Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 02/08/18

Prior to Development

<table>
<thead>
<tr>
<th>Depth to Water</th>
<th>16.692 m VGL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of Well</td>
<td>16.920 m VGL</td>
</tr>
<tr>
<td>(measured)</td>
<td></td>
</tr>
<tr>
<td>Depth of Well (from log)</td>
<td>17.000 m VGL</td>
</tr>
<tr>
<td>Standing water (m) ~</td>
<td>0.30 m</td>
</tr>
</tbody>
</table>

Following Development

<table>
<thead>
<tr>
<th>Depth to Water</th>
<th>DRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of Well (measured)</td>
<td>16.990 m VGL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mV ORP)</th>
<th>DO (ppm)</th>
<th>Temp (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:44</td>
<td>-</td>
<td>0.5</td>
<td>9.59</td>
<td>-3.8</td>
<td>2.38</td>
<td>15.62</td>
<td>3171</td>
<td>Brown, moderate to high, none</td>
</tr>
<tr>
<td>18:45</td>
<td>-</td>
<td>1.0</td>
<td>10.08</td>
<td>157.7</td>
<td>2.43</td>
<td>14.87</td>
<td>3333</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

Very little water. Require more development.
**Groundwater Well Development Sheet**

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 08:00 2/8/18  
**Well / Bore ID:** NEL-SH162  
**Screen:** 9 - 15  
**Development Method:** Drill  
**Staff:** [Blank]

### Prior to Development
- **Depth to Water:** 9.57 m btoe
- **Depth of Well (measured):** 14.97 m bgl
- **Depth of Well (from log):** 15.00 m bgl
- **Standing water (m):** 5.40 m

### Following Development
- **Depth to Water:** 14.67 m btoe
- **Depth of Well (measured):** 14.97 m bgl

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mv ORP)</th>
<th>DO (ppm)</th>
<th>Temp. (oC)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:05</td>
<td>-</td>
<td>1</td>
<td>9.67</td>
<td>98.5</td>
<td>2.76</td>
<td>15.09</td>
<td>2620</td>
<td>Pale yellow-grey, low turb. No cfs.</td>
</tr>
<tr>
<td>08:18</td>
<td>-</td>
<td>10</td>
<td>9.60</td>
<td>113.1</td>
<td>2.88</td>
<td>15.91</td>
<td>3355</td>
<td>Grey, moderate turb.</td>
</tr>
<tr>
<td>08:30</td>
<td>-</td>
<td>15</td>
<td>9.66</td>
<td>138.8</td>
<td>3.91</td>
<td>15.90</td>
<td>3801</td>
<td></td>
</tr>
<tr>
<td>12:50</td>
<td>-</td>
<td>17</td>
<td>9.59</td>
<td>105.6</td>
<td>2.48</td>
<td>15.68</td>
<td>5872</td>
<td></td>
</tr>
</tbody>
</table>
Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 02-03-18

Well / Bore ID: NEL - B165
Screen: 70 - 130
Development Method: Bailer
Staff: [Redacted]

Prior to Development
Depth to Water: 5.460 m TOC
Depth of Well (measured): 12.98 m u.g.
Depth of Well (from log): 13.00 m u.g.
Standing Water (m) ~ 7.25 m

Following Development
Depth to Water: 12.660 m TOC
Depth of Well (measured): 12.880 m u.g.

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.34</td>
<td>-</td>
<td>2</td>
<td>9.19</td>
<td>72.4</td>
<td>2.82</td>
<td>14.90</td>
<td>2847</td>
<td>Pale grey, medium, sulphur</td>
</tr>
<tr>
<td>9.47</td>
<td>-</td>
<td>12</td>
<td>8.72</td>
<td>95.1</td>
<td>2.48</td>
<td>15.16</td>
<td>5316</td>
<td></td>
</tr>
<tr>
<td>9.58</td>
<td>-</td>
<td>17</td>
<td>8.90</td>
<td>-3.6</td>
<td>2.43</td>
<td>15.48</td>
<td>5634</td>
<td></td>
</tr>
<tr>
<td>12:30</td>
<td>-</td>
<td>24</td>
<td>9.24</td>
<td>82.8</td>
<td>2.50</td>
<td>14.60</td>
<td>924</td>
<td>Pale yellow - grey, medium, sulphur</td>
</tr>
</tbody>
</table>

20/03/2018 3:10 PM
H:\1. Field forms\Well development sheet.xls
# Purging and Sampling Record

## Job Information
- **Client:** [Redacted]
- **Project:** [Redacted]
- **Proj. No.:** 3135.0060813
- **Sampler:** [Redacted]
- **Date:** 30/8/18

## Purge Method
- **ATLIFT**

## SWL (m TOC)
- **18.86 m**

## Bore Information
- **Bore ID:** NZ-18H172
- **Well Cap Secure?** 7

## Flow Cell
- **Y/N**

## Pump Depth
- **m**

## QAD-Meter Type
- **Hanna**

## SWL (m TOC)
- **18.86 m**

## Field Filtered
- **Y/N** (filter vessel, disposable filter/syringe)

## Field QA Checks:
- **Air bubbles in vials? Y/N**
- **Any violent reactions? Y/N**
- **Decontamination as per GHD procedure? Y/N**
- **Was sampling equipment pre-cleaned? Y/N**
- **COG updated? Y/N**

