ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1719259**	Page	: 1 of 3
Client	: **HY-TEC INDUSTRIES PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: ACCOUNT	Contact	: Customer Services ES
Address	: 20 Kelso Crescent Moorebank NSW 2170	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 0405 530 051	Telephone	: +61-2-8784 8555
Project	: TINDA CREEK QUARRY	Date Samples Received	: 03-Aug-2017 17:10
Order number	: ----	Date Analysis Commenced	: 03-Aug-2017
C-O-C number	: ----	Issue Date	: 08-Aug-2017 17:21
Sampler	: MICHAEL WALTON		
Site	: ----		
Quote number	: SY/120/14		
No. of samples received	: 2		
No. of samples analysed	: 2		

ilac-MRA NATA
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

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 no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component.

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.

- Poor spike recovery for Nitrite due to matrix interferences(confirmed by re-analysis).

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	01. DREDGE POND	02.FW POND (Fresh Water)	----	----	----
			Client sampling date / time	03-Aug-2017 11:00	03-Aug-2017 11:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1719259-001	ES1719259-002	--------	--------	--------
				Result	Result	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**6.25**	**5.16**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**89**	**87**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**50**	**51**	----	----	----
EA045: Turbidity								
Turbidity	----	0.1	NTU	**15.0**	**5.1**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**3**	<1	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**3**	<1	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**24**	**24**	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	<1	<1	----	----	----
Magnesium	7439-95-4	1	mg/L	**1**	<1	----	----	----
Sodium	7440-23-5	1	mg/L	**14**	**15**	----	----	----
Potassium	7440-09-7	1	mg/L	**2**	**1**	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**0.55**	**0.59**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.55**	**0.59**	----	----	----
EN055: Ionic Balance								
Total Anions	----	0.01	meq/L	**0.74**	----	----	----	----
Total Cations	----	0.01	meq/L	**0.74**	----	----	----	----