



Barossa Infrastructure Ltd
ATTN: Simon Schutz
PO Box 665
TANUNDA
SA 5352 AUSTRALIA

25/11/2019

Dear Simon

Please find attached the Final Analytical Report for

Customer Service Request: 122622-2019-CSR-1
Account: 122622
Project: AWQC-141498 Barossa Infrastructure Ltd - Routine 19/20

This report has also been sent to: Neville Skipworth

AWQC Sample Receipt hours are Monday and Tuesday 8:30am to 8pm and Wednesday, Thursday and Friday 8:30am to 4:30pm.

Yours sincerely,

Brendan Walsh
Customer Service Officer
Brendan.Walsh@sawater.com.au
+61 8 7424 2889





FINAL REPORT: 264447

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This report supercedes the following issued reports: 263191

Report Information

Project Name AWQC-141498
Customer Barossa Infrastructure Ltd
CSR_ID 122622-2019-CSR-1

Analytical Results

Customer Sample Description BIL Connection Point
Sampling Point 84513-Barossa Infrastructure Ltd - Fromms Square Williamstown
Sampled Date 8/11/2019 8:13:15AM
Sample Received Date 8/11/2019 8:13:15AM
Sample Analysis Completed 19/11/2019 3:56:00PM
Sample ID 2019-008-3131
Status Endorsed
GuidelineType ECOLI
Collection Type AWQC Collected

Bacteriology **LOR** **Result** **Test Start Date**

Sample temperature at time of receipt NA

E.coli & Thermotolerant Coliforms T0081-01 WMZ-500(ADEL)

E.coli ^{^ 110961} 3 cfu/100mL
Thermotolerant Coliforms 4 cfu/100mL

Inorganic Chemistry - Metals **LOR** **Result** **Test Start Date**

Sample temperature at time of receipt NA

Arsenic - Total TIC-006 W09-023(ADEL) 11/11/2019

Arsenic - Total 0.0003 0.0011 mg/L

Boron - Soluble TIC-006 W09-023(ADEL) 11/11/2019

Boron - Soluble 0.020 0.029 mg/L

Cadmium - Total TIC-006 W09-023(ADEL) 11/11/2019

Cadmium - Total 0.0001 <0.0001 mg/L

Calcium TIC-004 W09-023(ADEL) 12/11/2019

Calcium 0.1 9.3 mg/L

Chromium - Total TIC-006 W09-023(ADEL) 11/11/2019

Chromium - Total 0.0001 0.0062 mg/L

Iron - Total TIC-006 W09-023(ADEL) 11/11/2019

Iron - Total 0.0005 5.077 mg/L

Lead - Total TIC-006 W09-023(ADEL) 11/11/2019

Lead - Total 0.0001 0.0020 mg/L

Magnesium TIC-004 W09-023(ADEL) 12/11/2019

Magnesium 0.05 7.85 mg/L

Manganese - Total TIC-006 W09-023(ADEL) 11/11/2019

Manganese - Total 0.0001 0.0944 mg/L

Potassium TIC-004 W09-023(ADEL) 12/11/2019

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| | | | |
|--|--------|-------------|------------|
| Potassium TIC-004 W09-023(ADEL) | | | 12/11/2019 |
| Potassium | 0.05 | 2.17 mg/L | |
| Sodium Adsorption Ratio W09-023(ADEL) | | | 08/11/2019 |
| Sodium Adsorption Ratio - Calculation | | 2.56 | |
| Sodium TIC-004 W09-023(ADEL) | | | 12/11/2019 |
| Sodium | 0.1 | 43.9 mg/L | |
| Sulphur TIC-004 W09-023(ADEL) | | | 12/11/2019 |
| Sulphate | 1.5 | 15.9 mg/L | |
| Sulphur | 0.5 | 5.3 mg/L | |
| Total Hardness as CaCO3 W09-023(ADEL) | | | 08/11/2019 |
| Total Hardness as CaCO3 | 2.0 | 56 mg/L | |
| Zinc - Total TIC-006 W09-023(ADEL) | | | 11/11/2019 |
| Zinc - Total | 0.0003 | 0.0285 mg/L | |

| Inorganic Chemistry - Nutrients | LOR | Result | Test Start Date |
|--|-------|------------|-----------------|
| <i>Sample temperature at time of receipt NA</i> | | | |
| Chloride T0104-02 W09-023(ADEL) | | | 11/11/2019 |
| Chloride | 4.0 | 88 mg/L | |
| Nitrate + Nitrite as N T0161-01 W09-023(ADEL) | | | 11/11/2019 |
| Nitrate + Nitrite as N | 0.003 | 0.255 mg/L | |
| Nitrogen - Total TMZ-M06 W09-023(ADEL) | | | 08/11/2019 |
| Nitrogen - Total | | 0.81 mg/L | |
| Phosphorus - Total T0109-01 W09-023(ADEL) | | | 14/11/2019 |
| Phosphorus - Total | 0.005 | 0.109 mg/L | |
| TKN as N T0112-01 W09-023(ADEL) | | | 14/11/2019 |
| TKN as Nitrogen | 0.05 | 0.55 mg/L | |

| Inorganic Chemistry - Physical | LOR | Result | Test Start Date |
|---|-----|-----------|-----------------|
| <i>Sample temperature at time of receipt NA</i> | | | |
| Conductivity & Total Dissolved Solids T0016-01 W09-023(ADEL) | | | 11/11/2019 |
| Conductivity | 2 | 380 µS/cm | |
| Total Dissolved Solids (by EC) | 1 | 210 mg/L | |



