

Watercare

Laboratory Services

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Certificate of Analysis

Laboratory Reference: 170904-124

Attention:	Fsmith	Final Report:	241491-1	Replaces Report	241491-0
Client:	A B LIME LIMITED	Report Issue Date:	21-Sep-2017		
Address:	PO Box 102, Winton, 9741	Received Date:	04-Sep-2017		
Client Reference:	Derek Chamberlain Property	Sampled By:	Fiona Smith		
Purchase Order:	Takitimu Farm	Quote Reference:	8126		

Sample Details		WATERS	WATERS	WATERS	WATERS
Lab Sample ID:		170904-124-1	170904-124-2	170904-124-3	170904-124-4
Client Sample ID:		1	2	3	4
Sample Date/Time:		04/09/2017 13:30	04/09/2017 13:40	04/09/2017 13:50	04/09/2017 14:00
Description:		Marshburn	Top Marsburn	Top Merten #1	Top Merten #2
General Testing					
Ammoniacal Nitrogen (as N)	mg/L	<0.01	0.10	0.01	<0.01
Dissolved Reactive Phosphorus (as P)	mg/L	0.006	0.006	0.006	0.013
Total Oxidised Nitrogen (as N)	mg/L	0.32	0.17	0.12	0.48
Turbidity	NTU	5.0	18	12	2.8
Microbiology					
Escherichia coli by MPN(Colilert-18)					
Escherichia coli (Colilert-18)	MPN/100 mL	37	4.1	25	11

Sample Details		WATERS	WATERS	WATERS
Lab Sample ID:		170904-124-5	170904-124-6	170904-124-7
Client Sample ID:		5	6	7
Sample Date/Time:		04/09/2017 14:10	04/09/2017 14:20	04/09/2017 14:30
Description:		Wairaki Creek Upper	Wairaki Creek Bottom	Mertens Lower
General Testing				
Ammoniacal Nitrogen (as N)	mg/L	0.02	<0.01	<0.01
Dissolved Reactive Phosphorus (as P)	mg/L	0.011	0.008	<0.005
Total Oxidised Nitrogen (as N)	mg/L	0.31	0.10	0.17
Turbidity	NTU	3.3	3.7	5.7
Microbiology				
Escherichia coli by MPN(Colilert-18)				
Escherichia coli (Colilert-18)	MPN/100 mL	12	9.8	25

Results marked with * are not accredited to International Accreditation New Zealand

Where samples have been supplied by the client they are tested as received. A dash indicates no test performed.

Reference Methods

The sample(s) referred to in this report were analysed by the following method(s)

Analyte	Method Reference	MDL	Samples	Location
General Testing				
Ammoniacal Nitrogen (as N) by Colorimetry/Discrete Analyser	ISBN 0117516139 (modified)	0.010 mg/L	All	Invercargill
Dissolved Reactive Phosphorus (as P) by Colorimetry/Discrete Analyser	APHA (online edition) 4500-P E	0.005 mg/L	All	Invercargill
Total Oxidised Nitrogen (as N) by Colorimetry/Discrete Analyser	APHA (online edition) 4500-NO ₃ H	0.010 mg/L	All	Invercargill
Turbidity by Nephelometry	APHA (online edition) 2130 B (modified)	0.1 NTU	All	Invercargill
Microbiology				
Escherichia coli by MPN(Colilert-18)				
Escherichia coli (Colilert-18)	APHA (online edition) 9223 B Colilert Quantitray	1 MPN/100 mL	All	Invercargill

