

Winstone Aggregates - Otaki  
1 State Highway 1  
Otaki 5543  
Attention: Gary Edwards

## Analytical Report

Report Number: 20/67108  
Issue: 1  
18 December 2020

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
20/67108-01	Bore water		15/12/2020 00:00	15/12/2020 14:18	TBA
Notes: Winstone Bore - Otaki					
Test	Result	Units	Test Date	Signatory	
0001 pH	6.3		16/12/2020	Jennifer Mont KTP	
0052 Alkalinity - Total	21	g CaCO3/m <sup>3</sup>	16/12/2020	Jennifer Mont KTP	
0055 Conductivity at 25°C	10.3	mS/m	16/12/2020	Jennifer Mont KTP	
0084 Turbidity	0.43	NTU	16/12/2020	Gordon McArthur KTP	
0602 Chloride	9.81	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
0605 Nitrate - Nitrogen	0.68	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
1642 Total Hardness	30	g CaCO3/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1800 Aluminium - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1810 Calcium - Dissolved	8.88	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1819 Iron - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1822 Magnesium - Dissolved	1.82	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1823 Manganese - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
5007 TPH C7 - C9	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5010 TPH C10 - C12	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5012 TPH C13 - C19	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5015 TPH C20 - C26	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5021 TPH C27 - C37	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5040 Maximum TPH Content	< 0.5 *	mg/L	16/12/2020	Joanna Yang .	
M0102 Faecal Coliforms	< 1	cfu/100ml	15/12/2020	Juana Tamayo KTP	
M0104 E. coli	< 1	cfu/100mL	15/12/2020	Juana Tamayo KTP	
P1859 Sample Filtration	Completed		15/12/2020	Harsimran Dhanoa .	

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
20/67108-02	Bore water		15/12/2020 00:00	15/12/2020 14:18	TBA
Notes: Winstone Pond - Otaki					
Test	Result	Units	Test Date	Signatory	
0001 pH	7.5		16/12/2020	Jennifer Mont KTP	
0052 Alkalinity - Total	18	g CaCO3/m <sup>3</sup>	16/12/2020	Jennifer Mont KTP	
0055 Conductivity at 25°C	7.6	mS/m	16/12/2020	Jennifer Mont KTP	
0084 Turbidity	1.96	NTU	16/12/2020	Gordon McArthur KTP	
0602 Chloride	7.60	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
0605 Nitrate - Nitrogen	0.02	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
1642 Total Hardness	21	g CaCO3/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1800 Aluminium - Dissolved	0.008	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1810 Calcium - Dissolved	6.10	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1819 Iron - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1822 Magnesium - Dissolved	1.30	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1823 Manganese - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
5007 TPH C7 - C9	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5010 TPH C10 - C12	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5012 TPH C13 - C19	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5015 TPH C20 - C26	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5021 TPH C27 - C37	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5040 Maximum TPH Content	< 0.5 *	mg/L	16/12/2020	Joanna Yang .	
M0102 Faecal Coliforms	100	cfu/100ml	15/12/2020	Juana Tamayo KTP	
M0104 E. coli	99	cfu/100mL	15/12/2020	Juana Tamayo KTP	
P1859 Sample Filtration	Completed		15/12/2020	Harsimran Dhanoa .	

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
20/67108-03	Bore water		15/12/2020 00:00	15/12/2020 14:18	TBA
Notes: 72 Te Roto Bore - Otaki					
Test	Result	Units	Test Date	Signatory	
0001 pH	6.3		16/12/2020	Jennifer Mont KTP	
0052 Alkalinity - Total	23	g CaCO3/m <sup>3</sup>	16/12/2020	Jennifer Mont KTP	
0055 Conductivity at 25°C	11.2	mS/m	16/12/2020	Jennifer Mont KTP	



