

CERTIFICATE OF ANALYSIS

Work Order : **EW1902735**
Client : **MERRY BEACH CARAVAN PARK**
Contact : David Jansen
Address : Merry Beach Rd
 Kioloa NSW 2539

Telephone : ----
Project : Merry Beach Monitoring
Order number : P0501061
C-O-C number : ----
Sampler : ----
Site : Merry Beach
Quote number : WO/010/16
No. of samples received : 9
No. of samples analysed : 9

Page : 1 of 4
Laboratory : Environmental Division NSW South Coast
Contact : Glenn Davies
Address : 1/19 Ralph Black Dr, North Wollongong 2500
 4/13 Geary Pl, North Nowra 2541
 Australia NSW Australia

Telephone : +61 2 4225 3125
Date Samples Received : 02-Jul-2019 15:54
Date Analysis Commenced : 03-Jul-2019
Issue Date : 18-Jul-2019 11:13



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

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>
Alexis Bell	Environmental Service Representative	Administration - Wollongong, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Vyoma Tailor	Microbiologist	Sydney Microbiology, Smithfield, 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.

- Oil and Grease analysis was conducted by ALS Canberra under NATA accreditation number 992.
- 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.
- According to ALS work instruction for membrane filtration, the suggested volume for filtration of non treated / non-drinking water starts from 10mL or 50mL if the sample is turbid. A result of <10 or <2cfu/100mL is reported when there is no target organism growth from a volume of 10 or 50mL respectively.
- MW023 is ALS's internal code and is equivalent to AS4276.9.
- MW006 is ALS's internal code and is equivalent to AS4276.7.
- O&G (W-TOG_LL) is conducted by ALS Canberra NATA accreditation no. 992, site no. 1524.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			884/Eff1	884/Eff2	884/GW1	884/GW2	884/GW3
Client sampling date / time		27-Jun-2019 00:00			27-Jun-2019 00:00		27-Jun-2019 00:00		27-Jun-2019 00:00
Compound	CAS Number	LOR	Unit	EW1902735-001	EW1902735-002	EW1902735-003	EW1902735-004	EW1902735-005	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.83	7.79	3.55	3.75	4.09	
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	6140	3480	2290	
EA025: Suspended Solids									
Suspended Solids (SS)	----	5	mg/L	<5	<5	----	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.07	----	0.26	0.16	0.15	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	4.26	----	<0.01	<0.01	<0.01	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.6	----	0.6	0.7	3.4	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	5.9	----	----	----	----	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	4.42	----	0.02	0.08	0.32	
EP030: Biochemical Oxygen Demand (BOD)									
Biochemical Oxygen Demand	----	2	mg/L	<2	----	<2	<2	<2	
MW006: Faecal Coliforms & E.coli by MF									
Faecal Coliforms	----	1	CFU/100mL	4000	----	<1	<2	~3	
<i>Escherichia coli</i>	----	1	CFU/100mL	----	2000	----	----	----	
MW023: Enterococci by Membrane Filtration									
Enterococci	----	1	CFU/100mL	----	----	<1	<2	<2	
Subcontracted Analysis									
Oil and Grease	----	1	mg/L	<1	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			884/GW4	884/GW5	884/GW6	Influent	----
		Client sampling date / time			27-Jun-2019 00:00	27-Jun-2019 00:00	27-Jun-2019 00:00	27-Jun-2019 00:00	----
Compound	CAS Number	LOR	Unit	EW1902735-006	EW1902735-007	EW1902735-008	EW1902735-009	-----	
				Result	Result	Result	Result	----	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.40	6.78	6.80	7.48	----	
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm	1880	978	1670	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.04	<0.01	2.35	1.48	----	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	6.45	0.04	<0.01	<0.01	----	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	4.1	0.1	3.2	342	----	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	----	----	----	342	----	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	2.05	0.03	0.03	168	----	
EP030: Biochemical Oxygen Demand (BOD)									
Biochemical Oxygen Demand	----	2	mg/L	<2	<2	3	50	----	
MW006: Faecal Coliforms & E.coli by MF									
Faecal Coliforms	----	1	CFU/100mL	20	<2	<2	1100000	----	
<i>Escherichia coli</i>	----	1	CFU/100mL	----	----	----	1100000	----	
MW023: Enterococci by Membrane Filtration									
Enterococci	----	1	CFU/100mL	<2	<2	~2	----	----	
Subcontracted Analysis									
Oil and Grease	----	1	mg/L	----	----	----	<1	----	