Appendix D
Trial pit logs
**Project no.:** 14-645  
**Project Name:** Greater Dublin Drainage Scheme Ground Investigation

**Trialpit No.:** TP101  
**Client:** Irish Water  
**Client’s Representative:** Tobin Consulting Engineers  
**Dates:** 11/12/2014  
**Sheet 1 of 1**  
**Scale:** 1:25  
**Logged By:** DOM

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.20</td>
<td>ES</td>
<td>48.48</td>
<td>0.10</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td>0.50</td>
<td>B</td>
<td>48.43</td>
<td>1.05</td>
<td>MADE GROUND - Soild to firm light brown slightly sandy slightly gravelly slightly clayey SILT with fragments of plastic and glass. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td>0.80</td>
<td>ES</td>
<td>48.43</td>
<td>1.15</td>
<td>Refusal met on possible limestone bedrock</td>
</tr>
</tbody>
</table>

**Remarks**
Refusal met on possible limestone bedrock

**Water Strikes:**
- **Struck (m):** 1.40
- **Flow Details:**

**Stability:**
Stable

**Difficulty:**
<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
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</thead>
<tbody>
<tr>
<td>0.50</td>
<td></td>
<td></td>
<td>54.39</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.20)</td>
<td>Firm brown slightly sandy gravelly slightly silty CLAY. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td>1.50</td>
<td></td>
<td></td>
<td>52.69</td>
<td>Possible limestone BEDROCK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1.60)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1.65)</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**

Refusal met on possible limestone bedrock

**Water Strikes**

<table>
<thead>
<tr>
<th>Struck (m)</th>
<th>Flow Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Stability**

Stable

**Difficulty**


### Greater Dublin Drainage Scheme Ground Investigation

**Trialpit No. TP103**

- **Method:** Trial Pitting
- **Plant:** 7t tracked excavator
- **Width:** 0.50m
- **Length:** 1.80m
- **Bearing:** (deg. N) C
- **Co-ords:** 309248.62mE 238753.21mN
- **Ground Level:** 59.12MOD
- **Client:** Irish Water
- **Client's Representative:** Tobin Consulting Engineers
- **Dates:** 11/12/2014
- **Scale:** 1:25
- **Logged By:** DOM
- **Crew:**

#### Depth (m) | Sample / Test | Field Records | Level & Depth | Stratum Description
--- | --- | --- | --- | ---
0.50 | B | 58.72 | 0.40 | TOPSOIL
| | | 58.32 | 0.40 | Firm brown slightly sandy slightly gravelly slightly clayey SILT. Gravel is subrounded to subangular fine to medium.
| | | 58.17 | 0.95 | Firm brown slightly sandy slightly gravelly slightly clayey SILT with fragments of weathered roots and occasional cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium.

---

### Remarks
Refusal met on possible limestone bedrock

### Water Strikes:
- **Struck (m):**
- **Flow Details:**

### Stability:
- **Stable**

### Difficulty:
**Method:** Trial Pitting  
**Plant:** 7t tracked excavator  
**Width:** 0.50m  
**Length:** 3.00m (deg. N)  
**Bearing:**  
**Co-ords:** 309762.45mE 239136.59mN  
**Ground Level:** 71.56MOD  
**Client:** Irish Water  
**Client's Representative:** Tobin Consulting Engineers  
**Dates:** 11/12/2014  
**Scale:** 1:25  
**Logged By:** DOM  

### Depth (m) | Sample / Test | Field Records | Level & Depth | Stratum Description |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>B</td>
<td>71.26</td>
<td>0.30</td>
<td>Firm brown slightly sandy slightly gravelly slightly clayey SILT with occasional cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>70.86</td>
<td>0.40</td>
<td>Firm grey brown slightly sandy slightly gravelly slightly clayey SILT with occasional cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td>1.00</td>
<td>B</td>
<td>70.36</td>
<td>1.20</td>
<td>Firm grey brown slightly sandy gravelly slightly silty CLAY with fragments of weathered roots. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>70.21</td>
<td>1.35</td>
<td><strong>End of trial pit at 1.35 m</strong></td>
</tr>
</tbody>
</table>

**Remarks:** Refusal met on possible limestone bedrock  
**Water Strikes:**  
**Struck (m):**  
**Flow Details:**  
**Stability:** Stable  
**Difficulty:**  

