ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1917011**	Page	: 1 of 4
Client	: **INTEGRA WATER TREATMENT SOLUTIONS**	Laboratory	: Environmental Division Sydney
Contact	: SAMPLE RESULTS	Contact	: Wael Saleh
Address	: UNIT B 195 Port Hacking Rd. MIRANDA NSW, AUSTRALIA 2228	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 9574 0000	Telephone	: +61 2 8784 8555
Project	: ALEXANDER DOWNS MEATWORKS KURRI KURRI	Date Samples Received	: 04-Jun-2019 12:47
Order number	: ----	Date Analysis Commenced	: 04-Jun-2019
C-O-C number	: ----	Issue Date	: 12-Jun-2019 18:30
Sampler	: ----		
Site	: ----		
Quote number	: EN/222 NSW Batches only		
No. of samples received	: 4		
No. of samples analysed	: 4		

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.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, 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.

- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	WASTE WATER TREAT.PLANT IN	WASTE WATER TREAT.PLANT OUT	POND NUMBER 2	POND NUMBER 3	----
			Client sampling date / time	04-Jun-2019 00:00	04-Jun-2019 00:00	04-Jun-2019 00:00	04-Jun-2019 00:00	----
Compound	CAS Number	LOR	Unit	ES1917011-001	ES1917011-002	ES1917011-003	ES1917011-004	--------
				Result	Result	Result	Result	----
EA005: pH								
pH Value	----	0.01	pH Unit	7.78	8.16	7.67	7.63	----
EA006: Sodium Adsorption Ratio (SAR)								
^ Sodium Adsorption Ratio	----	0.01	-	----	----	----	9.66	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	1450	1360	1930	1990	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	959	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	1010	664	506	314	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	----	----	15	----
Magnesium	7439-95-4	1	mg/L	----	----	----	10	----
Sodium	7440-23-5	1	mg/L	----	----	----	197	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	----	----	----	88.3	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	----	----	----	<0.01	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	----	----	----	0.02	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	----	----	----	0.02	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	----	----	123	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	----	----	----	123	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	----	----	----	24.1	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	----	----	----	73	----
EP030: Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	----	2	mg/L	----	----	----	130	----
EP030C: Carbonaceous Biochemical Oxygen Demand (CBOD)								
CBOD	----	2	mg/L	----	----	----	113	----

Analytical Results

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				Client sampling date / time	04-Jun-2019 00:00	04-Jun-2019 00:00	04-Jun-2019 00:00	04-Jun-2019 00:00	----
Compound	CAS Number	LOR	Unit		ES1917011-001	ES1917011-002	ES1917011-003	ES1917011-004	--------
					Result	Result	Result	Result	----
EP030C: Carbonaceous Biochemical Oxygen Demand (CBOD) - Continued									