## Parameters
- **BTEX**
- **TPH**
- **PAH**
- **CHC**
- **PCB**
- **OCP**
- **OPP**
- **Tot Metal**
- **Biol**

## Preservatives

## Color, turbidity, sediment load, sheen, odour, flow rate, purged dry?

<table>
<thead>
<tr>
<th>Time</th>
<th>Volume (L)</th>
<th>Temp (°C)</th>
<th>pH (pH units)</th>
<th>Elec. Cond (µS/cm)</th>
<th>Dis. Oxygen (%)</th>
<th>Ox. Red Pt (mV)</th>
<th>SWL (m TOC)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:12</td>
<td>40</td>
<td>16.43</td>
<td>7.27</td>
<td>1.286</td>
<td>2.17</td>
<td>-24.7</td>
<td>SWL</td>
<td>pale brown, muddy, sediment, light brown, slightly clouded</td>
</tr>
<tr>
<td>11:24</td>
<td>60</td>
<td>15.92</td>
<td>13.06</td>
<td>1.335</td>
<td>2.04</td>
<td>-20.0</td>
<td>purged dry</td>
<td>pale brown, highly turbid, slightly cloudy, slight sheen</td>
</tr>
<tr>
<td>11:40</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>took 15 mins to allow recharge</td>
</tr>
<tr>
<td>11:44</td>
<td>Tund pump off</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>another water sample was not possible</td>
</tr>
</tbody>
</table>

## Comment:
- Water level was at more than 29.5m at 12:04 pm.
- When water level and flow was right prior to well development the weight on the end of the line went through a silent phase and then it became harder to get it to return at the bottom.
**Purging and Sampling Record**

**Job Information**
- Client: NELA
- Project: NELP
- Proj. No.: 23350060813
- Date: 29/8/18

**Purge Information**
- Purge Method: Air lift
- Sample Method: WQ
- WQ Meter Type: Hanna
- Flow Cell: Y
- Pump Depth: ...
- WLevel Meter Type: Dip/Fox/Infl/Fcc/Gas
- SWL (mbTOC): 13.677 m
- Screen: From: 32 to 32.0 m
- Stick Up: ...
- NAPL Check: ...
- Refdatum: mbTOC
- Bore Diameter: ...
- Well Cap Secure?
- Bore Depth: 32.04 m
- Field Filtered? Y/N (filter vessel, disposable filter/syringe)

**Field QA Checks:**
- Air bubbles in vials? Y/N
- Any violent reactions? Y/N
- Decontamination as per GHD procedure? Y/N
- Was sampling equipment pre-cleaned? Y/N
- COC updated? Y/N

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

<table>
<thead>
<tr>
<th>Time</th>
<th>Volume</th>
<th>Temp (°C)</th>
<th>pH (pH units)</th>
<th>Elec.Cond (µS/cm)</th>
<th>Dis.Oxygen</th>
<th>Ox-Red Pt. (± mV)</th>
<th>SWL (m TOC)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30</td>
<td>30</td>
<td>16.89</td>
<td>11.39</td>
<td>10240</td>
<td>2.64</td>
<td>-75.4</td>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>13:35</td>
<td>~ 1600</td>
<td>16.79</td>
<td>11.11</td>
<td>10300</td>
<td>2.60</td>
<td>-70.7</td>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>13:40</td>
<td>~ 180</td>
<td>17.25</td>
<td>11.0</td>
<td>107300</td>
<td>2.54</td>
<td>-58.1</td>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>13:57</td>
<td>~ 1200</td>
<td>12.04</td>
<td>11.12</td>
<td>10340</td>
<td>2.72</td>
<td>-36.9</td>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>14:05</td>
<td>~ 250</td>
<td>16.44</td>
<td>10.72</td>
<td>10650</td>
<td>2.69</td>
<td>-27.4</td>
<td>Stable</td>
<td></td>
</tr>
</tbody>
</table>

Approx -250L purged, recharging/recovering.
Left break for recharge @ ~13:40, for 10-15mins.

**Purge Volumes**
- Casing Int. Dia (mm): 50 100 150
- Vol (L/m of casing): 2.0 7.9 17.7

*Double for gravel pack*
# Purging and Sampling Record

**Bore ID:** NE2-8H176

<table>
<thead>
<tr>
<th>Sample Information</th>
<th>Bore Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purge Method:</td>
<td>SWL (mbTOC):</td>
</tr>
<tr>
<td>Sample Method:</td>
<td>23.51</td>
</tr>
<tr>
<td>WQ Meter Type:</td>
<td>Logic Check:</td>
</tr>
<tr>
<td>Flow Cell: Y</td>
<td>Screen: 23.8 to 35.8</td>
</tr>
<tr>
<td>Pump Depth:</td>
<td>Stick Up:</td>
</tr>
<tr>
<td>WLevel Meter Type:</td>
<td>NAPL Check:</td>
</tr>
<tr>
<td></td>
<td>Bore Diam: 58 mm</td>
</tr>
<tr>
<td></td>
<td>Ref. Datum:</td>
</tr>
<tr>
<td></td>
<td>Well Cap Secure?</td>
</tr>
<tr>
<td>Field Filtered? Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**Client:** NELA  
**Project:** NELP  
**Proj. No.:** Z3500508133  
**Sampler:** [Redacted]  
**Date:** 29/8/18  
**Round:** [Redacted]

<table>
<thead>
<tr>
<th>Time (mm/dd/yy)</th>
<th>Volume (L)</th>
<th>Temp (°C)</th>
<th>pH (pH units)</th>
<th>Elec. Cond. (μS/cm)</th>
<th>Dis. Oxygen (%)</th>
<th>Ox-Red Pl. (±mV)</th>
<th>SWL (m TOC)</th>
<th>Comment</th>
</tr>
</thead>
</table>
| 10:31
| 10:54
| 10:56
| 30/8/18 re-developed
| 10:31
| 10:54
| 10:56
| 13:20
| 13:29
| 13:34
| 30/8/18
| 13:20
| 13:29
| 13:34
| 30/8/18
| 13:20
| 13:29
| 13:34
| Total for 30/8 ~ 550 L pulled out with flow rate ~ 50L/min. Could have been increased a few mins needed. |

**Field QA Checks:**
- Air bubbles in vials? Y/N
- Any violent reactions? Y/N
- Decontamination as per GHD procedure? Y/N
- Was sampling equipment pre-cleaned? Y/N
- COC updated? Y/N

