# QC Review

## Organization Name

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| Jan 10, 2023 |  |
| Prepared by: |  |
| QAPP version: |  |

### Data Quality Objectives

|  | Frequency % | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| Parameter | Field Duplicate | Lab Duplicate | Field Blank | Lab Blank | Spike/Check Accuracy | % Completeness |
| Ammonia | 10 | 5 | 10 | 5 | 5 | 90 |
| DO | 10 | - | - | - | - | 90 |
| E.coli | 10 | 5 | 10 | 5 | - | 90 |
| Nitrate | 10 | 5 | 10 | 5 | 5 | 90 |
| pH | 10 | 10 | - | - | 10 | 90 |
| Sp Conductance | 10 | 10 | - | 10 | 10 | 90 |
| TP | 10 | 5 | 10 | 5 | 5 | 90 |
| Water Temp | 10 | 10 | - | - | 10 | 90 |

| Parameter | uom | MDL | UQL | Value Range | Field Duplicate | Lab Duplicate | Field Blank | Lab Blank | Spike/Check Accuracy |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ammonia | mg/l | 0.1 | - | all | < 30% | < 20% | BDL | BDL | <= 15% |
| DO | mg/l | - | - | < 4 | < 20% | - | - | - | - |
| DO | mg/l | - | - | >= 4 | < 10% | - | - | - | - |
| E.coli | MPN/100ml | 1 | - | <50 | < log30% | < log30% | BDL | BDL | - |
| E.coli | MPN/100ml | 1 | - | >=50 | < log20% | < log20% | BDL | BDL | - |
| Nitrate | mg/l | 0.05 | - | all | < 30% | < 20% | BDL | BDL | <= 15% |
| pH | - | - | - | all | <= 0.5 | <= 0.5 | - | - | <= 0.2 |
| Sp Conductance | uS/cm | - | - | < 250 | < 30% | < 30% | - | <= 50 | <= 50 |
| Sp Conductance | uS/cm | - | 10000 | >= 250 | < 20% | < 20% | - | <= 50 | <= 50 |
| TP | mg/l | 0.01 | - | < 0.05 | <= 0.01 | <= 0.01 | BDL | BDL | <= 0.01 |
| TP | mg/l | 0.01 | - | >= 0.05 | < 30% | < 20% | BDL | BDL | <= 15% |
| Water Temp | deg C | - | - | all | <= 1.0 | <= 1.0 | - | - | <= 1.0 |

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| Notes: |
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### QC Frequencies for 5/15/2022 to 9/11/2022

| Parameter | Field Duplicate | Lab Duplicate | Field Blank | Lab Blank | Spike/Check Accuracy |
| --- | --- | --- | --- | --- | --- |
| Ammonia | 9% | 23% | 16% | 16% | 21% |
| DO | 22% | - | - | - | - |
| E.coli | 17% | 33% | 33% | 0% | - |
| Nitrate | 10% | 50% | 35% | 25% | 50% |
| pH | 22% | 35% | - | - | 41% |
| Sp Conductance | 22% | 35% | - | 43% | 43% |
| TP | 10% | 33% | 23% | 10% | 31% |
| Water Temp | 22% | 35% | - | - | 39% |

| Type | Parameter | Number of Data Records | Number of Dups/Blanks/Spikes | Frequency % | Hit/Miss |
| --- | --- | --- | --- | --- | --- |
| Field Duplicates |  |  |  |  |  |
|  | Ammonia | 43 | 4 | 9% | MISS |
|  | DO | 49 | 11 | 22% |  |
|  | E.coli | 12 | 2 | 17% |  |
|  | Nitrate | 20 | 2 | 10% |  |
|  | pH | 49 | 11 | 22% |  |
|  | Sp Conductance | 49 | 11 | 22% |  |
|  | TP | 48 | 5 | 10% |  |
|  | Water Temp | 49 | 11 | 22% |  |
| Lab Duplicates |  |  |  |  |  |
|  | Ammonia | 43 | 10 | 23% |  |
|  | E.coli | 12 | 4 | 33% |  |
|  | Nitrate | 20 | 10 | 50% |  |
|  | pH | 49 | 17 | 35% |  |
|  | Sp Conductance | 49 | 17 | 35% |  |
|  | TP | 48 | 16 | 33% |  |
|  | Water Temp | 49 | 17 | 35% |  |
| Field Blanks |  |  |  |  |  |
|  | Ammonia | 43 | 7 | 16% |  |
|  | E.coli | 12 | 4 | 33% |  |
|  | Nitrate | 20 | 7 | 35% |  |
|  | TP | 48 | 11 | 23% |  |
| Lab Blanks |  |  |  |  |  |
|  | Ammonia | 43 | 7 | 16% |  |
|  | E.coli | 12 | 0 | 0% | MISS |
|  | Nitrate | 20 | 5 | 25% |  |
|  | Sp Conductance | 49 | 21 | 43% |  |
|  | TP | 48 | 5 | 10% |  |
| Lab Spikes / Instrument Checks |  |  |  |  |  |
|  | Ammonia | 43 | 9 | 21% |  |
|  | Nitrate | 20 | 10 | 50% |  |
|  | pH | 49 | 20 | 41% |  |
|  | Sp Conductance | 49 | 21 | 43% |  |
|  | TP | 48 | 15 | 31% |  |
|  | Water Temp | 49 | 19 | 39% |  |