Submitter No: 856, 857

Submitter Name:
West Range farms

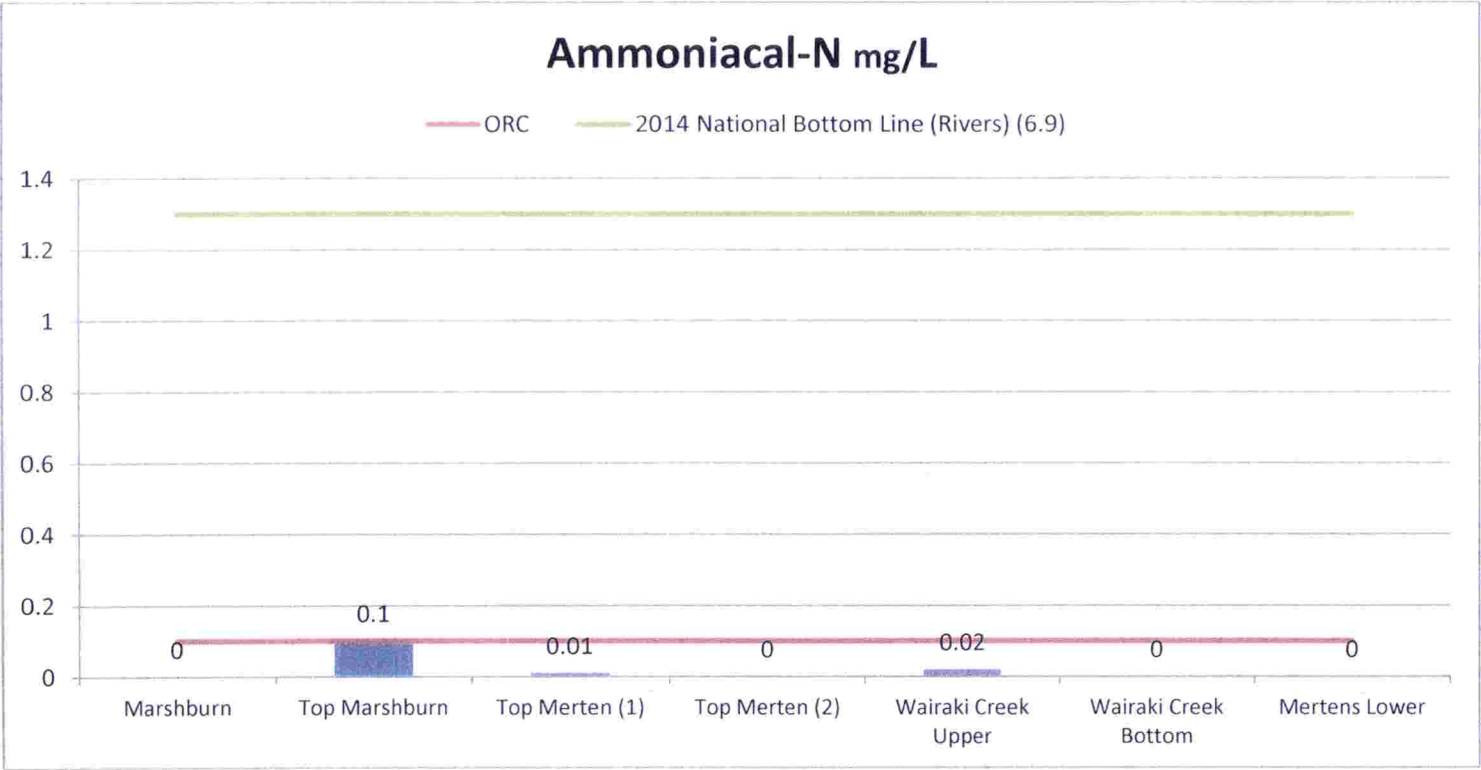
Date Received: 25/ 9 /17

CHAMBERLAIN PROPERTY

SEPTEMBER 2017

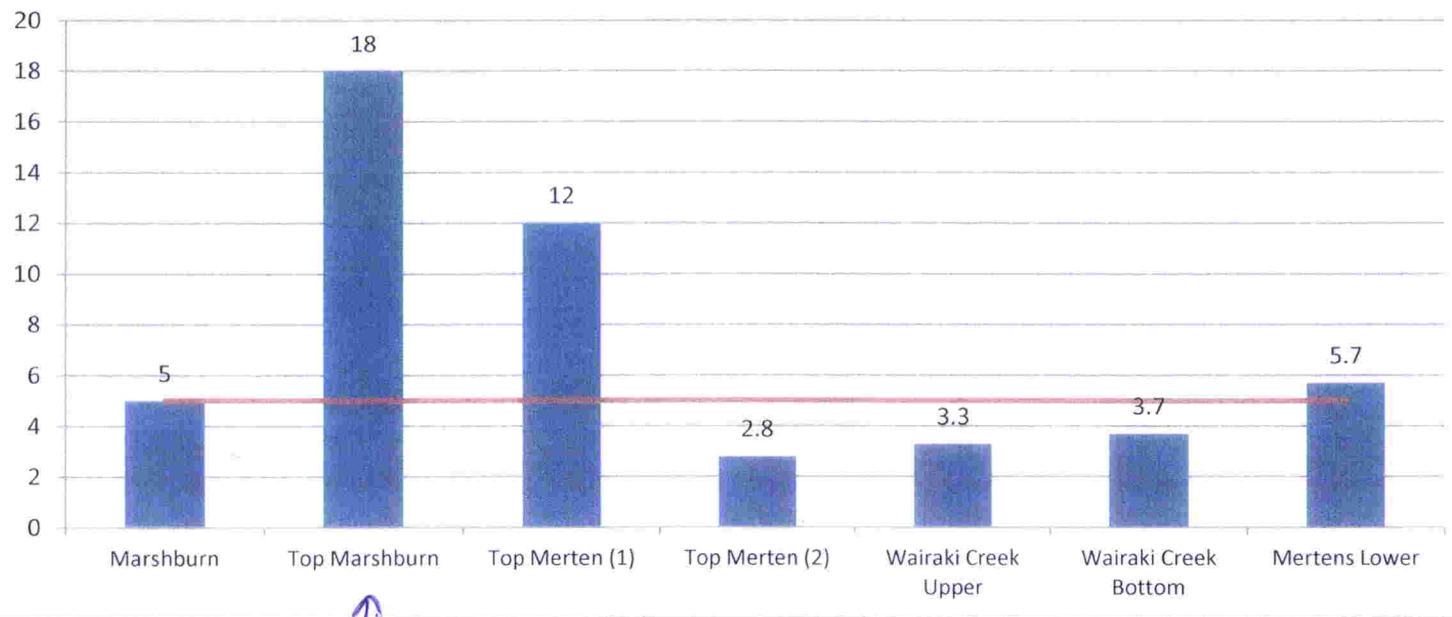
			1	2	3	4	5	6	7
Parameter	unit	Guide	Marshburn	Top Marshburn	Top Merten (1)	Top Merten (2)	Wairaki Creek Upper	Wairaki Creek Bottom	Mertens Lower
Ammoniacal-N	mg/L	0.1	<0.01	0.1	0.01	<0.01	0.02	<0.01	<0.01
Dissolve Reactive-P	mg/L	0.03	0.006	0.006	0.006	0.013	0.011	0.008	<0.005
Total Oxidised N	mg/L	0.45	0.32	0.17	0.12	0.48	0.31	0.1	0.17
Turbidity	NTU	5	5	18	12	2.8	3.3	3.7	5.7
E.Coli	MPN/100 mL	125	37	4.1	25	11	12	9.8	25

ORC refers to Otago Regional Council recent Surface Water discharge guidelines. There are no historic or current guidelines for Southland.



Turbidity NTU

— ORC (2012) (0.45 ppm)



