



EML (CHEM) PTY LTD

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FINAL REPORT

Report No: **N114614**

Job No: 2402/317

Page: 1 of 6

Date: 08 March 2024

Cool-Off Pty Ltd
271 Jude Road
HOWLONG NSW 2643
Attention: Mr Derrick Addison

Dear Sir/Madam,

Re: Analysis of Wastewater Samples

METHOD LIST

Method	Method Description (in-house method based on)	Method	Method Description (in-house method based on)
1001G	21st Ed. 2005 A.P.H.A. Method 2540 A, C	1110A	22nd Ed. 2012 A.P.H.A. Method 2540 A, D
ALK	23rd Ed. 2017 A.P.H.A. Method 2320 A, B	AORGKJN-HL	21rd Ed. 2017 A.P.H.A. Method 4500-NH3 A, B, C
BOD5	23rd Ed. 2017 A.P.H.A. Method 5210 A, B	CATIONS	22nd Ed. 2012 A.P.H.A. Method 3010 A, 3030, 3111, 3114
CHLORIDE	23rd Ed. 2017 A.P.H.A. Method 4500-Cl- A, D	COD-HL	23rd Ed. 2017 A.P.H.A. Method 5220 A, B
COND-M	22nd Ed. 2012 A.P.H.A. Method 2510 A, B	FLUORIDE	24th Ed. 2021 A.P.H.A. Method 4500-F A, C
HEM	23rd Ed. 2017 A.P.H.A. Method 5520 A,B; USEPA Method 1664 Revision A February 1999	METALS-AAS	22nd Ed. 2012 A.P.H.A. Method 3010 A, 3030, 3111, 3114
METALS-ICP	22nd Ed. 2012 A.P.H.A. Method 3010 A, 3030; USEPA Method 6010B, 3005A, 3010A, 3050B	NO2	23rd Ed. 2017 A.P.H.A. Method 4500-N A, 4500-NO2 B
NO3	22nd Ed. 2012 A.P.H.A. Method 4500-N A, 4500-NO3 A; 13th Ed. 1971 A.P.H.A. Method 213 C	ORTP-LL-DA	23rd Ed. 2017 A.P.H.A. Method 4500-P A, B, F; Aquakem, Phosphate in waters, Apr 2004; USEPA Method 365.1 Rev 2.0 Aug 1993
PH	22nd Ed. 2012 A.P.H.A. Method 4500-H+ A, B	SALINITY	Salinity by calculation from Conductivity at 25C, based on 20th Ed. 1998 A.P.H.A. Method 2520 A, B. NATA Accreditation does not cover the performance of this service.
SAR	Manual calculation based on 20th Ed. 1998 A.P.H.A. Method 2340 A, B. NATA Accreditation does not cover the performance of this service.	SO3-THIO	20th Ed. 1998 A.P.H.A. Method 4500-SO3 ²⁻ B
SO4	15th Ed. 1980 A.P.H.A. Method 426 C; USEPA Method 9038 Rev 0 Sep 1986	TNITROGEN	Manual calculation based on 22nd Ed. 2012 A.P.H.A. Method 4500-NH3 A, B, C, F, Method 4500-NO2 B; 13th Ed. 1971 A.P.H.A. Method 213 C.
TOTP-LL-DA	22nd Ed. 2012 A.P.H.A. Method 4500-P A, B, F; Aquakem, Phosphate in waters, April 2004	TSULPHUR	Manual calculation based on 20th Ed. 1998 A.P.H.A. Method 4500-SO3 ²⁻ B; 15th Ed. 1998 A.P.H.A. Method 426 C.
TURB-HL	22nd Ed. 2012 A.P.H.A. Method 2130 A, B; USEPA Method 180.1, Rev 2.0 Aug 1993.		

Comments:

Sample is outside the holding time for BOD5. Results should be considered as indicative.

Some results in this report are indicative only, please see the holding time section of this report for more details.

Yours faithfully
EML (CHEM) PTY LTD



K Charlson BAppSc
(Managing Director)

Report No: N114614

Page: 2 of 6

Date: 08 March 2024



Important Notes

- 1. This is a final report and it supersedes any previous interim reports pertaining to this work that you may have received*
- 2. The results in this report pertain to samples as submitted to the laboratory*

NATA Accreditation No. 2731. Accredited for compliance with ISO/IEC 17025 - Testing

This laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of accreditation. This document shall not be reproduced except in full



