REPORTED TO: Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC V0E 1B4

ATTENTION: Rico

PO NUMBER: Project Well 7

PROJECT INFO:

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By: Sara Gulenchyn, B.Sc, P.Chem.
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100

www.caro.ca
### Analysis Information

<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Reference</th>
<th>Technique</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
<td>APHA 4500-NH3 G*</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Anions by IC in Water</td>
<td>APHA 4110 B</td>
<td>Ion Chromatography with Chemical Suppression of</td>
<td>Kelowna</td>
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<tr>
<td></td>
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<td>Eluent Conductivity</td>
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</tr>
<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

**Note:** An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method.

#### Method Reference Descriptions:


#### Glossary of Terms:

- **MRL**: Method Reporting Limit
- **<**: Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
- **mg/L**: Milligrams per litre
- **pH units**: pH < 7 = acidic, pH > 7 = basic
Sample ID: Project Well 7 (7062957-01) [Water] Sampled: 2017-06-29 12:30

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>Anions</strong></td>
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<tr>
<td>Chloride</td>
<td>22.5</td>
<td>0.10</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
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<tr>
<td>Nitrate (as N)</td>
<td>2.18</td>
<td>0.010</td>
<td>mg/L</td>
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<td>2017-07-04</td>
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<td>0.010</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
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<tr>
<td><strong>General Parameters</strong></td>
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<tr>
<td>Ammonia, Total (as N)</td>
<td>0.127</td>
<td>0.020</td>
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<td>Nitrogen, Total Kjeldahl</td>
<td>0.194</td>
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<tr>
<td>pH</td>
<td>7.54</td>
<td>0.01</td>
<td>pH units</td>
<td>N/A</td>
<td>2017-07-04</td>
<td>HT2</td>
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<td><strong>Calculated Parameters</strong></td>
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<tr>
<td>Nitrate+Nitrite (as N)</td>
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<td>0.010</td>
<td>mg/L</td>
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<td>Nitrogen, Total</td>
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<td>0.050</td>
<td>mg/L</td>
<td>N/A</td>
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**Sample / Analysis Qualifiers:**

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
APPENDIX 1: QUALITY CONTROL DATA

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment.
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method’s precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method’s accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

### Analyte Result MRL Units Spike Level Source Result % REC REC Limit % RPD RPD Limit Notes

#### Anions, Batch B7G0040

**Blank (B7G0040-BLK1)**


<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
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<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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**LCS (B7G0040-BS1)**


<table>
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<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tr>
<td>Chloride</td>
<td>15.6</td>
<td>0.10 mg/L</td>
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<td>90-110</td>
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<td>Nitrate (as N)</td>
<td>4.10</td>
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<td>93-108</td>
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<td>Nitrite (as N)</td>
<td>1.93</td>
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<td>97</td>
<td>85-114</td>
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#### General Parameters, Batch B7G0010

**Blank (B7G0010-BLK1)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

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<tr>
<th>Analyte</th>
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<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
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**Blank (B7G0010-BLK2)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

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<th>% RPD</th>
<th>RPD Limit</th>
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<tr>
<td>Ammonia, Total (as N)</td>
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**Blank (B7G0010-BLK3)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

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<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tbody>
<tr>
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**LCS (B7G0010-BS1)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

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<th>Analyte</th>
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<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
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<th>Notes</th>
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**LCS (B7G0010-BS2)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

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<th>Analyte</th>
<th>Result</th>
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<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
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<td>Ammonia, Total (as N)</td>
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<td>0.020 mg/L</td>
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<td>90-115</td>
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**LCS (B7G0010-BS3)**

Prepared: 2017-07-06, Analyzed: 2017-07-06

<table>
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<th>Analyte</th>
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<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tbody>
<tr>
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<td>1.04</td>
<td>0.020 mg/L</td>
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<td>104</td>
<td>90-115</td>
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</tbody>
</table>
APPENDIX 1: QUALITY CONTROL DATA

### General Parameters, Batch B7G0014, Continued

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<th>Analyte</th>
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<th>MRL Units</th>
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<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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</thead>
<tbody>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>&lt; 0.050</td>
<td>0.050 mg/L</td>
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<tr>
<td>Blank (B7G0014-BLK2)</td>
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<td>84-121</td>
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### General Parameters, Batch B7G0031

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<th>REC Limit</th>
<th>% RPD</th>
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<th>Notes</th>
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<tbody>
<tr>
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<td>0.01 pH units</td>
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<td>100</td>
<td>98-102</td>
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</table>
**CHAIN OF CUSTODY RECORD**

**RELIQUISHED BY:**
Rico Thorsen

**DATE:** June 25

**RECEIVED BY:**

**TIME:** 4:47

**PROJECT INFO:**
Purple Springs Nursery
Project well 7

**TURNAROUND TIME REQUESTED:**
Routine: (5-7 Days) ❌
Rush: 1 Day* ❌ 2 Day* ❌ 3 Day* ❌ Other* ❌

**REGULATORY APPLICATION:**
Canadian Drinking Water Quality Guidelines ❌
BC Drinking Water Protection Act / Reg. ❌
BC CSR ❌ AB TIER 1 ❌ CCME ❌ OTHER* ❌
Contact Lab To Confirm. Surcharge May Apply

**ANALYSES REQUESTED:**

<table>
<thead>
<tr>
<th>SAMPLED BY:</th>
<th>REPORT TO: Ken Taggart Feedlot</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>Purple Springs Nursery</td>
</tr>
<tr>
<td>CONTACT:</td>
<td>Rico Thorsen</td>
</tr>
<tr>
<td>TEL/FAX:</td>
<td><a href="mailto:hm@psnursery.com">hm@psnursery.com</a></td>
</tr>
<tr>
<td>EMAIL 1:</td>
<td><a href="mailto:thorsen4@sympatico.ca">thorsen4@sympatico.ca</a></td>
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<tr>
<td>EMAIL 2:</td>
<td></td>
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<tr>
<td>EMAIL 3:</td>
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</table>

**CLIENT SAMPLE ID:** Project well 7

**MATRIX:**

<table>
<thead>
<tr>
<th>DRINKING WATER</th>
<th>OTHER WATER</th>
<th>SOIL</th>
<th>OTHER</th>
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**OTHER CONTAINERS:** X

**SAMPLING:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
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<tbody>
<tr>
<td>June 25</td>
<td>12:30</td>
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**SAMPLE RETENTION INSTRUCTIONS**

( discarded 30 days after Report unless otherwise specified): 60 Days ❌ 90 Days ❌ Longer Date (Surcharge will Apply):

**PAYMENT:**

<table>
<thead>
<tr>
<th>CHECKER</th>
<th>CREDIT</th>
<th>DEBIT</th>
<th>CASH</th>
<th>INVOICE</th>
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</table>

**SAMPLE RECEIVED CONDITION:**

<table>
<thead>
<tr>
<th>COOLER 1 (°C):</th>
<th>ICE: Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>COOLER 2 (°C):</td>
<td>ICE: Y</td>
<td>N</td>
</tr>
<tr>
<td>COOLER 3 (°C):</td>
<td>ICE: Y</td>
<td>N</td>
</tr>
</tbody>
</table>

**CUSTODY SEALS INTACT:** NA Y N
Field Sampling Sheet - Groundwater

Site/Facility Name: Kew Regent Foods
Client: 
Well ID: 
Project Number: 
Date: 
Sampled by: 
Casing Diameter: 
Weather: 
Well Stick-up: 
Remarks: 
Condition of well: good needs attention

Is the well marked/flagged? Yes No

DTB: m 
Pressure: negative positive

DTW: m 
Difference: m none

Volume of water in well: Litres 
UTM Coordinates: 
X 2 L/m

Volume of water to purge: Litres 
Easting (6 digits)

Volume actually purged: Litres 
Northing (7 digits)

Purge method: Baller Pump None Other:

Purged to dry: Yes No 
Zone:

Purge water disposal: Ground Container Was sheen observed during purging or sampling? Yes No

Field Parameters

<table>
<thead>
<tr>
<th>Volume (L)</th>
<th>Time</th>
<th>pH</th>
<th>Temp °C</th>
<th>Cond μS/cm</th>
<th>ORP (mv)</th>
<th>Turbidity</th>
<th>Colour</th>
<th>Odour</th>
<th>Comments</th>
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<td>7.8</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

write additional lines on the back

Sample Descriptions:

Sample date: June 29, 2017 Sample time: 12:30 PM
Appearance: 
Sample Colour: 

Order of bottles collected: 

List any Parameters not Sampled/bottles missed: 

Were Samples Filtered and Preserved? Yes No

Duplicate Sample? Yes No Duplicate Sample ID: 

Additional Notes: 
- site access 
- hidden well location 
- safety concerns 
- unusual well behaviour

Associated Environmental
General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By: Sara Gulenchyn, B.Sc, P.Chem.
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca

Locations:

Richmond, BC  V6V 2K9
Tel: 604-279-1499

Kelowna, BC  V1X 5C3
Tel: 250-765-9646

Edmonton, AB  T5S 1H7
Tel: 780-489-9100

www.caro.ca
### Analysis Information

<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Reference</th>
<th>Technique</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
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<td>Kelowna</td>
</tr>
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<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

**Method Reference Descriptions:**


**Glossary of Terms:**

- **MRL**: Method Reporting Limit
- **<**: Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
- **mg/L**: Milligrams per litre
- **pH units**: pH < 7 = acidic, pH > 7 = basic
### Sample ID: Project Well 7 (7092352-01) [Water] Sampled: 2017-09-25 13:15

#### Anions

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
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<tr>
<td>Chloride</td>
<td>1.37</td>
<td>0.10 mg/L</td>
<td>N/A</td>
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<tr>
<td>Nitrate (as N)</td>
<td>0.061</td>
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<td>Nitrite (as N)</td>
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</table>

#### General Parameters

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Ammonia, Total (as N)</td>
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#### Calculated Parameters

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<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>0.0840</td>
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</tbody>
</table>

#### Sample / Analysis Qualifiers:

**HT2**

The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment.
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method’s precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Batch</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td><strong>Anions, Batch B7I1890</strong></td>
<td></td>
<td></td>
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<tr>
<td>Blank (B7I1890-BLK1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
<td></td>
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</tr>
<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
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<td>Nitrate (as N)</td>
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<td>0.010 mg/L</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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<tr>
<td>Blank (B7I1890-BLK2)</td>
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</tr>
<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
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<td></td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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</tr>
<tr>
<td>LCS (B7I1890-BS1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
<td></td>
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<tr>
<td>Chloride</td>
<td>16.2</td>
<td>0.10 mg/L</td>
<td>16.0</td>
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<td>101</td>
<td>90-110</td>
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<tr>
<td>Nitrate (as N)</td>
<td>4.05</td>
<td>0.010 mg/L</td>
<td>4.00</td>
<td></td>
<td>101</td>
<td>93-108</td>
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<tr>
<td>Nitrite (as N)</td>
<td>1.97</td>
<td>0.010 mg/L</td>
<td>2.00</td>
<td></td>
<td>99</td>
<td>85-114</td>
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<tr>
<td>LCS (B7I1890-BS2)</td>
<td>Prepared: 2017-09-28, Analyzed: 2017-09-28</td>
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<tr>
<td>Chloride</td>
<td>16.3</td>
<td>0.10 mg/L</td>
<td>16.0</td>
<td></td>
<td>102</td>
<td>90-110</td>
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<tr>
<td>Nitrate (as N)</td>
<td>4.04</td>
<td>0.010 mg/L</td>
<td>4.00</td>
<td></td>
<td>101</td>
<td>93-108</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>1.97</td>
<td>0.010 mg/L</td>
<td>2.00</td>
<td></td>
<td>99</td>
<td>85-114</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **General Parameters, Batch B7I1912** |       |        |           |             |               |       |           |       |          |           |
| Reference (B7I1912-SRM1) | Prepared: 2017-09-28, Analyzed: 2017-09-28 |        |           |             |               |       |           |       |          |           |
| pH                | 7.00   | 0.10 pH units | 7.00      |             | 100           | 98-102| HT2       |       |          |           |
| Reference (B7I1912-SRM2) | Prepared: 2017-09-28, Analyzed: 2017-09-28 |        |           |             |               |       |           |       |          |           |
| pH                | 7.00   | 0.10 pH units | 7.00      |             | 100           | 98-102| HT2       |       |          |           |

<p>| <strong>General Parameters, Batch B7I1950</strong> |       |        |           |             |               |       |           |       |          |           |
| Blank (B7I1950-BLK1) | Prepared: 2017-09-27, Analyzed: 2017-10-01 |        |           |             |               |       |           |       |          |           |
| Nitrogen, Total Kjeldahl | &lt; 0.050 | 0.050 mg/L |          |             |               |       |           |       |          |           |</p>
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>0.995</td>
<td>0.050 mg/L</td>
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<td>100</td>
<td>84-121</td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
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<td>0.020 mg/L</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
<td>0.020 mg/L</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>1.02</td>
<td>0.020 mg/L</td>
<td>1.00</td>
<td></td>
<td>102</td>
<td>90-115</td>
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<tr>
<td>Ammonia, Total (as N)</td>
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<td>0.020 mg/L</td>
<td>1.00</td>
<td></td>
<td>105</td>
<td>90-115</td>
<td></td>
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</tr>
</tbody>
</table>

**QC Qualifiers:**

- **HT2**: The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
CHAIN OF CUSTODY RECORD

RELINQUISHED BY: Rico Thorsen
TURNAROUND TIME REQUESTED: Routine: (5-7 Days) ☑
REGULATORY APPLICATION: Show on Report
Canadian Drinking Water Quality: BC WOG BC WWR
BC CSR Soil: WL AL LD PL RL-HD CL II
BC CSR Water: AW IW LW DW
CCME: OTHER:

PROJECT NUMBER / INFO: Project well 7

ANALYSES REQUESTED:
- N - Nitrate
- F - Nitrite
- Cl - Chloride
- Ammonia

SAMPLING BY: Ken Regaht Feedlot

INVOICE TO:Purple Springs Nursery

RECEIVED BY: 64745
DATE: Sept 26
TIME: 

DELIVERY METHOD: EMAIL ☑ MAIL ☐ OTHER ☐
EMAIL 1: hm@psnursery.com
EMAIL 2: thoersen4@yahoo.ca
EMAIL 3: 

MATRIX: OTHER CONTAINERS:

drinking water 
Other 
Soil 
(Blank)
(water)

DATE TIME

CHLORINATED PRESERVED

Samples 2

SITE SAMPLED:

CLIENT SAMPLE ID:

Project well 7

Sept 25 116

RECOMMENDED FOR STORAGE:

COOLER 1 (°C): Y N
COOLER 2 (°C): ICE: Y N
COOLER 3 (°C): ICE: Y N
CUSTODY SEALS INTACT: NA Y N

OTHER INSTRUCTIONS:

Sample retention: 30 days (default)

Sample receipt condition:

Supplies needed:

If you would like to talk to a real live Scientist about your project requirements, please check here:
REPORTED TO Purple Springs Nursery  
4519 Hullcar Road  
Armstrong, BC V0E 1B4  
TEL (250) 546-8156  
FAX -  

ATTENTION Rico  
WORK ORDER 7062953  

PO NUMBER  
PROJECT Project Well 8  
PROJECT INFO RECEIVED / TEMP 2017-06-29 14:47 / 13°C  
REPORTED 2017-07-07  
COC NUMBER B46982  

General Comments:  
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regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing  
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resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis.  
Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.  

