

**CERTIFICATE OF ANALYSIS**

<b>Work Order</b>	<b>: ES1826477</b>	<b>Page</b>	<b>: 1 of 5</b>
<b>Client</b>	<b>: SMK CONSULTANTS</b>	<b>Laboratory</b>	<b>: Environmental Division Sydney</b>
<b>Contact</b>	<b>: JAMES MAXWELL</b>	<b>Contact</b>	<b>: Customer Services ES</b>
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<b>Project</b>	<b>: 13-51 Koramba Ginning Storm Water Overflow</b>	<b>Date Samples Received</b>	<b>: 07-Sep-2018 08:30</b>
<b>Order number</b>	<b>: 13-51</b>	<b>Date Analysis Commenced</b>	<b>: 11-Sep-2018</b>
<b>C-O-C number</b>	<b>: ----</b>	<b>Issue Date</b>	<b>: 13-Sep-2018 13:27</b>
<b>Sampler</b>	<b>: KORAMBA GINNING</b>		
<b>Site</b>	<b>: ----</b>		
<b>Quote number</b>	<b>: SYBQ/364/15</b>		
<b>No. of samples received</b>	<b>: 3</b>		
<b>No. of samples analysed</b>	<b>: 3</b>		



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
- Surrogate Control Limits

**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>
Ashesh Patel	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, 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 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  
∅ = ALS is not NATA accredited for these tests.  
~ = Indicates an estimated value.





### Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	13-51-1 Southern Discharge	13-51-2 Southwest Discharge	13-51-3 Northwest Discharge	----	----
Client sampling date / time				05-Sep-2018 14:00	05-Sep-2018 14:00	05-Sep-2018 14:00	----	----	
Compound	CAS Number	LOR	Unit	ES1826477-001	ES1826477-002	ES1826477-003	-----	-----	
				Result	Result	Result	----	----	
<b>EA005P: pH by PC Titrator</b>									
pH Value	----	0.01	pH Unit	7.80	7.90	7.53	----	----	
<b>EA025: Total Suspended Solids dried at 104 ± 2°C</b>									
Suspended Solids (SS)	----	5	mg/L	129	241	266	----	----	
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>									
Nitrite + Nitrate as N	----	0.01	mg/L	0.05	0.74	0.30	----	----	
<b>EK061G: Total Kjeldahl Nitrogen By Discrete Analyser</b>									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.2	2.3	0.9	----	----	
<b>EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser</b>									
^ Total Nitrogen as N	----	0.1	mg/L	1.2	3.0	1.2	----	----	
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>									
Total Phosphorus as P	----	0.01	mg/L	0.61	0.65	0.60	----	----	
<b>EP068A: Organochlorine Pesticides (OC)</b>									
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4'-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----	

**Analytical Results**

Sub-Matrix: WATER  
(Matrix: WATER)

Client sample ID	Client sampling date / time	CAS Number	LOR	Unit	Compound
13-51-1	05-Sep-2018 14:00	ES1826477-001		Result	
13-51-2	05-Sep-2018 14:00	ES1826477-002		Result	
13-51-3	05-Sep-2018 14:00	ES1826477-003		Result	

EP068A: Organochlorine Pesticides (OC) - Continued					
Sum of DDE + DDE + DDT					
	72-54-8/72-56-9/5	0.5	µg/L	<0.5	----
Sum of Aldrin + Dieldrin					
	309-00-2/60-57-1	0.5	µg/L	<0.5	----
EP068B: Organophosphorus Pesticides (OP)					
	62-73-7	0.5	µg/L	<0.5	----
	919-86-8	0.5	µg/L	<0.5	----
	6923-22-4	2.0	µg/L	<2.0	----
	60-51-5	0.5	µg/L	<0.5	----
	333-41-5	0.5	µg/L	<0.5	----
	5598-13-0	0.5	µg/L	<0.5	----
	298-00-0	2.0	µg/L	<2.0	----
	121-75-5	0.5	µg/L	<0.5	----
	55-38-9	0.5	µg/L	<0.5	----
	2921-88-2	0.5	µg/L	<0.5	----
	56-38-2	2.0	µg/L	<2.0	----
	23505-41-1	0.5	µg/L	<0.5	----
	470-90-6	0.5	µg/L	<0.5	----
	4824-78-6	0.5	µg/L	<0.5	----
	22224-92-6	0.5	µg/L	<0.5	----
	34643-46-4	0.5	µg/L	<0.5	----
	563-12-2	0.5	µg/L	<0.5	----
	786-19-6	0.5	µg/L	<0.5	----
	86-50-0	0.5	µg/L	<0.5	----
EP068S: Organochlorine Pesticide Surrogate					
	21655-73-2	0.5	%	88.9	----
EP068T: Organophosphorus Pesticide Surrogate					
	78-48-8	0.5	%	87.7	----
	96.6			96.6	----
	83.7			83.7	----



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Work Order : ES1826477  
Client : SMK CONSULTANTS  
Project : 13-51 Koramba Ginning Storm Water Overflow



### Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111

