

CERTIFICATE OF ANALYSIS

Work Order : CA1801547 Client : Southern Meats Contact : Mr Scott Newton Address : Mazamet Road Goulburn NSW 2580 Telephone : 02 4824 0000 Project : Monthly Wastewater Order number : ---- C-O-C number : ---- Sampler : ---- Site : ---- Quote number : ---- No. of samples received : 10 No. of samples analysed : 10	Page : 1 of 5 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-2018 14:48 Date Analysis Commenced : 08-Mar-2018 Issue Date : 19-Mar-2018 14:50
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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>
Clare Kennedy	Analyst	Inorganics, Fyshwick, ACT
Geetha Ramasundara	Chemistry Teamleader	Inorganics, Fyshwick, ACT
Kai Squires	Laboratory Manager	Administration, Fyshwick, ACT
Kathika Atapattu	QC Technician	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
- VFA Performed at ALS Scoresby
- 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-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	CA1801547-001 Result	CA1801547-002 Result	CA1801547-003 Result	CA1801547-004 Result	CA1801547-005 Result
EA005: pH								
pH	----	0.01	pH Unit	6.30	7.07	7.78	8.00	8.03
EA006: Sodium Adsorption Ratio (SAR)								
Sodium Adsorption Ratio	----	0.01	-	8.32	6.50	6.53	6.61	8.15
EA010: Conductivity								
Electrical Conductivity @ 25°C	----	2	µS/cm	1260	2610	3160	3110	2500
EA015: Total Dissolved Solids								
Total Dissolved Solids	----	10	mg/L	1160	1280	1110	1090	1150
EA025: Suspended Solids								
Suspended Solids (SS)	----	2	mg/L	3680	951	183	279	95
ED009: Anions								
Chloride	16887-00-6	0.1	mg/L	113	199	200	210	254
EG005T: Total Metals by ICP-OES								
Calcium	7440-70-2	0.05	mg/L	35.4	46.9	42.2	42.6	33.0
Magnesium	7439-95-4	0.05	mg/L	21.5	37.4	37.1	37.3	27.7
Sodium	7440-23-5	0.1	mg/L	165	213	240	244	266
EK059: Nitrite plus Nitrate as N (NOx)								
Nitrite + Nitrate as N	----	0.05	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50
EK061: Total Kjeldahl Nitrogen as N (TN - NOx)								
Total Kjeldahl Nitrogen as N	----	0.05	mg/L	202	231	248	242	141
EK062: Total Nitrogen as N (TKN + NOx)								
Total Nitrogen as N	----	0.05	mg/L	202	231	248	242	141
EK067: Total Phosphorus as P								
Total Phosphorus as P	----	0.01	mg/L	40.2	37.0	37.8	38.7	36.2
EP026: Chemical Oxygen Demand (COD)								
Chemical Oxygen Demand	----	5	mg/L	10000	2720	678	661	397
EP030: Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	----	2	mg/L	4380	939	122	77	56



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-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	CA1801547-006	CA1801547-007	CA1801547-008	CA1801547-009	CA1801547-010	
				Result	Result	Result	Result	Result	
EA005: pH									
pH	----	0.01	pH Unit	8.12	9.42	9.52	----	----	
EA006: Sodium Adsorption Ratio (SAR)									
Sodium Adsorption Ratio	----	0.01	-	8.10	11.3	12.9	----	----	
EA010: Conductivity									
Electrical Conductivity @ 25°C	----	2	µS/cm	2110	1730	1830	----	----	
EA015: Total Dissolved Solids									
Total Dissolved Solids	----	10	mg/L	1050	1010	1040	----	----	
EA025: Suspended Solids									
Suspended Solids (SS)	----	2	mg/L	145	49	92	2940	690	
EA036: Fixed/Volatile Suspended Solids									
Volatile Suspended Solids @ 550°C	----	2	mg/L	----	----	----	2840	630	
ED009: Anions									
Chloride	16887-00-6	0.1	mg/L	257	295	316	----	----	
ED037: Alkalinity									
Hydroxide Alkalinity as CaCO3	DMO-210-001	0.1	mg/L	----	----	----	<0.1	<0.1	
Carbonate Alkalinity as CaCO3	3812-32-6	0.1	mg/L	----	----	----	<0.1	<0.1	
Bicarbonate Alkalinity as CaCO3	71-52-3	0.1	mg/L	----	----	----	358	909	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	358	909	
EG005T: Total Metals by ICP-OES									
Calcium	7440-70-2	0.05	mg/L	34.5	14.1	15.7	----	----	
Magnesium	7439-95-4	0.05	mg/L	29.5	25.5	23.3	----	----	
Sodium	7440-23-5	0.1	mg/L	273	317	344	----	----	
EK059: Nitrite plus Nitrate as N (NOx)									
Nitrite + Nitrate as N	----	0.05	mg/L	0.62	0.08	<0.05	----	----	
EK061: Total Kjeldahl Nitrogen as N (TN - NOx)									
Total Kjeldahl Nitrogen as N	----	0.05	mg/L	78.3	4.61	11.6	----	----	
EK062: Total Nitrogen as N (TKN + NOx)									
Total Nitrogen as N	----	0.05	mg/L	78.9	4.69	11.6	----	----	
EK067: Total Phosphorus as P									
Total Phosphorus as P	----	0.01	mg/L	34.2	8.38	7.82	----	----	
EP026: Chemical Oxygen Demand (COD)									
Chemical Oxygen Demand	----	5	mg/L	583	145	323	----	----	
EP030: Biochemical Oxygen Demand (BOD)									



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Client sample ID

				STHMEATS6 Storage Dam 2	STHMEATS7 Run Off Dam 1	STHMEATS8 Run Off Dam 2	---- 9	---- 10
Client sampling date / time				07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00	07-Mar-2018 00:00
Compound	CAS Number	LOR	Unit	CA1801547-006	CA1801547-007	CA1801547-008	CA1801547-009	CA1801547-010
				Result	Result	Result	Result	Result
EP030: Biochemical Oxygen Demand (BOD) - Continued								
Biochemical Oxygen Demand	----	2	mg/L	38	5	30	----	----
Vol Fatty Acids								
Volatile Fatty Acids	----	10	mg/L	----	----	----	400	510