

## CERTIFICATE OF ANALYSIS

**Work Order** : **EW2105018**  
**Client** : **Ingenia Holidays Merry Beach**  
**Contact** : A Norris  
**Address** : Merry Beach Road,  
 Kioloa 2539  
**Telephone** : ----  
**Project** : Merry Beach Monitoring November 2021  
**Order number** : P1806838  
**C-O-C number** : ----  
**Sampler** : Client - Peter Young  
**Site** : Merry Beach  
**Quote number** : ----  
**No. of samples received** : 6  
**No. of samples analysed** : 6

**Page** : 1 of 5  
**Laboratory** : Environmental Division NSW South Coast  
**Contact** : Glenn Davies  
**Address** : 1/19 Ralph Black Dr, North Wollongong 2500 NSW Australia  
**Telephone** : +61 2 4225 3125  
**Date Samples Received** : 24-Nov-2021 16:02  
**Date Analysis Commenced** : 25-Nov-2021  
**Issue Date** : 01-Dec-2021 16:48



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. 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>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Clare Kennedy	Analyst	Inorganics, Fyshwick, ACT
Sarah Griffiths	Microbiologist	Sydney Microbiology, Smithfield, NSW



## General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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  
∅ = ALS is not NATA accredited for these tests.  
~ = Indicates an estimated value.

- **Analytical work for this work order will be conducted at ALS Sydney.**
- MF = membrane filtration
- CFU = colony forming unit
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- MW023 is ALS's internal code and is equivalent to AS4276.9.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	884/Eff1	884/Eff2	884/SW1	884/SW2	884/SW3
Sampling date / time				24-Nov-2021 00:00					
Compound	CAS Number	LOR	Unit	EW2105018-001	EW2105018-002	EW2105018-003	EW2105018-004	EW2105018-005	
				Result	Result	Result	Result	Result	
<b>EA005P: pH by PC Titrator</b>									
pH Value	----	0.01	pH Unit	7.87	7.84	7.08	7.61	7.80	
<b>EA010P: Conductivity by PC Titrator</b>									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	981	1690	2390	
<b>EA025: Suspended Solids</b>									
Suspended Solids (SS)	----	5	mg/L	----	7	----	----	----	
<b>EA025: Total Suspended Solids dried at 104 ± 2°C</b>									
Suspended Solids (SS)	----	5	mg/L	8	----	----	----	----	
<b>EK055G: Ammonia as N by Discrete Analyser</b>									
Ammonia as N	7664-41-7	0.01	mg/L	0.24	----	<0.01	0.19	0.18	
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>									
Nitrite + Nitrate as N	----	0.01	mg/L	27.7	----	<0.01	0.22	0.25	
<b>EK061G: Total Kjeldahl Nitrogen By Discrete Analyser</b>									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	4.7	----	0.7	0.6	0.9	
<b>EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser</b>									
^ Total Nitrogen as N	----	0.1	mg/L	32.4	----	----	----	----	
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>									
Total Phosphorus as P	----	0.01	mg/L	4.97	----	0.02	0.06	0.32	
<b>EP020: Oil and Grease (O&amp;G)</b>									
Oil and Grease	----	1	mg/L	<1	----	----	----	----	
<b>EP030: Biochemical Oxygen Demand (BOD)</b>									
Biochemical Oxygen Demand	----	2	mg/L	2	----	<2	2	2	
<b>MW006: Faecal Coliforms &amp; E.coli by MF</b>									
Faecal Coliforms	----	1	CFU/100mL	780	----	350	740	160	
<i>Escherichia coli</i>	----	1	CFU/100mL	----	<1	----	----	----	
<b>MW023: Enterococci by Membrane Filtration</b>									
Enterococci	----	1	CFU/100mL	----	----	56	320	26	



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Influent	----	----	----	----
Sampling date / time			24-Nov-2021 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	EW2105018-006	-----	-----	-----	-----
				Result	----	----	----	----
<b>EA005P: pH by PC Titrator</b>								
pH Value	----	0.01	pH Unit	8.03	----	----	----	----
<b>EA025: Total Suspended Solids dried at 104 ± 2°C</b>								
Suspended Solids (SS)	----	5	mg/L	2550	----	----	----	----
<b>EK055G: Ammonia as N by Discrete Analyser</b>								
Ammonia as N	7664-41-7	0.01	mg/L	18.7	----	----	----	----
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	----	----	----	----
<b>EK061G: Total Kjeldahl Nitrogen By Discrete Analyser</b>								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	157	----	----	----	----
<b>EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser</b>								
^ Total Nitrogen as N	----	0.1	mg/L	157	----	----	----	----
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>								
Total Phosphorus as P	----	0.01	mg/L	90.2	----	----	----	----
<b>EP020: Oil and Grease (O&amp;G)</b>								
Oil and Grease	----	1	mg/L	<1	----	----	----	----
<b>EP030: Biochemical Oxygen Demand (BOD)</b>								
Biochemical Oxygen Demand	----	2	mg/L	6	----	----	----	----
<b>MW006: Faecal Coliforms &amp; E.coli by MF</b>								
Faecal Coliforms	----	1	CFU/100mL	500000	----	----	----	----
<i>Escherichia coli</i>	----	1	CFU/100mL	500000	----	----	----	----



### ***Inter-Laboratory Testing***

Analysis conducted by ALS Canberra, NATA accreditation no. 992.

(WATER) EP020: Oil and Grease (O&G)

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EA005P: pH by PC Titrator

(WATER) EP030: Biochemical Oxygen Demand (BOD)

(WATER) EK055G: Ammonia as N by Discrete Analyser

(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

(WATER) EK062G: Total Nitrogen as N (TKN + NO<sub>x</sub>) by Discrete Analyser

(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser

(WATER) EK059G: Nitrite plus Nitrate as N (NO<sub>x</sub>) by Discrete Analyser

(WATER) EA025: Total Suspended Solids dried at 104 ± 2°C

(WATER) MW006: Faecal Coliforms & E.coli by MF

(WATER) EA025: Suspended Solids

(WATER) EA010P: Conductivity by PC Titrator

(WATER) MW023: Enterococci by Membrane Filtration