---

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### Project Information

**Project Name:** Greater Dublin Drainage Scheme Ground Investigation  
**Project No.:** 14-645  
**Trialpit No.:** TP105  
**Client:** Irish Water  
**Client’s Representative:** Tobin Consulting Engineers  
**Dates:** 11/12/2014  
**Scale:** 1:25  
**Crew:**  
**Logged By:** DOM  

### Method Details

**Method:** Trial Pitting  
**Plant:** 7t tracked excavator  
**Width:** 0.50m  
**Length:** 1.80m  
**Bearing:** (deg. N) A  
**Ground Level:** 76.51MOD  
**Co-ords:** 311068.44mE 239872.32mN  

### Field Records

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
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</thead>
<tbody>
<tr>
<td>0.30</td>
<td>ES</td>
<td>76.41</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td>0.50</td>
<td>B</td>
<td>75.41</td>
<td>MADE GROUND - Firm brown grey slightly sandy slightly gravelly slightly silty CLAY with fragments of plastic and timber. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse.</td>
</tr>
<tr>
<td>1.00</td>
<td>ES</td>
<td>75.41</td>
<td>Firm brown slightly sandy slightly gravelly slightly silty CLAY with occasional cobbles. Gravel is subrounded to subangular fine to medium.</td>
</tr>
<tr>
<td>1.50</td>
<td>ES</td>
<td>74.91</td>
<td>End of trial pit at 1.60 m</td>
</tr>
<tr>
<td>1.50</td>
<td>B</td>
<td>74.91</td>
<td></td>
</tr>
</tbody>
</table>

### Remarks

Refusal met on possible large boulder or bedrock  

### Water Strikes

**Water Strikes:**  
**Struck (m):**  
**Flow Details:**  

### Stability

**Stability:** Stable  

### Difficulty

**Difficulty:**
**Project Name:** Greater Dublin Drainage Scheme Ground Investigation

**Trialpit No.:** TP106

**Client:** Irish Water

**Client's Representative:** Tobin Consulting Engineers

**Dates:** 11/12/2014

**Scale:** 1:25

**Crew:**

**Method:** Trial Pitting

**Plant:** 7t tracked excavator

**Co-ords:** 310969.18mE 239835.24mN

**Width:** 0.50m  **Length:** 2.10m

**Bearing:** (deg. N) A B C D

**Ground Level:** 77.01MOD

**Ground Level:** 77.01MOD

**Ground Level:** 77.01MOD

**Field Records**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>77.01</td>
<td>TOPSOIL</td>
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<tr>
<td>0.20</td>
<td>ES</td>
<td>76.91</td>
<td>0.10</td>
</tr>
<tr>
<td>0.30</td>
<td>B</td>
<td></td>
<td>(0.35)</td>
</tr>
<tr>
<td>0.40</td>
<td></td>
<td>76.56</td>
<td>0.45</td>
</tr>
<tr>
<td>0.60</td>
<td>ES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.80</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**

Refusal met on possible limestone bedrock

**Water Strikes:**

<table>
<thead>
<tr>
<th>Struck (m)</th>
<th>Flow Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Stability:**

Stable

**Difficulty:**
**Project:** Greater Dublin Drainage Scheme Ground Investigation

**Trialpit No.:** TP107

**Method:** Trial Pitting
**Plant:** 7t tracked excavator

**Width:** 0.50m **Bearing:** C
**Length:** 2.00m **(deg. N)**

**Co-ords:**
- E: 311795.47m
- N: 240613.08m

**Ground Level:** 78.89MOD

**Client:** Irish Water
**Client's Representative:** Tobin Consulting Engineers

**Dates:** 11/12/2015

**Logged By:** MG

### Depth (m) | Sample / Test | Field Records | Level & Depth | Stratum Description |
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>0.50</td>
<td>B</td>
<td></td>
<td>78.74</td>
<td>(0.15) TOPSOIL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Firm brown gravelly CLAY. Gravel is fine to medium, subrounded to subangular.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>B</td>
<td></td>
<td>77.39</td>
<td>(0.15)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>77.54</td>
<td>(0.15)</td>
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<td></td>
<td></td>
<td>77.49</td>
<td>(1.20)</td>
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<td></td>
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<td></td>
<td>77.39</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Firm brown gravelly CLAY with occasional cobbles of weathered limestone bedrock. Gravel is fine to medium, subrounded to subangular.</td>
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</tbody>
</table>

