

# COFFS HARBOUR LABORATORY

Environmental Analysis

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GALINTEL  
KEVINELKS  
P. O. BOX 396  
COFFS HARBOUR NSW 2450

BATCHNUMBER: 18/2108  
No. of SAMPLES: 9  
DATE COLLECTED: 26/09/18  
DATE RECEIVED: 27/09/18  
TIME RECEIVED: 12:30  
DATE TESTING COMMENCED:  
27/09/18

## REPORT OF ANALYSIS

SAMPLE REFERENCE	SAMPLE DESCRIPTION
18/2108/1	POINT 1
18/2108/2	POINT 2A
18/2108/3	POINT 2B
18/2108/4	POINT 3
18/2108/5	POINT 4
18/2108/6	POINT 5
18/2108/7	POINT 6
18/2108/8	POINT 7
18/2108/9	POINT 8

ANALYSIS	UNITS	18/2108/1	18/2108/2	18/2108/3	18/2108/4	METHOD NO
pH	pH unit	6.7	7.2	7.2	7.2	APHA 4500-H+ B
Conductivity	µS/cm	124	75	74	64	APHA 2510 B
Total Suspended Solids	mg/L	14	26	26	6	APHA 2540 D
Total Dissolved Solids	mg/L	79	48	47	41	EL7B
Total Hardness	mg CaCO <sub>3</sub> /L	18	18	16	11	EL9A
Alkalinity	mg CaCO <sub>3</sub> /L	8	14	13	11	APHA 2320 B
Chloride	mg/L	22	5.7	5.2	5.0	EL10A
Sulfate	mg/L	1.6	4.2	4.0	1.1	EL9A
Calcium	mg/L	6.7	5.6	4.9	4.2	EL9A
Magnesium	mg/L	0.28	0.98	0.85	0.26	EL9A
Sodium	mg/L	1.9	3.7	3.6	2.0	EL9A
Potassium	mg/L	0.77	1.5	1.4	0.74	EL9A
Zinc - Total*	ug/L	9,460	390	280	1,180	NT2 47
Zinc - Filtered*	ug/L	10,400	440	350	1,300	NT2 47
Copper - Total*	ug/L	32	8	13	16	NT2 47
Copper - Filtered*	ug/L	56	9.3	15	20	NT2 47
Nickel-Total*	ug/L	25	2.1	1.9	1.8	NT2 47
Nickel-Filtered*	ug/L	26	2.1	1.7	2.0	NT2 47



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[Accreditation Numbers: 12359 (Chemical) & 14565 (Microbiological)]

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian and International standards.

ANALYSIS	UNITS	18/2108/1	18/2108/2	18/2108/3	18/2108/4	METHODNO
Manganese - Total*	ug/L	350	45	42	22	NT2 47
Manganese - Filtered*	ug/L	340	51	44	24	NT2 47
Iron - Total*	ug/L	1,170	540	630	190	NT2 47
Iron - Filtered*	ug/L	1,440	610	290	240	NT2 47
Lead - Total*	ug/L	10	22	14	4	NT2 47
Lead - Filtered*	ug/L	22	29	17	5.7	NT2 47
Cobalt -Total*	ug/L	1.1	<1	<1	<1	NT2 47
Cobalt -Filtered*	ug/L	1.1	<1	<1	<1	NT2 47
Chromium - Trivalent*	ug/L	1.5	0.40	1.8	5.7	NT2 47
Chromium - Hexavalent*	mg/L	0.005	0.001	<0.001	<0.001	NW D2
Chromium - Total*	ug/L	7	1	2	6	NT2 47
Ammonia Nitrogen	mg/L	0.44	0.06	0.05	0.22	EL13F