**Parameters:**
- BTEX
- TPH
- PAH
- CHC
- PCB
- OCP
- OPP
- Tot. Metal
- Bio.

**Preservatives:**

**Purge Volumes**
- Casing Int. Dia (mm): 50
- Vol (Lm of casing): 2.0
- 7.9
- 17.7

*Double for gravel pack*
**Purging and Sampling Record**

**Job Information**
- Client: NELP
- Project: NELP
- Proj. No.: 313500608/3
- Sampler: [Redacted]
- Date: 29/3/18
- Round: 3 (consecutive readings)

**Sampling Information**
- Purge Method: Air
- Sample Method: None
- WQ Meter Type: Hanna
- Flow Cell: 0
- Pump Depth: 13.0 m
- WL Level Meter Type: Dip/Syringe

**Bore Information**
- Bore ID: NEL-BH177
- SWL (mbTOC): 9.695 before 10/02/18 @ 12:40
- SWL (m TOC): 9.695
- Screen: From: 29.9 to 41.9 m
- Stick Up: 0 m
- NAPL Check: No
- Ref. Datum: NAD 83
- Bore Diam.: 2.5 m
- Well Cap Secure?: Yes
- Bore Depth: 41.8 m

**Field Filtered?** Y/N (filter vessel, disposable filter/syringe)

<table>
<thead>
<tr>
<th>Time</th>
<th>Volume</th>
<th>Temp (°C)</th>
<th>pH</th>
<th>Ec (mS/cm)</th>
<th>DO (mg/L)</th>
<th>Ox-Red Pl. (mV)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:05</td>
<td>50</td>
<td>17.16</td>
<td>11.08</td>
<td>1757</td>
<td>2.70</td>
<td>-13.0</td>
<td>Clear, slightly turbid, organic earthy smell.</td>
</tr>
<tr>
<td>12:05</td>
<td>50</td>
<td>17.01</td>
<td>11.0</td>
<td>18270</td>
<td>2.74</td>
<td>26.6</td>
<td>Chill.</td>
</tr>
<tr>
<td>12:14</td>
<td>100</td>
<td>16.81</td>
<td>10.38</td>
<td>13000</td>
<td>2.79</td>
<td>17.0</td>
<td>Still clear, no turbidity.</td>
</tr>
<tr>
<td>12:29</td>
<td>250</td>
<td>16.94</td>
<td>10.31</td>
<td>12400</td>
<td>2.81</td>
<td>2.3</td>
<td>More turbidity, less odour.</td>
</tr>
</tbody>
</table>

**Field QA Checks:**
- Air bubbles in vials? Y/N: Yes
- Any violent reactions? Y/N: No
- Decontamination as per GHD procedure? Y/N: Yes
- Was sampling equipment pre-cleaned? Y/N: Yes
- COC updated? Y/N: Yes

**Parameters**
- BTEX
- TPH
- PAH
- CHC
- PCB
- OCP
- OPP
- Tot. Metal
- Biol.

**Preservatives**

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc
**Purging and Sampling Record**

**Client:** NELA  
**Project:** NELP  
**Proj. No.:** 2150660813  
**Sampler:** [redacted]  
**Date:** 29/4/18  
**Bore ID:** NEL-BH178

<table>
<thead>
<tr>
<th>Time</th>
<th>Volume (L)</th>
<th>Temp (°C)</th>
<th>pH (pH units)</th>
<th>Elec. Cond. (usec/cm)</th>
<th>Dia. Oxygen (%</th>
<th>Ox.-Red. Pt (+ mV)</th>
<th>SWL (m TOC)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:42</td>
<td>~50</td>
<td>18.0-10.46</td>
<td>4.05</td>
<td>488.8</td>
<td>4.92</td>
<td>48.7</td>
<td>5.135</td>
<td>Air Lifted Dry</td>
</tr>
<tr>
<td>9:17</td>
<td>~100</td>
<td>16.91</td>
<td>11.61</td>
<td>11450</td>
<td>2.49</td>
<td>12.0</td>
<td>4.9</td>
<td>Air Lifted Dry</td>
</tr>
<tr>
<td>9:24</td>
<td>end.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total.</td>
</tr>
</tbody>
</table>

Field QA Checks:
- Air bubbles in vials? Y/N  
- Any violent reactions? Y/N  
- Decontamination as per GHD procedure? Y/N  
- Was sampling equipment pre-cleaned? Y/N  
- COC updated? Y/N  

**Parameters**
- BTEX  
- TPH  
- PAH  
- CHC  
- PCB  
- OCP  
- OPP  
- Tot. Metal  
- BioL  

**Preservatives**

**FurtehNotes**
- Duplicate samples collected, bottles used, access, condition of headwork etc.
- Air Lifted Dry, Bubbles, Scapy

**Purge Volumes**
- Casing Int. Dia (mm): 50, 100, 150
- Vol (L/m of casing): 2.0, 7.9, 17.7

*Double for gravel pack*
Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 02/11/18

Well / Bore ID: NEL-BH179
Screen: 6-0-9.0m
Development Method: Bailer / Wabara
Staff: [Redacted]

Prior to Development
Depth to Water: 5.83 m
Depth of Well (measured): 7.1 m
Depth of Well (from log): 9.00 m
Standing water (m): 3.75 m

Following Development
Depth to Water: 6.1 m
Depth of Well (measured): 9.08 m

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:49</td>
<td>1.0</td>
<td>10.18</td>
<td>31.8</td>
<td>1.43</td>
<td>19.02</td>
<td>36.69</td>
<td>&quot;Very high turbidity, grey, clayey&quot;</td>
<td></td>
</tr>
<tr>
<td>13:54</td>
<td>10.0</td>
<td>11.08</td>
<td>26.1</td>
<td>1.49</td>
<td>17.73</td>
<td>49.77</td>
<td>&quot;&quot;</td>
<td></td>
</tr>
<tr>
<td>14:01</td>
<td>20.0</td>
<td>10.79</td>
<td>38.3</td>
<td>1.45</td>
<td>18.30</td>
<td>67.12</td>
<td>&quot;As above. Slight sheen. &quot;</td>
<td></td>
</tr>
<tr>
<td>14:07</td>
<td>40.0</td>
<td>10.76</td>
<td>62.4</td>
<td>1.48</td>
<td>18.01</td>
<td>69.80</td>
<td>&quot;&quot;</td>
<td></td>
</tr>
<tr>
<td>14:18</td>
<td>60.0</td>
<td>11.16</td>
<td>64.6</td>
<td>1.48</td>
<td>17.75</td>
<td>71.40</td>
<td>&quot;Yellow film on tubing &amp; probe, after removing from well. &quot;</td>
<td></td>
</tr>
</tbody>
</table>