**Remarks:**
Refusal met on possible limestone bedrock.

**Water Strikes:**
- **Struck (m):**
- **Flow Details:**

**Stability:**
- Stable

**Difficulty:**

---

**Legend & Water Strikes**

- **Backfill Installs**

---

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<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>B</td>
<td></td>
<td>76.81</td>
<td>Firm brown slightly sandy gravelly slightly silty CLAY. Gravel is subangular to subrounded fine to coarse.</td>
</tr>
<tr>
<td>2.00</td>
<td>B</td>
<td></td>
<td>76.81 2.00</td>
<td>Firm to stiff dark grey slightly sandy gravelly slightly silty CLAY with occasional cobbles and boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse.</td>
</tr>
<tr>
<td>3.00</td>
<td>B</td>
<td></td>
<td>(2.50)</td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>B</td>
<td></td>
<td>74.31 4.50</td>
<td>End of trial pit at 4.50 m</td>
</tr>
</tbody>
</table>

Remarks: Water Strikes:
- Struck (m):
  - Flow Details:
- Stability: Stable
- Difficulty:
**Project Name:** Greater Dublin Drainage Scheme Ground Investigation

**Trial Pit No.:** TP109

**Client:** Irish Water

**Client's Representative:** Tobin Consulting Engineers

**Dates:** 03/02/2015

**Co-ords:** 312371.79mE 241407.09mN

**Ground Level:** 85.83MOD

**Scale:** 1:25

**Width:** 0.60m

**Length:** 5.00m

**Depth (m) Sample / Test**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
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<tbody>
<tr>
<td>0.50</td>
<td>ES</td>
</tr>
<tr>
<td>1.00</td>
<td>B</td>
</tr>
<tr>
<td>1.00</td>
<td>ES</td>
</tr>
<tr>
<td>2.00</td>
<td>B</td>
</tr>
<tr>
<td>2.00</td>
<td>ES</td>
</tr>
<tr>
<td>3.00</td>
<td>B</td>
</tr>
<tr>
<td>3.00</td>
<td>ES</td>
</tr>
</tbody>
</table>

**Stratum Description**

- **MADE GROUND:** Soft grey gravelly CLAY. Gravel is subangular to subrounded fine to medium. High content of fill material.
- **83.63 2.20**
  - Soft grey slightly sandy gravelly slightly silty CLAY. Gravel is subangular to subrounded fine to medium
- **82.43 3.40**
  - End of trial pit at 3.40 m

**Remarks**

Trial pit terminated at site of trench wall falling in.

**Water Strikes:**

<table>
<thead>
<tr>
<th>Water Strikes: Struck (m)</th>
<th>Flow Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

**Stability:**

Unstable - sides falling in.

**Difficulty:**

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## Trial Pit No. TP110
### Greater Dublin Drainage Scheme Ground Investigation

**Method:** Trial Pitting  
**Plant:** CX130

**Width:** 0.60m  
**Length:** 3.50m  
**Bearing:**

**Co-ords:**
- 312439.57mE
- 241496.47mN

**Ground Level:** 83.87MOD

**Client:** Irish Water  
**Client's Representative:** Tobin Consulting Engineers

**Dates:** 03/02/2015

**Logged By:** DOM  
**Scale:** 1:25

### Depth (m) Field Records Level & Depth Stratum Description

<table>
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<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>B</td>
<td></td>
<td>83.57</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td>0.50</td>
<td>B</td>
<td></td>
<td>83.57</td>
<td>Firm brown slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium.</td>
</tr>
<tr>
<td>0.50</td>
<td>ES</td>
<td></td>
<td>83.57</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>ES</td>
<td></td>
<td>83.57</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>ES</td>
<td></td>
<td>83.57</td>
<td></td>
</tr>
<tr>
<td>1.50</td>
<td>B</td>
<td></td>
<td>83.57</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>B</td>
<td></td>
<td>81.97</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>ES</td>
<td></td>
<td>81.97</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>ES</td>
<td></td>
<td>81.97</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>ES</td>
<td></td>
<td>81.97</td>
<td></td>
</tr>
<tr>
<td>2.00</td>
<td>ES</td>
<td></td>
<td>81.97</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Refusal met on possible limestone bedrock

**Water Strikes:**
- **Struck (m):** 2.40
- **Flow Details:** Stable

**Stability:** Stable

**Difficulty:**

---

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**Project Name:** Greater Dublin Drainage Scheme Ground Investigation