Authorized By:  
Sara Gulenchyn, B.Sc, P.Chem.  
Client Service Coordinator  

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca  

Locations:  
#110 4011 Viking Way  
Richmond, BC V6V 2K9  
Tel: 604-279-1499  

#102 3677 Highway 97N  
Kelowna, BC V1X 5C3  
Tel: 250-765-9646  

17225 109 Avenue  
Edmonton, AB T5S 1H7  
Tel: 780-489-9100
### Analysis Description

<table>
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<th>Method Reference</th>
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<th>Location</th>
</tr>
</thead>
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<td>Kelowna</td>
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<td>Kelowna</td>
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<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
</tr>
<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

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### Method Reference Descriptions:


### Glossary of Terms:

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<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRL</td>
<td>Method Reporting Limit</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences</td>
</tr>
<tr>
<td>mg/L</td>
<td>Milligrams per litre</td>
</tr>
<tr>
<td>pH units</td>
<td>pH &lt; 7 = acidic, pH &gt; 7 = basic</td>
</tr>
</tbody>
</table>
### Sample ID: Project Well 8 (7062953-01) [Water] Sampled: 2017-06-29 12:18

#### Anions

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
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<td>N/A</td>
<td>2017-07-04</td>
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<td></td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>0.013</td>
<td>0.010 mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
<td></td>
<td></td>
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</table>

#### General Parameters

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.01 pH units</td>
<td>N/A</td>
<td>2017-07-04</td>
<td>HT2</td>
<td></td>
</tr>
</tbody>
</table>

#### Calculated Parameters

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>2.03</td>
<td>0.0100 mg/L</td>
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<td>N/A</td>
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</table>

#### Sample / Analysis Qualifiers:

**HT2**

The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment.

- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method’s precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.

- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).

- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

### Analytical Data

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Batch</th>
<th>Source</th>
<th>Result</th>
<th>MRL</th>
<th>Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
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<th>% RPD</th>
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CARO Analytical Services
Rev 2017-01-05
**CHAIN OF CUSTODY RECORD**

**RELINQUISHED BY:**
Rico Thorsen  
**RECEIVED BY:**
E8 W1  
**DATE:** June 27  
**TIME:**

**PROJECT:** Project well 8  
**PROJECT INFO:**

**REPORT TO:** Ken Regehr Feedlot  
**COMPANY:** Purple Springs Mining  
**ADDRESS:**

**CONTACT:** Rico Thorsen  
**TEL/FAX:**

**DELIVERY METHOD:** EMAIL [ ] MAIL [ ] OTHER [ ]
**DATA FORMAT:** EXCEL [ ] WATERTRAX [ ] Elsdat [ ] EQuIS [ ] BC EMS [ ] OTHER [ ]

**INVOICE TO:** SAME AS REPORT TO
**COMPANY:**
**ADDRESS:**

**CONTACT:** Helen McCulloch  
**EMAIL:** am@pennisny.com  
**PO:**

**TURN AROUND TIME REQUESTED:** Routine (5-7 Days) [X] Rush: 1 Day [ ] 2 Day [ ] 3 Day [ ]
**REGULATORY APPLICATION:**
Canadian Drinking Water Quality Guidelines [ ] BC Drinking Water Protection Act / Reg. [ ]
BC CSR [ ] AB TIER 1 [ ] CCME [ ] OTHER [ ]

*Contact Lab To Confirm, Surcharge May Apply

**SAMPLED BY:**

**CLIENT SAMPLE ID:** Project well 8

**MATRIX:**

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<th>OTHER</th>
<th>SOIL</th>
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**OTHER CONTAINERS**

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**DATE:** June 29  
**TIME:** 12:45

**SAMPLING:**

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<th>TIME</th>
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**COMMENTS:**

- *Other instructions:

**PAYMENT:**

**SAMPLE RECEIPT CONDITION:**

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<th>ICE</th>
<th>Y</th>
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**SAME AS REPORT TO**

**PAYMENT**

**SAMPLE RECEIPT CONDITION**

**SAME AS REPORT TO**
Field Sampling Sheet - Groundwater

Site/Facility Name: Non Regular Fechdit

Well ID: Project Well G

Date:

Casing Diameter:

Well Stick-up:

Condition of well: good needs attention

Remarks:

Is the well marked/flagged? Yes No

DTB: m

DTW: m

Difference: m

Pressure: negative positive

X 2 L/m

Volume of water in well: Litres

15cm (6") casing has 18L/m

Volume of water to purge: Litres

10cm (4") casing has 8L/m

Volume actually purged: Litres

5cm (2") casing has 2L/m

Purge method: Bailler Pump None Other:

Purged to dry: Yes No

Purge water disposal: Ground Container

Was sheen observed during purging or sampling? Yes No

Field Parameters

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<th>pH</th>
<th>Temp °C</th>
<th>Cond μS/cm</th>
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Sample Descriptions:

Sample date: June 29 - 2017 Sample time: 12 18 Pm

Appearance:

Order of bottles collected:

List any Parameters not Sampled/bottles missed:

Were Samples Filtered and Preserved? Yes No

Duplicate Sample? Yes No Duplicate Sample ID:

Additional Notes:
- site access
- hidden well location
- safety concerns
- unusual well behaviour

Associated Environmental
REPORTED TO  Purple Springs Nursery  
4519 Hullcar Road  
Armstrong, BC  V0E 1B4

TEL   (250) 546-8156  
FAX   -

ATTENTION Rico Thorsen

WORK ORDER   7092349

PO NUMBER
PROJECT  Project Well 8
PROJECT INFO  RECEIVED / TEMP  2017-09-25 14:40 / 13°C
                REPORTED  2017-10-02
                COC NUMBER  B64747

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By:  Sara Gulenchyn, B.Sc, P.Chem.
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca

Locations:
#110 4011 Viking Way  #102 3677 Highway 97N  17225 109 Avenue  
Richmond, BC  V6V 2K9  Kelowna, BC  V1X 5C3  Edmonton, AB  T5S 1H7  
Tel: 604-279-1499  Tel: 250-765-9646  Tel: 780-489-9100

www.caro.ca
### Analysis Information

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 8  
**WORK ORDER** 7092349  
**REPORTED** 2017-10-02

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<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
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<td>Anions by IC in Water</td>
<td>APHA 4110 B</td>
<td>Ion Chromatography with Chemical Suppression of Eluent Conductivity</td>
<td>Kelowna</td>
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<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
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*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

**Method Reference Descriptions:**

- **APHA** Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

**Glossary of Terms:**

- **MRL** Method Reporting Limit  
  Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences  
- **mg/L** Milligrams per litre  
- **pH units** pH < 7 = acidic, ph > 7 = basic
## Sample Analytical Data

**Sample ID:** Project Well 8 (7092349-01)  
**Type:** Water  
**Sampled:** 2017-09-25 13:28

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### General Parameters

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<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>0.163</td>
<td>0.050 mg/L</td>
<td>2017-09-27</td>
<td>2017-10-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.74</td>
<td>0.10 pH units</td>
<td>N/A</td>
<td>2017-09-27</td>
<td>HT2</td>
<td></td>
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</tbody>
</table>

### Calculated Parameters

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>0.842</td>
<td>0.0100 mg/L</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen, Total</td>
<td>1.00</td>
<td>0.0500 mg/L</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sample / Analysis Qualifiers:**

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

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Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

### Analyte Results

<table>
<thead>
<tr>
<th>Analyte Type</th>
<th>Batch</th>
<th>QC Type</th>
<th>Prepared Date</th>
<th>Analyzed Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anions, Batch B7I1890</td>
<td>Blank (B7I1890-Blk1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blank (B7I1890-Blk2)</td>
<td>Prepared: 2017-09-28, Analyzed: 2017-09-28</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LCS (B7I1890-BS1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Chloride</td>
<td>16.2</td>
<td>0.10 mg/L</td>
<td>16.0</td>
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<tr>
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<td>Nitrate (as N)</td>
<td>4.05</td>
<td>0.010 mg/L</td>
<td>4.00</td>
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<tr>
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<td>Nitrite (as N)</td>
<td>1.97</td>
<td>0.010 mg/L</td>
<td>2.00</td>
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<tr>
<td></td>
<td>LCS (B7I1890-BS2)</td>
<td>Prepared: 2017-09-28, Analyzed: 2017-09-28</td>
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</tr>
<tr>
<td></td>
<td>Chloride</td>
<td>16.3</td>
<td>0.10 mg/L</td>
<td>16.0</td>
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<tr>
<td></td>
<td>Nitrate (as N)</td>
<td>4.04</td>
<td>0.010 mg/L</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>Nitrite (as N)</td>
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<td>0.010 mg/L</td>
<td>2.00</td>
</tr>
<tr>
<td>General Parameters, Batch B7I1870</td>
<td>Reference (B7I1870-SRM1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
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<tr>
<td>pH</td>
<td>7.00</td>
<td>0.10 pH units</td>
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</tr>
<tr>
<td>General Parameters, Batch B7I1950</td>
<td>Blank (B7I1950-Blk1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-10-01</td>
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<td></td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>&lt; 0.050</td>
<td>0.050 mg/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LCS (B7I1950-BS1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-10-01</td>
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<td></td>
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<td>Nitrogen, Total Kjeldahl</td>
<td>0.995</td>
<td>0.050 mg/L</td>
<td>1.00</td>
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</table>
## APPENDIX 1: QUALITY CONTROL DATA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Parameters, Batch B7I2057</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Blank (B7I2057-BLK1)</td>
<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
<td>0.020 mg/L</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Blank (B7I2057-BLK2)</td>
<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
<td>0.020 mg/L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LCS (B7I2057-BS1)</td>
<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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<td></td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>1.00</td>
<td>0.020 mg/L</td>
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<td>100</td>
<td></td>
<td>90-115</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LCS (B7I2057-BS2)</td>
<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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<td></td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
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<td>0.020 mg/L</td>
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<td>102</td>
<td></td>
<td>90-115</td>
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<td></td>
</tr>
</tbody>
</table>

**QC Qualifiers:**

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CHAIN OF CUSTODY RECORD**

**RELIQUISHED BY:**
Rico Thorsen

**DATE:**
Sept 25 1993

**TIME:**

**RECEIVED BY:**

**REGULATORY APPLICATION:**
Canadian Drinking Water Quality

**TURNAROUND TIME REQUESTED:**
Routine: (5-7 Days) *
Rush: 1 Day*  2 Day*  3 Day*  Martinez, Dana, P.O. 39-2084

**PROJECT NUMBER / INFO:**

**ANALYSES REQUESTED:**

<table>
<thead>
<tr>
<th>CLIENT SAMPLE ID:</th>
<th>PROJECT WELL 8</th>
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</thead>
</table>

**SAMPLING:**

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
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<tbody>
<tr>
<td>Sept 25</td>
<td>1993</td>
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**MATRIX:**

<table>
<thead>
<tr>
<th>DRINKING WATER</th>
<th>OTHER WATER</th>
<th>SOIL</th>
<th>OTHER</th>
<th># CONTAINERS</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
</table>

**COMMENTS:**

<table>
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<tr>
<th>CHLORINATED</th>
<th>FILTERED</th>
<th>PRESERVED</th>
<th>(e.g. flow/volume media ID/notes)</th>
</tr>
</thead>
</table>

**SAMPLE RETENTION:**

<table>
<thead>
<tr>
<th>30 Days (default)</th>
<th>60 Days</th>
<th>90 Days</th>
<th>Other (surcharges will apply)</th>
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</thead>
</table>

**SAMPLE RECEIPT CONDITION:**

<table>
<thead>
<tr>
<th>COOLER 1 (°C)</th>
<th>ICE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.3</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

**OTHER INSTRUCTIONS:**

If you would like to talk to a real live Scientist about your project requirements, please check here: ☐

**SHIPPING INSTRUCTIONS:**

<table>
<thead>
<tr>
<th>Return Cooler(s)</th>
<th>Supplies Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
REPORTED TO
Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC V0E 1B4

TEL (250) 546-8156
FAX -

ATTENTION
Rico

WORK ORDER 7062956

PO NUMBER

PROJECT Project Well 13

RECEIVED / TEMP 2017-06-29 14:47 / 14°C
REPORTED 2017-07-07
COC NUMBER B46984

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By: Sara Gulenchyn, B.Sc, P.Chem.
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca

Locations:

CARO Analytical Services
Rev 2017-01-05

www.caro.ca
## REPORTED TO
Purple Springs Nursery

## PROJECT
Project Well 13

## WORK ORDER
7062956

## REPORTED
2017-07-07

<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Reference</th>
<th>Technique</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
<td>APHA 4500-NH3 G*</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Anions by IC in Water</td>
<td>APHA 4110 B</td>
<td>Ion Chromatography with Chemical Suppression of Eluent Conductivity</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
</tr>
<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

**Method Reference Descriptions:**

- **APHA:** Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

**Glossary of Terms:**

- **MRL:** Method Reporting Limit
- **<** Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
- **mg/L:** Milligrams per litre
- **pH units:** pH < 7 = acidic, pH > 7 = basic
### SAMPLE ANALYTICAL DATA

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 13  
**WORK ORDER** 7062956  
**REPORTED** 2017-07-07

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
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<td>0.10</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
<td></td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>1.96</td>
<td>0.010</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
<td></td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>0.014</td>
<td>0.010</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-07-04</td>
<td></td>
</tr>
<tr>
<td><strong>General Parameters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>0.128</td>
<td>0.020</td>
<td>mg/L</td>
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<td>2017-07-06</td>
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</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>0.160</td>
<td>0.050</td>
<td>mg/L</td>
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<td>2017-07-05</td>
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</tr>
<tr>
<td>pH</td>
<td>7.57</td>
<td>0.01</td>
<td>pH units</td>
<td>N/A</td>
<td>2017-07-04</td>
<td>HT2</td>
</tr>
<tr>
<td><strong>Calculated Parameters</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>1.98</td>
<td>0.0100</td>
<td>mg/L</td>
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<td>N/A</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

**Sample ID:** Project Well 13 (7062956-01) [Water]  
**Sampled:** 2017-06-29 12:40

**Sample / Analysis Qualifiers:**

**HT2** The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

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<table>
<thead>
<tr>
<th>Analyte, Batch B7G0040</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank (B7G0040-BLK1)</td>
<td>Chloride &lt; 0.10</td>
<td>0.10 mg/L</td>
<td>Prepared: 2017-07-04, Analyzed: 2017-07-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nitrate (as N) &lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Nitrite (as N) &lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>LCS (B7G0040-BS1)</td>
<td>Chloride 15.6</td>
<td>0.10 mg/L</td>
<td>16.0</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Nitrate (as N) 4.10</td>
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<td>102</td>
<td>93-108</td>
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<tr>
<td></td>
<td>Nitrite (as N) 1.93</td>
<td>0.010 mg/L</td>
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<td>97</td>
<td>85-114</td>
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<table>
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<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
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<tbody>
<tr>
<td>Blank (B7G0010-BLK1)</td>
<td>Ammonia, Total (as N) &lt; 0.020</td>
<td>0.020 mg/L</td>
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<tr>
<td>Blank (B7G0010-BLK2)</td>
<td>Ammonia, Total (as N) &lt; 0.020</td>
<td>0.020 mg/L</td>
<td>Prepared: 2017-07-06, Analyzed: 2017-07-06</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blank (B7G0010-BLK3)</td>
<td>Ammonia, Total (as N) &lt; 0.020</td>
<td>0.020 mg/L</td>
<td>Prepared: 2017-07-06, Analyzed: 2017-07-06</td>
<td></td>
<td></td>
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<tr>
<td>LCS (B7G0010-BS1)</td>
<td>Ammonia, Total (as N) 1.09</td>
<td>0.020 mg/L</td>
<td>1.00</td>
<td>Prepared: 2017-07-06, Analyzed: 2017-07-06</td>
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<tr>
<td>LCS (B7G0010-BS2)</td>
<td>Ammonia, Total (as N) 1.04</td>
<td>0.020 mg/L</td>
<td>1.00</td>
<td>104</td>
<td>90-115</td>
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<tr>
<td>LCS (B7G0010-BS3)</td>
<td>Ammonia, Total (as N) 1.04</td>
<td>0.020 mg/L</td>
<td>1.00</td>
<td>104</td>
<td>90-115</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
# APPENDIX 1: QUALITY CONTROL DATA

## Purple Springs Nursery

### Project Well 13

**REPORTED TO**

**PROJECT**

**WORK ORDER**

**REPORTED**

---

## APPENDIX 1: QUALITY CONTROL DATA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>General Parameters, Batch B7G0014, Continued</strong></td>
<td></td>
<td></td>
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<tr>
<td>Blank (B7G0014-BLK1)</td>
<td>Prepared: 2017-07-02, Analyzed: 2017-07-05</td>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>&lt; 0.050</td>
<td>0.050 mg/L</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Blank (B7G0014-BLK2)</td>
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</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>&lt; 0.050</td>
<td>0.050 mg/L</td>
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<tr>
<td>LCS (B7G0014-BS1)</td>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>1.06</td>
<td>0.050 mg/L</td>
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<td>LCS (B7G0014-BS2)</td>
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<td>Nitrogen, Total Kjeldahl</td>
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<td>0.050 mg/L</td>
<td>1.00</td>
<td>102</td>
<td>84-121</td>
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<tr>
<td><strong>General Parameters, Batch B7G0031</strong></td>
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<td>Reference (B7G0031-SRM1)</td>
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<tr>
<td>pH</td>
<td>7.03</td>
<td>0.01 pH units</td>
<td>7.00</td>
<td>100</td>
<td>98-102</td>
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</table>
**Field Sampling Sheet - Groundwater**

