

## CERTIFICATE OF ANALYSIS

<b>Work Order</b> : <b>WN1806770</b> <b>Client</b> : <b>OBERON COUNCIL</b> <b>Contact</b> : COUNCIL <b>Address</b> : 137-139 OBERON STREET OBERON NSW, AUSTRALIA 2787  <b>Telephone</b> : +61 02 6393 5000 <b>Project</b> : OBERON WASTEWATER <b>Order number</b> : 1613 <b>C-O-C number</b> : ---- <b>Sampler</b> : Richard Robinson <b>Site</b> : ---- <b>Quote number</b> : WN Blanket Quote <b>No. of samples received</b> : 4 <b>No. of samples analysed</b> : 4	<b>Page</b> : 1 of 3 <b>Laboratory</b> : ALS Water - Newcastle <b>Contact</b> : Andrea Swan <b>Address</b> : 5/585 Maitland Road Newcastle West NSW Australia 2304  <b>Telephone</b> : +61 2 4014 2500 <b>Date Samples Received</b> : 13-Nov-2018 09:00 <b>Date Analysis Commenced</b> : 13-Nov-2018 <b>Issue Date</b> : 20-Nov-2018 15:36
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

**Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.**

### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Gregory Towers	Technical Officer	Chemistry, Newcastle West, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, NSW
Suzanne Meldrum	Technical Officer	Microbiology, Newcastle West, NSW



## General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.  
LOR = Limit of reporting  
^ = This result is computed from individual analyte detections at or above the level of reporting  
ø = ALS is not NATA accredited for these tests.  
~ = Indicates an estimated value.

- Sample-004. Thermotolerant coliform and E. coli results are estimated due to the high number of non-target colonies present. Result may be underestimated.



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	ExPond Works Discharge EMP1	Up-Stream EMP3	Down-Stream EMP4	ExPond Works Discharge EMP1	----
Client sampling date / time				12-Nov-2018 10:30	12-Nov-2018 10:45	12-Nov-2018 11:00	12-Nov-2018 13:00	----	----
Compound	CAS Number	LOR	Unit	WN1806770-001	WN1806770-002	WN1806770-003	WN1806770-004	-----	----
				Result	Result	Result	Result	----	----
<b>EA005: pH</b>									
pH Value	----	0.01	pH Unit	8.74	7.03	7.11	----	----	----
<b>EA025: Total Suspended Solids dried at 104 ± 2°C</b>									
Suspended Solids (SS)	----	1	mg/L	19	----	----	----	----	----
<b>EK055A: Ammonia as N</b>									
Ammonia as N	7664-41-7	0.05	mg/L	0.76	----	----	----	----	----
<b>EK059A: Nitrite and Nitrate as N (NOx)</b>									
Nitrite + Nitrate as N	----	0.05	mg/L	0.53	0.14	0.33	----	----	----
<b>EK061A: Total Kjeldahl Nitrogen as N</b>									
Total Kjeldahl Nitrogen as N	----	0.2	mg/L	2.2	0.5	0.5	----	----	----
<b>EK062A: Total Nitrogen as N</b>									
Total Nitrogen as N	----	0.1	mg/L	2.7	0.6	0.9	----	----	----
<b>EK067A: Total Phosphorus as P</b>									
Total Phosphorus as P	----	0.05	mg/L	0.90	<0.05	0.09	----	----	----
<b>EP008.WN: Chlorophyll a and Pheophytin a</b>									
Chlorophyll a	----	1.0	µg/L	52.3	----	----	----	----	----
<b>EP021: Total Oil and Grease</b>									
Total Oil and Grease	----	2	mg/L	<2	----	----	----	----	----
<b>EP030.WN: Biochemical Oxygen Demand (BOD)</b>									
Biochemical Oxygen Demand	----	2	mg/L	8	----	----	----	----	----
<b>MW006.WN: Thermotolerant Coliforms &amp; E.coli (MF)</b>									
Faecal Coliforms	----	1	CFU/100mL	----	----	----	----	~9	----