20/03/2018 3:10 PM
H:\1. Field forms\Well development sheet.xls
Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 30-10-18

Well / Bore ID: NFL - B4180
Screen: 9.0 - 12.0
Development Method: Bailer
Staff: [Redacted]

Prior to Development
Depth to Water: 6.920
Depth of Well (measured): 12.0 m NGVL
Depth of Well (from log): 12.0 m NGVL
Standing water (m ~): 5.0

Following Development
Depth to Water: 7.13 m NGVL
Depth of Well (measured): 12.00 m NGVL

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:03</td>
<td>-</td>
<td>1.0</td>
<td>1350</td>
<td>-90.7</td>
<td>1.49</td>
<td>18.32</td>
<td>2215</td>
<td>low turbidity, low sediments, no colour, no odour</td>
</tr>
<tr>
<td>4:14</td>
<td>-</td>
<td>10.0</td>
<td>11.05</td>
<td>-114.5</td>
<td>1.52</td>
<td>17.22</td>
<td>2330</td>
<td>as above, increasing turbidity</td>
</tr>
<tr>
<td>4:21</td>
<td>-</td>
<td>20.0</td>
<td>10.69</td>
<td>-85.1</td>
<td>1.52</td>
<td>17.02</td>
<td>2554</td>
<td>as above, inc. turbidity</td>
</tr>
<tr>
<td>4:30</td>
<td>-</td>
<td>30.0</td>
<td>10.30</td>
<td>-95.5</td>
<td>1.56</td>
<td>16.59</td>
<td>2720</td>
<td>&quot;</td>
</tr>
<tr>
<td>15:30</td>
<td>-</td>
<td>50</td>
<td>12.46</td>
<td>-13.9</td>
<td>1.53</td>
<td>17.22</td>
<td>2324</td>
<td>pale grey, low, none</td>
</tr>
</tbody>
</table>

02.11.2018
**Groundwater Well Development Sheet**

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 26/4/13 Am

**Prior to Development**
- Depth to Water: 4.15 m
- Depth of Well (measured): 13.85 m
- Depth of Well (from log): 14 m
- Standing water (m): ~

**Following Development**
- Depth to Water: 13.1 m
- Depth of Well (measured): ~

**Possible Issue with well, Driller note extremely muddy water**

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:05 Am</td>
<td>25</td>
<td>10.02</td>
<td>27.0</td>
<td>1.49</td>
<td>18.71</td>
<td>596</td>
<td>brown, high turbidity, mild odour</td>
<td></td>
</tr>
<tr>
<td>11:35 Am</td>
<td>30</td>
<td>10.19</td>
<td>37.1</td>
<td>1.51</td>
<td>18.45</td>
<td>627</td>
<td>Test stopped due to dry well/slow recharge</td>
<td></td>
</tr>
</tbody>
</table>

20/03/2018 3:10 PM  
H:\1, Field forms\Well development sheet.xls  
Page 1 of 2
# Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 26/4/18 PM  
**Well / Bore ID:** NEL-BH182  
**Screen:** 13.0 - 19.0 m  
**Development Method:** Air W/T  
**Staff:** [Redacted]

## Prior to Development
- **Depth to Water:** 5.85 m
- **Depth of Well (measured):** [Blank]
- **Depth of Well (from log):** [Blank]
- **Standing water (m):** [Blank]

## Following Development
- **Depth to Water:** [Blank]
- **Depth of Well (measured):** [Blank]

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mV/ORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15</td>
<td>25</td>
<td>25</td>
<td>9.89</td>
<td>66.0</td>
<td>1.49</td>
<td>18.07</td>
<td>567</td>
<td>green brown, highly turbid, mild odour</td>
</tr>
<tr>
<td>12:20</td>
<td>75</td>
<td>75</td>
<td>9.78</td>
<td>57.3</td>
<td>1.49</td>
<td>18.2</td>
<td>648</td>
<td>pale green brown, med turbid, no odour</td>
</tr>
<tr>
<td>12:26</td>
<td>100</td>
<td>100</td>
<td>9.93</td>
<td>55.0</td>
<td>1.49</td>
<td>18.24</td>
<td>712</td>
<td>pale green, low turbid, no odour</td>
</tr>
<tr>
<td>12:35</td>
<td>150</td>
<td>150</td>
<td>10.18</td>
<td>52.6</td>
<td>1.49</td>
<td>18.2</td>
<td>782</td>
<td>clear, v. low turbid, no odour</td>
</tr>
<tr>
<td>12:48</td>
<td>250</td>
<td>250</td>
<td>10.3</td>
<td>48.8</td>
<td>1.49</td>
<td>18.33</td>
<td>858</td>
<td>clear, v. low turbid, no odour</td>
</tr>
</tbody>
</table>
## Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 05-09-18

### Prior to Development
- **Depth to Water:** 3.035 m TDC
- **Depth of Well (measured):** 17.15 m bgl
- **Depth of Well (from log):** 17.00 m bgl
- **Standing water (m):** ~14.00 m