<table>
<thead>
<tr>
<th>Field Parameters</th>
<th>Volume (L)</th>
<th>Time</th>
<th>pH</th>
<th>Temp °C</th>
<th>Cond µS/cm</th>
<th>ORP (mv)</th>
<th>Turbidity</th>
<th>Colour</th>
<th>Odour</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
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<tr>
<td>8th</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Was sheen observed during purging or sampling? Yes No

**Sample Descriptions:**

Sample date: **June 29, 2017**  
Sample time: **12:40 PM**

Appearance:  
Sample Colour:  
Order of bottles collected:  
List any Parameters not Sampled/bottles missed:  
Were Samples Filtered and Preserved? Yes No  
Duplicate Sample? Yes No  
**Duplicate Sample ID:**  

Additional Notes:  
- site access  
- hidden well location  
- safety concerns  
- unusual well behaviour

---

**Is the well marked/flagged?**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Pressure:**

<table>
<thead>
<tr>
<th></th>
<th>negative</th>
<th>positive</th>
</tr>
</thead>
</table>

**UTM Coordinates:**

<table>
<thead>
<tr>
<th>Easting (6 digits)</th>
<th>Northing (7 digits)</th>
<th>Zone</th>
</tr>
</thead>
</table>

**Purge method:**

<table>
<thead>
<tr>
<th></th>
<th>Bailer</th>
<th>Pump</th>
<th>None</th>
<th>Other</th>
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</thead>
</table>

**Purged to dry:**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Purge water disposal:**

<table>
<thead>
<tr>
<th></th>
<th>Ground</th>
<th>Container</th>
</tr>
</thead>
</table>

**Field Sampling Sheet - Groundwater**

| Site/ Facility Name: KDN Reclamation | Client: |
| Well ID: | Project Number: |
| Date: | Sampled by: |
| Casing Diameter: | Weather: |
| Well Stick-up: | Remarks: |
| Condition of well: | good | needs attention |

| DTB: | m |
| DTW: | m |
| Difference: | X 2 L/m |

| Volume of water in well: | Litres |
| Volume of water to purge: | Litres |
| Volume actually purged: | Litres |

**15cm (6") casing has 18L/m**

**10cm (4") casing has 8L/m**

**5cm (2") casing has 2L/m**

Associated Environmental
General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By: Sara Gulenchyn, B.Sc, P.Chem.
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca

Locations:

CARO Analytical Services
Rev 2017-01-05
<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Reference</th>
<th>Technique</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
<td>APHA 4500-NH3 G*</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Anions by IC in Water</td>
<td>APHA 4110 B</td>
<td>Ion Chromatography with Chemical Suppression of Eluent Conductivity</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
</tr>
<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

**Method Reference Descriptions:**


**Glossary of Terms:**

- **MRL**: Method Reporting Limit
- **<**: Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
- **mg/L**: Milligrams per litre
- **pH units**: pH < 7 = acidic, pH > 7 = basic
## Sample ID: Project Well 13 (7092350-01) [Water] Sampled: 2017-09-25 13:40

### Anions

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>16.0</td>
<td>0.10</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-09-28</td>
<td></td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>0.665</td>
<td>0.010</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-09-28</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>0.017</td>
<td>0.010</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-09-28</td>
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</table>

### General Parameters

<table>
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<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, Total (as N)</td>
<td>0.144</td>
<td>0.020</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-09-29</td>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
<td>0.321</td>
<td>0.050</td>
<td>mg/L</td>
<td>2017-09-27</td>
<td>2017-10-01</td>
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<tr>
<td>pH</td>
<td>7.77</td>
<td>0.10</td>
<td>pH units</td>
<td>N/A</td>
<td>2017-09-27</td>
<td>HT2</td>
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</table>

### Calculated Parameters

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate+Nitrite (as N)</td>
<td>0.682</td>
<td>0.0100</td>
<td>mg/L</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Nitrogen, Total</td>
<td>1.00</td>
<td>0.0500</td>
<td>mg/L</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

### Sample / Analysis Qualifiers:

**HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
### APPENDIX 1: QUALITY CONTROL DATA

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment.
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

<table>
<thead>
<tr>
<th>Analyte, Batch</th>
<th>QC Type</th>
<th>Prepared</th>
<th>Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anions, Batch B7I1890</td>
<td>Blank (B7I1890-BLK1)</td>
<td>2017-09-27</td>
<td>2017-09-27</td>
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<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
<td></td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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</tr>
<tr>
<td>Blank (B7I1890-BLK2)</td>
<td>Prepared: 2017-09-28, Analyzed: 2017-09-28</td>
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</tr>
<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
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</tr>
<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
<td></td>
</tr>
<tr>
<td>LCS (B7I1890-BS1)</td>
<td>Prepared: 2017-09-27, Analyzed: 2017-09-27</td>
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<tr>
<td>Chloride</td>
<td>16.2</td>
<td>0.10 mg/L</td>
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<tr>
<td>Nitrate (as N)</td>
<td>4.05</td>
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<td>4.00</td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>1.97</td>
<td>0.010 mg/L</td>
<td>2.00</td>
</tr>
<tr>
<td>LCS (B7I1890-BS2)</td>
<td>Prepared: 2017-09-28, Analyzed: 2017-09-28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>16.3</td>
<td>0.10 mg/L</td>
<td>16.0</td>
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<tr>
<td>Nitrate (as N)</td>
<td>4.04</td>
<td>0.010 mg/L</td>
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<tr>
<td>Nitrite (as N)</td>
<td>1.97</td>
<td>0.010 mg/L</td>
<td>2.00</td>
</tr>
</tbody>
</table>

| General Parameters, Batch B7I1870 |
|----------------|---------|----------|
| Reference (B7I1870-SRM1) | Prepared: 2017-09-27, Analyzed: 2017-09-27 |
| pH | 7.00 | 0.10 pH units | 7.00 | 100 | 98-102 | HT2 |

| General Parameters, Batch B7I1950 |
|----------------|---------|----------|
| Blank (B7I1950-BLK1) | Prepared: 2017-09-27, Analyzed: 2017-10-01 |
| Nitrogen, Total Kjeldahl | < 0.050 | 0.050 mg/L |
| LCS (B7I1950-BS1) | Prepared: 2017-09-27, Analyzed: 2017-10-01 |
| Nitrogen, Total Kjeldahl | 0.995 | 0.050 mg/L | 1.00 | 100 | 84-121 |
## APPENDIX 1: QUALITY CONTROL DATA

**REPORTED TO**  Purple Springs Nursery  
**PROJECT**  Project Well 13  
**WORK ORDER**  7092350  
**REPORTED**  2017-10-02

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td><strong>General Parameters, Batch B7I2057</strong></td>
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<tr>
<td>Blank (B7I2057-BLK1)</td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
<td>0.020 mg/L</td>
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<tr>
<td>Blank (B7I2057-BLK2)</td>
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</tr>
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<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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</tr>
<tr>
<td>Ammonia, Total (as N)</td>
<td>&lt; 0.020</td>
<td>0.020 mg/L</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LCS (B7I2057-BS1)</td>
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<tr>
<td>Prepared: 2017-09-29, Analyzed: 2017-09-29</td>
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<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
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<td>0.020 mg/L</td>
<td>1.00</td>
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<td>LCS (B7I2057-BS2)</td>
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</tbody>
</table>

**QC Qualifiers:**

HT2  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CHAIN OF CUSTODY RECORD**

**REPORT TO:** Ken Regehr Feedlot  
**COMPANY:**  
**ADDRESS:**  

**CONTACT:** Rico Thomasen  
**TEL/FAX:**  
**EMAIL:** rthomase@yahoo.ca

**INVOICE TO:** SAME AS REPORT TO  
**COMPANY:** Purple Springs Organic  
**ADDRESS:**  

**CONTACT:** Helen McClaud  
**TEL/FAX:**  
**EMAIL:** km@farmsawy.com

**RELINQUISHED BY:** Rico Thomasen

**DATE:** Sep 15 2013

**TIME:**  
**RECEIVED BY:**  
**TIME:**

**TURNAROUND TIME REQUESTED:** Routine: (5-7 Days)  
Rush: 1 Day* □  2 Day* □  3 Day* □  
Other* □

**REGULATORY APPLICATION:**  
Canadian Drinking Water Quality □  BC WOC □  BC HWR □  
BC CSI Soil: WL □  AL □  PL □  RL □  RD □  CL □  RL-HD □  CI □  R□  
BC CSI Water: AW □  WI □  LW □  DW □

**PROJECT NUMBER / INFO:** Project well 13

**ANALYSES REQUESTED:**  

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<th>Possible Sample Hazard Codes</th>
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<tr>
<td>A: Biohazard</td>
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<tr>
<td>B: Cyanide</td>
</tr>
<tr>
<td>C: PCBs</td>
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<tr>
<td>D: Asbestos</td>
</tr>
<tr>
<td>E: Heavy Metals</td>
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<td>F: Flammable</td>
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<td>G: Strong Odour</td>
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<tr>
<td>H: High Contamination</td>
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<tr>
<td>I: Other (please specify)</td>
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**PROJECT WELL 13**

**CLIENT SAMPLE ID:** Project well 13  
**DATE:** Sept 15 2013

**MATRIX:**  
**SAMPLING:**  
**COMMENTS:**

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<thead>
<tr>
<th>DRINKING WATER</th>
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<td>OTHER WATER</td>
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<tr>
<td>SOIL</td>
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<tr>
<td>OTHER # CONTAINERS</td>
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**DATE**  
**TIME**  
**CALCIUMATED FILTERED**  
**PRESERVED**  
(eg: flow/volume media ID/notes)

**SAMPLE RECEIPT CONDITION:**

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<th>COOLER 1 (°C):</th>
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<th>N</th>
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<tr>
<td>COOLER 2 (°C):</td>
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<td>COOLER 3 (°C):</td>
<td>ICE: X</td>
<td>N</td>
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**OTHER INSTRUCTIONS:**

**SAMPLE RETENTION:**

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<th>90 Days</th>
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<tbody>
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<td>X</td>
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</tr>
</tbody>
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* If you would like to sign up for ClientConnect and/or Envirochain, CARO's online service offerings, please check here: ☐

**SHIPPING INSTRUCTIONS:** Return Cooler(s) ☐  
Supplies Needed:  

**OTHER INSTRUCTIONS:**

If you would like to talk to a real live Scientist about your project requirements, please check here: ☐
CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Authorized By: Sara Gulenchyn, B.Sc, P.Chem. 
Client Service Coordinator

If you have any questions or concerns, please contact me at sgulenchyn@caro.ca
### Analysis Information

<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Reference</th>
<th>Technique</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
<td>APHA 4500-NH3 G*</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Anions by IC in Water</td>
<td>APHA 4110 B</td>
<td>Ion Chromatography with Chemical Suppression of Eluent Conductivity</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>APHA 4500-Norg D*</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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<tr>
<td>pH in Water</td>
<td>APHA 4500-H+ B</td>
<td>Electrometry</td>
<td>Kelowna</td>
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</tbody>
</table>

**Note:** An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method.

**Method Reference Descriptions:**

- **APHA:** Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

---

**Glossary of Terms:**

- **MRL:** Method Reporting Limit
- < Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
- **mg/L:** Milligrams per litre
- **pH units**
  - pH < 7 = acidic, pH > 7 = basic
### SAMPLE ANALYTICAL DATA

**Sample ID:** Project Well 17 (7092353-01)  
**Sampled:** 2017-09-25 13:46

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<tr>
<th>Analyte</th>
<th>Result / Recovery</th>
<th>MRL / Limits</th>
<th>Units</th>
<th>Prepared</th>
<th>Analyzed</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td><strong>Anions</strong></td>
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<tr>
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<td>15.6</td>
<td>0.10</td>
<td>mg/L</td>
<td>N/A</td>
<td>2017-09-28</td>
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<tr>
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<td>mg/L</td>
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<td>mg/L</td>
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<td>2017-09-28</td>
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<td><strong>General Parameters</strong></td>
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<td>0.0100</td>
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</table>

**Sample / Analysis Qualifiers:**

**HT2**  
The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment.
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method’s precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

<table>
<thead>
<tr>
<th>Analyte, Batch B71890</th>
<th>Result</th>
<th>MRL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Notes</th>
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<tr>
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</table>
APPENDIX 1: QUALITY CONTROL DATA

REPORTED TO  Purple Springs Nursery
PROJECT  Project Well 17

WORK ORDER  7092353
REPORTED  2017-10-02

<table>
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<th>Source Result</th>
<th>% REC</th>
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</tbody>
</table>

**QC Qualifiers:**

HT2  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CHAIN OF CUSTODY RECORD**

**RELINQUISHED BY:**
Rico Thoessen

**DATE:**
September 25

**RECEIVED BY:**
B. 64746

**TURNAROUND TIME REQUESTED:**
Routine: 5-7 Days
Rush: 1 Day* □ 2 Day* □ 3 Day* □ Other* □

**REGULATORY APPLICATION:**
Canadian Drinking Water Quality
BC WOG
BC HWR
BC CSR Soil: WL □ AL □ PL □ RL-LD □ RL-HD □ CL □
BC CSR Water: AW □ HV □ LW □ DW □

**PROJECT NUMBER / INFO:**
Project well 1T

**ANALYSES REQUESTED:**
- N - Nitrate
- TKN - Total Kjeldahl Nitrogen
- Cl - Chloride
- NH3 - Ammonia

**CLIENT SAMPLE ID:**
Project well 1T

**SAMPLE RETENTION:**
30 Days (default) □
60 Days □ 90 Days □ Other (surcharges will apply):

**SHIPPING INSTRUCTIONS:**
Return Cooler(s) □

**OTHER INSTRUCTIONS:**
If you would like to talk to a real live Scientist about your project requirements, please check here: □

**PO#:**

**MATRIX:**
- DRINKING WATER
- OTHER WATER
- SOIL
- OTHER

**SAMPLING:**

<table>
<thead>
<tr>
<th>CONTAINERS</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**COMMENTS:**

- (e.g. flow/volume media ID notes)

**POSSIBLE SAMPLE HAZARD CODES:**
- A: Biohazard
- B: Cyanide
- C: PCBs
- D: Asbestos
- E: Heavy Metals
- F: Flammable
- G: Strong Odour
- H: High Contamination
- I: Other (please specify)

**CUSTODY SEALS INTACT:**
NA □ Y □ N □

- CARO BC COC, Rev 2017
- CARO ANALYTIC
- Caring About You
- 1-888-311-8846

Page 6 of 6
CERTIFICATE OF ANALYSIS

REPORTED TO: Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC V0E 1B4

ATTENTION: Rico Thorsen

PO NUMBER
PROJECT: Lagoon Pond

RECEIVED / TEMP 2018-04-03 15:35 / 13°C
REPORTED 2018-04-09 16:14
COC NUMBER: B 46985

INTRODUCTION:
CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients’ projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks
You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

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It’s simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

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Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:
Eilish St.Clair, B.Sc., C.I.T.
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7
## REPORTED TO
Purple Springs Nursery

## PROJECT
Lagoon Pond

## WORK ORDER
8040121

## REPORTED
2018-04-09 16:14

## TEST RESULTS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>RL Units</th>
<th>Analyzed</th>
<th>Qualifier</th>
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</thead>
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<tr>
<td><strong>Anions</strong></td>
<td></td>
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</tr>
<tr>
<td>Chloride</td>
<td>152</td>
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<tr>
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<tr>
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<tr>
<td><strong>General Parameters</strong></td>
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<tr>
<td>Ammonia, Total (as N)</td>
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<td><strong>Calculated Parameters</strong></td>
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<td></td>
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<td></td>
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<tr>
<td>Nitrate+Nitrite (as N)</td>
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<td>0.0100 mg/L</td>
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<td>211</td>
<td>12.5 mg/L</td>
<td>N/A</td>
<td></td>
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</table>

### Sample Qualifiers:

**HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
## APPENDIX 1: SUPPORTING INFORMATION

**REPORTED TO**  
Purple Springs Nursery  

**PROJECT**  
Lagoon Pond  

**WORK ORDER**  
8040121  

**REPORTED**  
2018-04-09 16:14

<table>
<thead>
<tr>
<th>Analysis Description</th>
<th>Method Ref.</th>
<th>Technique</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
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<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
</tr>
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<td>SM 4110 B (2011)</td>
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<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
</tr>
</tbody>
</table>

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

### Glossary of Terms:

- **RL**: Reporting Limit (default)
- **<**: Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
- **mg/L**: Milligrams per litre
- **pH units**: pH < 7 = acidic, pH > 7 = basic
- **SM**: Standard Methods for the Examination of Water and Wastewater, American Public Health Association

### General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO  Purple Springs Nursery
PROJECT    Lagoon Pond
WORK ORDER 8040121
REPORTED  2018-04-09 16:14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.

- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).

- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.

- **Matrix Spike (MS):** A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.

- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

<table>
<thead>
<tr>
<th>Analyte, Batch B8D0128</th>
<th>Result</th>
<th>RL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank (B8D0128-BLK1)</td>
<td></td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
<td></td>
<td></td>
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<tr>
<td>Chloride</td>
<td>&lt; 0.10</td>
<td>0.10 mg/L</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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<tr>
<td>Blank (B8D0128-BLK2)</td>
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<td>0.10 mg/L</td>
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<tr>
<td>Chloride</td>
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<td>0.10 mg/L</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Nitrate (as N)</td>
<td>&lt; 0.010</td>
<td>0.010 mg/L</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
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<td>0.010 mg/L</td>
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<td></td>
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<tr>
<td>LCS (B8D0128-BS1)</td>
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<td>99</td>
<td>90-110</td>
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<tr>
<td>Chloride</td>
<td>15.9</td>
<td>0.10 mg/L</td>
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<td>16.0</td>
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<td>90-110</td>
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<tr>
<td>Nitrate (as N)</td>
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<td>Nitrite (as N)</td>
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<tr>
<td>LCS (B8D0128-BS2)</td>
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<td>0.10 mg/L</td>
<td>16.0</td>
<td>101</td>
<td>90-110</td>
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</tr>
<tr>
<td>Chloride</td>
<td>16.1</td>
<td>0.10 mg/L</td>
<td></td>
<td>16.0</td>
<td>101</td>
<td>90-110</td>
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<td>Nitrate (as N)</td>
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<td>0.010 mg/L</td>
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<td>2.00</td>
<td>103</td>
<td>85-114</td>
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<table>
<thead>
<tr>
<th>General Parameters, Batch B8D0161</th>
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</thead>
<tbody>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl</td>
</tr>
</tbody>
</table>

General Parameters, Batch B8D0484
## APPENDIX 2: QUALITY CONTROL RESULTS

### General Parameters, Batch B8D0484, Continued

<table>
<thead>
<tr>
<th>Blank (B8D0484-BLK1) Ammonia, Total (as N)</th>
<th>Result: &lt; 0.020 mg/L</th>
<th>Prepared: 2018-04-08, Analyzed: 2018-04-08</th>
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<tbody>
<tr>
<td>Blank (B8D0484-BLK2) Ammonia, Total (as N)</td>
<td>Result: &lt; 0.020 mg/L</td>
<td>Prepared: 2018-04-08, Analyzed: 2018-04-08</td>
</tr>
<tr>
<td>Blank (B8D0484-BLK3) Ammonia, Total (as N)</td>
<td>Result: &lt; 0.020 mg/L</td>
<td>Prepared: 2018-04-09, Analyzed: 2018-04-09</td>
</tr>
<tr>
<td>LCS (B8D0484-BS1) Ammonia, Total (as N)</td>
<td>Result: 1.10 mg/L</td>
<td>Prepared: 2018-04-08, Analyzed: 2018-04-08</td>
</tr>
<tr>
<td>LCS (B8D0484-BS2) Ammonia, Total (as N)</td>
<td>Result: 1.11 mg/L</td>
<td>Prepared: 2018-04-08, Analyzed: 2018-04-08</td>
</tr>
<tr>
<td>LCS (B8D0484-BS3) Ammonia, Total (as N)</td>
<td>Result: 1.01 mg/L</td>
<td>Prepared: 2018-04-09, Analyzed: 2018-04-09</td>
</tr>
</tbody>
</table>

### General Parameters, Batch B8D0500

| Reference (B8D0500-SRM1) pH | Result: 7.01 | RL Units: 0.10 pH units | Spike Level: 7.01 | Source Result: 100 | % REC: 98-102 | % RPD: 90-115 | RPD Limit: HT2 |

**QC Qualifiers:**

- **HT2**: The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CHAIN OF CUSTODY RECORD**

**RELINQUISHED BY:**
Rico Thoersen

**RECEIVED BY:**
KM Wi

**DATE:** April 3

**TIME:**

**PROJECT INFO:**

**DATA REQUESTED:**
Routine: (5-7 Days) ☑
Rush: 1 Day* ☐ 2 Day* ☐ 3 Day* ☐ Other*

**REGULATORY APPLICATION:**
- Canadian Drinking Water Quality Guidelines
- BC Drinking Water Protection Act / Reg.
- Other

**ANALYSES REQUESTED:**

<table>
<thead>
<tr>
<th>CLIENT SAMPLE ID:</th>
<th>MATRIX</th>
<th>SAMPLING:</th>
<th>COMMENTS:</th>
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<tbody>
<tr>
<td>Lagoon Pond. ☑</td>
<td>DRINKING WATER</td>
<td>DATE</td>
<td>TIME</td>
</tr>
<tr>
<td></td>
<td></td>
<td>April 3</td>
<td>13h</td>
</tr>
</tbody>
</table>

**PAYMENT:**
- CHEQUE
- CREDIT
- DEBIT
- CASH
- INVOICE

**SAMPLE RECEIVED CONDITION:**
- COOLER 1°C (☐)
- COOLER 2°C (☐)
- Ice: ☑  Y ☐ N ☐
- Cooler: ☑  Y ☐ N ☐
- Other: ☐

**SAMPLE ISSUE INSTRUCTIONS:**
- Return Cooler(s) ☐
- Supplies Needed:

**SAMPLE RETENTION INSTRUCTIONS (Discarded 30 days after Report unless otherwise specified):**
- 60 Days ☐ 90 Days ☑ Longer Date (Surcharges will apply):

**OTHER INSTRUCTIONS:**

**NEW** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, check here:

**CONTACT:**
- Rico Thoersen
- thoersen4@yahoo.com

**INVOICE TO:**
- Purple Springs Nursery

**SAME AS REPORT TO ?**

**ADDRESS:**

**REPORT TO:**
- Ken Pagehr, Feedlot

**DELIVERY METHOD:**
- EMAIL ☑ MAIL ☐ OTHER ☐
- TEL/FAX: ☑ EMAIL ☐ MAIL ☐ OTHER ☐

**COMPANY:**

**ADDRESS:**

**CONTACT:**

**DATA FORMAT:**
- EXCEL ☑ WATERTRAX ☐ ESdat ☐

**EQUIPMENT:**
- BC EMS ☑ OTHER ☐

**EMAIL:**
- thoersen4@yahoo.com

**PO #:**

**FINES:**

- Contact Lab To Confirm. Surcharge May Apply

<table>
<thead>
<tr>
<th><strong>SAMPLING:</strong></th>
<th><strong>CALCIUMATED:</strong></th>
<th><strong>FILTERED:</strong></th>
<th><strong>PRESERVED:</strong></th>
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<tbody>
<tr>
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</thead>
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<tr>
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<td>13h</td>
</tr>
</tbody>
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CERTIFICATE OF ANALYSIS

REPORTED TO
Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC  V0E 1B4

ATTENTION
Rico Thorsen

PO NUMBER

PROJECT
Project Well 8

RECEIVED / TEMP
2018-04-11 16:05 / 13°C

REPORTED
2018-04-19 08:09

WORK ORDER
8041100

COC NUMBER
B55218

Introduction:
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Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:
Eilish St.Clair, B.Sc., C.I.T.
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC  V6V 2K9 | #102 3677 Highway 97N Kelowna, BC  V1X 5C3 | 17225 109 Avenue Edmonton, AB  T5S 1H7
## TEST RESULTS

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 8  
**WORK ORDER** 8041100  
**REPORTED** 2018-04-19 08:09

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>RL Units</th>
<th>Analyzed</th>
<th>Qualifier</th>
</tr>
</thead>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>28.6</td>
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<td>2018-04-14</td>
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<tr>
<td>Nitrate (as N)</td>
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<td>0.010</td>
<td>2018-04-14</td>
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</tr>
<tr>
<td>Nitrite (as N)</td>
<td>&lt; 0.010</td>
<td>0.010</td>
<td>2018-04-14</td>
<td></td>
</tr>
<tr>
<td>General Parameters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonia, Total (as N)</td>
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<tr>
<td>pH</td>
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<td>2018-04-16</td>
<td>HT2</td>
</tr>
<tr>
<td>Calculated Parameters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate+Nitrite (as N)</td>
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<tr>
<td>Nitrogen, Total</td>
<td>0.343</td>
<td>0.0500</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Qualifiers:**

HT2  
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### APPENDIX 1: SUPPORTING INFORMATION

**REPORTED TO**  Purple Springs Nursery  
**PROJECT**  Project Well 8  
**WORK ORDER**  8041100  
**REPORTED**  2018-04-19 08:09

<table>
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</tbody>
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---

**General Comments:**

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

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### QC Qualifiers:
- **HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CLIENT SAMPLE ID:**

Project well 8

**DATE:** 04/01/2018

**PH 7.6**

**INVOICE TO:**

**COMPANY:** Purple Springs Nursery

**ADDRESS:**

**CONTACT:** Helen McCloud

**DELIVERY METHOD:** EMAIL

**EMAIL:** hm@psnursery.com

**PO #:**

**CLIENT SAMPLE ID:**

**MATRIX:**

**SAMPLING:**

**DATE:**

**TIME:**

**COMMENTS:**

-e.g. flow/volume media ID/notes-

**ANALYSES REQUESTED:**

A: Biohazard  B: Cyanide  C: PCBs
D: Arsenic  E: Heavy Metals  F: Flammable
G: Strong Odour  H: High Contamination

**TOTAL SAMPLES:** 1

**SAMPLE RECEIPT CONDITION:**

- COOLER 1 (*C): 
- COOLER 2 (*C): 
- COOLER 3 (*C): 

**SAMPLE RETENTION:**

30 Days (default)  60 Days  90 Days

**OTHER INSTRUCTIONS:**

If you would like to talk to a real live Scientist about your project requirements, please check here:

**RETURN COOLER(s):**

Yes  No

**SUPPLIES NEEDED:**

- Other (surcharges will apply):

If you would like to sign up for ClientConnect and/or Envirochain, CARO's online service offerings, please check here:

**REPORT TO:**

**COMPANY:** Feed Pot

**ADDRESS:**

**CONTACT:** Rico Thorsen

**TEL/FAX:**

**DATA FORMAT:** EXCEL

**EMAIL:** thorsen4@yahoo.ca

**OTHERS:**

**DELIVERY METHOD:** EMAIL

**EMAIL:**

**EMAIL:**

**EMAIL:**

**DATE:**

**TIME:**

**RECEIVED BY:**

**DATE:**

**TIME:**

**REGULATORY APPLICATION:**

Canadian Drinking Water Quality  BC WOG  BC HWR

BC CSR Soil: WL  AL  PL  RL-LD  RL-HD  CL  IL

BC CSR Water: AW  IW  LW  DW

**CCME:**

**OTHER:**

**CONTACT:** Rico Thorsen

**COMPANY:** Feed Pot

**ADDRESS:**

**TEL/FAX:**

**DATA FORMAT:** EXCEL

**EMAIL:** thorsen4@yahoo.ca

**OTHERS:**

**DELIVERY METHOD:** EMAIL

**EMAIL:**

**EMAIL:**

**EMAIL:**

**DATE:**

**TIME:**

**REGIONAL APPLICATION:**

**OTHER:**

**CONTACT LAB TO CONFIRM. SURCHARGE MAY APPLY**

**PROJECT NUMBER/INFO:**
CERTIFICATE OF ANALYSIS

REPORTED TO  Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC  V0E 1B4

ATTENTION  Rico Thorsen

PO NUMBER  
PROJECT  Project Well 13
PROJECT INFO  #1

WORK ORDER  8041097
RECEIVED / TEMP  2018-04-11 16:05 / 13°C
REPORTED  2018-04-19 08:07
COC NUMBER  B55220

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients’ projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We’ve Got Chemistry

It’s simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:
Eilish St.Clair, B.Sc., C.I.T.
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC  V6V 2K9 | #102 3677 Highway 97N Kelowna, BC  V1X 5C3 | 17225 109 Avenue  Edmonton, AB  T5S 1H7
# TEST RESULTS

REPORTED TO: Purple Springs Nursery  
PROJECT: Project Well 13

---

REPORTED: 2018-04-19 08:07

WORK ORDER: 8041097

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Sample Qualifiers:

HT2  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
## APPENDIX 1: SUPPORTING INFORMATION

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<th>Analysis Description</th>
<th>Method Ref.</th>
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<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
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<td>Anions in Water</td>
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<td>Ion Chromatography</td>
<td>Kelowna</td>
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<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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<tr>
<td></td>
<td>(2011)</td>
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*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

### Glossary of Terms:

- **RL** Reporting Limit (default)
- **<** Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
- **mg/L** Milligrams per litre
- **pH units** pH < 7 = acidic, ph > 7 = basic
- **SM** Standard Methods for the Examination of Water and Wastewater, American Public Health Association

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO  Purple Springs Nursery
PROJECT  Project Well 13
WORK ORDER  8041097
REPORTED  2018-04-19 08:07

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<th>% RPD</th>
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<td>Chloride</td>
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<td>0.10 mg/L</td>
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## APPENDIX 2: QUALITY CONTROL RESULTS

**REPORTED TO**: Purple Springs Nursery  
**PROJECT**: Project Well 13  
**WORK ORDER**: 8041097  
**REPORTED**: 2018-04-19 08:07

### Analyte Results

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<th>% RPD</th>
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### QC Qualifiers:

**HT2** The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
# Report Information

**Company:** Ken Regehr  
**Address:**  
**Contact:** Rico Thoersen  
**Tel/Fax:**  
**Delivery Method:** Email  
**Data Format:** Excel  
**Email 1:** rthoersen@yellow.ca  
**Email 2:**  
**Email 3:**  
**Sampled By:**  
**Client Sample ID:** Project well 13  
**#:**  
**Date:** 2016/04/12  
**pH:** 7.6  

## Shipping Instructions
- Supplies Needed: Return Cooler(s)  

## Sample Retention
- 30 Days (default)  
- 60 Days  
- 90 Days  
- Other (surcharges will apply):  

## Other Instructions

## Analysis Requested

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<td>PCB</td>
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<td>METALS: WATER DISSOLVED</td>
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<td>Chloride</td>
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## Sample Receipt Condition
- COOLER 1 (°C): Y  
- COOLER 2 (°C): Y  
- COOLER 3 (°C): Y  
- ICE: Y  
- Custody Seals Intact: NA  

If you would like to talk to a real live Scientist about your project requirements, please check here:  

**Regulatory Application:**  
- Canadian Drinking Water Quality  
- BC WOG  
- BC HWR  
- BC CSR Soil: WL  
- BC CSR Soil: AL  
- BC CSR Soil: PL  
- BC CSR Soil: RL-LD  
- BC CSR Soil: RL-HD  
- BC CSR Water: AW  
- BC CSR Water: LW  
- BC CSR Water: DW  

**Contact Lab To Confirm, Surcharge May Apply**
CERTIFICATE OF ANALYSIS

REPORTED TO Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC V0E 1B4

ATTENTION Rico Thorsen

PO NUMBER
PROJECT Project Well 13
PROJECT INFO #2

WORK ORDER 8041098
RECEIVED / TEMP 2018-04-11 16:05 / 13°C
REPORTED 2018-04-19 08:08
COC NUMBER B55221

Introduction:
CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients’ projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks
You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We’ve Got Chemistry
It’s simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve
Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:
Eilish St.Clair, B.Sc., C.I.T.
Client Service Representative

1-888-311-8846  |  www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9  |  #102 3677 Highway 97N Kelowna, BC V1X 5C3  |  17225 109 Avenue Edmonton, AB T5S 1H7
## TEST RESULTS

REPORTED TO Purple Springs Nursery  
PROJECT Project Well 13  
WORK ORDER 8041098  
REPORTED 2018-04-19 08:08


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### Sample Qualifiers:

**HT2** The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
## APPENDIX 1: SUPPORTING INFORMATION

### Analysis Description | Method Ref. | Technique | Location
--- | --- | --- | ---
Ammonia, Total in Water | SM 4500-NH3 G* (2011) | Automated Colorimetry (Phenate) | Kelowna
Anions in Water | SM 4110 B (2011) | Ion Chromatography | Kelowna
Nitrogen, Total Kjeldahl in Water | SM 4500-Norg D* (2011) | Block Digestion and Flow Injection Analysis | Kelowna

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method.*

### Glossary of Terms:
- **RL**: Reporting Limit (default)
- **<**: Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
- **mg/L**: Milligrams per litre
- **pH units**: pH $< 7 =$ acidic, pH $> 7 =$ basic
- **SM**: Standard Methods for the Examination of Water and Wastewater, American Public Health Association

### General Comments:
The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.
APPENDIX 2: QUALITY CONTROL RESULTS

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.

- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method’s precision (reproducibility).

- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method’s accuracy.

- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.

- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

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# APPENDIX 2: QUALITY CONTROL RESULTS

**REPORTED TO**
Purple Springs Nursery

**PROJECT**
Project Well 13

**WORK ORDER**
8041098

**REPORTED**
2018-04-19 08:08

---

## General Parameters, Batch B8D1026, Continued

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<th>% REC</th>
<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
<th>Qualifier</th>
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<td>84-121</td>
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## QC Qualifiers:

**HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
CHAIN OF CUSTODY RECORD

RELIQUISHED BY: 
DATE: 
TIME: 
RECEIVED BY: 
DATE: 
TIME: 

TURNAROUND TIME REQUESTED: Routine: 5-7 Days
Rush: 1 Day* □ 2 Day* □ 3 Day* □ Other*

REGULATORY APPLICATION: 
Canadian Drinking Water Quality □ BC WOG □ BC HWR □
BC CSR Soil: WL □ AL □ PL □ RL-LD □ RL-HD □ CL □ IL □
BC CSR Water: AW □ IW □ LW □ DW □
CCME: OTHER: 

ANALYSES REQUESTED:
A: Biohazard □
B: Asbestos □
C: Strong Odour □
D: Cyanide □
E: Heavy Metals □
F: Flammable □
G: High Contamination □
H: Other (please specify) □

PO #: 

SAMPLING:

CLIENT SAMPLE ID: Project Well 13

DATE: 2013/04/16
TIME: 9:15

PH: 7.6

OTHER INSTRUCTIONS:

* If you would like to sign up for ClientConnect and/or Envirochain, CARO's online service offerings, please check here: 

If you would like to talk to a real live Scientist about your project requirements, please check here: 

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 34°C
ICE: Y □ N □
COOLER 2 (°C): 1°C
ICE: Y □ N □
COOLER 3 (°C): 1°C
ICE: Y □ N □
CUSTODY SEALS INTACT: NA □ Y □ N □

OTHER INSTRUCTIONS:

Supplies Needed: 

 If you would like to talk to a real live Scientist about your project requirements, please check here: 

If you would like to talk to a real live Scientist about your project requirements, please check here: 

Shipping Instructions: Return Cooler(s) □

Sample Retention: 
30 Days (default) □
60 Days □ 90 Days □
Other (such charges will apply): 

(continued on next page)
CERTIFICATE OF ANALYSIS

REPORTED TO Purple Springs Nursery
4519 Hullcar Road
Armstrong, BC V0E 1B4

ATTENTION Rico Thorsen

PO NUMBER
PROJECT Project Well 17
PROJECT INFO

WORK ORDER 8041096
RECEIVED / TEMP 2018-04-11 16:05 / 13°C
REPORTED 2018-04-19 08:06
COC NUMBER B55222

Introduction:
CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients’ projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We’ve Got Chemistry

It’s simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:
Eilish St.Clair, B.Sc., C.I.T.
Client Service Representative

1-888-311-8846 | www.caro.ca
#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7

Caring About Results, Obviously.
### TEST RESULTS

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 17  
**WORK ORDER** 8041096  
**REPORTED** 2018-04-19 08:06

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**Sample Qualifiers:**  
HT2  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
APPENDIX 1: SUPPORTING INFORMATION

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<td>Ammonia, Total in Water</td>
<td>SM 4500-NH3 G*</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
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<td>(2011)</td>
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<td>SM 4110 B (2011)</td>
<td>Ion Chromatography</td>
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<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method.

Glossary of Terms:

- **RL**: Reporting Limit (default)
- **<**: Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
- **mg/L**: Milligrams per litre
- **pH units**: pH < 7 = acidic, pH > 7 = basic
- **SM**: Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.

- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).

- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method’s accuracy.

- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.

- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

### Anions, Batch B8D0914

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<tr>
<td>Nitrate (as N)</td>
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<td>Nitrite (as N)</td>
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### General Parameters, Batch B8D1026

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# APPENDIX 2: QUALITY CONTROL RESULTS

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 17  
**WORK ORDER** 8041096  
**REPORTED** 2018-04-19 08:06

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<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
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<td>100</td>
<td>98-102</td>
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**QC Qualifiers:**

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CLIENT SAMPLE ID:**

*project well 17*

**DATE:**

2018/06/13

**PH:** 7.6

**ANALYSES REQUESTED:**

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<th>Matrix</th>
<th>Sampling</th>
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<td>Soil</td>
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<tr>
<td>Other</td>
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**Shipping Instructions:**

Return Cooler(s) [ ]

Supplies Needed:

**Sample Retention:**

30 Days (default) [ ]

60 Days [ ]

90 Days [ ]

Other (surcharge will apply): [ ]

**Other Instructions:**

If you would like to talk to a real live Scientist about your project requirements, please check here: [ ]

**Sample Receipt Condition:**

Cooler 1 (°C): 13 [ICE: Y] N [ ]

Cooler 2 (°C): ICE: Y [ ] N [ ]

Cooler 3 (°C): ICE: Y [ ] N [ ]

Custody Seals Intact: NA [ ] Y [ ] N [ ]
CERTIFICATE OF ANALYSIS

REPORTED TO: Purple Springs Nursery  
4519 Hullcar Road  
Armstrong, BC V0E 1B4

ATTENTION: Rico Thorsen

PO NUMBER:  
PROJECT: Project Well 7

WORK ORDER: 8041101

RECEIVED / TEMP: 2018-04-11 16:05 / 13°C

REPORTED: 2018-04-23 15:11

COC NUMBER: B55217

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients’ projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We’ve Got Chemistry

It’s simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at estclair@caro.ca

Authorized By:

Eilish St.Clair, B.Sc., C.I.T.  
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7

Caring About Results, Obviously.
### TEST RESULTS

**REPORTED TO**  Purple Springs Nursery  
**PROJECT**  Project Well 7  
**WORK ORDER**  8041101  
**REPORTED**  2018-04-23 15:11

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<tr>
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<td>mg/L</td>
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<tr>
<td>Nitrate (as N)</td>
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<td><strong>Calculated Parameters</strong></td>
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<td>0.500</td>
<td>mg/L</td>
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<td></td>
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**Sample Qualifiers:**

- **HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- **RA1**  The Reporting Limit has been raised due to matrix interference.
### APPENDIX 1: SUPPORTING INFORMATION

**REPORTED TO** Purple Springs Nursery  
**PROJECT** Project Well 7  
**WORK ORDER** 8041101  
**REPORTED** 2018-04-23 15:11

<table>
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<tr>
<th>Analysis Description</th>
<th>Method Ref.</th>
<th>Technique</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Ammonia, Total in Water</td>
<td>SM 4500-NH3 G* (2011)</td>
<td>Automated Colorimetry (Phenate)</td>
<td>Kelowna</td>
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<tr>
<td>Anions in Water</td>
<td>SM 4110 B (2011)</td>
<td>Ion Chromatography</td>
<td>Kelowna</td>
</tr>
<tr>
<td>Nitrogen, Total Kjeldahl in Water</td>
<td>SM 4500-Norg D* (2011)</td>
<td>Block Digestion and Flow Injection Analysis</td>
<td>Kelowna</td>
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</tbody>
</table>

*Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method*

### Glossary of Terms:

- **RL** Reporting Limit (default)
- **<** Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
- **mg/L** Milligrams per litre
- **pH units** pH < 7 = acidic, pH > 7 = basic
- **SM** Standard Methods for the Examination of Water and Wastewater, American Public Health Association

### General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.

- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).

- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.

- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.

- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>RL Units</th>
<th>Spike Level</th>
<th>Source Result</th>
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<th>REC Limit</th>
<th>% RPD</th>
<th>RPD Limit</th>
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<tr>
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<td>Chloride</td>
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<td>pH</td>
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<td>98-102</td>
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### APPENDIX 2: QUALITY CONTROL RESULTS

**REPORTED TO**  Purple Springs Nursery  
**PROJECT**  Project Well 7  
**WORK ORDER**  8041101  
**REPORTED**  2018-04-23 15:11

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<tr>
<td>Blank (B8D1026-BLK1)</td>
<td>0.020</td>
<td>0.020 mg/L</td>
<td></td>
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<tr>
<td>LCS (B8D1026-BS1)</td>
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<td></td>
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<td>LCS (B8D1026-BS2)</td>
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<td><strong>General Parameters, Batch B8D1119</strong></td>
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<tr>
<td>Nitrogen, Total Kjeldahl</td>
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<tr>
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<td></td>
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</tr>
</tbody>
</table>

**QC Qualifiers:**

**HT2**  The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
**CHAIN OF CUSTODY RECORD**

**INVOICE TO:**
COMPANY: Purple Springs
ADDRESS: Nursery

**CONTACT:**
NAME: Hailey McCrudd
EMAIL: hailey@psnursery.com

**RECEIVED BY:**
NAME: 
DATE: 
TIME: 

**REQUIESCED BY:**
NAME: Rico Thorsen
DATE: 
TIME: 

**TURNAROUND TIME REQUESTED:**
Routine: (5-7 Days) □ Rush: 1 Day* □ 2 Day* □ 3 Day* □ Other* *Contact Lab To Confirm. Surcharge May Apply

**PROJECT NUMBER / INFO:**

**ANALYSES REQUESTED:**

**CLIENT SAMPLE ID:**

project_well_7

<table>
<thead>
<tr>
<th>MATRIX:</th>
<th>SAMPLING:</th>
<th>COMMENTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRINKING WATER</td>
<td>DATE</td>
<td>TIME</td>
</tr>
<tr>
<td>OTHER WATER</td>
<td>YYYY-MM-DD</td>
<td>HH:MM</td>
</tr>
<tr>
<td>SOIL</td>
<td></td>
<td></td>
</tr>
<tr>
<td># CONTAINERS</td>
<td></td>
<td></td>
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</tbody>
</table>

**PH:** 7.7

**SAMPLE RETENTION:**
30 Days (default) □ 60 Days □ 90 Days □ Other (surcharge will apply):

**SHIPPING INSTRUCTIONS:**
Return Cooler(s) □ Supplies Needed:

**OTHER INSTRUCTIONS:**

**SAMPLE RECEIPT CONDITION:**

**COOLER 1 (°C):**
ICE: Y □ N □

**COOLER 2 (°C):**
ICE: Y □ N □

**COOLER 3 (°C):**
ICE: Y □ N □

**CUSTODY SEALS INTACT:**
NA □ Y □ N □
2018 Crop Plan

Ken Regher Feedyard

Updated June 24th 2018
# Acreage Report

## Acreage Report

<table>
<thead>
<tr>
<th>Client</th>
<th>Farm</th>
<th>Field</th>
<th>Mapped Area (ac)</th>
<th>Tillable Area (ac)</th>
<th>Legal Area (ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regher, Ken</td>
<td>Home</td>
<td>101 Home Field</td>
<td>17.19</td>
<td>17.20</td>
<td>0.00</td>
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<tr>
<td></td>
<td></td>
<td>102 West fl.</td>
<td>51.19</td>
<td>51.20</td>
<td>0.00</td>
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<tr>
<td></td>
<td></td>
<td>103 Far West</td>
<td>40.53</td>
<td>40.50</td>
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<td></td>
<td></td>
<td>104 West Hill</td>
<td>22.65</td>
<td>22.50</td>
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<tr>
<td></td>
<td></td>
<td>105 Bottom Feedlot</td>
<td>33.23</td>
<td>33.00</td>
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<td></td>
<td>Total Home</td>
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<td>164.80</td>
<td>164.40</td>
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<tr>
<td>PS</td>
<td></td>
<td>Purple Springs East</td>
<td>64.09</td>
<td>64.00</td>
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<tr>
<td></td>
<td></td>
<td>Purple Springs West</td>
<td>106.35</td>
<td>106.00</td>
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<tr>
<td></td>
<td></td>
<td>Purple Springs Yellow</td>
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<td>29.50</td>
<td>0.00</td>
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<tr>
<td></td>
<td>Total PS</td>
<td></td>
<td>199.91</td>
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<tr>
<td>Rented</td>
<td></td>
<td>201 Top Back</td>
<td>60.44</td>
<td>60.40</td>
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<tr>
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<td>202 Small Field</td>
<td>10.51</td>
<td>10.00</td>
<td>0.00</td>
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<tr>
<td></td>
<td></td>
<td>203 Road</td>
<td>7.97</td>
<td>8.00</td>
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<td></td>
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<td>205 Reserve</td>
<td>52.06</td>
<td>52.00</td>
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<tr>
<td></td>
<td></td>
<td>206 Lens Field</td>
<td>44.24</td>
<td>44.20</td>
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<tr>
<td></td>
<td></td>
<td>207 Top Rserve</td>
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<td>209 Swaans</td>
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<td>26.90</td>
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<td>254.44</td>
<td>253.90</td>
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<td></td>
<td>Total Regher, Ken</td>
<td></td>
<td>619.15</td>
<td>617.80</td>
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<tr>
<td></td>
<td>Total</td>
<td></td>
<td>619.15</td>
<td>617.80</td>
<td>0.00</td>
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</table>
Long term corn. High organic matter with 31 lb residual N in the top 6” and only 41 lb in the next 2 1/2 feet. All other soil levels are good to high with excessive phos. being the biggest challenge going forward.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>Manure</td>
<td>Rec—20 tons fresh feedlot manure</td>
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<tr>
<td>April</td>
<td>Manure</td>
<td>Actual application <strong>15 tons for a 259 ton total</strong></td>
<td>259 T</td>
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# Soil Test Report