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| Notes: |
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### QC Accuracy Summary for 5/15/2022 to 9/11/2022

| Parameter | Field Duplicate | Lab Duplicate | Field Blank | Lab Blank | Spike/Check Accuracy |
| --- | --- | --- | --- | --- | --- |
| Ammonia | 75% | 100% | 100% | 86% | 100% |
| DO | 100% | - | - | - | - |
| E.coli | 100% | 100% | 100% | - | - |
| Nitrate | 100% | 100% | 100% | 100% | 90% |
| pH | 100% | 94% | - | - | 95% |
| Sp Conductance | 100% | 100% | - | 95% | 100% |
| TP | 80% | 100% | 91% | 100% | 100% |
| Water Temp | 100% | 100% | - | - | 95% |

| Type | Parameter | Number of QC Checks | Number of Misses | % Acceptance |
| --- | --- | --- | --- | --- |
| Field Duplicates |  |  |  |  |
|  | Ammonia | 4 | 1 | 75 % |
|  | DO | 11 | 0 | 100 % |
|  | E.coli | 2 | 0 | 100 % |
|  | Nitrate | 2 | 0 | 100 % |
|  | pH | 11 | 0 | 100 % |
|  | Sp Conductance | 11 | 0 | 100 % |
|  | TP | 5 | 1 | 80 % |
|  | Water Temp | 11 | 0 | 100 % |
| Lab Duplicates |  |  |  |  |
|  | Ammonia | 10 | 0 | 100 % |
|  | E.coli | 4 | 0 | 100 % |
|  | Nitrate | 10 | 0 | 100 % |
|  | pH | 17 | 1 | 94 % |
|  | Sp Conductance | 17 | 0 | 100 % |
|  | TP | 16 | 0 | 100 % |
|  | Water Temp | 17 | 0 | 100 % |
| Field Blanks |  |  |  |  |
|  | Ammonia | 7 | 0 | 100 % |
|  | E.coli | 4 | 0 | 100 % |
|  | Nitrate | 7 | 0 | 100 % |
|  | TP | 11 | 1 | 91 % |
| Lab Blanks |  |  |  |  |
|  | Ammonia | 7 | 1 | 86 % |
|  | E.coli | 0 | - | - |
|  | Nitrate | 5 | 0 | 100 % |
|  | Sp Conductance | 21 | 1 | 95 % |
|  | TP | 5 | 0 | 100 % |
| Lab Spikes / Instrument Checks |  |  |  |  |
|  | Ammonia | 9 | 0 | 100 % |
|  | Nitrate | 10 | 1 | 90 % |
|  | pH | 20 | 1 | 95 % |
|  | Sp Conductance | 21 | 0 | 100 % |
|  | TP | 15 | 0 | 100 % |
|  | Water Temp | 19 | 1 | 95 % |

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| Notes: |
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### Data Completeness for 5/15/2022 to 9/11/2022

| Parameter | Number of Data Records | Number of Qualified Records | % Completeness | Hit/ Miss | Number of Censored Records | Notes |
| --- | --- | --- | --- | --- | --- | --- |
| Ammonia | 43 | 0 | 100% |  |  |  |
| DO | 49 | 0 | 100% |  |  |  |
| E.coli | 12 | 0 | 100% |  |  |  |
| Nitrate | 20 | 0 | 100% |  |  |  |
| pH | 49 | 0 | 100% |  |  |  |
| Sp Conductance | 49 | 0 | 100% |  |  |  |
| TP | 48 | 5 | 90% | MISS |  |  |
| Water Temp | 49 | 0 | 100% |  |  |  |

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| Notes: |
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### QC Raw Data for 5/15/2022 to 9/11/2022

