

Winstone Aggregates -
Belmont/Dry Creek
541 Hebden Cres
PO Box 31-447
LOWER HUTT 5040
Attention: Kristian Otto

Analytical Report

Report Number: 19/13470

Issue: 1
26 March 2019

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
19/13470-01	Miscellaneous Sample		18/03/2019 11:35	18/03/2019 15:43	18539724

Notes: Winstone Bore

Test	Result	Units	Comments	Signatory
0001 pH	6.4			Gordon McArthur KTP
0052 Alkalinity - Total	19	g CaCO3/m ³		Gordon McArthur KTP
0055 Conductivity at 25°C	8.3	mS/m		Gordon McArthur KTP
0602 Chloride	7.49	g/m ³		Shanel Kumar KTP
0605 Nitrate - Nitrogen	0.21	g/m ³		Shanel Kumar KTP
1642 Total Hardness	23	g CaCO3/m ³		Richard Zhao KTP
1800 Aluminium - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1810 Calcium - Dissolved	6.84	g/m ³		Richard Zhao KTP
1819 Iron - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1822 Magnesium - Dissolved	1.33	g/m ³		Richard Zhao KTP
1823 Manganese - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
5007 TPH C7 - C9	< 0.1	mg/L		Dr Alan Stanley KTP
5010 TPH C10 - C12	< 0.1	mg/L		Dr Alan Stanley KTP
5012 TPH C13 - C19	< 0.1	mg/L		Dr Alan Stanley KTP
5015 TPH C20 - C26	< 0.1	mg/L		Dr Alan Stanley KTP
5021 TPH C27 - C37	< 0.1	mg/L		Dr Alan Stanley KTP
5040 Maximum TPH Content	< 0.5	mg/L		Dr Alan Stanley KTP
M0408 Faecal Coliforms	< 1	cfu/100mL		Maria Norris KTP
M0409 E. coli	< 1	cfu/100mL		Maria Norris KTP

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
19/13470-02	Miscellaneous Sample		18/03/2019 12:40	18/03/2019 15:43	18539724

Notes: 72 Te Roto Bore

Test	Result	Units	Comments	Signatory
0001 pH	6.8			Gordon McArthur KTP
0052 Alkalinity - Total	18	g CaCO3/m ³		Gordon McArthur KTP
0055 Conductivity at 25°C	8.1	mS/m		Gordon McArthur KTP
0602 Chloride	7.54	g/m ³		Shanel Kumar KTP
0605 Nitrate - Nitrogen	0.26	g/m ³		Shanel Kumar KTP
1642 Total Hardness	22	g CaCO3/m ³		Richard Zhao KTP
1800 Aluminium - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1810 Calcium - Dissolved	6.55	g/m ³		Richard Zhao KTP
1819 Iron - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1822 Magnesium - Dissolved	1.30	g/m ³		Richard Zhao KTP
1823 Manganese - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
5007 TPH C7 - C9	< 0.1	mg/L		Dr Alan Stanley KTP
5010 TPH C10 - C12	< 0.1	mg/L		Dr Alan Stanley KTP
5012 TPH C13 - C19	< 0.1	mg/L		Dr Alan Stanley KTP
5015 TPH C20 - C26	< 0.1	mg/L		Dr Alan Stanley KTP
5021 TPH C27 - C37	< 0.1	mg/L		Dr Alan Stanley KTP
5040 Maximum TPH Content	< 0.5	mg/L		Dr Alan Stanley KTP
M0408 Faecal Coliforms	< 1	cfu/100mL		Maria Norris KTP
M0409 E. coli	< 1	cfu/100mL		Maria Norris KTP

Sample	Site	Map Ref.	Date Sampled	Date Received	Order No.
19/13470-03	Miscellaneous Sample		18/03/2019 13:00	18/03/2019 15:43	18539724

Notes: Winstone Pond

Test	Result	Units	Comments	Signatory
0001 pH	7.1			Gordon McArthur KTP
0052 Alkalinity - Total	18	g CaCO3/m ³		Gordon McArthur KTP
0055 Conductivity at 25°C	7.3	mS/m		Gordon McArthur KTP
0602 Chloride	7.40	g/m ³		Shanel Kumar KTP
0605 Nitrate - Nitrogen	< 0.01	g/m ³		Shanel Kumar KTP
1642 Total Hardness	20	g CaCO3/m ³		Richard Zhao KTP
1800 Aluminium - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1810 Calcium - Dissolved	5.90	g/m ³		Richard Zhao KTP
1819 Iron - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
1822 Magnesium - Dissolved	1.17	g/m ³		Richard Zhao KTP
1823 Manganese - Dissolved	< 0.005	g/m ³		Richard Zhao KTP
5007 TPH C7 - C9	< 0.1	mg/L		Dr Alan Stanley KTP
5010 TPH C10 - C12	< 0.1	mg/L		Dr Alan Stanley KTP
5012 TPH C13 - C19	< 0.1	mg/L		Dr Alan Stanley KTP
5015 TPH C20 - C26	< 0.1	mg/L		Dr Alan Stanley KTP
5021 TPH C27 - C37	< 0.1	mg/L		Dr Alan Stanley KTP
5040 Maximum TPH Content	< 0.5	mg/L		Dr Alan Stanley KTP
M0408 Faecal Coliforms	15	cfu/100mL	Above extreme maximum of 1	Juana Tamayo KTP
M0409 E. coli	15	cfu/100mL		Juana Tamayo KTP

Comments:

Sampled by ELS using approved containers and techniques.

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.	0.1
Alkalinity - Total	APHA Online Edition Method 2320 B	1 g CaCO3/m ³
Conductivity at 25°C	APHA Online Edition Method 2510 B.	0.1 mS/m
Chloride	Ion Chromatography following USEPA 300.0 (modified).	0.02 g/m ³
Nitrate - Nitrogen	Ion Chromatography following USEPA 300.0 (modified).	0.01 g/m ³
Total Hardness	ICP-OES following APHA Online Edition Method 3120 B (modified).	1 g CaCO3/m ³
Aluminium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m ³
Calcium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.01 g/m ³
Iron - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m ³
Magnesium - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.01 g/m ³
Manganese - