

ALGAL REPORT

| | |
|----------------------------|---|
| CLIENT : | Australian Laboratory Services Pty Ltd SA |
| LABORATORY NO./BATCH NO. : | 7684093 22-64966 |
| LOCALITY : | EM2216764-001 |
| SITE : | Murray Mouth |
| SAMPLE : | Surface |
| DATE SAMPLED : | 30/08/2022 |
| DATE ANALYSED : | 8/09/2022 |
| SAMPLED BY : | Sample analysed as received |

COMMENTS: + A diverse algal community was observed. Current combined levels are insufficient to influence water quality.

| | | | | | | | |
|---------------------------|--------|--|--------|--------|-----------------------------|------------------------------------|-------------------------|
| Sedgewick-Rafter Vol.(ml) | 1.0284 | Toxicogenic (T) or Potentially toxic (P) | | | Total Cell Count (cells/mL) | Individual Algal Unit Volume (um3) | Total Biovolume (mm3/L) |
| Concentration | 1 : 1 | * | - 200x | - 100x | | | |
| Magnification | | | 20 | 500 | | | |
| Fields | | | | | | | |

BACILLARIOPHYCEAE

| | | | | | | |
|----------------------------------|--|----|---|------|------|---------|
| <i>Aulacoseira</i> | | 28 | 0 | 1361 | 2860 | 3.89343 |
| <i>Fragilariaceae</i> | | 1 | 0 | 49 | 500 | 0.02431 |
| <i>Nitzschia</i> | | 1 | 0 | 49 | 400 | 0.01945 |
| <i>Pennales</i> | | 0 | 1 | 2 | 300 | 0.00058 |
| <i>Pennales (small <20um)</i> | | 4 | 0 | 194 | 251 | 0.04881 |

CHLOROPHYCEAE

| | | | | | | |
|----------------------------------|--|----|----|------|-----|---------|
| <i>Botryococcus</i> | | 0 | 40 | 78 | 98 | 0.00762 |
| <i>Chlamydomonads</i> | | 1 | 0 | 49 | 250 | 0.01215 |
| <i>Chlorococcoids (<10um)</i> | | 4 | 0 | 194 | 60 | 0.01167 |
| <i>Crucigenia</i> | | 16 | 0 | 778 | 30 | 0.02334 |
| <i>Monoraphidium (small)</i> | | 22 | 0 | 1070 | 16 | 0.01711 |
| <i>Monoraphidium (large)</i> | | 2 | 0 | 97 | 400 | 0.03890 |
| <i>Oocystis (small)</i> | | 6 | 0 | 292 | 100 | 0.02917 |
| <i>Pediastrum</i> | | 4 | 0 | 194 | 60 | 0.01167 |
| <i>Planctonema</i> | | 30 | 0 | 1459 | 800 | 1.16686 |
| <i>Scenedesmus</i> | | 14 | 0 | 681 | 250 | 0.17017 |
| <i>Tetrastrum</i> | | 12 | 0 | 583 | 40 | 0.02334 |

CHRYSTOPHYCEAE

| | | | | | | |
|---------------------------|--|---|---|----|-----|---------|
| <i>Other Chrysophytes</i> | | 1 | 0 | 49 | 200 | 0.00972 |
|---------------------------|--|---|---|----|-----|---------|

CRYPTOPHYCEAE

| | | | | | | |
|---------------------|--|---|---|-----|-----|---------|
| <i>Cryptomonads</i> | | 9 | 0 | 438 | 320 | 0.14002 |
|---------------------|--|---|---|-----|-----|---------|

CYANOPHYCEAE

| | | | | | | |
|-----------------------|--|-----|----|------|------|---------|
| <i>Leptolyngbya</i> | | 0 | 18 | 35 | 2.36 | 0.00008 |
| <i>Limnolyngbya</i> | | 112 | 0 | 5445 | 4.9 | 0.02668 |
| <i>Planktolyngbya</i> | | 196 | 0 | 9529 | 3.8 | 0.03621 |

ANALYST: **Karen Simonsen (signatory)**
Biologist

REVIEWED: **Lauren Minett (signatory)**
Biologist

DATE: **08/09/2022**

METHOD NO.: MB010/MW024VCA

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COMMENTS: + A diverse algal community was observed. Current combined levels are insufficient to influence water quality.

| Sedgewick-Rafter Vol.(ml) Concentration Magnification Fields | 1.0284 1 : 1 | Toxigenic (T) or Potentially toxic (P) * | - 200x 20 | - 100x 500 | Total Cell Count (cells/mL) | Individual Algal Unit Volume (um ³) | Total Biovolume (mm ³ /L) |
|---|-----------------|--|--------------|---------------|-----------------------------------|--|--|
| <i>Romeria</i> | | | 8 | 0 | 389 | 31 | 0.01206 |
| <i>Synechococcales</i> small (iauv <20) | | | 14 | 0 | 681 | 5.25 | 0.00357 |
| DINOPHYCEAE | | | | | | | |
| <i>Gymnodiniales</i> (small) | | | 1 | 0 | 49 | 500 | 0.02431 |
| TOTAL BGA | | | | | 16079 | | 0.07861 |
| TOTAL TOXIGENIC BGA | | | | | 0 | | 0.00000 |
| TOTAL POTENTIALLY TOXIC BGA | | | | | 0 | | 0.00000 |
| TOTAL ALGAE | | | | | 23745 | | 5.75124 |

+ The comments are discretionary and are for the purpose of helping to understand WQ implications. The comments are not accredited by NATA.

The biovolume values reported are those derived from documented information, including scientific literature. These are average values and not those measured on individual samples.

A Certificate of analysis will follow, linked by the above batch number. Independent algal reports are forwarded to clients expeditiously to facilitate operational decision making.

* P's and T's denote those cyanobacteria/blue-green algae (BGA) associated with toxin production in Australian waters. Overseas studies have shown other cyanobacteria to produce toxins. All contain lipopolysaccharides (LPS) in their cell wall and many have been found to produce β -N-methylamino-L-alanine (BMAA) and its analogues. Therefore all cyanobacteria could be considered to pose a level of risk.