#### Field Duplicates

| Parameter | Date | Site | Initial Result | Dup. Result | Diff./RPD | Hit/Miss |
| --- | --- | --- | --- | --- | --- | --- |
| Ammonia |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-312 | BDL | BDL | 0% RPD |  |
|  | 2022-05-15 | DAN-013 | BDL | BDL | 0% RPD |  |
|  | 2022-06-12 | ABT-301 | BDL | 0.2 mg/l | 67% RPD | MISS |
|  | 2022-09-11 | ABT-301 | BDL | BDL | 0% RPD |  |
| DO |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-026 | 7.58 mg/l | 7.6 mg/l | 0% RPD |  |
|  | 2022-05-15 | ELZ-004 | 5.81 mg/l | 5.94 mg/l | 2% RPD |  |
|  | 2022-05-15 | NSH-002 | 8.32 mg/l | 8.33 mg/l | 0% RPD |  |
|  | 2022-06-12 | ABT-062 | 8.56 mg/l | 8.56 mg/l | 0% RPD |  |
|  | 2022-06-12 | ABT-237 | 7.81 mg/l | 8.1 mg/l | 4% RPD |  |
|  | 2022-06-12 | HOP-011 | 7.8 mg/l | 7.79 mg/l | 0% RPD |  |
|  | 2022-07-17 | ABT-062 | 7.59 mg/l | 7.59 mg/l | 0% RPD |  |
|  | 2022-07-17 | ABT-237 | 5.92 mg/l | 5.92 mg/l | 0% RPD |  |
|  | 2022-08-14 | ABT-237 | 5.89 mg/l | 5.9 mg/l | 0% RPD |  |
|  | 2022-09-11 | ABT-026 | 7.7 mg/l | 7.7 mg/l | 0% RPD |  |
|  | 2022-09-11 | HOP-011 | 8.36 mg/l | 8.35 mg/l | 0% RPD |  |
| E.coli |  |  |  |  |  |  |
|  | 2022-07-18 | ABT-162 | 276 MPN/100ml | 276 MPN/100ml | 0% logRPD |  |
|  | 2022-08-15 | ABT-077 | 231 MPN/100ml | 276 MPN/100ml | 3% logRPD |  |
| Nitrate |  |  |  |  |  |  |
|  | 2022-06-12 | ABT-301 | 3.65 mg/l | 3.35 mg/l | 9% RPD |  |
|  | 2022-07-17 | ABT-077 | 0.72 mg/l | 0.73 mg/l | 1% RPD |  |
| pH |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-026 | 7.19 s.u. | 7.2 s.u. | 0.01 s.u. |  |
|  | 2022-05-15 | ELZ-004 | 6.95 s.u. | 7.08 s.u. | 0.13 s.u. |  |
|  | 2022-05-15 | NSH-002 | 7.23 s.u. | 7.25 s.u. | 0.02 s.u. |  |
|  | 2022-06-12 | ABT-062 | 7.26 s.u. | 7.26 s.u. | 0 s.u. |  |
|  | 2022-06-12 | ABT-237 | 7.1 s.u. | 7.11 s.u. | 0.01 s.u. |  |
|  | 2022-06-12 | HOP-011 | 6.86 s.u. | 6.82 s.u. | 0.04 s.u. |  |
|  | 2022-07-17 | ABT-062 | 8.02 s.u. | 8.01 s.u. | 0.01 s.u. |  |
|  | 2022-07-17 | ABT-237 | 7.28 s.u. | 7.28 s.u. | 0 s.u. |  |
|  | 2022-08-14 | ABT-237 | 7.28 s.u. | 7.28 s.u. | 0 s.u. |  |
|  | 2022-09-11 | ABT-026 | 7.13 s.u. | 7.14 s.u. | 0.01 s.u. |  |
|  | 2022-09-11 | HOP-011 | 6.92 s.u. | 6.84 s.u. | 0.08 s.u. |  |
| Sp Conductance |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-026 | 585 uS/cm | 586 uS/cm | 0% RPD |  |
|  | 2022-05-15 | ELZ-004 | 375 uS/cm | 375 uS/cm | 0% RPD |  |
|  | 2022-05-15 | NSH-002 | 524 uS/cm | 525 uS/cm | 0% RPD |  |
|  | 2022-06-12 | ABT-062 | 579 uS/cm | 579 uS/cm | 0% RPD |  |
|  | 2022-06-12 | ABT-237 | 740 uS/cm | 740 uS/cm | 0% RPD |  |
|  | 2022-06-12 | HOP-011 | 731 uS/cm | 731 uS/cm | 0% RPD |  |
|  | 2022-07-17 | ABT-062 | 831 uS/cm | 831 uS/cm | 0% RPD |  |
|  | 2022-07-17 | ABT-237 | 1222 uS/cm | 1221 uS/cm | 0% RPD |  |
|  | 2022-08-14 | ABT-237 | 1497 uS/cm | 1489 uS/cm | 1% RPD |  |
|  | 2022-09-11 | ABT-026 | 738 uS/cm | 675 uS/cm | 9% RPD |  |
|  | 2022-09-11 | HOP-011 | 865 uS/cm | 865 uS/cm | 0% RPD |  |
| TP |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-312 | 0.03 mg/l | 0.03 mg/l | 0 mg/l |  |
|  | 2022-05-15 | DAN-013 | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-06-12 | ABT-301 | 0.03 mg/l | 0.03 mg/l | 0 mg/l |  |
|  | 2022-07-17 | ABT-077 | 0.04 mg/l | 0.02 mg/l | 0.02 mg/l | MISS |
|  | 2022-09-11 | ABT-301 | 0.03 mg/l | 0.03 mg/l | 0 mg/l |  |
| Water Temp |  |  |  |  |  |  |
|  | 2022-05-15 | ABT-026 | 22.4 deg C | 22.4 deg C | 0 deg C |  |
|  | 2022-05-15 | ELZ-004 | 22.2 deg C | 22.2 deg C | 0 deg C |  |
|  | 2022-05-15 | NSH-002 | 23.3 deg C | 23.3 deg C | 0 deg C |  |
|  | 2022-06-12 | ABT-062 | 21.1 deg C | 21.1 deg C | 0 deg C |  |
|  | 2022-06-12 | ABT-237 | 18.7 deg C | 18.7 deg C | 0 deg C |  |
|  | 2022-06-12 | HOP-011 | 18.4 deg C | 18.4 deg C | 0 deg C |  |
|  | 2022-07-17 | ABT-062 | 25.6 deg C | 25.6 deg C | 0 deg C |  |
|  | 2022-07-17 | ABT-237 | 20.8 deg C | 20.8 deg C | 0 deg C |  |
|  | 2022-08-14 | ABT-237 | 18.8 deg C | 18.8 deg C | 0 deg C |  |
|  | 2022-09-11 | ABT-026 | 20.5 deg C | 20.5 deg C | 0 deg C |  |
|  | 2022-09-11 | HOP-011 | 19.3 deg C | 19.3 deg C | 0 deg C |  |