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| Status | Endorsed |
| GuidelineType | ECOLI |
| Collection Type | AWQC Collected |

| | | |
|---|-----------------|------------|
| pH T0010-01 W09-023(ADEL) | | 11/11/2019 |
| pH | 7.1 pH units | |
| Temperature at which pH is measured | 22.8 °C | |
| Turbidity T0018-01 W09-023(ADEL) | | 11/11/2019 |
| Turbidity | 0.1 49 NTU | |



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AWQC Signatories

Mira Banasiak - Supervisor Bacteriology

Dzung Bui - Supervisor Metals and Physical

David Evans - Technical Officer Chemistry

Aji John - Technical Officer Chemistry



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Guidelines

| ECOLI | Ecoli | Minimum Value | Maximum Value | Units |
|--|----------------------------------|---------------|---------------|-----------|
| Guideline Version:2 | | | | |
| Health1 | | | | |
| 110960, 110961, 110963, 110964, 120464, 120465, 120466, 120468, 120469, 122450 | E.coli | - | 0 | cfu/100mL |
| 122436, 122437 | E.coli/F Coliforms - Presumptive | - | 0 | cfu/100mL |
| Primary Contact | | | | |
| 110965, 110967, 110968, 110970, 110972, 120470, 120471, 120472, 120475, 120476 | E.coli | - | 150 | MPN/100mL |
| 110969, 110971, 110973, 110974, 120473, 120474 | Faecal coliforms | - | 150 | cfu/100mL |

Analytical Method

| Analytical Method Code | Description | Reference Method |
|------------------------|--|------------------|
| T0010-01 | Determination of pH | AP4500HB |
| T0016-01 | Determination of Conductivity - Corrected to 25C | AP2510B |
| T0018-01 | Turbidity - Nephelometric Measurement | APAWWA-WEF |
| T0081-01 | E. coli - Membrane filtration | USEPA1604_1H |
| T0104-02 | Chloride - Discrete Analyser | AP4500CLE |
| T0109-01 | Phosphorus - total by discrete analyser | AP4500PF |
| T0112-01 | Nitrogen- Total Kjeldahl by discrete analyser | AP4500NORGA |
| T0161-01 | Nitrate + Nitrate (NOx) - Automated Flow Colorimetry | AP4500NO3I |
| TIC-004 | Determination of Metals - ICP Spectrometry by ICP2 | AP3120 |
| TIC-006 | Elemental Analysis By ICP- MS | EPA200.8 |
| TMZ-M06 | Derived Results and Data Checks | AP4500NORGA |
| W-052 | Preparation of Samples for Metal Analysis | AP3030AD |

Sampling Method

| Sampling Method Code | Description |
|----------------------|--|
| W09-023 | Sampling Method for Chemical Analyses |
| WMZ-500 | Sampling Method for Microbiological Analyses |

When samples are taken by customers, samples are analysed as received.



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Laboratory Information

| Laboratory | NATA accreditation ID |
|---------------------------------|-----------------------|
| Inorganic Chemistry - Physical | 1115 |
| Inorganic Chemistry - Nutrients | 1115 |
| Bacteriology | 1115 |
| Inorganic Chemistry - Metals | 1115 |



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Notes

1. The last figure of the result value is a significant figure.
2. # determination of the component is not covered by NATA Accreditation.
3. ^ indicates result is out of specification according to the reference guideline. Refer to report footer.
4. * indicates an incident has been recorded against the sample. Refer to report footer.
5. & Indicates the results have changed since the last issued report.
6. The Limit of Reporting (LOR) is the lowest concentration of analyte which is reported at the AWQC and is based on the LOQ rounded up to a more readily used value. The Limit of Quantitation (LOQ) is the lowest concentration of analyte for which quantitative results may be obtained within a specified degree of confidence.
7. Where collection type is AWQC Collect, NATA has confirmed that due to a robust system in place for maintaining the temperature integrity for samples collected by AWQC's Field Laboratory Services, the recording of temperature when samples arrive at the AWQC is out of scope.
8. Where applicable the [Measurement of Uncertainty](https://www.awqc.com.au/our-services/analytical-services/measurement-uncertainty) is available at <https://www.awqc.com.au/our-services/analytical-services/measurement-uncertainty>.
9. If pH has been tested then the pH will be outside of its holding time unless measured in the field.
10. (ADEL) indicates analysed in Adelaide, (MELB) indicates analysed in Melbourne.