Sample Description			Raw Sample	Raw Sample
Sample Collection Method			Received	Filtered 1.2µm
Sample Taken Date/Time			08/02/2024 11:00am	08/02/2024 11:00am
Lab. Received Date/Time			15/02/2024 02:10pm	15/02/2024 02:10pm
EML Lab. No.			EML-2347	EML-2348
Analyte	Unit	Method		
B.O.D.(5)	mg/L	BOD5	3900	2200
Suspended Solids at 103-105C	mg/L	1110A	1600	
Total Dissolved Solids at 180C	mg/L	1001G	730	
Conductivity at 25C	uS/cm	COND-M	2000	
Turbidity	NTU	TURB-HL	1700	
pH		PH	5.8	
Total Alkalinity as CaCO3	mg/L	ALK	500	
Carbonate Alkalinity as CaCO3	mg/L	ALK	0	
Sulphite as S	mg/L	SO3-THIO	<2	
Thiosulphate as S	mg/L	SO3-THIO	<8	
Sulphate as S	mg/L	SO4	<13	
Total Oxidised Sulphur as S	mg/L	TSULPHUR	<23	
C.O.D. (High Level)	mg/L	COD-HL	5200	2700
Total Kjeldahl Nitrogen as N	mg/L	AORGKJN-HL	310	290
Nitrate Nitrogen as N	mg/L	NO3	<1	<1
Nitrite Nitrogen as N	mg/L	NO2	<0.1	<0.1
Total Nitrogen as N	mg/L	TNITROGEN	310	290
Total Phosphorus as P	mg/L	TOTP-LL-DA	35	39
Orthophosphate as P	mg/L	ORTP-LL-DA	30	31
Chloride as Cl	mg/L	CHLORIDE	120	
n-Hexane Extractable Material (Oil&Grease)	mg/L	HEM	1200	
Fluoride as F	mg/L	FLUORIDE	<0.1	
Calcium as Ca	mg/L	CATIONS	15	17
Magnesium as Mg	mg/L	CATIONS	4.8	5.5
Sodium as Na	mg/L	CATIONS	82	
Sodium Adsorption Ratio		SAR	4.7	
Total Calcium as Ca	mg/L	METALS-AAS	16	
Total Magnesium as Mg	mg/L	METALS-AAS	4.8	
Total Sodium as Na	mg/L	METALS-AAS	91	
Total Potassium as K	mg/L	METALS-AAS	62	
Total Boron as B	mg/L	METALS-ICP	0.01	
Total Sulphur as S *	mg/L	METALS-ICP	21	
Salinity, by calculation from Cond. @ 25C	‰	SALINITY	1.0	

Notes:

- Blank space indicates test not performed
- Calculated results are based on raw data
- LOR: Limit of Reporting, calculated from undiluted sample
- * = NATA Accreditation does not cover the performance of this service



Sample History and Holding Time

EML Lab. No.	Analyte	Taken On	Lab. Received On	Analysed On	Result	Unit	Limit
EML-2347	pH	8/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:58pm	5.8		0.25 h ^

^ The result is an indicative result only as the sample/test holding time requirement specified in the test method was not met

Holding Time Reference:

22nd Ed. 2012 A.P.H.A. - Standard Methods for the Examination of Water and Wastewater, Table 1060.I Regulatory

EML Lab. No.	Sample Collection Method	Description
EML-2347	Received	Sample not collected by EML (CHEM) and is analysed as received
EML-2348	Received	Sample not collected by EML (CHEM) and is analysed as received



Performance of Testing

Laboratory Analysis

Analysis	Unit	Performed	EML Lab. No.	Sample Taken On	Lab. Received On	Test Analysed On
B.O.D.(5)	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 05:52pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 05:52pm
Total Dissolved Solids at 180C	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 10:15am
Conductivity at 25C	uS/cm	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:57pm
Turbidity	NTU	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:59pm
pH		In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:58pm
Total Alkalinity as CaCO3	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 07:55am
Carbonate Alkalinity as CaCO3	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 07:55am
Sulphite as S	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	23/02/24 12:47pm
Thiosulphate as S	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	23/02/24 12:47pm
Sulphate as S	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	20/02/24 06:58pm
C.O.D. (High Level)	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	26/02/24 05:16pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	26/02/24 05:16pm
Total Kjeldahl Nitrogen as N	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	29/02/24 02:54pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	29/02/24 02:54pm
Nitrate Nitrogen as N	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 01:28pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 01:28pm
Nitrite Nitrogen as N	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 01:33pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	21/02/24 01:33pm
Total Phosphorus as P	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 05:09pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 05:09pm
Orthophosphate as P	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:58pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	16/02/24 04:58pm
Chloride as Cl	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	24/02/24 08:37am
n-Hexane Extractable Material (Oil&Grease)	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	01/03/24 01:43pm
Fluoride as F	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	02/03/24 09:46am
Calcium as Ca	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 04:05pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 04:05pm
Magnesium as Mg	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 04:05pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 04:05pm
Sodium as Na	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 04:05pm
Total Sulphur as S *	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 03:46pm
Total Boron as B	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	22/02/24 03:46pm
Suspended Solids at 103-105C	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	20/02/24 10:02am
Total Oxidised Sulphur as S	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	23/02/24 02:11pm
Total Nitrogen as N	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	01/03/24 06:06pm
			EML-2348	08/02/24 11:00am	15/02/24 2:10pm	05/03/24 08:34am
Sodium Adsorption Ratio		In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	23/02/24 01:02pm
Total Calcium as Ca	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	05/03/24 08:46am
Total Magnesium as Mg	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	05/03/24 09:58am
Total Sodium as Na	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	05/03/24 08:46am
Total Potassium as K	mg/L	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	05/03/24 08:47am
Salinity, by calculation from Cond. @ 25C	‰	In Lab	EML-2347	08/02/24 11:00am	15/02/24 2:10pm	01/03/24 03:15pm



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Page: 6 of 6

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Report prepared for: Cool-Off Pty Ltd

Field Analysis

Analysis	Unit	Performed	EML Lab. No.	Sample Taken On	Test Analysed On
No Field Analysis					