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| Notes: |
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#### Lab Duplicates

| Parameter | Date | Sample ID | Initial Result | Dup. Result | Diff./RPD | Hit/Miss |
| --- | --- | --- | --- | --- | --- | --- |
| Ammonia |  |  |  |  |  |  |
|  | 2022-05-15 |  | 0.21 mg/l | 0.21 mg/l | 0% RPD |  |
|  | 2022-05-15 |  | BDL | BDL | 0% RPD |  |
|  | 2022-06-12 |  | 0.1 mg/l | 0.1 mg/l | 0% RPD |  |
|  | 2022-06-12 |  | 0.19 mg/l | 0.19 mg/l | 0% RPD |  |
|  | 2022-07-17 |  | BDL | BDL | 0% RPD |  |
|  | 2022-07-17 |  | BDL | BDL | 0% RPD |  |
|  | 2022-08-14 |  | BDL | BDL | 0% RPD |  |
|  | 2022-08-14 |  | BDL | BDL | 0% RPD |  |
|  | 2022-09-11 |  | BDL | BDL | 0% RPD |  |
|  | 2022-09-11 |  | BDL | BDL | 0% RPD |  |
| E.coli |  |  |  |  |  |  |
|  | 2022-06-13 |  | 547.5 MPN/100ml | 579.4 MPN/100ml | 1% logRPD |  |
|  | 2022-07-18 |  | 88 MPN/100ml | 167 MPN/100ml | 13% logRPD |  |
|  | 2022-08-01 |  | 114.5 MPN/100ml | 160.7 MPN/100ml | 7% logRPD |  |
|  | 2022-08-29 |  | 42.8 MPN/100ml | 40.4 MPN/100ml | 2% logRPD |  |
| Nitrate |  |  |  |  |  |  |
|  | 2022-05-15 |  | 0.37 mg/l | 0.38 mg/l | 3% RPD |  |
|  | 2022-06-12 |  | 0.17 mg/l | 0.17 mg/l | 0% RPD |  |
|  | 2022-06-12 |  | 3.65 mg/l | 3.63 mg/l | 1% RPD |  |
|  | 2022-06-12 |  | BDL | BDL | 0% RPD |  |
|  | 2022-07-17 |  | 1.29 mg/l | 1.29 mg/l | 0% RPD |  |
|  | 2022-07-17 |  | BDL | BDL | 0% RPD |  |
|  | 2022-07-17 |  | BDL | BDL | 0% RPD |  |
|  | 2022-08-14 |  | 2.69 mg/l | 2.69 mg/l | 0% RPD |  |
|  | 2022-08-14 |  | 5.22 mg/l | 5.24 mg/l | 0% RPD |  |
|  | 2022-09-11 |  | 1.51 mg/l | 1.5 mg/l | 1% RPD |  |
| pH |  |  |  |  |  |  |
|  | 2022-05-15 |  | 7.11 s.u. | 7.09 s.u. | 0.02 s.u. |  |
|  | 2022-05-15 |  | 7.18 s.u. | 7.09 s.u. | 0.09 s.u. |  |
|  | 2022-05-15 |  | 7.19 s.u. | 7.09 s.u. | 0.1 s.u. |  |
|  | 2022-06-12 |  | 7.12 s.u. | 7.19 s.u. | 0.07 s.u. |  |
|  | 2022-06-12 |  | 7.13 s.u. | 7.19 s.u. | 0.06 s.u. |  |
|  | 2022-06-12 |  | 7.21 s.u. | 7.19 s.u. | 0.02 s.u. |  |
|  | 2022-06-12 |  | 7.27 s.u. | 7.19 s.u. | 0.08 s.u. |  |
|  | 2022-07-17 |  | 7.48 s.u. | 7.37 s.u. | 0.11 s.u. |  |
|  | 2022-07-17 |  | 7.54 s.u. | 7.37 s.u. | 0.17 s.u. |  |
|  | 2022-07-17 |  | 7.54 s.u. | 7.37 s.u. | 0.17 s.u. |  |
|  | 2022-07-17 |  | 7.54 s.u. | 7.37 s.u. | 0.17 s.u. |  |
|  | 2022-08-14 |  | 7.64 s.u. | 7.32 s.u. | 0.32 s.u. |  |
|  | 2022-08-14 |  | 7.65 s.u. | 7.32 s.u. | 0.33 s.u. |  |
|  | 2022-08-14 |  | 7.68 s.u. | 7.32 s.u. | 0.36 s.u. |  |
|  | 2022-09-11 |  | 7.07 s.u. | 6.74 s.u. | 0.33 s.u. |  |
|  | 2022-09-11 |  | 7.16 s.u. | 6.74 s.u. | 0.42 s.u. |  |
|  | 2022-09-11 |  | 7.34 s.u. | 6.74 s.u. | 0.6 s.u. | MISS |
| Sp Conductance |  |  |  |  |  |  |
|  | 2022-05-15 |  | 599 uS/cm | 609 uS/cm | 2% RPD |  |
|  | 2022-05-15 |  | 605 uS/cm | 609 uS/cm | 1% RPD |  |
