

COFFS HARBOUR LABORATORY

Environmental Analysis

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

BATCHNUMBER: 18/2183
No. of SAMPLES: 11
DATE COLLECTED: 05/10/18
DATE RECEIVED: 08/10/18
TIME RECEIVED: 14:30
DATE TESTING COMMENCED:
08/10/18

REPORT OF ANALYSIS

SAMPLE REFERENCE	SAMPLE DESCRIPTION
18/2183/1	POINT 1
18/2183/2	POINT 2A
18/2183/3	POINT 2B
18/2183/4	POINT 3
18/2183/5	POINT 4
18/2183/6	POINT 5
18/2183/7	POINT 6
18/2183/8	POINT 7
18/2183/9	POINT 8
18/2183/10	POINT 9
18/2183/11	DUMMY

ANALYSIS	UNITS	18/2183/1	18/2183/2	18/2183/3	18/2183/4	METHOD NO
pH	pH unit	7.1	7.3	7.1	7.3	APHA 4500-H+ B
Conductivity	$\mu\text{S}/\text{cm}$	123	132	117	108	APHA 2510 B
Total Suspended Solids	mg/L	13	9	10	7	APHA 2540 D
Total Dissolved Solids	mg/L	79	84	75	69	EL7B
Total Hardness	mg CaCO_3/L	24	33	29	32	EL9A
Alkalinity	mg CaCO_3/L	13	27	25	25	APHA 2320 B
Chloride	mg/L	21	14	12	8.0	EL10A
Sulfate	mg/L	2.5	8.5	7.6	6.2	EL9A
Calcium	mg/L	8.8	10	9.1	11	EL9A
Magnesium	mg/L	0.42	1.7	1.4	0.82	EL9A
Sodium	mg/L	3.2	8.9	8.4	3.7	EL9A
Potassium	mg/L	1.0	1.9	2.0	1.3	EL9A



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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	18/2183/1	18/2183/2	18/2183/3	18/2183/4	METHOD NO
Zinc - Total*	ug/L	5,460	270	240	1,130	NT2 47
Zinc - Filtered*	ug/L	6,240	280	280	1,080	NT2 47
Copper - Total*	ug/L	16	9	24	86	NT2 47
Copper - Filtered*	ug/L	9.2	10	13	73	NT2 47
Nickel-Total*	ug/L	5.3	1.1	1.0	3.4	NT2 47
Nickel-Filtered*	ug/L	5.4	<1	1.2	3.3	NT2 47
Manganese - Total*	ug/L	280	30	27	25	NT2 47
Manganese - Filtered*	ug/L	280	21	20	21	NT2 47
Iron - Total*	ug/L	340	350	330	270	NT2 47
Iron - Filtered*	ug/L	15	82	69	84	NT2 47
Lead - Total*	ug/L	11	9	14	15	NT2 47
Lead - Filtered*	ug/L	1.8	3.4	6.0	14	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	15	1.7	2.0	32	NT2 47
Chromium - Hexavalent*	mg/L	<0.001	<0.001	<0.001	0.001	NW D2
Chromium - Total*	ug/L	15	2	2	33	NT2 47
Ammonia Nitrogen	mg/L	0.42	<0.05	<0.05	0.11	EL13F

ANALYSIS	UNITS	18/2183/5	18/2183/6	18/2183/7	18/2183/8	METHOD NO
pH	pH unit	7.1	5.4	4.9	4.5	APHA 4500-H+ B
Conductivity	µS/cm	99	94	30	62	APHA 2510 B
Total Suspended Solids	mg/L	6	<2	<2	2	APHA 2540 D
Total Dissolved Solids	mg/L	63	60	19	40	EL7B
Total Hardness	mg CaCO ₃ /L	20	6	<1	2	EL9A
Alkalinity	mg CaCO ₃ /L	17	<2	<2	<2	APHA 2320 B
Chloride	mg/L	11	19	3.6	11	EL10A
Sulfate	mg/L	6.7	2.2	0.80	0.89	EL9A
Calcium	mg/L	6.2	0.68	<0.080	0.29	EL9A
Magnesium	mg/L	1.2	0.99	0.033	0.29	EL9A
Sodium	mg/L	6.8	9.9	0.30	2.4	EL9A
Potassium	mg/L	3.2	0.54	<0.050	0.13	EL9A
Zinc - Total*	ug/L	120	1,270	1,410	2,050	NT2 47
Zinc - Filtered*	ug/L	120	1,410	1,570	2,310	NT2 47
Copper - Total*	ug/L	7	13	12	76	NT2 47
Copper - Filtered*	ug/L	6.2	13	12	72	NT2 47
Nickel-Total*	ug/L	<1	1.0	4.1	6.6	NT2 47
Nickel-Filtered*	ug/L	<1	<1	4.0	6.2	NT2 47
Manganese - Total*	ug/L	25	9.9	6.5	280	NT2 47
Manganese - Filtered*	ug/L	20	9.9	6.3	280	NT2 47
Iron - Total*	ug/L	210	41	210	2,140	NT2 47
Iron - Filtered*	ug/L	62	37	200	540	NT2 47
Lead - Total*	ug/L	4	2	230	140	NT2 47
Lead - Filtered*	ug/L	1.7	1.6	230	130	NT2 47
Cobalt -Total*	ug/L	<1	<1	<1	<1	NT2 47