**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02  
**Field:** 35 - 101 HOME KR

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Descpt</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P ppm</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC meq/100g</th>
<th>Percent Base Satuations</th>
</tr>
</thead>
<tbody>
<tr>
<td>351A</td>
<td></td>
<td>6</td>
<td>49152</td>
<td>9.9</td>
<td>106 H</td>
<td>308 H</td>
<td>362 VH</td>
<td>305 M</td>
<td>7.4</td>
<td>18.2</td>
<td>5.1</td>
<td>14.0</td>
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<tr>
<td>351B</td>
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<td>12</td>
<td>49153</td>
<td>5.3</td>
<td>69 G</td>
<td>203 H</td>
<td>332 VH</td>
<td>220 M</td>
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<td>13.9</td>
<td>6.1</td>
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<tr>
<td>351C</td>
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<td>24</td>
<td>49154</td>
<td>2.1</td>
<td>41 G</td>
<td>87 H</td>
<td>279 VH</td>
<td>180 L</td>
<td>7.9</td>
<td>15.5</td>
<td>4.6</td>
<td>9.7</td>
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<tr>
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<td>36</td>
<td>49155</td>
<td>1.1</td>
<td>21 M</td>
<td>40 M</td>
<td>151 M</td>
<td>155 L</td>
<td>8.0</td>
<td>17.4</td>
<td>2.2</td>
<td>7.4</td>
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<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm S lbs/ac</th>
<th>Nitrogen ppm NO3-N lbs/ac</th>
<th>Zinc ppm</th>
<th>Sodium ppm</th>
<th>Manganese ppm</th>
<th>Iron ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum %Al</th>
<th>Saturation %Al*</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum ppm</th>
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<tbody>
<tr>
<td>351A</td>
<td>48 H</td>
<td>86</td>
<td>17 M</td>
<td>31</td>
<td>0.9 M</td>
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</tr>
<tr>
<td>351B</td>
<td>32 M</td>
<td>58</td>
<td>7 L</td>
<td>13</td>
<td>0.9 M</td>
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<tr>
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<td>4 VL</td>
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<tr>
<td>351D</td>
<td>19 VL</td>
<td>68</td>
<td>4 VL</td>
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<td>0.9 M</td>
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</tbody>
</table>

OE  
VL = VERY LOW  
L = LOW  
M = MEDIUM  
H = HIGH  
VH = VERY HIGH  
* G = GOOD  
M = MARGINAL  
MT = MODERATE PHYTO-TOXIC  
T = PHYTO-TOXIC  
ST = SEVERE PHYTO-TOXIC

## Graphic Summary

<table>
<thead>
<tr>
<th>Very High ('High')</th>
<th>Very High ('High')</th>
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<tr>
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<td><img src="image2" alt="Very High" /></td>
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<table>
<thead>
<tr>
<th>High ('GOOD')</th>
<th>High ('GOOD')</th>
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</thead>
<tbody>
<tr>
<td><img src="image3" alt="High" /></td>
<td><img src="image4" alt="High" /></td>
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<table>
<thead>
<tr>
<th>Medium</th>
<th>Medium</th>
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<tbody>
<tr>
<td><img src="image5" alt="Medium" /></td>
<td><img src="image6" alt="Medium" /></td>
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<table>
<thead>
<tr>
<th>Low</th>
<th>Low</th>
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<tbody>
<tr>
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<td><img src="image8" alt="Low" /></td>
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<table>
<thead>
<tr>
<th>Very Low</th>
<th>Very Low</th>
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<tbody>
<tr>
<td><img src="image9" alt="Very Low" /></td>
<td><img src="image10" alt="Very Low" /></td>
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## Soil Fertility Guidelines (lbs/ac)

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<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

---
Long term corn silage field just west of the feedlot. Good nitrogen remaining after the crop and medium levels at the deeper depths. Manure applications should be maintained to ensure any off season nitrogen leaching is minimized. The biggest challenge on this field is the elevated phosphorous levels and rotating into alfalfa in the near future would be recommended. Soil OM is excellent

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>Manure</td>
<td>18 tons fresh feedlot manure</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>Manure</td>
<td>Actual app of <strong>15 tons for 770 ton total</strong></td>
<td>770 T</td>
</tr>
</tbody>
</table>
# Soil Test Report

**Report Number:** C16293-10441  
**Account Number:** 05219  
**To:** EMERALD BAY AG SERVICES  
10 MARYS EMERALD BAY ROAD  
VERNON, BC V1H 2A7  

**Attn:** DOUG MACFARLANE  
250-546-3847  

**Grower Code:** 05219043  
**Farm:** FEEDLOT  
**Field:** 102 WEST FIELD

## Soil Test Report

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Desctpt</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P ppm</th>
<th>Bray-P ppm</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC meq/100g</th>
<th>Percent Base Saturation</th>
<th>Saturations</th>
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<tbody>
<tr>
<td>K201A</td>
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<td>6</td>
<td>27566</td>
<td>7.2</td>
<td>101 H</td>
<td>304 H</td>
<td>410 VH</td>
<td>300 M</td>
<td>3560 H</td>
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<td>21.5</td>
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<td>83 H</td>
<td>223 H</td>
<td>448 VH</td>
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<tr>
<td>K201C</td>
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<td>27568</td>
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<td>36 M</td>
<td>61 M</td>
<td>372 VH</td>
<td>190 M</td>
<td>1690 H</td>
<td>7.9</td>
<td>11.1</td>
<td>8.6</td>
<td>14.3</td>
<td>76.1</td>
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<tr>
<td>K201D</td>
<td></td>
<td>36</td>
<td>27569</td>
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<td>22 M</td>
<td>30 L</td>
<td>252 H</td>
<td>155 L</td>
<td>3550 VH</td>
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<td>3.3</td>
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<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm S lbs/ac</th>
<th>Nitrate Nitrogen N03-N lbs/ac</th>
<th>Zinc Zn ppm</th>
<th>Manganese Mn ppm</th>
<th>Iron Fe ppm</th>
<th>Copper Cu ppm</th>
<th>Boron B ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum %Al</th>
<th>Saturation K/Mg Ratio</th>
<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum Mo ppm</th>
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<tbody>
<tr>
<td>K201A</td>
<td>47 H</td>
<td>85</td>
<td>19 M</td>
<td>34</td>
<td>0.9 M</td>
<td>24 H</td>
<td>127</td>
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<td>0.42</td>
<td>85</td>
<td>48 M</td>
<td></td>
<td></td>
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<tr>
<td>K201B</td>
<td>35 M</td>
<td>63</td>
<td>9 L</td>
<td>16</td>
<td>18 H</td>
<td>534</td>
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<tr>
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<td>12 H</td>
<td>639</td>
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<td>30</td>
<td>31 H</td>
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<tr>
<td>K201D</td>
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<td>101</td>
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<td>118</td>
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<td>0.51</td>
<td>24</td>
<td>33 M</td>
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</tbody>
</table>

OE = VERY LOW  L = LOW  M = MEDIUM  H = HIGH  VH = VERY HIGH  G = GOOD  M = MARGINAL  MT = MODERATE PHYTO-TOXIC  T = PHYTO-TOXIC  ST = SEVERE PHYTO-TOXIC

## Graphic Summary

![Graphic Summary](image)

## Soil Fertility Guidelines (lbs/ac)

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P205</th>
<th>K20</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
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<tbody>
<tr>
<td>K201A</td>
<td>Corn Silage Western</td>
<td>Corn Silage Western</td>
<td>25 tons</td>
<td>0.0</td>
<td>228</td>
<td>20</td>
<td>20</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>K201A</td>
<td>Corn Silage Western</td>
<td>Corn Silage West Blc</td>
<td>25 tons</td>
<td>0.0</td>
<td>228</td>
<td>55</td>
<td>150</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Crop yield is influenced by a number of factors in addition to soil fertility. No guarantee or warranty concerning crop performance is made by A & L.
Planted in 2013. Soil Phosphorous levels are getting better with potassium levels almost low enough to where manure will be needed again in the next year. This is the 5th year of the alfalfa stand and it is time to rotate back to corn next year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Comments</th>
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<tbody>
<tr>
<td>2017</td>
<td>Alfalfa</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Alfalfa</td>
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**Planned Events and Records**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><em>Sulfur will improve plant protein content</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>300 lb gypsum</em></td>
<td>9.2 tn</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Delayed until 2019</em></td>
<td></td>
</tr>
</tbody>
</table>
# Soil Test Report

**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02  
**Grower Code:** 05219123  
**Farm:** K REGHER FEEDYARD  
**Field:** 37 - 103 FAR WEST & 104 WEST  
**Attn:** DOUG MACFARLANE  
**Phone:** 250-546-3847  
**Page:** 1

**SOIL TEST REPORT**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Descpt</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P</th>
<th>Potassium - K</th>
<th>Magnesium - Mg</th>
<th>Calcium - Ca</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC</th>
<th>Percent Base Saturation %</th>
<th>% K</th>
<th>% Mg</th>
<th>% Ca</th>
<th>% H</th>
<th>% Na</th>
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<tbody>
<tr>
<td>371A</td>
<td></td>
<td>6</td>
<td>18343</td>
<td>6.7</td>
<td>51 H</td>
<td>146 H</td>
<td>121 M</td>
<td>255 M</td>
<td>3020</td>
<td>VH</td>
<td>17.6</td>
<td>1.8</td>
<td>12.0</td>
<td>85.6</td>
<td>0.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>371B</td>
<td></td>
<td>12</td>
<td>18344</td>
<td>3.1</td>
<td>42 M</td>
<td>111 G</td>
<td>161 H</td>
<td>245 M</td>
<td>2390</td>
<td>H</td>
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<td>2.8</td>
<td>14.1</td>
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<td>54 M</td>
<td>177 H</td>
<td>205 M</td>
<td>1830</td>
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<td>4.0</td>
<td>15.0</td>
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<tr>
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<td>36</td>
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<td>18 L</td>
<td>24 L</td>
<td>84 M</td>
<td>130 L</td>
<td>2110</td>
<td>VH</td>
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<td>1.8</td>
<td>9.1</td>
<td>88.4</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sample Number**  | **Sulfur ppm S** | **Nitrate Nitrogen ppm NO3-N** | **Zinc Zn ppm** | **Manganese Mn ppm** | **Iron Fe ppm** | **Copper Cu ppm** | **Boron B ppm** | **Soluble Salts ms/cm** | **Saturation %** | **Aluminum %** | **Saturation %** | **K/Mg Ratio** | **Chloride Cl ppm** | **Sodium Na ppm** | **Molybdenum Mo ppm** |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>371A</td>
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<td>18</td>
<td>20.5 VH</td>
<td>47 H</td>
<td>90 VH</td>
<td>2.8 H</td>
<td>0.5 L</td>
<td>0.4 VL</td>
<td>11 H</td>
<td>367</td>
<td>0.0 G</td>
<td>0.15</td>
<td>80</td>
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<tr>
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<td>28 L</td>
<td>50</td>
<td>3 VL</td>
<td>5</td>
<td>9 G</td>
<td>596</td>
<td>618</td>
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<td>43</td>
<td>29 M</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>371C</td>
<td>19 VL</td>
<td>68</td>
<td>2 VL</td>
<td>7</td>
<td>4 L</td>
<td>618</td>
<td>243</td>
<td>0.0 G</td>
<td>0.20</td>
<td>26</td>
<td>31 H</td>
<td></td>
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<tr>
<td>371D</td>
<td>15 VL</td>
<td>54</td>
<td>1 VL</td>
<td>4</td>
<td>2 VL</td>
<td>243</td>
<td>243</td>
<td>0.0 G</td>
<td>0.20</td>
<td>26</td>
<td>24 M</td>
<td></td>
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</tbody>
</table>

**OE**  
**VL = VERY LOW**  
**L = LOW**  
**M = MEDIUM**  
**H = HIGH**  
**VH = VERY HIGH**  
**G = GOOD**  
**M = MARGINAL**  
**MT = MODERATE PHYTO-TOXIC**  
**T = PHYTO-TOXIC**  
**ST = SEVERE PHYTO-TOXIC**

## Graphic Summary

<table>
<thead>
<tr>
<th>Very High (<em>High</em>)</th>
<th>High (<em>GOOD</em>)</th>
<th>Medium</th>
<th>Low</th>
<th>Very Low</th>
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<tr>
<td><img src="image" alt="Very High" /></td>
<td><img src="image" alt="High" /></td>
<td><img src="image" alt="Medium" /></td>
<td><img src="image" alt="Low" /></td>
<td><img src="image" alt="Very Low" /></td>
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</tbody>
</table>

## Soil Fertility Guidelines (lbs/ac)

| Sample Number | Previous Crop | Intended Crop | Yield Goal Tons/Acre | N | P2O5 | K2O | Mg | Ca | S | Zn | Mn | Fe | Cu | B |
|---------------|---------------|---------------|----------------------|---|-----|-----|----|----|---|----|----|----|----|----|---|

---

---
Planted to alfalfa in 2013. 2014 soil test shows good levels in all nutrients with lower level nitrogen depleted but still lots being released from the high organic matter applied over the corn years with feedlot manure.

Soil potassium levels staying well elevated so no nutrients should be required for the 14-5 year life of the stand.

Manage with 103.

<table>
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<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
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<tbody>
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<td>2016</td>
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<td></td>
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<td>Delayed until 2019</td>
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**SOIL TEST REPORT**

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<tr>
<th>Sample Number</th>
<th>Legal Land Descrit:</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P Bray-P1</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC meg/100g</th>
<th>% K</th>
<th>% Mg</th>
<th>% Ca</th>
<th>% H</th>
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<td>88.4</td>
<td>0.9</td>
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<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm S lbs/ac</th>
<th>Nitrate Nitrogen ppm NO3-N lbs/ac</th>
<th>Zinc Zn ppm</th>
<th>Manganese Mn ppm</th>
<th>Iron Fe ppm</th>
<th>Copper Cu ppm</th>
<th>Boron B ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum %Al ppm</th>
<th>Saturation %Al*</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum Mo ppm</th>
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<tr>
<td>371A</td>
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<td>0.5 L</td>
<td>0.4 VL</td>
<td>367</td>
<td>0.0 G</td>
<td>0.15</td>
<td>80</td>
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<td>32 M</td>
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<tr>
<td>371B</td>
<td>28 L</td>
<td>50</td>
<td>3 VL</td>
<td>5</td>
<td>9 G</td>
<td>596</td>
<td>0.0 G</td>
<td>0.20</td>
<td>43</td>
<td>618</td>
<td>0.0 G</td>
<td>0.27</td>
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<td>31 H</td>
<td>29 M</td>
<td></td>
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<tr>
<td>371C</td>
<td>19 VL</td>
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<td>243</td>
<td>0.0 G</td>
<td>0.20</td>
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<td>243</td>
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<td>0.20</td>
<td>26</td>
<td>24 M</td>
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<td></td>
</tr>
<tr>
<td>371D</td>
<td>15 VL</td>
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<td>1 VL</td>
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<td>2</td>
<td>243</td>
<td>0.0 G</td>
<td>0.20</td>
<td>26</td>
<td>243</td>
<td>0.0 G</td>
<td>0.20</td>
<td>26</td>
<td>24 M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GRAPHIC SUMMARY**

- **Very High ('High')**
- **High ('GOOD')**
- **Medium**
- **Low**
- **Very Low**

**SOIL FERTILITY GUIDELINES (lbs/ac)**

| Sample Number | Previous Crop | Intended Crop | Yield Goal Tons/Acre | Lime N | P2O5 | K2O | Mg | Ca | S | Zn | Mn | Fe | Cu | B |
|---------------|--------------|---------------|----------------------|-------|------|-----|----|----|---|----|----|----|----|---|---|---|---|

---

**Attn:** DOUG MACFARLANE  
250-546-3847  
**Grower Code:** 05219123  
**Farm:** K REGHER FEEDYARD  
**Field:** 37 - 103 FAR WEST & 104 WEST  
**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02  
**Page:** 1  
**Field:** 37 - 103 FAR WEST & 104 WEST
Long term corn silage.
2017– residual nitrogen is down to good. @75 pounds. Maintain existing manure program for 1 more year, other nutrients still very high and a rotation into alfalfa is recommended soon.
2018 plant to alfalfa

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>Manure</td>
<td>20 ton feedlot manure for Alfalfa seeding</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>500 lb gypsum (delayed 2019)</td>
<td>7.5 tn</td>
</tr>
<tr>
<td>April</td>
<td>Manure</td>
<td>Actual 15 tons feedlot manure applied</td>
<td>495 T</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alfalfa grass planted and establishing.</td>
<td></td>
</tr>
</tbody>
</table>
## Soil Test Report