|  | 2022-05-15 |  | 606 uS/cm | 609 uS/cm | 0% RPD |  |
|  | 2022-06-12 |  | 600 uS/cm | 608 uS/cm | 1% RPD |  |
|  | 2022-06-12 |  | 602 uS/cm | 608 uS/cm | 1% RPD |  |
|  | 2022-06-12 |  | 606 uS/cm | 608 uS/cm | 0% RPD |  |
|  | 2022-07-17 |  | 793 uS/cm | 802 uS/cm | 1% RPD |  |
|  | 2022-07-17 |  | 900 uS/cm | 802 uS/cm | 12% RPD |  |
|  | 2022-07-17 |  | 796 uS/cm | 802 uS/cm | 1% RPD |  |
|  | 2022-07-17 |  | 801 uS/cm | 802 uS/cm | 0% RPD |  |
|  | 2022-08-14 |  | 1062 uS/cm | 1066 uS/cm | 0% RPD |  |
|  | 2022-08-14 |  | 1062 uS/cm | 1066 uS/cm | 0% RPD |  |
|  | 2022-08-14 |  | 1063 uS/cm | 1066 uS/cm | 0% RPD |  |
|  | 2022-08-14 |  | 1065 uS/cm | 1066 uS/cm | 0% RPD |  |
|  | 2022-09-11 |  | 761 uS/cm | 766 uS/cm | 1% RPD |  |
|  | 2022-09-11 |  | 765 uS/cm | 766 uS/cm | 0% RPD |  |
|  | 2022-09-11 |  | 774 uS/cm | 766 uS/cm | 1% RPD |  |
| TP |  |  |  |  |  |  |
|  | 2022-05-15 |  | 0.01 mg/l | 0.01 mg/l | 0 mg/l |  |
|  | 2022-05-15 |  | 0.03 mg/l | 0.02 mg/l | 0.01 mg/l |  |
|  | 2022-05-15 |  | 0.06 mg/l | 0.06 mg/l | 0% RPD |  |
|  | 2022-06-12 |  | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-06-12 |  | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-06-12 |  | 0.06 mg/l | 0.06 mg/l | 0% RPD |  |
|  | 2022-06-12 |  | BDL | BDL | 0 mg/l |  |
|  | 2022-07-17 |  | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-07-17 |  | 0.05 mg/l | 0.05 mg/l | 0% RPD |  |
|  | 2022-07-17 |  | BDL | BDL | 0 mg/l |  |
|  | 2022-08-14 |  | 0.03 mg/l | 0.03 mg/l | 0 mg/l |  |
|  | 2022-08-14 |  | 0.05 mg/l | 0.05 mg/l | 0% RPD |  |
|  | 2022-08-14 |  | 0.09 mg/l | 0.09 mg/l | 0% RPD |  |
|  | 2022-09-11 |  | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-09-11 |  | 0.04 mg/l | 0.04 mg/l | 0 mg/l |  |
|  | 2022-09-11 |  | 0.05 mg/l | 0.05 mg/l | 0% RPD |  |
| Water Temp |  |  |  |  |  |  |
|  | 2022-05-15 |  | 21.7 deg C | 21.8 deg C | 0.1 deg C |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.8 deg C | 0 deg C |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.8 deg C | 0 deg C |  |
|  | 2022-06-12 |  | 20.2 deg C | 20.2 deg C | 0 deg C |  |
|  | 2022-06-12 |  | 20.2 deg C | 20.2 deg C | 0 deg C |  |
|  | 2022-06-12 |  | 20.3 deg C | 20.2 deg C | 0.1 deg C |  |
|  | 2022-06-12 |  | 20.3 deg C | 20.2 deg C | 0.1 deg C |  |
|  | 2022-07-17 |  | 23 deg C | 22.9 deg C | 0.1 deg C |  |
|  | 2022-07-17 |  | 23 deg C | 22.9 deg C | 0.1 deg C |  |
|  | 2022-07-17 |  | 23.1 deg C | 22.9 deg C | 0.2 deg C |  |
|  | 2022-08-14 |  | 20.8 deg C | 20.7 deg C | 0.1 deg C |  |
|  | 2022-08-14 |  | 20.8 deg C | 20.7 deg C | 0.1 deg C |  |
|  | 2022-08-14 |  | 20.9 deg C | 20.7 deg C | 0.2 deg C |  |
|  | 2022-08-14 |  | 20.9 deg C | 20.7 deg C | 0.2 deg C |  |
|  | 2022-09-11 |  | 20.6 deg C | 20.5 deg C | 0.1 deg C |  |
|  | 2022-09-11 |  | 20.7 deg C | 20.5 deg C | 0.2 deg C |  |
|  | 2022-09-11 |  | 20.7 deg C | 20.5 deg C | 0.2 deg C |  |