### Following Development
- **Depth to Water:** 15.26 m
- **Depth of Well (measured):** ~

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:20</td>
<td>-</td>
<td>6</td>
<td>11.71</td>
<td>15.8</td>
<td>3.72</td>
<td>17.93</td>
<td>748</td>
<td>pale grey, sea smell, colour, low turbid</td>
</tr>
<tr>
<td>9:25</td>
<td>-</td>
<td>12</td>
<td>11.10</td>
<td>143.7</td>
<td>3.67</td>
<td>17.68</td>
<td>785</td>
<td>pale brown, brine odour, medium turbid</td>
</tr>
<tr>
<td>9:41</td>
<td>-</td>
<td>20</td>
<td>10.96</td>
<td>16.5</td>
<td>4.26</td>
<td>18.25</td>
<td>1639</td>
<td>pale brown, brine odour, medium turbid</td>
</tr>
<tr>
<td>9:59</td>
<td>-</td>
<td>35</td>
<td>11.41</td>
<td>-23.7</td>
<td>4.59</td>
<td>17.75</td>
<td>1794</td>
<td>increased silt, tan brown, medium turbid</td>
</tr>
<tr>
<td>10:25</td>
<td>-</td>
<td>50</td>
<td>11.81</td>
<td>-25.4</td>
<td>3.57</td>
<td>17.93</td>
<td>1776</td>
<td>same as above</td>
</tr>
</tbody>
</table>

**VISIT AGAIN ON 06.09.2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>-</td>
<td>70</td>
<td>12.47</td>
<td>-11.9</td>
<td>1.59</td>
<td>19.17</td>
<td>2200</td>
<td>pale grey, clear, low, none</td>
</tr>
<tr>
<td>12:10</td>
<td>-</td>
<td>80</td>
<td>13.16</td>
<td>-23.1</td>
<td>1.62</td>
<td>18.18</td>
<td>2225</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

**Screen:** 11.0 - 17.0 m  
**Development Method:** Pailer  
**Well / Bore ID:** NEL-8H1847

**Staff:** [Redacted]
**Groundwater Well Development Sheet**

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 02.11.18  
**Well / Bore ID:** NEL-BH214  
**Screen:** 19.0 - 28.0 m  
**Development Method:** Bored  
**Staff:** [Redacted]

### Prior to Development
- **Depth to Water:** DRY
- **Depth of Well (measured):** 27.71 m
- **Depth of Well (from log):** 28.00 m

### Following Development
- **Depth to Water:**  
- **Depth of Well (measured):**  

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Well is dry</td>
</tr>
</tbody>
</table>

Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 10.00 - 10.30

Prior to Development
- Depth to Water: 2.952 m
- Depth of Well (measured): 9.85 m
- Depth of Well (from log): 10.00 m
- Standing water (m^-): 7.00 m

Following Development
- Depth to Water: 9.98766 m
- Depth of Well (measured): 9.95 m

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00</td>
<td>-</td>
<td>1</td>
<td>12.39</td>
<td>14.4</td>
<td>1.50</td>
<td>19.09</td>
<td>270</td>
<td>Very pale grey, brown, musty, turbid, foul, suspended sediments, organic odour</td>
</tr>
<tr>
<td>10.47</td>
<td>-</td>
<td>10</td>
<td>13.17</td>
<td>-2.6</td>
<td>1.52</td>
<td>17.21</td>
<td>3140</td>
<td>As above, high turbidity</td>
</tr>
<tr>
<td>10.52</td>
<td>-</td>
<td>15</td>
<td>12.20</td>
<td>-2.4</td>
<td>1.48</td>
<td>17.58</td>
<td>4833</td>
<td>&quot;</td>
</tr>
<tr>
<td>10.58</td>
<td>-</td>
<td>20</td>
<td>11.23</td>
<td>-30.6</td>
<td>1.47</td>
<td>18.32</td>
<td>5280</td>
<td>&quot;</td>
</tr>
<tr>
<td>11.14</td>
<td>-</td>
<td>25</td>
<td>10.92</td>
<td>-28.4</td>
<td>1.50</td>
<td>18.49</td>
<td>7533</td>
<td>Grey brown, moderate, none</td>
</tr>
<tr>
<td>11.30</td>
<td>-</td>
<td>30</td>
<td>11.20</td>
<td>-14.4</td>
<td>1.48</td>
<td>17.97</td>
<td>8544</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
### Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Screen:** 7-13  
**Development Method:** BAVER  
**Well / Bore ID:** NEL-BH 223  
**Time and Date:** 08:35 2/8/18  

#### Prior to Development
- **Depth to Water:** 6.66 ft
- **Depth of Well (measured):** 12.83 ft
- **Depth of Well (from log):** 13.00 ft
- **Standing water (m):** 6.2 m

#### Following Development
- **Depth to Water:** 12.614 ft
- **Depth of Well (measured):** 12.880 ft

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>-</td>
<td>2</td>
<td>9.22</td>
<td>168.7</td>
<td>3.27</td>
<td>14.44</td>
<td>3461</td>
<td>Orange brown, high, none</td>
</tr>
<tr>
<td>9.02</td>
<td>-</td>
<td>15</td>
<td>7.97</td>
<td>76.4</td>
<td>2.76</td>
<td>15.24</td>
<td>4830</td>
<td>Orange brown, medium to high, none</td>
</tr>
<tr>
<td>9.16</td>
<td>-</td>
<td>20</td>
<td>8.33</td>
<td>435</td>
<td>3.21</td>
<td>14.88</td>
<td>7298</td>
<td>&quot;</td>
</tr>
<tr>
<td>13.12</td>
<td>-</td>
<td>22</td>
<td>9.87</td>
<td>160.9</td>
<td>2.39</td>
<td>15.60</td>
<td>8621</td>
<td>Pale brown, low to medium, none</td>
</tr>
<tr>
<td>13.20</td>
<td>-</td>
<td>32</td>
<td>9.10</td>
<td>161.2</td>
<td>2.41</td>
<td>15.57</td>
<td>11460</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

---

20/03/2018 3:10 PM

Sheet1  
H:11. Field forms\Well development sheet.xls  
Page 2 of 2
Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31/35006/0813
Time and Date: 30.08.18

Well / Bore ID: NEL-RH22A
Screen: 9.0 - 15.0 m
Development Method: Buff
Staff: 

Prior to Development
- Depth to Water: 4.5 m
- Depth of Well (measured): 13.0 m (incl)
- Depth of Well (from log): 13.0 m
- Standing water (m): ~10.50 m