**Trialpit No.:** TP112

**Method:** Trial Pitting

**Plant:** CX130

**Co-ords:**
- E: 313162.95m
- N: 241596.95m
- Bearing: 245.96°N

**Width:** 0.60m

**Length:** 3.00m

**Ground Level:** 75.80MOD

**Client:** Irish Water

**Client's Representative:** Tobin Consulting Engineers

**Dates:** 03/02/2015

**Scale:** 1:25

**Logged By:** DOM

### Depth (m) × Sample / Test × Field Records × Level & Depth × Stratum Description

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>B</td>
<td></td>
<td>75.00 0.80</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Firm to stiff dark grey slightly sandy gravelly slightly silty CLAY with cobbles and boulders. Gravel is subangular to subrounded fine to medium. Cobbles and boulders subangular to subrounded.</td>
</tr>
<tr>
<td>1.50</td>
<td>B</td>
<td></td>
<td>74.10 1.70</td>
<td>Weathered bedrock (dark grey LIMESTONE).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>73.90 1.90</td>
<td>End of trial pit at 1.90 m</td>
</tr>
</tbody>
</table>

**Remarks:** Refusal met on possible limestone bedrock

**Water Strikes:**
- **Struck (m):** 1.70
- **Flow Details:** Stable

**Stability:** Stable

**Difficulty:**
<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td>TOPSOIL</td>
</tr>
<tr>
<td>4.54</td>
<td></td>
<td></td>
<td>0.30</td>
<td>Firm brown slightly sandy sandy gravelly slightly silty CLAY with occasional cobbles and boulders. Gravel is subangular to subrounded fine to medium. Cobbles and boulders are subangular to subrounded.</td>
</tr>
<tr>
<td>3.70</td>
<td></td>
<td></td>
<td>(3.70)</td>
<td>Firm to stiff dark grey slightly sandy slightly gravelly slightly silty CLAY with occasional cobbles and rare boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium.</td>
</tr>
<tr>
<td>4.50</td>
<td></td>
<td></td>
<td></td>
<td>End of trial pit at 4.50 m</td>
</tr>
<tr>
<td>0.34</td>
<td></td>
<td></td>
<td>4.50</td>
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</tr>
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</table>

**Remarks**

**Water Strikes:**

- Struck (m): 0.30
- Flow Details: 

**Stability:**

- Stable

**Difficulty:**

-
### Trial Pit Details

**Project Name:** Greater Dublin Drainage Scheme Ground Investigation  
**Trial Pit No.:** TP114  
**Client:** Irish Water  
**Client's Representative:** Tobin Consulting Engineers  
**Dates:** 03/02/2015  
**Scale:** 1:25

**Method:** Trial Pitting  
**Plant:** CX130  
**Width:** 0.60m  
**Length:** 3.50m  
**Bearing:** (deg. N)  
**Co-ords:** 323399.33mE 241458.33mN  
**Ground Level:** 3.98MOD

**Ground Level:** 3.98MOD

**Crew:** Logged By: DOM

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Sample / Test</th>
<th>Field Records</th>
<th>Level &amp; Depth</th>
<th>Stratum Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>B</td>
<td></td>
<td>(0.25)</td>
<td>TOPSOIL</td>
</tr>
<tr>
<td>1.00</td>
<td>B</td>
<td></td>
<td>3.73 0.25</td>
<td>Firm brown slightly sandy gravelly slightly silty CLAY with occasional cobbles and boulders. Gravel is subangular to subrounded fine to medium. Cobbles and boulders are subangular to subrounded.</td>
</tr>
<tr>
<td>2.00</td>
<td>B</td>
<td></td>
<td>1.88 2.10</td>
<td>Firm to stiff dark grey slightly sandy slightly gravelly slightly silty CLAY with occasional cobbles and boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium.</td>
</tr>
<tr>
<td>3.00</td>
<td>B</td>
<td></td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>B</td>
<td></td>
<td>-0.52 4.50</td>
<td>End of trial pit at 4.50 m</td>
</tr>
</tbody>
</table>

**Remarks**

**Water Strikes:**  
**Struck (m):**  
**Flow Details:**

**Stability:** Stable  
**Difficulty:**

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Appendix E
Trial pit photographs
Trial pit TP102
Trial pit TP104

Trial pit TP104
Trial pit TP104
Trial pit TP105
Trial pit TP106

Trial pit TP106
Trial pit TP106
Trial pit TP107
Trial pit TP109
Trial pit TP110
Trial pit TP112
Trial pit TP113