

CERTIFICATE OF ANALYSIS

Work Order	: CA1805430	Page	: 1 of 4
Client	: Southern Meats	Laboratory	: ALS Water Resources Group
Contact	: Mr Scott Newton	Contact	: Client Services
Address	: Mazamet Road Goulburn NSW 2580	Address	: 16B Lithgow Street Fyshwick ACT Australia 2609
Telephone	: 02 4824 0000	Telephone	: +61 2 6202 5404
Project	: Monthly Wastewater	Date Samples Received	: 06-Sep-2018 13:00
Order number	: ----	Date Analysis Commenced	: 07-Sep-2018
C-O-C number	: ----	Issue Date	: 25-Sep-2018 14:33
Sampler	: ----		
Site	: ----		
Quote number	: ----		
No. of samples received	: 8		
No. of samples analysed	: 8		



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>
Amanda Gonzalez	Laboratory Technician	Inorganics, Fyshwick, ACT
Clare Kennedy	Analyst	Inorganics, Fyshwick, ACT
Daniel Wellner	Laboratory Technician	Inorganics, Fyshwick, ACT
Geetha Ramasundara	Chemistry Teamleader	Inorganics, Fyshwick, ACT
Kai Squires	Laboratory Manager	Inorganics, Fyshwick, ACT
Titus Vimalasiri	Metals Teamleader	Inorganics, Fyshwick, ACT



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.

- For samples collected by ALS WRG, sampling was carried out in accordance with Procedure EN67
- Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Client sample ID

				STHMEATS1 Ex Daf	STHMEATS2 Circular Anaerobic Lagoon	STHMEATS3 Aerated Lagoon	STHMEATS4 Settling Pond 2	STHMEATS5 Storage Dam 1
Client sampling date / time				05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00
Compound	CAS Number	LOR	Unit	CA1805430-001 Result	CA1805430-002 Result	CA1805430-003 Result	CA1805430-004 Result	CA1805430-005 Result
EA006: Sodium Adsorption Ratio (SAR)								
∅ Sodium Adsorption Ratio	----	0.01	-	12.4	5.93	5.30	5.33	5.65
EK059: Nitrite plus Nitrate as N (NOx)								
Nitrite + Nitrate as N	----	0.05	mg/L	0.05	<0.05	<0.05	0.07	3.21
EK062: Total Nitrogen as N (TKN + NOx)								
Total Nitrogen as N	----	0.05	mg/L	355	229	208	212	148
EK067: Total Phosphorus as P								
Total Phosphorus as P	----	0.01	mg/L	46.4	30.4	32.4	30.2	29.8
EP026: Chemical Oxygen Demand (COD)								
Chemical Oxygen Demand	----	5	mg/L	13300	890	479	443	202
EA005CA: pH								
pH	----	0.01	pH Unit	6.67	7.31	7.72	7.80	8.02
EA010CA: Conductivity								
Electrical Conductivity @ 25°C	----	2	µS/cm	1720	2670	2700	2660	2510
ED009: Anions								
Chloride	16887-00-6	0.1	mg/L	171	201	207	204	216
EA015CA: Total Dissolved Solids								
Total Dissolved Solids	----	10	mg/L	1780	992	978	938	953
EA025CA: Suspended Solids								
Suspended Solids (SS)	----	2	mg/L	5150	241	128	115	41
EP030CA: Biochemical Oxygen Demand								
Biochemical Oxygen Demand	----	2	mg/L	7520	275	58	83	13
EK061CA: Total Kjeldahl Nitrogen as N								
Total Kjeldahl Nitrogen as N	----	0.05	mg/L	355	229	208	212	145
EG005CA: Total Metals by ICP-OES								
Calcium	7440-70-2	0.05	mg/L	95.6	46.0	55.5	54.1	49.0
Magnesium	7439-95-4	0.05	mg/L	37.1	28.8	31.4	31.4	34.0
Sodium	7440-23-5	0.1	mg/L	247	215	209	209	219



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	STHMEATS6 Storage Dam 2	STHMEATS7 Run Off Dam 1	STHMEATS8 Run Off Dam 2	----	----
Client sampling date / time				05-Sep-2018 00:00	05-Sep-2018 00:00	05-Sep-2018 00:00	----	----	
Compound	CAS Number	LOR	Unit	CA1805430-006	CA1805430-007	CA1805430-008	-----	-----	
				Result	Result	Result	----	----	
EA006: Sodium Adsorption Ratio (SAR)									
∅ Sodium Adsorption Ratio	----	0.01	-	6.03	8.63	11.8	----	----	
EK059: Nitrite plus Nitrate as N (NOx)									
Nitrite + Nitrate as N	----	0.05	mg/L	19.2	7.74	<0.05	----	----	
EK062: Total Nitrogen as N (TKN + NOx)									
Total Nitrogen as N	----	0.05	mg/L	123	30.4	13.0	----	----	
EK067: Total Phosphorus as P									
Total Phosphorus as P	----	0.01	mg/L	32.4	19.7	12.8	----	----	
EP026: Chemical Oxygen Demand (COD)									
Chemical Oxygen Demand	----	5	mg/L	189	176	283	----	----	
EA005CA: pH									
pH	----	0.01	pH Unit	7.86	8.28	9.27	----	----	
EA010CA: Conductivity									
Electrical Conductivity @ 25°C	----	2	µS/cm	2360	2110	2150	----	----	
ED009: Anions									
Chloride	16887-00-6	0.1	mg/L	234	300	391	----	----	
EA015CA: Total Dissolved Solids									
Total Dissolved Solids	----	10	mg/L	1050	1200	1280	----	----	
EA025CA: Suspended Solids									
Suspended Solids (SS)	----	2	mg/L	32	25	103	----	----	
EP030CA: Biochemical Oxygen Demand									
Biochemical Oxygen Demand	----	2	mg/L	25	9	27	----	----	
EK061CA: Total Kjeldahl Nitrogen as N									
Total Kjeldahl Nitrogen as N	----	0.05	mg/L	104	22.7	13.0	----	----	
EG005CA: Total Metals by ICP-OES									
Calcium	7440-70-2	0.05	mg/L	46.4	33.5	28.3	----	----	
Magnesium	7439-95-4	0.05	mg/L	36.6	39.7	33.4	----	----	
Sodium	7440-23-5	0.1	mg/L	237	327	382	----	----	