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| Notes: |
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#### Field Blanks

| Parameter | Date | Site | Result | Threshold | Hit/Miss |
| --- | --- | --- | --- | --- | --- |
| Ammonia |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.1 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.1 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.1 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.1 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.1 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.1 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.1 mg/l |  |
| E.coli |  |  |  |  |  |
|  | 2022-06-13 |  | BDL | 1 MPN/100ml |  |
|  | 2022-07-18 |  | BDL | 1 MPN/100ml |  |
|  | 2022-08-01 |  | BDL | 1 MPN/100ml |  |
|  | 2022-08-29 |  | BDL | 1 MPN/100ml |  |
| Nitrate |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.05 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.05 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.05 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.05 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.05 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.05 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.05 mg/l |  |
| TP |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.01 mg/l |  |
|  | 2022-05-15 |  | BDL | 0.01 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.01 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.01 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.01 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.01 mg/l |  |
|  | 2022-07-17 |  | 0.01 mg/l | 0.01 mg/l | MISS |
|  | 2022-08-14 |  | BDL | 0.01 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.01 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.01 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.01 mg/l |  |

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| Notes: |
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#### Lab Blanks

| Parameter | Date | Sample ID | Result | Threshold | Hit/Miss |
| --- | --- | --- | --- | --- | --- |
| Ammonia |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.1 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.1 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.1 mg/l |  |
|  | 2022-07-17 |  | 0.1 mg/l | 0.1 mg/l | MISS |
|  | 2022-08-14 |  | BDL | 0.1 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.1 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.1 mg/l |  |
| Nitrate |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.05 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.05 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.05 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.05 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.05 mg/l |  |
| Sp Conductance |  |  |  |  |  |
|  | 2022-05-15 |  | 7 uS/cm | 50 uS/cm |  |
|  | 2022-05-15 |  | 7.4 uS/cm | 50 uS/cm |  |
|  | 2022-05-15 |  | 7.7 uS/cm | 50 uS/cm |  |
|  | 2022-05-15 |  | 8.6 uS/cm | 50 uS/cm |  |
|  | 2022-06-12 |  | 8.9 uS/cm | 50 uS/cm |  |
|  | 2022-06-12 |  | 9 uS/cm | 50 uS/cm |  |
|  | 2022-06-12 |  | 10.1 uS/cm | 50 uS/cm |  |
|  | 2022-06-12 |  | 10.9 uS/cm | 50 uS/cm |  |
|  | 2022-06-12 |  | 13 uS/cm | 50 uS/cm |  |
|  | 2022-07-17 |  | 4 uS/cm | 50 uS/cm |  |
|  | 2022-07-17 |  | 4 uS/cm | 50 uS/cm |  |
|  | 2022-07-17 |  | 5.8 uS/cm | 50 uS/cm |  |
|  | 2022-07-17 |  | 6 uS/cm | 50 uS/cm |  |
|  | 2022-08-14 |  | 2.5 uS/cm | 50 uS/cm |  |
|  | 2022-08-14 |  | 3 uS/cm | 50 uS/cm |  |
|  | 2022-08-14 |  | 80 uS/cm | 50 uS/cm | MISS |
|  | 2022-08-14 |  | 3.9 uS/cm | 50 uS/cm |  |
|  | 2022-09-11 |  | 4 uS/cm | 50 uS/cm |  |
|  | 2022-09-11 |  | 4.1 uS/cm | 50 uS/cm |  |
|  | 2022-09-11 |  | 4.7 uS/cm | 50 uS/cm |  |
|  | 2022-09-11 |  | 5.9 uS/cm | 50 uS/cm |  |
| TP |  |  |  |  |  |
|  | 2022-05-15 |  | BDL | 0.01 mg/l |  |
|  | 2022-06-12 |  | BDL | 0.01 mg/l |  |
|  | 2022-07-17 |  | BDL | 0.01 mg/l |  |
|  | 2022-08-14 |  | BDL | 0.01 mg/l |  |
|  | 2022-09-11 |  | BDL | 0.01 mg/l |  |