**Grower Code:** 05219123  
**Attn:** DOUG MACFARLANE  
**Farm:** K REGHER FEEDYARD  
**Field:** 36 - 105 FEEDLOT BOTTOM  
**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02  
**Sample Number** | **Legal Land Descpt.** | **Depth** | **Lab Number** | **Organic Matter** | **Phosphorus - P** | **Potassium** | **Magnesium** | **Calcium** | **pH** | **CEC meg/100g** | **Percent Base Saturations** |
---|---|---|---|---|---|---|---|---|---|---|---|
361A | 6 | 49156 | 8.0 | 90 H | 247 H | 296 VH | 250 M | 2510 H | 7.3 | 15.5 | 4.9 | 13.4 | 80.9 | 0.9 |
361B | 12 | 49157 | 3.3 | 58 G | 143 H | 342 VH | 200 M | 2480 H | 7.6 | 15.0 | 5.8 | 11.1 | 82.4 | 0.8 |
361C | 24 | 49158 | 1.5 | 33 M | 58 M | 270 VH | 180 M | 2250 H | 7.9 | 13.5 | 5.1 | 11.1 | 83.1 | 0.8 |
361D | 36 | 49159 | 1.6 | 24 M | 46 M | 204 H | 180 L | 2920 VH | 8.1 | 16.7 | 3.1 | 9.0 | 87.3 | 0.8 |

**Sample Number** | **Sulfur ppm S lbs/ac** | **Nitrate ppm NO3-N lbs/ac** | **Zinc ppm** | **Manganese ppm** | **Iron ppm** | **Copper ppm** | **Boron ppm** | **Soluble Salts ms/cm** | **Saturation %P** | **Aluminum ppm** | **Saturation %Al** | **K/Mg Ratio** | **ENR** | **Chloride Cl ppm** | **Sodium Na ppm** | **Molybdenum Mo ppm** |
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
361A | 38 M | 68 | 13 M | 23 | 0.7 M | 20 H | 419 | 0.0 G | 0.37 | 93 | 32 M |
361B | 26 L | 47 | 5 L | 9 | 11 H | 488 | 0.0 G | 0.52 | 45 | 28 M |
361C | 24 L | 86 | 2 VL | 7 | 5 M | 445 | 0.0 G | 0.46 | 27 | 26 M |
361D | 23 L | 83 | 4 VL | 14 | 3 L | 312 | 0.0 G | 0.34 | 28 | 29 M |

OE  
VL = VERY LOW  
L = LOW  
M = MEDIUM  
H = HIGH  
VH = VERY HIGH  
* G = GOOD, M = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

### Graphic Summary

<table>
<thead>
<tr>
<th>Very High (*High)</th>
<th>Very High (*High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (*GOOD)</td>
<td>High (*GOOD)</td>
</tr>
<tr>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Very Low</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

### Soil Fertility Guidelines (lbs/ac)

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
</table>

---
**Good residual nitrogen fall 2017**

### Planned Events and Records

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td></td>
<td>30-35 tons feedlot manure.</td>
<td>1,965 t</td>
</tr>
<tr>
<td>April</td>
<td>manure</td>
<td>23.75 ton applied</td>
<td>1435 T</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Limited Irrigation available over complete field this year</em></td>
<td></td>
</tr>
</tbody>
</table>
# SOIL TEST REPORT

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Descpt</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P ppm</th>
<th>Bray-P</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH Buffer</th>
<th>CEC mg/100g</th>
<th>Percent Base Saturation %</th>
<th>Saturation %P</th>
<th>Aluminum % Al ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Sodium Na ppm</th>
<th>Manganese Mn ppm</th>
<th>Iron Fe ppm</th>
<th>Copper Cu ppm</th>
<th>Boron B ppm</th>
<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum Mo ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2041A</td>
<td>6</td>
<td>18367</td>
<td>4.4</td>
<td>30 M</td>
<td>47 M</td>
<td>144 H</td>
<td>165 M</td>
<td>1590 H</td>
<td>7.3</td>
<td>9.8</td>
<td>3.8</td>
<td>10.4</td>
<td>81.1</td>
<td>1.2</td>
<td>4</td>
<td></td>
<td>4.7 H</td>
<td>38 H</td>
<td>54 VH</td>
<td>1.4 H</td>
<td>0.5 L</td>
<td>0.3 VL</td>
<td>4 L</td>
</tr>
<tr>
<td>2041B</td>
<td>12</td>
<td>18368</td>
<td>2.4</td>
<td>14 L</td>
<td>20 VL</td>
<td>74 M</td>
<td>120 M</td>
<td>1050 H</td>
<td>7.2</td>
<td>6.9</td>
<td>2.8</td>
<td>14.6</td>
<td>76.4</td>
<td>4.6</td>
<td>3</td>
<td></td>
<td>1 L</td>
<td>4.8</td>
<td>414</td>
<td>0.1 G</td>
<td>0.19</td>
<td>0.36</td>
<td>6 L</td>
</tr>
<tr>
<td>2041C</td>
<td>24</td>
<td>18369</td>
<td>1.0</td>
<td>6 VL</td>
<td>8 VL</td>
<td>84 M</td>
<td>155 H</td>
<td>1040 H</td>
<td>7.6</td>
<td>6.8</td>
<td>3.2</td>
<td>19.0</td>
<td>76.6</td>
<td>1.5</td>
<td>3</td>
<td></td>
<td>1 L</td>
<td>5.1</td>
<td>298</td>
<td>0.0 G</td>
<td>0.17</td>
<td>0.22</td>
<td>3 L</td>
</tr>
</tbody>
</table>

OE
VL = VERY LOW  L = LOW   M = MEDIUM   H = HIGH   VH = VERY HIGH   * G = GOOD, M = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

## GRAPHIC SUMMARY

<table>
<thead>
<tr>
<th>Very High ('High')</th>
</tr>
</thead>
<tbody>
<tr>
<td>High ('GOOD')</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Very Low</td>
</tr>
<tr>
<td>P1</td>
</tr>
</tbody>
</table>

## SOIL FERTILITY GUIDELINES (lbs/ac)

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P205</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
</table>

Crop yield is influenced by a number of factors in addition to soil fertility. No guarantee or warranty concerning crop performance is made by A & L.
Manage with 201

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td></td>
<td>30-35 tons feedlot manure.</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>Manure</td>
<td>26.4 ton applied</td>
<td>264 T</td>
</tr>
</tbody>
</table>

2016  Corn Silage

2017  Cereal Silage
# Soil Test Report

**To:** EMERALD BAY AG SERVICES  
10 MARYS EMERALD BAY ROAD  
VERNON, BC V1H 2A7  

**For:** KEN REGEHR FEEDYARDS  
4516 HULLCARR ROAD  
05219-N1384  

**Attn:** DOUG MACFARLANE  
250-546-3847  

**Grower Code:** 05219043  
**Farm:** FEEDLOT  
**Field:** 201 TOP BACK  

**Report Date:** 2017-10-27  
**Print Date:** 2018-04-06  

## Soil Test Report

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Descr.</th>
<th>Organic Matter</th>
<th>Phosphorus - P ppm</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC meg/100g</th>
<th>Percent Base Satuations</th>
<th>% K</th>
<th>% Mg</th>
<th>% Ca</th>
<th>% H</th>
<th>% Na</th>
</tr>
</thead>
<tbody>
<tr>
<td>2041A</td>
<td></td>
<td>4.4</td>
<td>30 M</td>
<td>47 M</td>
<td>144 H</td>
<td>165 M</td>
<td>1500 H</td>
<td>7.3</td>
<td>9.8</td>
<td>3.8</td>
<td>14.0</td>
<td>81.1</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2041B</td>
<td></td>
<td>2.4</td>
<td>14 L</td>
<td>20 VL</td>
<td>74 M</td>
<td>120 M</td>
<td>1050 H</td>
<td>7.2</td>
<td>6.9</td>
<td>2.8</td>
<td>14.6</td>
<td>76.4</td>
<td>4.6</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>2041C</td>
<td></td>
<td>1.0</td>
<td>6 VL</td>
<td>8 VL</td>
<td>84 M</td>
<td>155 H</td>
<td>1040 H</td>
<td>7.6</td>
<td>6.8</td>
<td>3.2</td>
<td>19.0</td>
<td>76.6</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm S lbs/ac</th>
<th>Nitrate Nitrogen ppm NO3-N lbs/ac</th>
<th>Zinc Mn ppm</th>
<th>Iron Fe ppm</th>
<th>Copper Cu ppm</th>
<th>Boron B ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum Al ppm</th>
<th>Saturation K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum Mo ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2041A</td>
<td>20 L</td>
<td>36</td>
<td>5 L</td>
<td>9</td>
<td>4.7 M</td>
<td>38 H</td>
<td>54 VH</td>
<td>1.4 M</td>
<td>0.5 L</td>
<td>4 L</td>
<td>439</td>
<td>0.1 G</td>
<td>0.27</td>
<td>56</td>
</tr>
<tr>
<td>2041B</td>
<td>16 L</td>
<td>29</td>
<td>1 VL</td>
<td>2</td>
<td>1 VL</td>
<td>299</td>
<td>0.0 G</td>
<td>0.17</td>
<td>22</td>
<td>17</td>
<td>414</td>
<td>0.1 G</td>
<td>0.19</td>
<td>36</td>
</tr>
<tr>
<td>2041C</td>
<td>16 L</td>
<td>58</td>
<td>1 VL</td>
<td>4</td>
<td>1 VL</td>
<td>299</td>
<td>0.0 G</td>
<td>0.17</td>
<td>22</td>
<td>17</td>
<td>414</td>
<td>0.1 G</td>
<td>0.19</td>
<td>36</td>
</tr>
</tbody>
</table>

OE: VL = VERY LOW  L = LOW  M = MEDIUM  H = HIGH  VH = VERY HIGH  *G = GOOD, M = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

## Graphic Summary

<table>
<thead>
<tr>
<th>Very High (*High)</th>
<th>High (*GOOD)</th>
<th>Medium</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="high-icon" alt="" /></td>
<td><img src="high-icon" alt="" /></td>
<td><img src="medium-icon" alt="" /></td>
<td><img src="low-icon" alt="" /></td>
<td><img src="very-low-icon" alt="" /></td>
</tr>
</tbody>
</table>

## Soil Fertility Guidelines (lbs/ac)

| Sample Number | Previous Crop | Intended Crop | Yield Goal | Lime Tons/Acre | N | P2O5 | K2O | Mg | Ca | S | Zn | Mn | Fe | Cu | B |
|---------------|---------------|---------------|------------|----------------|----|------|-----|-----|----|----|----|----|----|----|

Crop yield is influenced by a number of factors in addition to soil fertility. No guarantee or warranty concerning crop performance is made by A & L.
Manage with 105 corn field No samples have been taken

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>manure</td>
<td>30 ton Feedlot manure</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>manure</td>
<td>24.5 ton applied</td>
<td>196 T</td>
</tr>
</tbody>
</table>
Note: This field can stay in alfalfa for 1 more year but potassium levels are low enough to where the crop would respond from additional potassium. The farm overall does not need any additional potassium though.

<table>
<thead>
<tr>
<th>2017</th>
<th>Alfalfa</th>
<th>2018</th>
<th>Corn Silage?</th>
</tr>
</thead>
</table>

**Planned Events and Records**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>Manure</td>
<td>25 ton feedlot manure for corn silage</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>Manure</td>
<td>Actual—25.1 ton applied</td>
<td>1306 T</td>
</tr>
<tr>
<td>Sample Number</td>
<td>Legal Land Desc.:</td>
<td>Depth</td>
<td>Lab Number</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>381A</td>
<td></td>
<td>6</td>
<td>18347</td>
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<tr>
<td>381B</td>
<td></td>
<td>12</td>
<td>18348</td>
</tr>
<tr>
<td>381C</td>
<td></td>
<td>24</td>
<td>18349</td>
</tr>
<tr>
<td>381D</td>
<td></td>
<td>36</td>
<td>18350</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm</th>
<th>Nitrate NO3-N lbs/ac</th>
<th>Nitrogen ppm</th>
<th>Zinc ppm</th>
<th>Manganese ppm</th>
<th>Iron ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum %Al ppm</th>
<th>Saturation %Al</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>381A</td>
<td>26 M</td>
<td>47</td>
<td>9 L</td>
<td>16</td>
<td>9.0 H</td>
<td>36 H</td>
<td>62 VH</td>
<td>1.9 H</td>
<td>0.2 VL</td>
<td>0.3 VL</td>
<td>5 L</td>
<td>0.0 G</td>
<td>0.19</td>
<td>64</td>
<td>14 L</td>
</tr>
<tr>
<td>381B</td>
<td>20 L</td>
<td>36</td>
<td>2 VL</td>
<td>4</td>
<td></td>
<td>2 VL</td>
<td>412</td>
<td>0.0 G</td>
<td>0.14</td>
<td>40</td>
<td>27 H</td>
<td>0.0 G</td>
<td>0.14</td>
<td>40</td>
<td>27 H</td>
</tr>
<tr>
<td>381C</td>
<td>17 VL</td>
<td>61</td>
<td>1 VL</td>
<td>4</td>
<td></td>
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<td>275</td>
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<td>0.0 G</td>
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<td>25</td>
<td>29 M</td>
</tr>
<tr>
<td>381D</td>
<td>32 L</td>
<td>115</td>
<td>1 VL</td>
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<td></td>
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<td>202</td>
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<td>21</td>
<td>40 M</td>
<td>0.0 G</td>
<td>0.16</td>
<td>21</td>
<td>40 M</td>
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</table>

**GRAPHIC SUMMARY**

<table>
<thead>
<tr>
<th>Very High ('High')</th>
<th>Very High ('Good')</th>
<th>Medium</th>
<th>Low</th>
<th>Very Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 *</td>
<td>%P *</td>
<td>N</td>
<td>K</td>
<td>Mg</td>
</tr>
</tbody>
</table>

**SOIL FERTILITY GUIDELINES (lbs/ac)**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg Ca</th>
<th>S</th>
<th>Zn Mn</th>
<th>Fe Cu B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>
Soil residuals are good except phosphorous levels elevated. Maintain manure program

<table>
<thead>
<tr>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Corn Silage</td>
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</tbody>
</table>

### 2016 Planned Events and Records

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>manure</td>
<td>28 ton feedlot manure</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>manure</td>
<td>Actual 17 tons applied</td>
<td>750 T</td>
</tr>
</tbody>
</table>


### SOIL TEST REPORT

**Sample Number**: 391A, 391B, 391C, 391D

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Desc:</th>
<th>Depth Number</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus-B</th>
<th>Potassium</th>
<th>Magnesium</th>
<th>Calcium</th>
<th>pH</th>
<th>Buffer</th>
<th>CEC (meq/100g)</th>
<th>Percent Base Saturation %</th>
<th>% K</th>
<th>% Mg</th>
<th>% Ca</th>
<th>% H</th>
<th>% Na</th>
</tr>
</thead>
<tbody>
<tr>
<td>391A</td>
<td></td>
<td>6</td>
<td>44904</td>
<td>7.6</td>
<td>66 H</td>
<td>182 H</td>
<td>290 M</td>
<td>2700 H</td>
<td>7.3</td>
<td>17.1</td>
<td>6.3</td>
<td>14.1</td>
<td>78.7</td>
<td>1.1</td>
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<td></td>
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<tr>
<td>391B</td>
<td></td>
<td>12</td>
<td>44905</td>
<td>5.7</td>
<td>56 H</td>
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<td>373 M</td>
<td>2770 H</td>
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<tr>
<td>391C</td>
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<td>24</td>
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<td>55 M</td>
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<td>2270 H</td>
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<td>13.8</td>
<td>3.7</td>
<td>12.7</td>
<td>82.2</td>
<td>1.6</td>
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</tr>
<tr>
<td>391D</td>
<td></td>
<td>36</td>
<td>44907</td>
<td>1.8</td>
<td>15 L</td>
<td>20 L</td>
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<td>4370 VH</td>
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<td>92.1</td>
<td>0.9</td>
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<table>
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<th>Sample Number</th>
<th>Sulfur (ppm S lbs/ac)</th>
<th>Nitrate Nitrogen (ppm NO3-N lbs/ac)</th>
<th>Zinc (Zn ppm)</th>
<th>Manganese (Mn ppm)</th>
<th>Iron (Fe ppm)</th>
<th>Copper (Cu ppm)</th>
<th>Boron (B ppm)</th>
<th>Soluble Salts (ms/cm)</th>
<th>Saturation % P</th>
<th>Aluminum (Al ppm)</th>
<th>Saturation % Al</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride (Cl ppm)</th>
<th>Sodium (Na ppm)</th>
<th>Molybdenum (Mo ppm)</th>
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</thead>
<tbody>
<tr>
<td>391A</td>
<td>48 H</td>
<td>86</td>
<td>12 M</td>
<td>22</td>
<td>0.6 M</td>
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<td>431</td>
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<td>0.45</td>
<td>0.89</td>
<td>42 H</td>
<td>12 H</td>
<td>519</td>
<td>0.0 G</td>
<td>0.38</td>
<td>70</td>
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<td>77</td>
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<td>32</td>
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<td>519</td>
<td>0.0 G</td>
<td>0.45</td>
<td>0.38</td>
<td>70</td>
<td>58 H</td>
<td>4 L</td>
<td>571</td>
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<td>0.38</td>
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<td>4 VL</td>
<td>14</td>
<td>4 L</td>
<td>519</td>
<td>0.0 G</td>
<td>0.45</td>
<td>0.38</td>
<td>70</td>
<td>58 H</td>
<td>4 L</td>
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<td>70</td>
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<td>571</td>
<td>0.0 G</td>
<td>0.38</td>
<td>70</td>
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</tbody>
</table>