ANALYSIS	UNITS	18/2108/5	18/2108/6	18/2108/7	18/2108/8	METHODNO
pH	pH unit	7.1	5.6	4.7	4.5	APHA 4500-H+ B
Conductivity	µS/cm	100	39	40	69	APHA 2510 B
Total Suspended Solids	mg/L	14	3	<2	5	APHA 2540 D
Total Dissolved Solids	mg/L	64	25	26	44	EL7B
Total Hardness	mg CaCO <sub>3</sub> /L	22	2	<1	2	EL9A
Alkalinity	mg CaCO <sub>3</sub> /L	18	2	<2	<2	APHA 2320 B
Chloride	mg/L	8.7	3.9	3.8	9.1	EL10A
Sulfate	mg/L	6.1	0.78	0.60	0.69	EL9A
Calcium	mg/L	6.7	0.36	<0.080	0.34	EL9A
Magnesium	mg/L	1.2	0.24	0.050	0.27	EL9A
Sodium	mg/L	5.8	1.7	0.41	2.3	EL9A
Potassium	mg/L	2.4	0.14	0.10	0.13	EL9A
Zinc - Total*	ug/L	110	430	2,000	2,290	NT2 47
Zinc - Filtered*	ug/L	120	460	2,020	2,510	NT2 47
Copper - Total*	ug/L	6	11	15	45	NT2 47
Copper - Filtered*	ug/L	6.0	12	15	44	NT2 47
Nickel-Total*	ug/L	<1	<1	3.4	6.6	NT2 47
Nickel-Filtered*	ug/L	<1	<1	3.3	6.8	NT2 47
Manganese - Total*	ug/L	52	9.0	6.0	260	NT2 47
Manganese - Filtered*	ug/L	49	9.3	6.5	250	NT2 47
Iron - Total*	ug/L	360	24	100	1,420	NT2 47
Iron - Filtered*	ug/L	250	45	150	1,070	NT2 47
Lead - Total*	ug/L	5	2	300	150	NT2 47
Lead - Filtered*	ug/L	3.9	2.3	290	150	NT2 47
Cobalt -Total*	ug/L	<1	<1	<1	<1	NT2 47
Cobalt -Filtered*	ug/L	<1	<1	<1	<1	NT2 47
Chromium - Trivalent*	ug/L	1.2	<1	1.3	<1	NT2 47
Chromium - Hexavalent*	mg/L	<0.001	<0.001	<0.001	0.003	NW D2
Chromium - Total*	ug/L	1	<1	1	<1	NT2 47
Ammonia Nitrogen	mg/L	0.07	0.21	0.17	0.32	EL13F



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ANALYSIS	UNITS	18/2108/9				METHODNO
pH	pH unit	7.3				APHA 4500-H+ B
Conductivity	µS/cm	89				APHA 2510 B
Total Suspended Solids	mg/L	5				APHA 2540 D
Total Dissolved Solids	mg/L	57				EL7B
Total Hardness	mg CaCO <sub>3</sub> /L	20				EL9A
Alkalinity	mg CaCO <sub>3</sub> /L	18				APHA 2320 B
Chloride	mg/L	5.2				EL10A
Sulfate	mg/L	2.1				EL9A
Calcium	mg/L	7.2				EL9A
Magnesium	mg/L	0.49				EL9A
Sodium	mg/L	2.3				EL9A
Potassium	mg/L	1.0				EL9A
Zinc - Total*	ug/L	1,090				NT2 47
Zinc - Filtered*	ug/L	1,150				NT2 47
Copper - Total*	ug/L	24				NT2 47
Copper - Filtered*	ug/L	22				NT2 47
Nickel-Total*	ug/L	2.0				NT2 47
Nickel-Filtered*	ug/L	1.8				NT2 47
Manganese - Total*	ug/L	22				NT2 47
Manganese - Filtered*	ug/L	19				NT2 47
Iron - Total*	ug/L	150				NT2 47
Iron - Filtered*	ug/L	97				NT2 47
Lead - Total*	ug/L	4				NT2 47
Lead - Filtered*	ug/L	3.4				NT2 47
Cobalt -Total*	ug/L	<1				NT2 47
Cobalt -Filtered*	ug/L	<1				NT2 47
Chromium - Trivalent*	ug/L	5.0				NT2 47
Chromium - Hexavalent*	mg/L	<0.001				NW D2
Chromium - Total*	ug/L	5				NT2 47
Ammonia Nitrogen	mg/L	0.17				EL13F