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| Notes: |
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#### Lab Spikes / Instrument Checks

| Parameter | Date | Sample ID | Spike/Standard | Result | Diff./Accuracy | Hit/Miss |
| --- | --- | --- | --- | --- | --- | --- |
| Ammonia |  |  |  |  |  |  |
|  | 2022-05-15 |  | 100 % recovery | 86 % recovery | 86% |  |
|  | 2022-06-12 |  | 100 % recovery | 94 % recovery | 94% |  |
|  | 2022-06-12 |  | 100 % recovery | 106 % recovery | 106% |  |
|  | 2022-07-17 |  | 100 % recovery | 92 % recovery | 92% |  |
|  | 2022-07-17 |  | 100 % recovery | 108 % recovery | 108% |  |
|  | 2022-08-14 |  | 100 % recovery | 96 % recovery | 96% |  |
|  | 2022-08-14 |  | 100 % recovery | 102 % recovery | 102% |  |
|  | 2022-09-11 |  | 100 % recovery | 88 % recovery | 88% |  |
|  | 2022-09-11 |  | 100 % recovery | 89 % recovery | 89% |  |
| Nitrate |  |  |  |  |  |  |
|  | 2022-05-15 |  | 100 % recovery | 99 % recovery | 99% |  |
|  | 2022-06-12 |  | 100 % recovery | 95 % recovery | 95% |  |
|  | 2022-06-12 |  | 100 % recovery | 97 % recovery | 97% |  |
|  | 2022-06-12 |  | 100 % recovery | 105 % recovery | 105% |  |
|  | 2022-07-17 |  | 100 % recovery | 99 % recovery | 99% |  |
|  | 2022-07-17 |  | 100 % recovery | 101 % recovery | 101% |  |
|  | 2022-07-17 |  | 100 % recovery | 125 % recovery | 125% | MISS |
|  | 2022-08-14 |  | 100 % recovery | 103 % recovery | 103% |  |
|  | 2022-08-14 |  | 100 % recovery | 109 % recovery | 109% |  |
|  | 2022-09-11 |  | 100 % recovery | 101 % recovery | 101% |  |
| pH |  |  |  |  |  |  |
|  | 2022-05-15 |  | 7.02 s.u. | 7 s.u. | -0.02 s.u. |  |
|  | 2022-05-15 |  | 7.02 s.u. | 7.03 s.u. | +0.01 s.u. |  |
|  | 2022-05-15 |  | 7.02 s.u. | 7.09 s.u. | +0.07 s.u. |  |
|  | 2022-05-15 |  | 7.02 s.u. | 7.11 s.u. | +0.09 s.u. |  |
|  | 2022-06-12 |  | 7 s.u. | 7.01 s.u. | +0.01 s.u. |  |
|  | 2022-06-12 |  | 7 s.u. | 7.05 s.u. | +0.05 s.u. |  |
|  | 2022-06-12 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-06-12 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-06-12 |  | 7 s.u. | 7.07 s.u. | +0.07 s.u. |  |
|  | 2022-07-17 |  | 7 s.u. | 7.05 s.u. | +0.05 s.u. |  |
|  | 2022-07-17 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-07-17 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-07-17 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-07-17 |  | 7 s.u. | 7.4 s.u. | +0.4 s.u. | MISS |
|  | 2022-08-14 |  | 7 s.u. | 6.99 s.u. | -0.01 s.u. |  |
|  | 2022-08-14 |  | 7 s.u. | 7.07 s.u. | +0.07 s.u. |  |
|  | 2022-08-14 |  | 7 s.u. | 7.09 s.u. | +0.09 s.u. |  |
|  | 2022-09-11 |  | 7 s.u. | 7.01 s.u. | +0.01 s.u. |  |
|  | 2022-09-11 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
|  | 2022-09-11 |  | 7 s.u. | 7.06 s.u. | +0.06 s.u. |  |
| Sp Conductance |  |  |  |  |  |  |
|  | 2022-05-15 |  | 1000 uS/cm | 975 uS/cm | -25 uS/cm |  |
|  | 2022-05-15 |  | 1000 uS/cm | 977 uS/cm | -23 uS/cm |  |
|  | 2022-05-15 |  | 1000 uS/cm | 985 uS/cm | -15 uS/cm |  |
|  | 2022-05-15 |  | 1000 uS/cm | 991 uS/cm | -9 uS/cm |  |
|  | 2022-06-12 |  | 1000 uS/cm | 978 uS/cm | -22 uS/cm |  |
|  | 2022-06-12 |  | 1000 uS/cm | 979 uS/cm | -21 uS/cm |  |
|  | 2022-06-12 |  | 1000 uS/cm | 979 uS/cm | -21 uS/cm |  |
