

CERTIFICATE OF ANALYSIS

Work Order : **ME2100629**
Client : **NATIONAL PARKS & WILDLIFE SERVICE**
Contact : Daniel Johnston
Address : Hill End Historic Site 5 Beyers Ave
 Hill End 2850
Telephone : 02 6370 9037
Project : NPWS Hill End STP
Order number : ----
C-O-C number : ----
Sampler : Client Sampler
Site : Hill End
Quote number : ----
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 3
Laboratory : Environmental Division Mudgee
Contact : Mary Monds (ALS Mudgee Sampler)
Address : 1/29 Sydney Road Mudgee NSW Australia 2850

Telephone : 02 6372 6735
Date Samples Received : 13-Apr-2021 14:15
Date Analysis Commenced : 13-Apr-2021
Issue Date : 20-Apr-2021 15:14



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
Mary Monds (ALS Mudgee Sampler)	Environmental Services Representative	Laboratory - Mudgee, Mudgee, NSW
Sarah Griffiths	Microbiologist	Sydney Microbiology, Smithfield, NSW

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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

∅ = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- MF = membrane filtration
- CFU = colony forming unit
- Only approved EPA methods for the analysis of water pollutants in New South Wales are used: pH by classical APHA 4500 H+B and in-house EA005 and Suspended Solids by classical APHA 2540 D and in-house EA025.
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				EPA Identification no.	----	----	----	----
				1				
				Discharge Kitty's Flat				
				Sewage Treatment				
				System				
Sampling date / time				13-Apr-2021 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ME2100629-001	-----	-----	-----	-----
				Result	---	---	---	---
EA005: pH								
pH Value	----	0.01	pH Unit	6.6	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	1	mg/L	13	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.9	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	0.9	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.04	----	----	----	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	6	----	----	----	----
EP030: Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	----	2	mg/L	4	----	----	----	----
MW006: Faecal Coliforms & E.coli by MF								
Faecal Coliforms	----	1	CFU/100mL	<1	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP030: Biochemical Oxygen Demand (BOD)

(WATER) EP020: Oil and Grease (O&G)

(WATER) MW006: Faecal Coliforms & E.coli by MF

(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

(WATER) EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser

(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser

(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser

CERTIFICATE OF ANALYSIS

Work Order : **ME2100630**
Client : **NATIONAL PARKS & WILDLIFE SERVICE**
Contact : Daniel Johnston
Address : Hill End Historic Site 5 Beyers Ave
 Hill End 2850
Telephone : 02 6370 9037
Project : NPWS Hill End STP
Order number : ----
C-O-C number : ----
Sampler : Client Sampler
Site : Hill End
Quote number : ----
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 3
Laboratory : Environmental Division Mudgee
Contact : Mary Monds (ALS Mudgee Sampler)
Address : 1/29 Sydney Road Mudgee NSW Australia 2850

Telephone : 02 6372 6735
Date Samples Received : 13-Apr-2021 11:55
Date Analysis Commenced : 14-Apr-2021
Issue Date : 20-Apr-2021 15:14



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

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<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Mary Monds (ALS Mudgee Sampler)	Environmental Services Representative	Laboratory - Mudgee, Mudgee, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, 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

∅ = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- MF = membrane filtration
- CFU = colony forming unit
- Only approved EPA methods for the analysis of water pollutants in New South Wales are used: pH by classical APHA 4500 H+B and in-house EA005 and Suspended Solids by classical APHA 2540 D and in-house EA025.
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				EPA Identification no.	----	----	----	----
				1				
				Discharge Kitty's Flat				
				Sewage Treatment				
				System				
Sampling date / time				14-Apr-2021 09:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ME2100630-001	-----	-----	-----	-----
				Result	---	---	---	---
EA005: pH								
pH Value	----	0.01	pH Unit	6.3	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	1	mg/L	2	---	---	---	---
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	---	---	---	---
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.6	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	0.6	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.02	----	----	----	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	----	----	----	----
EP030: Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	----	2	mg/L	4	----	----	----	----
MW006: Faecal Coliforms & E.coli by MF								
Faecal Coliforms	----	1	CFU/100mL	<1	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP030: Biochemical Oxygen Demand (BOD)

(WATER) EP020: Oil and Grease (O&G)

(WATER) MW006: Faecal Coliforms & E.coli by MF

(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

(WATER) EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser

(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser

(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser

CERTIFICATE OF ANALYSIS

Work Order : **ME2100647**
Client : **NATIONAL PARKS & WILDLIFE SERVICE**
Contact : Daniel Johnston
Address : Hill End Historic Site 5 Beyers Ave
 Hill End 2850
Telephone : 02 6370 9037
Project : NPWS Hill End STP
Order number : ----
C-O-C number : ----
Sampler : Client Sampler
Site : Hill End
Quote number : ----
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 3
Laboratory : Environmental Division Mudgee
Contact : Mary Monds (ALS Mudgee Sampler)
Address : 1/29 Sydney Road Mudgee NSW Australia 2850

Telephone : 02 6372 6735
Date Samples Received : 15-Apr-2021 11:16
Date Analysis Commenced : 15-Apr-2021
Issue Date : 21-Apr-2021 14:38



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<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ashesh Patel	Senior Chemist	Sydney Inorganics, Smithfield, NSW
Mary Monds (ALS Mudgee Sampler)	Environmental Services Representative	Laboratory - Mudgee, Mudgee, NSW
Somlok Chai	Microbiologist	Sydney Microbiology, 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.

- MF = membrane filtration
- CFU = colony forming unit
- Only approved EPA methods for the analysis of water pollutants in New South Wales are used: pH by classical APHA 4500 H+B and in-house EA005 and Suspended Solids by classical APHA 2540 D and in-house EA025.
- Microbiological Comment: In accordance with ALS work instruction QWI-MIC/04, membrane filtration result is reported an approximate (~) when the count of colonies on the filtered membrane is outside the range of 10 - 100cfu.
- Membrane filtration results for MW006 are reported as an estimate (~) due to the presence of many non-target organism colonies that may have inhibited the growth of the target organisms on the filter membrane. It may be informative to record this fact.
- MW006 is ALS's internal code and is equivalent to AS4276.7.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				EPA Identification no.	----	----	----	----
				1				
				Discharge Kitty's Flat				
				Sewage Treatment				
				System				
Sampling date / time				15-Apr-2021 09:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ME2100647-001	-----	-----	-----	-----
				Result	---	---	---	---
EA005: pH								
pH Value	----	0.01	pH Unit	6.1	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	1	mg/L	3	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.9	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	0.9	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.04	----	----	----	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	----	----	----	----
EP030: Biochemical Oxygen Demand (BOD)								
Biochemical Oxygen Demand	----	2	mg/L	4	----	----	----	----
MW006: Faecal Coliforms & E.coli by MF								
Faecal Coliforms	----	1	CFU/100mL	~1	----	----	----	----

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP030: Biochemical Oxygen Demand (BOD)

(WATER) EP020: Oil and Grease (O&G)

(WATER) MW006: Faecal Coliforms & E.coli by MF

(WATER) EK067G: Total Phosphorus as P by Discrete Analyser

(WATER) EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser

(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser

(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser