

## CERTIFICATE OF ANALYSIS

**Work Order** : **CA1901680**  
**Client** : **Southern Meats**  
**Contact** : Andy Grealy  
**Address** : Mazamet Road  
 Goulburn NSW 2580  
**Telephone** : 02 4824 0000  
**Project** : Monthly Wastewater  
**Order number** : ----  
**C-O-C number** : ----  
**Sampler** : Andy Grealy  
**Site** : ----  
**Quote number** : ----  
**No. of samples received** : 8  
**No. of samples analysed** : 8

**Page** : 1 of 4  
**Laboratory** : ALS Water Resources Group  
**Contact** : Client Services  
**Address** : 16B Lithgow Street Fyshwick ACT Australia 2609  
**Telephone** : +61 2 6202 5404  
**Date Samples Received** : 07-Mar-2019 14:00  
**Date Analysis Commenced** : 08-Mar-2019  
**Issue Date** : 23-Mar-2019 13:26



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
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				07-Mar-2019 00:00	07-Mar-2019 00:00	07-Mar-2019 00:00	07-Mar-2019 00:00	07-Mar-2019 00:00
Compound	CAS Number	LOR	Unit	CA1901680-001 Result	CA1901680-002 Result	CA1901680-003 Result	CA1901680-004 Result	CA1901680-005 Result
<b>EA005CA: pH</b>								
pH	----	0.01	pH Unit	6.54	7.42	7.78	7.88	7.68
<b>EA010CA: Conductivity</b>								
Electrical Conductivity @ 25°C	----	2	µS/cm	2070	3030	3050	3070	2370
<b>ED009CA: Anions</b>								
Chloride	16887-00-6	0.1	mg/L	176	188	194	203	269
<b>EA015CA: Total Dissolved Solids</b>								
Total Dissolved Solids	----	10	mg/L	1750	1110	1120	1150	1160
<b>EA025CA: Suspended Solids</b>								
Suspended Solids (SS)	----	2	mg/L	3650	421	343	286	134
<b>EP030CA: Biochemical Oxygen Demand</b>								
Biochemical Oxygen Demand	----	2	mg/L	5240	287	185	108	53
<b>EP026CA: Chemical Oxygen Demand</b>								
Chemical Oxygen Demand	----	5	mg/L	8300	1820	761	703	398
<b>EK059CA: Nitrite plus Nitrate as N</b>								
Nitrite + Nitrate as N	----	0.05	mg/L N	<0.05	0.58	<0.05	<0.05	8.66
<b>EK061CA: Total Kjeldahl Nitrogen as N</b>								
Total Kjeldahl Nitrogen as N	----	0.05	mg/L N	313	273	284	246	99.3
<b>EK062CA: Total Nitrogen as N</b>								
Total Nitrogen as N	----	0.05	mg/L N	313	274	284	246	108
<b>EK067CA: Total Phosphorus as P</b>								
Total Phosphorus as P	----	0.01	mg/L P	63.9	40.9	41.6	38.5	30.7
<b>EG005CA: Total Metals by ICP-OES</b>								
Calcium	7440-70-2	0.05	mg/L	72.3	54.9	47.8	47.3	45.0
Magnesium	7439-95-4	0.05	mg/L	27.7	23.5	23.1	23.7	26.8
Sodium	7440-23-5	0.1	mg/L	291	276	275	276	309
<b>EA006CA: Sodium Adsorption Ratio</b>								
∅ Sodium Adsorption Ratio	----	0.01	-	12.7	7.86	8.03	7.97	8.62



## 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		07-Mar-2019 00:00			07-Mar-2019 00:00		07-Mar-2019 00:00		----	----
Compound	CAS Number	LOR	Unit	CA1901680-006	CA1901680-007	CA1901680-008	-----	-----		
				Result	Result	Result	----	----		
<b>EA005CA: pH</b>										
pH	----	0.01	pH Unit	7.78	9.44	9.20	----	----		
<b>EA010CA: Conductivity</b>										
Electrical Conductivity @ 25°C	----	2	µS/cm	2230	2310	2440	----	----		
<b>ED009CA: Anions</b>										
Chloride	16887-00-6	0.1	mg/L	266	370	412	----	----		
<b>EA015CA: Total Dissolved Solids</b>										
Total Dissolved Solids	----	10	mg/L	1140	1350	1390	----	----		
<b>EA025CA: Suspended Solids</b>										
Suspended Solids (SS)	----	2	mg/L	234	41	74	----	----		
<b>EP030CA: Biochemical Oxygen Demand</b>										
Biochemical Oxygen Demand	----	2	mg/L	55	8	23	----	----		
<b>EP026CA: Chemical Oxygen Demand</b>										
Chemical Oxygen Demand	----	5	mg/L	408	159	319	----	----		
<b>EK059CA: Nitrite plus Nitrate as N</b>										
Nitrite + Nitrate as N	----	0.05	mg/L N	8.17	<0.05	0.08	----	----		
<b>EK061CA: Total Kjeldahl Nitrogen as N</b>										
Total Kjeldahl Nitrogen as N	----	0.05	mg/L N	82.2	6.55	21.9	----	----		
<b>EK062CA: Total Nitrogen as N</b>										
Total Nitrogen as N	----	0.05	mg/L N	90.4	6.55	22.0	----	----		
<b>EK067CA: Total Phosphorus as P</b>										
Total Phosphorus as P	----	0.01	mg/L P	31.4	9.41	10.9	----	----		
<b>EG005CA: Total Metals by ICP-OES</b>										
Calcium	7440-70-2	0.05	mg/L	45.2	14.3	18.8	----	----		
Magnesium	7439-95-4	0.05	mg/L	27.4	31.0	20.6	----	----		
Sodium	7440-23-5	0.1	mg/L	298	414	468	----	----		
<b>EA006CA: Sodium Adsorption Ratio</b>										
∅ Sodium Adsorption Ratio	----	0.01	-	8.42	13.1	17.4	----	----		