**Graphic Summary**

- **Very High ("High")**: N, K, Mg, Ca, S, Zn, Mn, Fe, Cu, B
- **High ("GOOD")**: P1 *
- **Medium**: %P *
- **Low**: N, K, Mg, Ca, S, Zn, Mn, Fe, Cu, B
- **Very Low**: P1 *

**SOIL FERTILITY GUIDELINES (lbs/ac)**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
</table>

*OE*: VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH
*G* = GOOD, M = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC
Good soil residual nitrogen. Ample Phos and Potassium.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>Manure</td>
<td>20 ton feedlot manure</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>Manure</td>
<td>Actual 17 ton manure applied</td>
<td>620 T</td>
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</tbody>
</table>
**Soil Test Report**

**Sample Number** | Legal Land Description | Depth | Lab Number | Organic Matter | Phosphorus - P ppm | Potassium K ppm | Magnesium Mg ppm | Calcium Ca ppm | pH | Buffer | CEC meq/100g | Percent Base Saturation % K | % Mg | % Ca | % H | % Na
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
401A | 6 | 49144 | 7.9 | 46G | 123H | 248H | 290M | 2560M | 7.0 | 18.4 | 3.5 | 13.1 | 69.5 | 12.9 | 1.0 |
401B | 12 | 49145 | 3.6 | 36M | 61M | 158H | 245M | 2000M | 6.9 | 6.9 | 13.8 | 2.9 | 14.8 | 72.4 | 8.5 | 1.4 |
401C | 24 | 49146 | 1.6 | 22L | 31L | 145M | 215H | 1710H | 7.3 | 10.9 | 3.4 | 16.4 | 78.3 | 2.1 |
401D | 36 | 49147 | 1.8 | 9VL | 14VL | 143M | 200L | 3900VH | 7.9 | 21.7 | 1.7 | 7.7 | 89.7 | 1.1 |

**Sample Number** | Sulfur ppm | Nitrate Nitrogen ppm NO3-N lbs/ac | Zinc ppm | Manganese ppm Mn | Iron ppm Fe | Copper ppm Cu | Boron ppm B | Soluble Salts ms/cm | Saturation %P | Aluminum Al ppm | Saturation %Al | K/Mg Ratio | ENR | Chloride Cl ppm | Sodium Na ppm | Molybdenum Mo ppm |
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
401A | 42H | 76 | 15M | 27 | 0.5L | 22H | 734 | 0.1G | 0.27 | 92 | 43M |
401B | 32M | 58 | 8L | 14 | 10H | 819 | 0.1G | 0.20 | 48 | 43H |
401C | 24L | 86 | 3VL | 11 | 3VL | 659 | 0.1G | 0.21 | 28 | 52VH |
401D | 34M | 122 | 2VL | 7 | 1VL | 418 | 0.0G | 0.22 | 30 | 54H |

**Graphic Summary**

- Very High (*High)
- High (*GOOD)
- Medium
- Low
- Very Low

**Soil Fertility Guidelines (lbs/ac)**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
<th>Lime Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
</table>

Using 207 Reserve top soil test.

### Planned Events and Records

<table>
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<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
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<tr>
<td>2016</td>
<td>Alfalfa</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>No manure application</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nothing applied</td>
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</tr>
<tr>
<td>2017</td>
<td>Alfalfa</td>
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## Soil Test Report

**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Desct:</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus P ppm</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH</th>
<th>CEC meg/100g</th>
<th>Percent Base Satuations</th>
</tr>
</thead>
<tbody>
<tr>
<td>401A</td>
<td></td>
<td>6</td>
<td>49144</td>
<td>7.9</td>
<td>46 G</td>
<td>123 H</td>
<td>248 H</td>
<td>290 M</td>
<td>7.0</td>
<td>18.4</td>
<td>3.5  13.1  69.5  12.9  1.0</td>
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<tr>
<td>401B</td>
<td></td>
<td>12</td>
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<td>36 M</td>
<td>61 M</td>
<td>158 H</td>
<td>245 M</td>
<td>6.9</td>
<td>6.9</td>
<td>13.8          2.9  14.8  72.4  8.5  1.4</td>
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<tr>
<td>401C</td>
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<td>24</td>
<td>49146</td>
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<td>31 L</td>
<td>145 M</td>
<td>215 H</td>
<td>7.3</td>
<td>10.9</td>
<td>3.4  16.4  78.3  2.1</td>
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<td></td>
<td>36</td>
<td>49147</td>
<td>1.8</td>
<td>9 VL</td>
<td>14 VL</td>
<td>143 M</td>
<td>200 L</td>
<td>7.9</td>
<td>21.7</td>
<td>1.7  7.7   89.7  1.1</td>
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<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm S lbs/ac</th>
<th>Nitrate Nitrogen ppm NO3-N lbs/ac</th>
<th>Zinc Zn ppm</th>
<th>Manganese Mn ppm</th>
<th>Iron Fe ppm</th>
<th>Copper Cu ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum Al ppm</th>
<th>Saturation %Al</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
<th>Molybdenum Mo ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>401A</td>
<td>42 H</td>
<td>76</td>
<td>15 M</td>
<td>27</td>
<td>0.5 L</td>
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<td>0.1 G</td>
<td>0.27</td>
<td>92</td>
<td>43 M</td>
<td>819</td>
<td>0.20</td>
<td>48</td>
<td>54 H</td>
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<tr>
<td>401B</td>
<td>32 M</td>
<td>58</td>
<td>8 L</td>
<td>14</td>
<td>10 H</td>
<td>819</td>
<td>0.1 G</td>
<td>0.20</td>
<td>48</td>
<td>54 H</td>
<td></td>
<td>369</td>
<td>0.21</td>
<td></td>
<td></td>
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<td>3 VL</td>
<td>659</td>
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<td>54 H</td>
<td></td>
<td>34</td>
<td>0.22</td>
<td>30</td>
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**Graphic Summary**

- **Very High ("High")**
- **High ("GOOD")**
- **Medium**
- **Low**
- **Very Low**

**Soil Fertility Guidelines (lbs/ac)**

<table>
<thead>
<tr>
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<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal</th>
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<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
<th>Cu</th>
<th>B</th>
</tr>
</thead>
</table>

---

**Attn:** DOUG MACFARLANE  
250-546-3847

**Grower Code:** 05219123  
**Farm:** K REGHER FEEDYARD  
**Field:** 40 - 207 RES TOP & 208 DORTHYS

**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02

**Field:** 40 - 207 RES TOP & 208 DORTHYS

**Sample Number**

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Desct:</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
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<th>Calcium Ca ppm</th>
<th>pH</th>
<th>CEC meg/100g</th>
<th>Percent Base Satuations</th>
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<tbody>
<tr>
<td>401A</td>
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<td>7.9</td>
<td>46 G</td>
<td>123 H</td>
<td>248 H</td>
<td>290 M</td>
<td>7.0</td>
<td>18.4</td>
<td>3.5  13.1  69.5  12.9  1.0</td>
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<td>6.9</td>
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<td>7.3</td>
<td>10.9</td>
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<th>Copper Cu ppm</th>
<th>Soluble Salts ms/cm</th>
<th>Saturation %P</th>
<th>Aluminum Al ppm</th>
<th>Saturation %Al</th>
<th>K/Mg Ratio</th>
<th>ENR</th>
<th>Chloride Cl ppm</th>
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<td>15 M</td>
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<td>7</td>
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<td>0.22</td>
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<td>0.22</td>
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</tbody>
</table>
2016-
Apply heavy manure for corn crop. 24-30 ton per acre.

2017— Good soil levels maintain manure build program for 2017

2018— Still low nitrogen and medium phos levels

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Comments</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manure</td>
<td>35 tons feedlot manure</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>Manure</td>
<td>Actual 23.5 tons applied</td>
<td>634 T</td>
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</table>
# Soil Test Report

**Report Date:** 2017-10-27  
**Print Date:** 2017-11-02  
**Field:** 31 - 209 SWAANS

## Soil Test Results

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Legal Land Descpt:</th>
<th>Depth</th>
<th>Lab Number</th>
<th>Organic Matter</th>
<th>Phosphorus - P ppm</th>
<th>Potassium K ppm</th>
<th>Magnesium Mg ppm</th>
<th>Calcium Ca ppm</th>
<th>pH Buffer</th>
<th>CEC meq/100g</th>
<th>Percent Base Saturations % K</th>
<th>% Mg</th>
<th>% Ca</th>
<th>% H</th>
<th>% Na</th>
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<tbody>
<tr>
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<td>57 H</td>
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<tr>
<td>311D</td>
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<td>49151</td>
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<td>5.1</td>
<td>92.9</td>
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</table>

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Sulfur ppm</th>
<th>Nitrate Nitrogen ppm NO3-N lbs/ac</th>
<th>Zinc ppm</th>
<th>Manganese ppm Mn</th>
<th>Iron ppm Fe</th>
<th>Copper ppm Cu</th>
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<th>Chloride Cl ppm</th>
<th>Sodium Na ppm</th>
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<tr>
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<td>11</td>
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OE  
VL = VERY LOW  
L = LOW  
M = MEDIUM  
H = HIGH  
VH = VERY HIGH  
* G = GOOD  
M = MARGINAL  
MT = MODERATE PHYTO-TOXIC  
T = PHYTO-TOXIC  
ST = SEVERE PHYTO-TOXIC

### Graphic Summary

![Graphic Summary Diagram]

### Soil Fertility Guidelines (lbs/ac)

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Previous Crop</th>
<th>Intended Crop</th>
<th>Yield Goal Tons/Acre</th>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
<th>Mg</th>
<th>Ca</th>
<th>S</th>
<th>Zn</th>
<th>Mn</th>
<th>Fe</th>
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<td>Crop Phosphorus Application Recommendation</td>
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<td>(name or number)</td>
<td>(col. E x H) x 2.3</td>
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## Worksheet 6. Estimate the Agronomic Balance for Nitrogen, Phosphorus and Potassium

### Field Description

<table>
<thead>
<tr>
<th>Field Description</th>
<th>Crop Type</th>
<th>Crop Size (Ha)</th>
<th>Manure Source and Application Method</th>
<th>Manure Application Rate</th>
<th>Manure Source(s)</th>
<th>Manure Application Rate (Ton/ha)</th>
<th>Available Nutrients in the Year of Application (Kg/ha)</th>
<th>Crop Nutrient Requirement (based on estimated soil nutrient supply)</th>
<th>Agronomic Balance (crop nutrient requirement minus available nutrients in the year of application) (Kg/ha)</th>
</tr>
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<tbody>
<tr>
<td>102 Home</td>
<td>com all</td>
<td>17.2</td>
<td>Feedlot Solida</td>
<td>20</td>
<td>64</td>
<td>0.85</td>
<td>60      208</td>
<td>0</td>
<td>-21  -60  -208</td>
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<td>0       0</td>
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<td>0       0</td>
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<td>0</td>
</tr>
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<td>64</td>
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<td>60      208</td>
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<td>48</td>
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<td>167</td>
<td>0.72</td>
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# Irrigation Chart for Feedlot Collection Pond 2018

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<th>Date</th>
<th>Hrs per pull</th>
<th>PSI</th>
<th>Acre Run</th>
<th>Pond</th>
<th>Level Meter</th>
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<tbody>
<tr>
<td>Apr 5</td>
<td>5</td>
<td>95</td>
<td>2.2</td>
<td></td>
<td>0.72 M</td>
</tr>
<tr>
<td>Apr 12</td>
<td>2</td>
<td>&quot;</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Apr 26</td>
<td>2.5</td>
<td>&quot;</td>
<td>1.2</td>
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<tr>
<td>May 19</td>
<td>8.5</td>
<td>&quot;</td>
<td>3.7</td>
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<td>0.46 M</td>
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<tr>
<td>May 25</td>
<td>10.5</td>
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<td>4.5</td>
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<td>0.33 M</td>
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<tr>
<td>Jun 1</td>
<td>8</td>
<td>&quot;</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>June 2</td>
<td>12</td>
<td>&quot;</td>
<td>5.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun 7/8</td>
<td>18</td>
<td>&quot;</td>
<td>7.8</td>
<td></td>
<td>0.0 M</td>
</tr>
</tbody>
</table>

Irrigation was done on 24 hour total pulls with 95 PSI at the gun using a 25 MM nozzle. This calculates to 275 US gallon per minute, 0.52 acres per hour 1.17 inches of irrigation water with no evaporation calculated in.

Feedlot runoff retention pond was emptied June 6th 2018.
The following is a record of the water levels in the Feedlot collection pond and relevant notes. The pond was irrigated out this spring as per the previous page.

<table>
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<td>Nov 1</td>
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</tr>
<tr>
<td>Nov 14</td>
<td>0.05 m</td>
</tr>
<tr>
<td>Nov 21</td>
<td>0.085 m</td>
</tr>
<tr>
<td>Nov 27</td>
<td>0.09 m</td>
</tr>
<tr>
<td>Dec 30/17</td>
<td>0.085 m</td>
</tr>
<tr>
<td>Jan 18/18</td>
<td>0.115 m</td>
</tr>
<tr>
<td>Feb 28/18</td>
<td>0.595 m</td>
</tr>
<tr>
<td>Mar 6/18</td>
<td>0.73 m</td>
</tr>
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<td>Mar 13/18</td>
<td>0.875 m</td>
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<tr>
<td>Mar 25/18</td>
<td>0.85 m</td>
</tr>
<tr>
<td>Mar 27/18</td>
<td>0.85 m</td>
</tr>
<tr>
<td>April 6/18</td>
<td>0.72 m</td>
</tr>
<tr>
<td>April 13/18</td>
<td>0.67 m</td>
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<tr>
<td>April 16/18</td>
<td>0.67 m</td>
</tr>
<tr>
<td>April 27/18</td>
<td>0.59 m</td>
</tr>
<tr>
<td>April 30/18</td>
<td>0.59 m</td>
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</table>

**Frozen 2018**

Pond level indicator received damage from ice. Wind, level of pond is the same as 13th reading, however level indicator is at an angle, will fix when empty.

<table>
<thead>
<tr>
<th>Date</th>
<th>Level</th>
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<tbody>
<tr>
<td>May 11/18</td>
<td>0.59 m</td>
</tr>
<tr>
<td>May 19/18</td>
<td>0.46 m</td>
</tr>
<tr>
<td>May 24/18</td>
<td>0.33 m</td>
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<tr>
<td>June 2/18</td>
<td>0.1 m</td>
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<td>June 8/18</td>
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<tr>
<td>June 15/18</td>
<td>0 m</td>
</tr>
<tr>
<td>June 19/18</td>
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**Pond Level Chart**

- **Level After Pumping/Irrigating**
# MANURE ANALYSIS

**LAB NUMBER:** 648012  
**SAMPLE ID:** SOLIDS  

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<tr>
<th>PARAMETER</th>
<th>ANALYSIS RESULT</th>
<th>POUNDS PER TON</th>
<th>ESTIMATED AVAILABILITY PER TON</th>
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<td>NH4-N</td>
<td>859 ppm</td>
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<tr>
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<tr>
<td>Phosphate (P as P2O5)**</td>
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<td>Potassium (Total)</td>
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</tr>
<tr>
<td>Carbon:Nitrogen Ratio (C:N)</td>
<td>24 : 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>0.1854 %</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>0.0785 %</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

* All Parameters are reported on an as is basis.
2018 Crop Plan

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