td>
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<td>X</td>
<td>Existing Excavation</td>
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<td>BH</td>
<td>Backhoe Bucket</td>
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</tr>
<tr>
<td>B</td>
<td>Bulldozer Blade</td>
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<tr>
<td>R</td>
<td>Ripper</td>
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<tr>
<td>E</td>
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</tr>
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</table>

### Material Substance

**SOIL TYPE:** Plasticity or particle characteristic, colour, secondary and minor components

- SHALE: grey-brown, highly weathered, low to medium strength.

---

**Refusal:** Bedrock

**Test pit TP42 terminated at 1.0 m**  
**Refusal on Bedrock**

---

**Consistency / Relative Density**

- Very Soft (VS)
- Soft (S)
- Firm (F)
- Stiff (SI)
- Very Stiff (VSI)
- Hard (H)
- Very Loose (VL)
- Loose (L)
- Medium Dense (MD)
- Dense (D)
- Very Dense (VD)
TP42

client: Opus International Consultants Pty Ltd
project: Ellerton Drive Extension

TEST PIT PROFILE
### SOIL DESCRIPTION

- **SANDY CLAY**: low plasticity, yellow-brown, fine grained sand.  
- **SILTSTONE**: orange-brown, highly weathered, low to medium strength.

### Excavation Information

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**CLASSIFICATION SYMBOL & SOIL DESCRIPTION**

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<tr>
<th>SOIL TYPE: plasticity or particle characteristic, colour, secondary and minor components</th>
<th>material description</th>
</tr>
</thead>
</table>

**TEST PIT TP43 terminated at 0.9 m Refusal on Bedrock**