



## CERTIFICATE OF ANALYSIS

**Work Order** : **ES2320075**  
**Client** : **PF FORMATION**  
**Contact** : Josh Graham  
**Address** : 1 Patrica Fay Drive  
MARROOTA 2756  
**Telephone** : ----  
**Project** : ----  
**Order number** : ----  
**C-O-C number** : ----  
**Sampler** : Melissa Mass, South East Environmental  
**Site** : ----  
**Quote number** : EN/333  
**No. of samples received** : 5  
**No. of samples analysed** : 5

**Page** : 1 of 3  
**Laboratory** : Environmental Division Sydney  
**Contact** : Customer Services ES  
**Address** : 277-289 Woodpark Road Smithfield NSW Australia 2164  
**Telephone** : +61-2-8784 8555  
**Date Samples Received** : 16-Jun-2023 13:35  
**Date Analysis Commenced** : 16-Jun-2023  
**Issue Date** : 22-Jun-2023 14:56



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, unless the sampling was conducted by ALS. 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>
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW



## General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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 Contract 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 TKN due to matrix interferences(confirmed by re-analysis).



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	Lot 198	Pit 4	Maroota Lodge Dam 1	Maroota Lodge Dam 2	Hitchcock Rd
Sampling date / time					16-Jun-2023 08:15	16-Jun-2023 09:50	16-Jun-2023 10:20	16-Jun-2023 10:35	16-Jun-2023 10:55
Compound	CAS Number	LOR	Unit	ES2320075-001	ES2320075-002	ES2320075-003	ES2320075-004	ES2320075-005	
				Result	Result	Result	Result	Result	
<b>EA005P: pH by PC Titrator</b>									
pH Value	----	0.01	pH Unit	<b>6.23</b>	<b>6.95</b>	<b>6.31</b>	<b>6.83</b>	<b>6.05</b>	
<b>EA010P: Conductivity by PC Titrator</b>									
Electrical Conductivity @ 25°C	----	1	µS/cm	<b>206</b>	<b>573</b>	<b>75</b>	<b>246</b>	<b>108</b>	
<b>EA025: Total Suspended Solids dried at 104 ± 2°C</b>									
Suspended Solids (SS)	----	5	mg/L	<5	<5	<b>13</b>	<b>8</b>	<5	
<b>ED037P: Alkalinity by PC Titrator</b>									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<b>9</b>	<b>84</b>	<b>11</b>	<b>66</b>	<b>5</b>	
Total Alkalinity as CaCO3	----	1	mg/L	<b>9</b>	<b>84</b>	<b>11</b>	<b>66</b>	<b>5</b>	
<b>ED041G: Sulfate (Turbidimetric) as SO4 2- by DA</b>									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<b>18</b>	<b>105</b>	<b>5</b>	<b>24</b>	<b>5</b>	
<b>ED045G: Chloride by Discrete Analyser</b>									
Chloride	16887-00-6	1	mg/L	<b>48</b>	<b>49</b>	<b>14</b>	<b>21</b>	<b>28</b>	
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>									
Nitrite + Nitrate as N	----	0.01	mg/L	----	----	<0.01	<b>0.48</b>	----	
<b>EK061G: Total Kjeldahl Nitrogen By Discrete Analyser</b>									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	----	<b>0.5</b>	<b>1.2</b>	----	
<b>EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser</b>									
^ Total Nitrogen as N	----	0.1	mg/L	----	----	<b>0.5</b>	<b>1.7</b>	----	
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>									
Total Phosphorus as P	----	0.01	mg/L	----	----	<b>0.01</b>	<b>1.05</b>	----	
<b>EP020: Oil and Grease (O&amp;G)</b>									
Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5	