Following Development
- Depth to Water: 
- Depth of Well (measured): 
- Depth of Well (from log): 

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:45</td>
<td>-</td>
<td>10</td>
<td>11.02</td>
<td>42.0</td>
<td>2.66</td>
<td>9.01</td>
<td>5258</td>
<td>Pale brown, moderate, none</td>
</tr>
<tr>
<td>9:20</td>
<td>-</td>
<td>30</td>
<td>10.45</td>
<td>58.7</td>
<td>2.77</td>
<td>9.10</td>
<td>11370</td>
<td>&quot;</td>
</tr>
<tr>
<td>11:20</td>
<td>-</td>
<td>45</td>
<td>10.14</td>
<td>60.2</td>
<td>2.93</td>
<td>9.12</td>
<td>12370</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

20/03/2018 3:10 PM
H:\1\Field forms\Well development sheet.xls
Groundwater Well Development Sheet

Client: NELA
Project: NELP
Job No: 31350060815

Well / Bore ID: NEL-BH 224
Development Method: BATER

Time and Date: 27/9/18
Staff: 

Prior to Development

Depth to Water: 3.624 m below ground
Depth of Well (measured): 14.20 m below ground
Depth of Well (from log): 
Standing water (m) ~ 10.6

Following Development

Depth to Water: 12.061
Depth of Well (measured): 14.90

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (MV)</th>
<th>DO (mg/L)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:16</td>
<td>1</td>
<td></td>
<td>7.23</td>
<td>-145.7</td>
<td>0.95</td>
<td>16.3</td>
<td>7400</td>
<td>Clear, Slightly Turbid, Little Suspended sediment, Organic colour</td>
</tr>
<tr>
<td>11:28</td>
<td>10</td>
<td></td>
<td>7.25</td>
<td>-123.5</td>
<td>1.30</td>
<td>16.9</td>
<td>7572</td>
<td></td>
</tr>
<tr>
<td>11:41</td>
<td>25</td>
<td></td>
<td>7.27</td>
<td>-111.0</td>
<td>1.86</td>
<td>16.8</td>
<td>7704</td>
<td></td>
</tr>
</tbody>
</table>
**Purging and Sampling Record**

**Job Information**
- **Client:** NELA
- **Project:** NELP
- **Proj. No.:** 3132020813
- **Sampler:** [Name redacted]
- **Date:** 30/8/18
- **Round:** Well development

**Sampling Information**
- **Purge Method:** Air Lift
- **Sample Method:** [Field redacted]
- **WQ Meter Type:** [Field redacted]
- **Flow Cell:** Y / N
- **Pump Depth:** 10.25 m
- **WLevel Meter Type:** Dip / Fox / Inf. Fee / Gage

**Bore Information**
- **Bore ID:** NEL-BH233
- **SWL (mbTOC):** 10.25 m
- **Screen:** From: 24 to 30 m
- **Stick Up:** [Field redacted]
- **NAPL Check:** [Field redacted]
- **Bore Diam.:** 50 mm
- **Well Cap Secure?** [Field redacted]
- **Bore Depth:** 30 m

**Field Filtered?** Y / N (filter vessel, disposable filter/syringe)

<table>
<thead>
<tr>
<th>Time</th>
<th>Volume (L)</th>
<th>Temp. (°C)</th>
<th>pH (pH units)</th>
<th>Elec. Cond. (μS/cm)</th>
<th>Dis. Oxygen</th>
<th>Ox-red Pl. (mV)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:22</td>
<td>~60-80</td>
<td>15.24</td>
<td>11.35</td>
<td>1225</td>
<td>2.38</td>
<td>7.0</td>
<td>purged dry, pale brown, turbid, clear, slight odor</td>
</tr>
<tr>
<td>8:27</td>
<td>~40</td>
<td>14.56</td>
<td>10.74</td>
<td>6725</td>
<td>2.26</td>
<td>19.0</td>
<td>very low recharge flow</td>
</tr>
<tr>
<td>8:48</td>
<td>~45</td>
<td>15.42</td>
<td>10.57</td>
<td>6015</td>
<td>2.21</td>
<td>30.7</td>
<td>v. pale brown, clearing, slight odor</td>
</tr>
<tr>
<td>9:53</td>
<td>~50-80</td>
<td>14.26</td>
<td>10.62</td>
<td>6887</td>
<td>2.25</td>
<td>27.1</td>
<td>clearing, slightly turbid</td>
</tr>
<tr>
<td>7:19</td>
<td>~55</td>
<td>15.44</td>
<td>10.48</td>
<td>7986</td>
<td>2.26</td>
<td>34.0</td>
<td>clean, some black organic material from raw water</td>
</tr>
<tr>
<td>4:23</td>
<td>~60</td>
<td>13.87</td>
<td>10.59</td>
<td>84416</td>
<td>2.32</td>
<td>32.9</td>
<td>clear, increased EC, well developed</td>
</tr>
<tr>
<td>9:29</td>
<td>~50-80</td>
<td>13.77</td>
<td>10.67</td>
<td>8580</td>
<td>2.31</td>
<td>31.1</td>
<td></td>
</tr>
</tbody>
</table>

**Field QA Checks:**
- Air bubbles in vials? Y / N
- Any violent reactions? Y / N
- Decontamination as per GHD procedure? Y / N
- Was sampling equipment pre-cleaned? Y / N
- COC updated? Y / N

**Parameters**
- BTEX
- TPH
- PAH
- CHC
- PCB
- OCP
- OPP
- Tot. Metal
- Biot.

**Comment:** Duplicate samples collected, bottles used, access, condition of headworks etc

**Purge Volumes**
- Casing Int. Dia (mm): 50, 100, 150
- Vol (L/m of casing): 2.0, 7.9, 17.7

*Double for gravel pack*
Groundwater Well Development Sheet

Client: [Redacted]  Well / Bore ID: NEL-QH247
Project: [Redacted]  Development Method: Baile
Job No: [Redacted]  Time and Date: 10:25 27/9/18
Staff: [Redacted]  

