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(All correspondence: Tweed Shire Council PO Box 816 Murwillumbah NSW 2484)
www.tweed.nsw.gov.au/tweedlab/

FINAL CERTIFICATE OF ANALYSIS

Client: Waste Management Unit
Address: Tweed Shire Council
PO Box 816
MURWILLUMBAH
NSW 2484

Page 1 of 7

Attention: Rod Dawson
Copy To: Wes Knight

Lims1 Report No: 14/1285-C
Client Reference:
Date of Report: 22/05/2014

All pages of this Report have been checked and approved.
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Taken By: Laboratory Staff
Date Taken: 14/05/2014
Date Received: 14/05/2014

No of Samples: 14
Date Testing Commenced: 14/05/2014
Date Testing Completed: 22/05/2014

Sample Description: Eviron Rd - Quarterly Bores Day 2-Chemical

Sample/Site No	Sample/Site Description
1	GW1
2	GW3
3	GW5
4	GW11
5	GW12
6	GW13
7	GW14
8	GW15
9	GW16
10	GW20
11	GW22
12	GW Dup (GW1)
13	GW Blank
14	GW Wash



Accredited for compliance with ISO/IEC 17025

Accreditation No: 12754 & 13538


Dr Paul J Wright
(Laboratory Coordinator)
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COMMENTS:

Samples have been taken in accordance with AS/NZS 5667.4:1998 and AS/NZS 5667.11:1998.

*Tests not covered by NATA accreditation.

Weather: Rain

Rainfall previous day/week: 19 mm/ 21 mm.

No sample available for GW3 and GW12 (dry) or GW13, GW14 and GW16 (insufficient recharge)

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Sample Identification:			GW1	GW3	GW5	GW11	GW12
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-1	14/1285-C-2	14/1285-C-3	14/1285-C-4	14/1285-C-5
pH	P1	pH units	5.7	--	4.8	5.1	--
Conductivity	P2	μScm^{-1}	282	--	100	100	--
DO (membrane electrode)	P12	mg/L	1.9	--	6.1	3.4	--
Temperature	P14	$^{\circ}\text{C}$	20.1	--	20.5	22.4	--
*Redox Potential	P16	mV	+19	--	+139	+117	--
Alkalinity as CaCO ₃	C10	mg/L	29	--	5	7	--
Carbonate (CO ₃)	C10	mg/L	NP	--	NP	NP	--
Bicarbonate HCO ₃	C10	mg/L	18	--	3	4	--
*Total Acidity	APHA 2310	mg/L CaCO ₃	63	--	58	80	--
BOD ₅	C1	mg/L	6.0	--	1.5	1.5	--
Chloride	C20	mg/L	52	--	25	9	--
Fluoride (by ISE)	C36	mg/L	0.05	--	0.04	0.03	--
TOC	ORG10	mg/L	1.6	--	0.5	1.4	--
Total Phosphorus-P	C17	mg/L	0.32	--	0.19	0.29	--
Total-N	C7	mg/L	1.69	--	1.05	2.02	--
TKN (by calculation)	C55	mg/L	1.53	--	0.09	1.67	--
Ammonia	C3	mg/L	0.59	--	0.03	0.13	--
Nitrate-N	C4	mg/L	0.16	--	0.96	0.35	--
Nitrite-N	C4	mg/L	<0.02	--	<0.02	<0.02	--
Calcium	M8	mg/L	5.3	--	0.5	0.4	--
Magnesium	M8	mg/L	4.3	--	0.8	1.1	--
Sodium	M8	mg/L	33	--	12	15	--
Potassium M8	M8	mg/L	<5	--	<5	<5	--
Sulphur as Sulphate	M8	mg/L	12	--	5.3	8.2	--
Aluminium (Total)	M8	mg/L	36.0	--	23.0	150	--
Arsenic (Total)	M7	mg/L	0.013	--	0.020	0.016	--
Chromium (Total)	M8	mg/L	0.01	--	0.01	0.04	--

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Sample Description: Eviron Rd - Quarterly Bores Day 2-Chemical

Sample Identification:			GW1	GW3	GW5	GW11	GW12
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-1	14/1285-C-2	14/1285-C-3	14/1285-C-4	14/1285-C-5
*Chromium 3	M8	mg/L	0.01	--	0.01	0.04	--
*Chromium 6	APHA 2310	mg/L	<0.01	--	<0.01	<0.01	--
Copper (Total)	M8	mg/L	0.05	--	0.06	0.16	--
Iron (Total)	M8	mg/L	46.0	--	50.0	160	--
Manganese (Total)	M8	mg/L	0.95	--	9.38	2.99	--
Nickel (Total)	M8	mg/L	0.01	--	0.03	0.03	--
Zinc (Total)	M8	mg/L	0.20	--	0.35	0.32	--
Cadmium (Total)	M7	mg/L	0.001	--	0.001	0.001	--
Lead (Total)	M7	mg/L	0.05	--	0.03	0.08	--

Sample Identification:			GW13	GW14	GW15	GW16	GW20
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-6	14/1285-C-7	14/1285-C-8	14/1285-C-9	14/1285-C-10
pH	P1	pH units	--	--	6.3	--	7.0
Conductivity	P2	μScm^{-1}	--	--	687	--	882
DO (membrane electrode)	P12	mg/L	--	--	2.6	--	2.6
Temperature	P14	°C	--	--	21.1	--	20.1
*Redox Potential	P16	mV	--	--	-27	--	-48
Alkalinity as CaCO ₃	C10	mg/L	--	--	130	--	340
Carbonate (CO ₃)	C10	mg/L	--	--	NP	--	NP
Bicarbonate HCO ₃	C10	mg/L	--	--	82	--	210
*Total Acidity	APHA 2310	mg/L CaCO ₃	--	--	110	--	40
BOD ₅	C1	mg/L	--	--	14	--	4.2
Chloride	C20	mg/L	--	--	110	--	67
Fluoride (by ISE)	C36	mg/L	--	--	0.25	--	0.44