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Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
20/67108-03	Bore water		15/12/2020 00:00	15/12/2020 14:18	TBA
Notes: 72 Te Roto Bore - Otaki					
Test	Result	Units	Test Date	Signatory	
0084 Turbidity	4.33	NTU	16/12/2020	Gordon McArthur KTP	
0602 Chloride	10.4	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
0605 Nitrate - Nitrogen	0.80	g/m <sup>3</sup>	18/12/2020	Shanel Kumar KTP	
1642 Total Hardness	31	g CaCO <sub>3</sub> /m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1800 Aluminium - Dissolved	< 0.005	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1810 Calcium - Dissolved	9.28	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1819 Iron - Dissolved	0.092	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1822 Magnesium - Dissolved	1.95	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
1823 Manganese - Dissolved	0.018	g/m <sup>3</sup>	16/12/2020	Shanel Kumar KTP	
5007 TPH C7 - C9	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5010 TPH C10 - C12	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5012 TPH C13 - C19	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5015 TPH C20 - C26	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5021 TPH C27 - C37	< 0.1	mg/L	16/12/2020	Joanna Yang KTP	
5040 Maximum TPH Content	< 0.5 *	mg/L	16/12/2020	Joanna Yang .	
M0102 Faecal Coliforms	< 1	cfu/100ml	15/12/2020	Juana Tamayo KTP	
M0104 E. coli	< 1	cfu/100mL	15/12/2020	Juana Tamayo KTP	
P1859 Sample Filtration	Completed		15/12/2020	Harsimran Dhanoa .	

#### Comments:

\* Not an accredited test.

Sampled by customer using ELS approved containers.

All samples analysed as we receive them. Delivery was within the correct time and temperature conditions.

#### Test Methodology:

Test	Methodology	Detection Limit
pH	Dedicated pH meter following APHA Online Edition Method 4500-H B.	0.1
Alkalinity - Total	APHA Online Edition Method 2320 B	1 g CaCO <sub>3</sub> /m <sup>3</sup>
Conductivity at 25°C	APHA Online Edition Method 2510 B.	0.1 mS/m
Turbidity	Turbidity Meter following APHA Online Edition Method 2130 B.	0.01 NTU
Chloride	Ion Chromatography following APHA 4110B.	0.02 g/m <sup>3</sup>
Nitrate - Nitrogen	Ion Chromatography following APHA 4110B.	0.01 g/m <sup>3</sup>
Total Hardness	ICP-OES following APHA Online Edition Method 3120 B (modified).	1 g CaCO <sub>3</sub> /m <sup>3</sup>
Aluminium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m <sup>3</sup>
Calcium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.01 g/m <sup>3</sup>
Iron - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m <sup>3</sup>
Magnesium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.01 g/m <sup>3</sup>
Manganese - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m <sup>3</sup>
TPH C7 - C9	Total Petroleum Hydrocarbon performed by GC-FID.	0.1 mg/L
TPH C10 - C12	Total Petroleum Hydrocarbon performed by GC-FID	0.1 mg/L
TPH C13 - C19	Total Petroleum Hydrocarbon performed by GC-FID	0.1 mg/L
TPH C20 - C26	Total Petroleum Hydrocarbon performed by GC-FID	0.1 mg/L
TPH C27 - C37	Total Petroleum Hydrocarbon performed by GC-FID	0.1 mg/L
Maximum TPH Content	Calculation - Sum of Total Petroleum Hydrocarbon performed by GC-FID.	0.5 mg/L
Faecal Coliforms	APHA 9222D:Online Edition	1 cfu/100ml
E. coli	APHA 9222I:Online Edition	1 cfu/100mL
Sample Filtration	Sample filtered through 0.45 micron filter following APHA Online Edition Method 3030B.	n/a

Unless otherwise stated, all tests are performed in Wellington.

The laboratory is not responsible for the information provided by the customer which can affect the validity of the results, for example: sampling information such as date/time, field data etc.

"<" means that no analyte was found in the sample at the level of detection shown. Detection limits are based on a clean matrix and may vary according to individual sample.

For liquid samples g/m<sup>3</sup> is the equivalent to mg/L and ppm, solid samples are reported as mg/kg which is equivalent to ppm.

Samples will be retained for a period of time, in suitable conditions appropriate to the analyses requested.



Report Released By  
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This laboratory is accredited by International Accreditation New Zealand and its reports are recognised in all countries affiliated to the International Laboratory Accreditation Co-operation Mutual Recognition Arrangement (ILAC-MRA). The tests reported have been performed in accordance with our terms of accreditation, with the exception of tests marked "not an accredited test", which are outside the scope of this laboratory's accreditation.

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