|  | 2022-06-12 |  | 1000 uS/cm | 983 uS/cm | -17 uS/cm |  |
|  | 2022-06-12 |  | 1000 uS/cm | 987 uS/cm | -13 uS/cm |  |
|  | 2022-07-17 |  | 1000 uS/cm | 984 uS/cm | -16 uS/cm |  |
|  | 2022-07-17 |  | 1000 uS/cm | 988 uS/cm | -12 uS/cm |  |
|  | 2022-07-17 |  | 1000 uS/cm | 997 uS/cm | -3 uS/cm |  |
|  | 2022-08-14 |  | 1000 uS/cm | 991 uS/cm | -9 uS/cm |  |
|  | 2022-08-14 |  | 1000 uS/cm | 991 uS/cm | -9 uS/cm |  |
|  | 2022-08-14 |  | 1000 uS/cm | 992 uS/cm | -8 uS/cm |  |
|  | 2022-08-14 |  | 1000 uS/cm | 992 uS/cm | -8 uS/cm |  |
|  | 2022-08-14 |  | 1000 uS/cm | 996 uS/cm | -4 uS/cm |  |
|  | 2022-09-11 |  | 1000 uS/cm | 986 uS/cm | -14 uS/cm |  |
|  | 2022-09-11 |  | 1000 uS/cm | 989 uS/cm | -11 uS/cm |  |
|  | 2022-09-11 |  | 1000 uS/cm | 990 uS/cm | -10 uS/cm |  |
|  | 2022-09-11 |  | 1000 uS/cm | 993 uS/cm | -7 uS/cm |  |
| TP |  |  |  |  |  |  |
|  | 2022-05-15 |  | 100 % recovery | 100 % recovery | 100% |  |
|  | 2022-05-15 |  | 100 % recovery | 101 % recovery | 101% |  |
|  | 2022-05-15 |  | 100 % recovery | 103 % recovery | 103% |  |
|  | 2022-06-12 |  | 100 % recovery | 100 % recovery | 100% |  |
|  | 2022-06-12 |  | 100 % recovery | 104 % recovery | 104% |  |
|  | 2022-06-12 |  | 100 % recovery | 104 % recovery | 104% |  |
|  | 2022-07-17 |  | 100 % recovery | 105 % recovery | 105% |  |
|  | 2022-07-17 |  | 100 % recovery | 105 % recovery | 105% |  |
|  | 2022-07-17 |  | 100 % recovery | 110 % recovery | 110% |  |
|  | 2022-08-14 |  | 100 % recovery | 99 % recovery | 99% |  |
|  | 2022-08-14 |  | 100 % recovery | 99 % recovery | 99% |  |
|  | 2022-08-14 |  | 100 % recovery | 101 % recovery | 101% |  |
|  | 2022-09-11 |  | 100 % recovery | 97 % recovery | 97% |  |
|  | 2022-09-11 |  | 100 % recovery | 99 % recovery | 99% |  |
|  | 2022-09-11 |  | 100 % recovery | 99 % recovery | 99% |  |
| Water Temp |  |  |  |  |  |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.8 deg C | +0 deg C |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.8 deg C | +0 deg C |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.9 deg C | +0.1 deg C |  |
|  | 2022-05-15 |  | 21.8 deg C | 21.9 deg C | +0.1 deg C |  |
|  | 2022-06-12 |  | 22.5 deg C | 22.6 deg C | +0.1 deg C |  |
|  | 2022-06-12 |  | 22.5 deg C | 22.6 deg C | +0.1 deg C |  |
|  | 2022-06-12 |  | 22.5 deg C | 22.7 deg C | +0.2 deg C |  |
|  | 2022-07-17 |  | 22.7 deg C | 22.6 deg C | -0.1 deg C |  |
|  | 2022-07-17 |  | 22.7 deg C | 22.7 deg C | +0 deg C |  |
|  | 2022-07-17 |  | 22.7 deg C | 22.7 deg C | +0 deg C |  |
|  | 2022-07-17 |  | 22.7 deg C | 25 deg C | +2.3 deg C | MISS |
|  | 2022-07-17 |  | 22.7 deg C | 22.9 deg C | +0.2 deg C |  |
|  | 2022-08-14 |  | 23.1 deg C | 23.1 deg C | +0 deg C |  |
|  | 2022-08-14 |  | 23.1 deg C | 23.4 deg C | +0.3 deg C |  |
|  | 2022-08-14 |  | 23.1 deg C | 23.4 deg C | +0.3 deg C |  |
|  | 2022-09-11 |  | 22.8 deg C | 22.8 deg C | +0 deg C |  |
|  | 2022-09-11 |  | 22.8 deg C | 22.8 deg C | +0 deg C |  |
|  | 2022-09-11 |  | 22.8 deg C | 22.9 deg C | +0.1 deg C |  |
|  | 2022-09-11 |  | 22.8 deg C | 23 deg C | +0.2 deg C |  |

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| Notes: |
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