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Sample Identification:			GW13	GW14	GW15	GW16	GW20
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-6	14/1285-C-7	14/1285-C-8	14/1285-C-9	14/1285-C-10
TOC	ORG10	mg/L	--	--	16	--	3.0
Total Phosphorus-P	C17	mg/L	--	--	0.17	--	0.09
Total-N	C7	mg/L	--	--	4.18	--	0.68
TKN (by calculation)	C55	mg/L	--	--	3.94	--	0.54
Ammonia	C3	mg/L	--	--	1.70	--	0.26
Nitrate-N	C4	mg/L	--	--	0.20	--	0.14
Nitrite-N	C4	mg/L	--	--	0.04	--	<0.02
Calcium	M8	mg/L	--	--	20	--	76
Magnesium	M8	mg/L	--	--	12	--	11
Sodium	M8	mg/L	--	--	76	--	87
Potassium M8	M8	mg/L	--	--	<5	--	<5
Sulphur as Sulphate	M8	mg/L	--	--	23	--	13
Aluminium (Total)	M8	mg/L	--	--	3.06	--	0.55
Arsenic (Total)	M7	mg/L	--	--	0.022	--	<0.005
Chromium (Total)	M8	mg/L	--	--	<0.01	--	<0.01
*Chromium 3	M8	mg/L	--	--	<0.01	--	<0.01
*Chromium 6	APHA 2310	mg/L	--	--	<0.01	--	<0.01
Copper (Total)	M8	mg/L	--	--	<0.01	--	<0.01
Iron (Total)	M8	mg/L	--	--	27.0	--	2.11
Manganese (Total)	M8	mg/L	--	--	0.33	--	0.94
Nickel (Total)	M8	mg/L	--	--	<0.01	--	<0.01
Zinc (Total)	M8	mg/L	--	--	0.06	--	0.07
Cadmium (Total)	M7	mg/L	--	--	0.001	--	<0.001
Lead (Total)	M7	mg/L	--	--	0.01	--	<0.01

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Sample Description: Eviron Rd - Quarterly Bores Day 2-Chemical

Sample Identification:			GW22	GW Dup (GW1)	GW Blank	GW Wash
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-11	14/1285-C-12	14/1285-C-13	14/1285-C-14
pH	P1	pH units	6.8	5.7	6.4	6.3
Conductivity	P2	μScm^{-1}	1,534	282	1	1
DO (membrane electrode)	P12	mg/L	2.9	1.9	9.0	9.5
Temperature	P14	$^{\circ}\text{C}$	20.2	20.1	19.8	20.2
*Redox Potential	P16	mV	-69	+19	+77	+64
Alkalinity as CaCO ₃	C10	mg/L	570	30	2	2
Carbonate (CO ₃)	C10	mg/L	NP	NP	NP	NP
Bicarbonate HCO ₃	C10	mg/L	346	18	1	1
*Total Acidity	APHA 2310	mg/L CaCO ₃	100	68	2	2
BOD ₅	C1	mg/L	<1.0	8.1	<1.0	<1.0
Chloride	C20	mg/L	110	54	<3	<3
Fluoride (by ISE)	C36	mg/L	0.16	0.05	<0.01	<0.01
TOC	ORG10	mg/L	2.4	1.6	<0.2	<0.2
Total Phosphorus-P	C17	mg/L	0.02	0.37	<0.02	0.02
Total-N	C7	mg/L	0.57	1.82	0.08	0.08
TKN (by calculation)	C55	mg/L	0.49	1.65	<0.05	<0.05
Ammonia	C3	mg/L	0.33	0.68	0.04	0.04
Nitrate-N	C4	mg/L	0.06	0.17	0.04	0.04
Nitrite-N	C4	mg/L	0.02	<0.02	<0.02	<0.02
Calcium	M8	mg/L	122	5.6	<0.1	<0.1
Magnesium	M8	mg/L	14	4.5	<0.1	<0.1
Sodium	M8	mg/L	169	34	<0.1	<0.1
Potassium M8	M8	mg/L	5	<5	<5	<5
Sulphur as Sulphate	M8	mg/L	87	11	<0.1	<0.1
Aluminium (Total)	M8	mg/L	0.27	41.0	0.05	1.05
Arsenic (Total)	M7	mg/L	<0.005	0.015	<0.005	<0.005
Chromium (Total)	M8	mg/L	<0.01	0.01	<0.01	<0.01
*Chromium 3	M8	mg/L	<0.01	0.01	<0.01	<0.01
*Chromium 6	APHA 2310	mg/L	<0.01	<0.01	<0.01	<0.01

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Sample Identification:			GW22	GW Dup (GW1)	GW Blank	GW Wash
Date Taken:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Received:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Date Testing Commenced:			14/05/2014	14/05/2014	14/05/2014	14/05/2014
Test	Method	Units	14/1285-C-11	14/1285-C-12	14/1285-C-13	14/1285-C-14
Copper (Total)	M8	mg/L	<0.01	0.06	<0.01	<0.01
Iron (Total)	M8	mg/L	5.40	50.0	0.04	0.70
Manganese (Total)	M8	mg/L	1.89	1.06	<0.01	<0.01
Nickel (Total)	M8	mg/L	<0.01	0.01	<0.01	<0.01
Zinc (Total)	M8	mg/L	0.04	0.23	0.01	0.01
Cadmium (Total)	M7	mg/L	<0.001	0.001	<0.001	<0.001
Lead (Total)	M7	mg/L	<0.01	0.06	<0.01	<0.01

