

CERTIFICATE OF ANALYSIS

Work Order : **ES2139494**
Client : **Paraway Pastoral Company Limited**
Contact : Emma Hart
Address : 70 McNamara Street
 Orange 2800
Telephone : ----
Project : OBS EPL 13143
Order number : ----
C-O-C number : ----
Sampler : Emma Hart
Site : ----
Quote number : EN/333
No. of samples received : 9
No. of samples analysed : 6

Page : 1 of 4
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 : 02-Nov-2021 12:00
Date Analysis Commenced : 02-Nov-2021
Issue Date : 09-Nov-2021 15:38



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	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	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 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.

- It has been noted that Reactive P is greater than Total P, however this difference is within the limits of experimental variation.
- 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)		Sample ID		Point 1	Point 2	Point 5 - LAT	Point 6 - FL	Point 7 - TIP	
Sampling date / time		29-Oct-2021 00:00		29-Oct-2021 00:00		29-Oct-2021 00:00		29-Oct-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2139494-001	ES2139494-002	ES2139494-005	ES2139494-006	ES2139494-007	
				Result	Result	Result	Result	Result	
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm	217	323	10500	24300	21200	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	10	22	3530	9190	7580	
ED093F: SAR and Hardness Calculations									
^ Sodium Adsorption Ratio	----	0.01	-	0.91	0.63	23.7	29.9	29.8	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.92	0.04	1.28	11.9	0.21	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	0.05	0.01	0.02	<0.01	0.30	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	0.09	0.17	49.4	0.99	52.9	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	0.14	0.18	49.4	0.99	53.2	
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.4	0.8	5.3	19.8	3.7	
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L	1.5	1.0	54.7	20.8	56.9	
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L	0.80	1.77	0.26	0.42	0.12	
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	0.68	1.61	0.16	0.06	<0.01	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		Point 8 - NW of feedlot	----	----	----	----
		Sampling date / time		29-Oct-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2139494-008	-----	-----	-----	-----
				Result	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	26500	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	9910	----	----	----	----
ED093F: SAR and Hardness Calculations								
^ Sodium Adsorption Ratio	----	0.01	-	35.1	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	0.92	----	----	----	----
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	30.4	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	30.4	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.8	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	32.2	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.03	----	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	0.04	----	----	----	----