↑
Sanctuary
10mls Rain on the
17/18 Aug

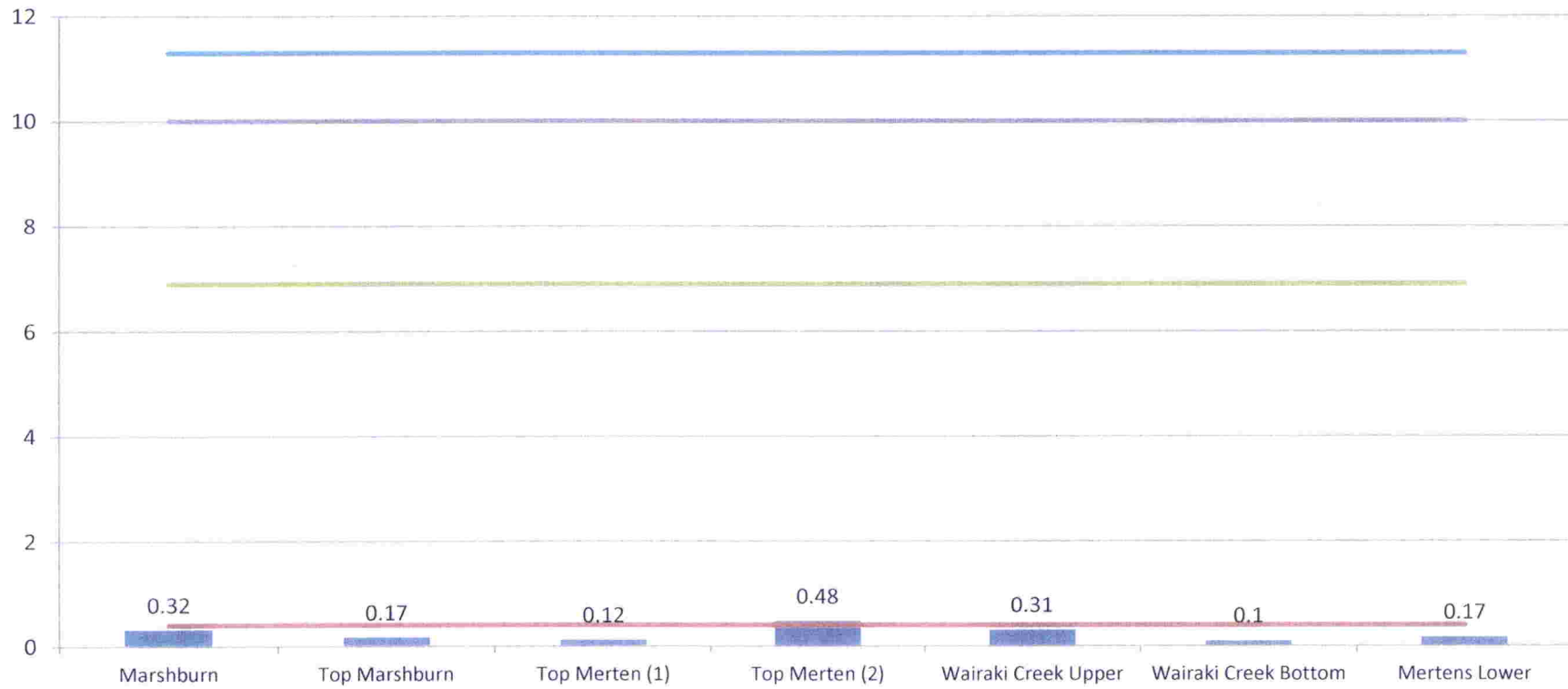
Nitrite- Nitrate N mg/L

ORC (2012) (0.45 ppm)

2014 National Bottom Line (Rivers) (6.9)

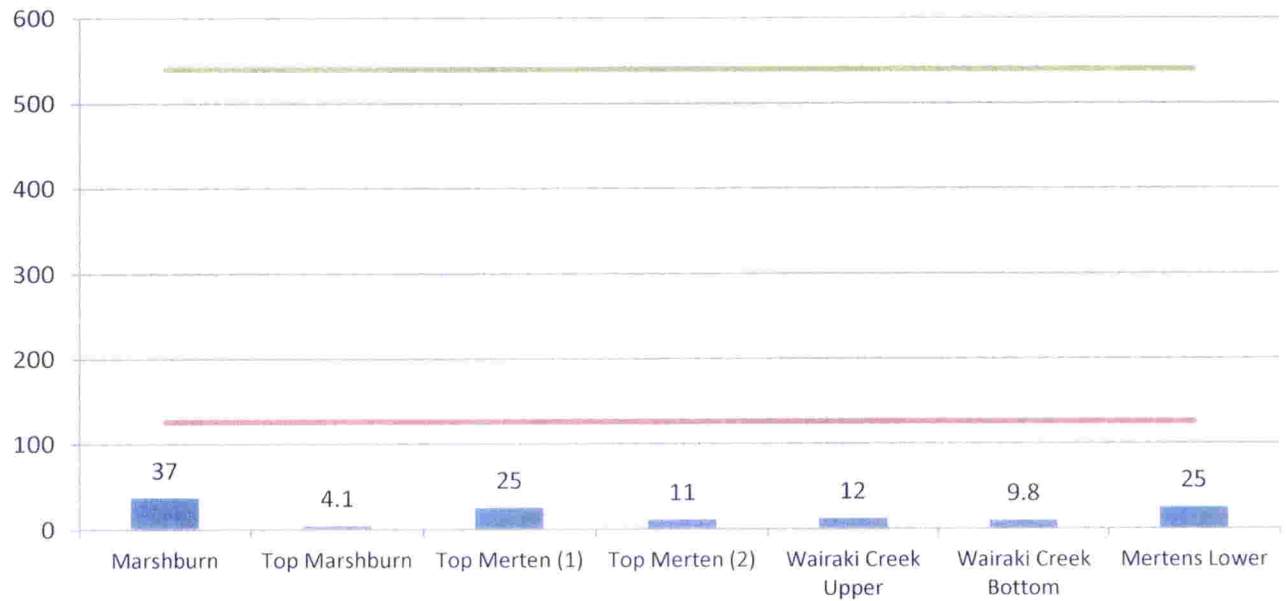
World Health Organisation (10 ppm)