Prior to Development
Depth to Water: 6.194
Depth of Well (measured): 21.60
Depth of Well (from log): 
Standing water (m): 

Following Development
Depth to Water: 10.081
Depth of Well (measured): 21.60

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mV)</th>
<th>DO (mg/L)</th>
<th>Temp (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:28</td>
<td>1</td>
<td>1</td>
<td>7.83</td>
<td>-164.7</td>
<td>3.90</td>
<td>15.9</td>
<td>5970</td>
<td>clear, not turbid, no sediment, sulphur odour</td>
</tr>
<tr>
<td>10:37</td>
<td>10</td>
<td>10</td>
<td>7.29</td>
<td>-29.2</td>
<td>2.05</td>
<td>16.0</td>
<td>8895</td>
<td>clear, no turbidity, little suspended sediment, odour</td>
</tr>
<tr>
<td>12:48</td>
<td>15</td>
<td>15</td>
<td>7.15</td>
<td>44.5</td>
<td>1.77</td>
<td>16.0</td>
<td>9147</td>
<td></td>
</tr>
<tr>
<td>18:41</td>
<td>25</td>
<td>25</td>
<td>7.14</td>
<td>100.2</td>
<td>1.78</td>
<td>16.2</td>
<td>9145</td>
<td>clear, pale yellow, low turbidity, sulphur odour</td>
</tr>
</tbody>
</table>

16/11/2017 8:52 AM
H:\1. Field forms\Well development sheet.xls  
Page 1 of 2
# Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 30/10/18 10:34  
**Well / Bore ID:** NEL - EF- B4013  
**Screen:** 7-13  
**Development Method:** Bailer  
**Staff:** [Redacted]

### Prior to Development
- **Depth to Water:** 3.825 m  
- **Depth of Well (measured):** 12.910 m  
- **Depth of Well (from log):** 13.000 m  
- **Standing water (m):** 9.150 m

### Following Development
- **Depth to Water:** [Blank]  
- **Depth of Well (measured):** [Blank]  
- **Standing water (m):** [Blank]

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:40</td>
<td>-</td>
<td>1</td>
<td>17.31</td>
<td>-250.9</td>
<td>1.51</td>
<td>17.85</td>
<td>1338</td>
<td>Pale Brown, Moderate, None</td>
</tr>
<tr>
<td>10:45</td>
<td>-</td>
<td>5</td>
<td>17.29</td>
<td>-203.1</td>
<td>1.49</td>
<td>17.57</td>
<td>7672</td>
<td>Pale Brown, Moderate to High, None</td>
</tr>
<tr>
<td>10:51</td>
<td>-</td>
<td>20</td>
<td>10.51</td>
<td>-24.4</td>
<td>1.44</td>
<td>18.89</td>
<td>10980</td>
<td></td>
</tr>
<tr>
<td>11:06</td>
<td>-</td>
<td>30</td>
<td>10.64</td>
<td>-55.5</td>
<td>1.48</td>
<td>17.97</td>
<td>10950</td>
<td>Pale Brown, Low to Moderate, None</td>
</tr>
<tr>
<td>11:17</td>
<td>-</td>
<td>40</td>
<td>11.79</td>
<td>-74.9</td>
<td>1.47</td>
<td>18.00</td>
<td>10860</td>
<td></td>
</tr>
</tbody>
</table>
**Groundwater Well Development Sheet**

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 15.08.18  

**Well / Bore ID:** NEL-EF-8H014  
**Screen:** 15.0 - 18.0  
**Development Method:** Bauer  
**Staff:** [Redacted]

### Prior to Development
- **Depth to Water:** 14.055 m T.O.C.  
- **Depth of Well (measured):** 17.930 m log.  
- **Depth of Well (from log):**  
- **Standing water (m):**

### Following Development
- **Depth to Water:** 17.850 m T.O.C.  
- **Depth of Well (measured):**

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (c)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.45</td>
<td>-</td>
<td>2</td>
<td>10.52</td>
<td>279.8</td>
<td>1.96</td>
<td>16.39</td>
<td>824</td>
<td>pale brown, moderate, none</td>
</tr>
<tr>
<td>13.50</td>
<td>-</td>
<td>7</td>
<td>10.22</td>
<td>213.0</td>
<td>1.91</td>
<td>16.55</td>
<td>1384</td>
<td>brown, high, none</td>
</tr>
<tr>
<td>14.25</td>
<td>-</td>
<td>12</td>
<td>9.68</td>
<td>283.7</td>
<td>1.93</td>
<td>16.56</td>
<td>3397</td>
<td>brown, high, none</td>
</tr>
<tr>
<td>14.28</td>
<td>-</td>
<td>12.5</td>
<td>9.63</td>
<td>171.7</td>
<td>2.35</td>
<td>16.56</td>
<td>3752</td>
<td></td>
</tr>
<tr>
<td>08:59</td>
<td>-</td>
<td>23</td>
<td>9.41</td>
<td>155.2</td>
<td>2.44</td>
<td>15.71</td>
<td>9586</td>
<td>high, med-high, none</td>
</tr>
</tbody>
</table>

[Note: 14/11/2018]
## Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 30.10.18

### Prior to Development

- **Depth to Water:** 3.42m TBC  
- **Depth of Well (measured):** 8.55m  
- **Depth of Well (from log):** 9.0m  
- **Standing water (m):** 5.50