ANALYSIS	UNITS	18/2108/1	18/2108/2	18/2108/3	18/2108/4	METHODNO
<b>TOTAL RECOVERABLE HYDROCARBONS</b>						
TRHC6-C9*	ug/L	<25	<25	<25	<25	NGCMS 1121
TRHC10-C14*	ug/L	<25	<25	<25	<25	NGCMS 1112
TRHC15-C28*	ug/L	<100	<100	<100	<100	NGCMS 1112
TRHC29-C36*	ug/L	<100	<100	<100	<100	NGCMS 1112
<b>TOTAL RECOVERABLE HYDROCARBON*</b>						
TRHC6- C10	ug/L	<25	<25	<25	<25	NGCMS 1121
TRHC6- C10 less BTEX(F1)	ug/L	<25	<25	<25	<25	NGCMS 1121
TRH>C10-C16	ug/L	<25	<25	<25	<25	NGCMS 1112
TRH>C10 - C16 less Naph (F2)	ug/L	<25	<25	<25	<25	NGCMS 1112
TRH>C16-C34(F3)	ug/L	<100	<100	<100	<100	NGCMS 1112
TRH>C34-C40(F4)	ug/L	<100	<100	<100	<100	NGCMS 1112



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ANALYSIS	UNITS	18/2108/5	18/2108/6	18/2108/7	18/2108/8	METHODNO
<b>TOTAL RECOVERABLE HYDROCARBONS</b>						
TRHC6-C9*	ug/L	<25	<25	<25	<25	NGCMS 1121
TRHC10-C14*	ug/L	<25	<25	<25	<25	NGCMS 1112
TRHC15-C28*	ug/L	<100	<100	<100	<100	NGCMS 1112
TRHC29-C36*	ug/L	<100	<100	<100	<100	NGCMS 1112
<b>TOTAL RECOVERABLE HYDROCARBON*</b>						
TRHC6- C10	ug/L	<25	<25	<25	<25	NGCMS 1121
TRHC6- C10 less BTEX(F1)	ug/L	<25	<25	<25	<25	NGCMS 1121
TRH>C10-C16	ug/L	<25	<25	<25	<25	NGCMS 1112
TRH>C10 - C16 less Naph (F2)	ug/L	<25	<25	<25	<25	NGCMS 1112
TRH>C16-C34(F3)	ug/L	<100	<100	<100	<100	NGCMS 1112
TRH>C34-C40(F4)	ug/L	<100	<100	<100	<100	NGCMS 1112

ANALYSIS	UNITS	18/2108/9				METHODNO
<b>TOTAL RECOVERABLE HYDROCARBONS</b>						
TRHC6-C9*	ug/L	<25				NGCMS 1121
TRHC10-C14*	ug/L	<25				NGCMS 1112
TRHC15-C28*	ug/L	<100				NGCMS 1112
TRHC29-C36*	ug/L	<100				NGCMS 1112
<b>TOTAL RECOVERABLE HYDROCARBON*</b>						
TRHC6- C10	ug/L	<25				NGCMS 1121
TRHC6- C10 less BTEX(F1)	ug/L	<25				NGCMS 1121
TRH>C10-C16	ug/L	<25				NGCMS 1112
TRH>C10 - C16 less Naph (F2)	ug/L	<25				NGCMS 1112
TRH>C16-C34(F3)	ug/L	<100				NGCMS 1112
TRH>C34-C40(F4)	ug/L	<100				NGCMS 1112

**Comments**

Sample(s) collected by client and analysed as received in accordance with "Standard Methods for the Examination of Water & Wastewater", 22nd Edition, 2012, APHA. Raw data sheets stating analysis dates are available upon request.

Tests marked with '#' are not covered by NATA Accreditation.

Note: Microbiological results are membrane presumptive.

\*Analysis conducted by a subcontracted laboratory (NATA Accreditation Number 198) RN1210203.

Note: The filtered analyses were conducted on acidified "field filtered" samples, however it was noted that there were sediments visible in these bottles which may result in elevated levels of trace metals in solution.

Chromium trivalent is calculated from the difference between Chromium Total and Chromium Hexavalent.

Report Date: 12/10/18



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Approved:

*G. Giles*  
Geraldine Giles - Delegate for

B J Wadleigh  
Laboratory Manager