Maximum Allowable Value (Drinking) NZ (11.3 ppm)

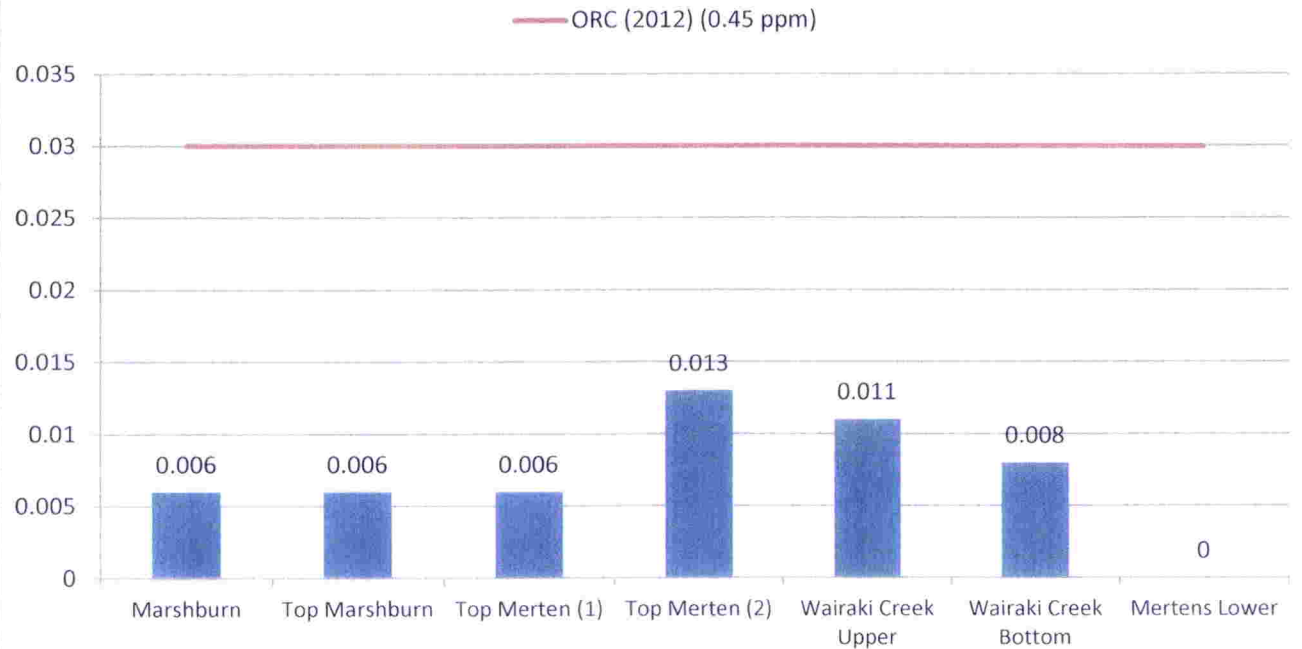


E.Coli MPN/100mL

— ORC — 2014 National Bottom Line



Dissolved Reactive-P mg/L



A Few Notes:

- mg/L is the same as PPM (or parts per million)
- Ammoniacal-N is used as an indicator of effluent, or organic nitrogen in freshwater.
- Turbidity is an indication of how much sediment is present. As phosphate is often attached to sediment there is often a relationship between the two.
- Nitrate and Nitrite Nitrogen is often referred to as Total Oxidised N. Nitrite is very reactive and quickly converts to Nitrate, so the total is generally used to reflect Nitrate levels. Also referred to as NNN
- This testing gives total E.coli. E.coli can be from a wide range of sources including birds, humans, cows and sheep. You can test for specific E.coli if you have concerns about its source. It costs about \$500 per test but it will tell you its original source.