### Following Development

- **Depth to Water:** 3.633m  
- **Depth of Well (measured):** 9.05m

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mv ORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:40</td>
<td>-</td>
<td>1</td>
<td>9.67</td>
<td>99.4</td>
<td>1.57</td>
<td>15.81</td>
<td>2025</td>
<td>pale brown, mod., none</td>
</tr>
<tr>
<td>8:50</td>
<td>-</td>
<td>10</td>
<td>9.46</td>
<td>-19.3</td>
<td>1.49</td>
<td>17.11</td>
<td>7918</td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>-</td>
<td>20</td>
<td>10.07</td>
<td>-105.2</td>
<td>1.49</td>
<td>17.0</td>
<td>8527</td>
<td>pale brown/grey brown, high turbidity, none</td>
</tr>
<tr>
<td>9:15</td>
<td>-</td>
<td>25</td>
<td>11.39</td>
<td>-135.9</td>
<td>1.45</td>
<td>18.18</td>
<td>8300</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>40</td>
<td>12.04</td>
<td>-101.3</td>
<td>1.57</td>
<td>18.33</td>
<td>8542</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Well / Bore ID:** NEL-ER-BH015  
**Screen:** 6.0 - 9.0m  
**Development Method:** trailer + foot valve  
**Staff:**
**Groundwater Well Development Sheet**

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 15-08-18  
**Well / Bore ID:** NEL-EF-BH016  
**Screen:** 10.0 - 16.0 m  
**Development Method:** Bailer  
**Staff:** [Redacted]  

### Prior to Development

- **Depth to Water:** 8.070 m T.O.C.
- **Depth of Well (measured):** 15.920 m b.g.d.
- **Depth of Well (from log):** 16.800 m b.g.d.
- **Standing water (m):** 8.0 m

### Following Development

- **Depth to Water:** 8.137 m T.O.C.
- **Depth of Well (measured):** [Blank]

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mv ORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30</td>
<td></td>
<td>2</td>
<td>10.37</td>
<td>246.9</td>
<td>1.85</td>
<td>17.55</td>
<td>1113</td>
<td>pale green, low to moderate, none</td>
</tr>
<tr>
<td>11:35</td>
<td></td>
<td>10</td>
<td>9.17</td>
<td>291.8</td>
<td>1.90</td>
<td>17.16</td>
<td>10960</td>
<td>pale brown, moderate, none</td>
</tr>
<tr>
<td>11:51</td>
<td></td>
<td>35</td>
<td>8.74</td>
<td>369.1</td>
<td>2.05</td>
<td>16.92</td>
<td>11580</td>
<td>pale brown, low to moderate, none</td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td>46</td>
<td>8.88</td>
<td>388.4</td>
<td>2.07</td>
<td>16.89</td>
<td>11590</td>
<td>&quot;</td>
</tr>
<tr>
<td>12:11</td>
<td></td>
<td>56</td>
<td>9.84</td>
<td>331.3</td>
<td>2.04</td>
<td>16.86</td>
<td>11580</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
## Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/35006/0813  
**Time and Date:** 15.08.18

### Prior to Development
- **Depth to Water:** DRY  
- **Depth of Well (measured):** 7.98 m  
- **Depth of Well (from log):** 8.00 m  
- **Standing water (m):** ~

### Following Development
- **Depth to Water:** ~
- **Depth of Well (measured):** ~

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvORP)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (µS/cm)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DRY @ 7.93 m</td>
</tr>
</tbody>
</table>
# Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No:** 31/250G6/08.18  
**Well / Bore ID:** NEL- ENV-B4008  
**Development Method:** Bailer  
**Time and Date:** 20.04.18

### Prior to Development
- Depth to Water: 8.328 m
- Depth of Well (measured): 9.50 m
- Standing water (m) ~ 1.2

### Following Development
- Depth to Water: 9.35 m
- Depth of Well (measured): 6.5 - 9.5

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mV)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30</td>
<td>-</td>
<td>2</td>
<td>8.97</td>
<td>88.8</td>
<td>1.51</td>
<td>19.28</td>
<td>112.70</td>
<td>Brown, moderate, none, ALLOW TO RECHARGE</td>
</tr>
<tr>
<td>11:51</td>
<td>-</td>
<td>10</td>
<td>9.32</td>
<td>77.8</td>
<td>1.55</td>
<td>19.25</td>
<td>117.80</td>
<td>Pale brown, low to moderate, none, ALLOW TO RECHARGE</td>
</tr>
<tr>
<td>12:20</td>
<td>-</td>
<td>12</td>
<td>7.54</td>
<td>71.0</td>
<td>1.59</td>
<td>19.21</td>
<td>116.30</td>
<td>''</td>
</tr>
</tbody>
</table>

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Sheet1  
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### Groundwater Well Development Sheet

**Client:** NELA  
**Project:** NELP  
**Job No.:** 31/35006/0813  
**Time and Date:** 31-05-18

**Well / Bore ID:** NELENV-BH022  
**Screen:** 16.0 - 22.0 m  
**Development Method:** Baider  
**Staff:**

#### Prior to Development
- **Depth to Water:** Faulty dipper
- **Depth of Well (measured):** 22.0 m BGL
- **Depth of Well (from log):** 22.0 m BGL
- **Standing water (m):**

#### Following Development
- **Depth to Water:**
- **Depth of Well (measured):**
- **Standing water (m):**

<table>
<thead>
<tr>
<th>Time</th>
<th>No. of Surges</th>
<th>Cumulative Volume (L)</th>
<th>pH</th>
<th>Redox (mvOx)</th>
<th>DO (ppm)</th>
<th>Temp. (°C)</th>
<th>EC (μS/cm)</th>
<th>Comments (colour, turbidity, odour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15</td>
<td>-</td>
<td>5</td>
<td>10.48</td>
<td>40.2</td>
<td>2.92</td>
<td>9.10</td>
<td>4457</td>
<td>Pale brown, moderately slight HC</td>
</tr>
<tr>
<td>10:30</td>
<td>-</td>
<td>10</td>
<td>10.52</td>
<td>39.9</td>
<td>2.91</td>
<td>9.13</td>
<td>5043</td>
<td>Pale brown, moderate, moderate HC</td>
</tr>
<tr>
<td>11:40</td>
<td>-</td>
<td>13</td>
<td>10.46</td>
<td>38.3</td>
<td>2.88</td>
<td>9.13</td>
<td>5400</td>
<td></td>
</tr>
</tbody>
</table>

---

20/03/2018 3:10 PM

H/11. Field forms/Well development sheet.xls

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