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ANALYSIS	UNITS	18/2183/5	18/2183/6	18/2183/7	18/2183/8	METHODNO
Cobalt -Filtered*	ug/L	<1	<1	<1	<1	NT2 47
Chromium - Trivalent*	ug/L	2.2	<1	1.5	<1	NT2 47
Chromium - Hexavalent*	mg/L	<0.001	<0.001	<0.001	<0.001	NW D2
Chromium - Total*	ug/L	2	<1	2	<1	NT2 47
Ammonia Nitrogen	mg/L	<0.05	0.39	0.12	0.29	EL13F

ANALYSIS	UNITS	18/2183/9	18/2183/10	18/2183/11		METHODNO
pH	pH unit	7.4	7.0	5.4		APHA 4500-H+ B
Conductivity	µS/cm	113	9,130	93		APHA 2510 B
Total Suspended Solids	mg/L	3	4	<2		APHA 2540 D
Total Dissolved Solids	mg/L	72	5,850	59		EL7B
Total Hardness	mg CaCO ₃ /L	28	973	6		EL9A
Alkalinity	mg CaCO ₃ /L	27	46	<2		APHA 2320 B
Chloride	mg/L	8.1	2,850	18		EL10A
Sulfate	mg/L	3.7	491	2.3		EL9A
Calcium	mg/L	10	64	0.64		EL9A
Magnesium	mg/L	0.54	198	0.99		EL9A
Sodium	mg/L	4.9	1,490	9.8		EL9A
Potassium	mg/L	1.5	76	0.53		EL9A
Zinc - Total*	ug/L	1,190	23	1,210		NT2 47
Zinc - Filtered*	ug/L	1,050	27	1,410		NT2 47
Copper - Total*	ug/L	31	1	10		NT2 47
Copper - Filtered*	ug/L	20	1.8	9.7		NT2 47
Nickel-Total*	ug/L	1.1	<1	<1		NT2 47
Nickel-Filtered*	ug/L	<1	<1	<1		NT2 47
Manganese - Total*	ug/L	16	46	9.9		NT2 47
Manganese - Filtered*	ug/L	12	45	10		NT2 47
Iron - Total*	ug/L	210	330	37		NT2 47
Iron - Filtered*	ug/L	9.6	51	32		NT2 47
Lead - Total*	ug/L	2	<1	2		NT2 47
Lead - Filtered*	ug/L	<1	<1	1.5		NT2 47
Cobalt -Total*	ug/L	<1	<1	<1		NT2 47
Cobalt -Filtered*	ug/L	<1	<1	<1		NT2 47
Chromium - Trivalent*	ug/L	59	<1	<1		NT2 47
Chromium - Hexavalent*	mg/L	0.051	<0.001	<0.001		NW D2
Chromium - Total*	ug/L	110	<1	<1		NT2 47
Ammonia Nitrogen	mg/L	<0.05	<0.05	0.35		EL13F



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ANALYSIS	UNITS	18/2183/1	18/2183/2	18/2183/3	18/2183/4	METHODNO
TOTAL RECOVERABLE HYDROCARBONS						
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
TOTAL RECOVERABLE HYDROCARBON*						
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	18/2183/5	18/2183/6	18/2183/7	18/2183/8	METHODNO
TOTAL RECOVERABLE HYDROCARBONS						
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
TOTAL RECOVERABLE HYDROCARBON*						
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	18/2183/9	18/2183/10	18/2183/11		METHODNO
TOTAL RECOVERABLE HYDROCARBONS						
TRHC6-C9*	ug/L	<25	<25	<25		NGCMS 1121
TRHC10-C14*	ug/L	<25	<25	<25		NGCMS 1112
TRHC15-C28*	ug/L	<100	<100	<100		NGCMS 1112
TRHC29-C36*	ug/L	<100	<100	<100		NGCMS 1112
TOTAL RECOVERABLE HYDROCARBON*						
TRHC6- C10	ug/L	<25	<25	<25		NGCMS 1121
TRHC6- C10 less BTEX(F1)	ug/L	<25	<25	<25		NGCMS 1121
TRH>C10-C16	ug/L	<25	<25	<25		NGCMS 1112
TRH>C10 - C16 less Naph (F2)	ug/L	<25	<25	<25		NGCMS 1112
TRH>C16-C34(F3)	ug/L	<100	<100	<100		NGCMS 1112
TRH>C34-C40(F4)	ug/L	<100	<100	<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) RN1211195.

Report Date: 19/10/18



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Approved:

G. Giles
 Geraldine Giles - Delegate for

B J Wadleigh
 Laboratory Manager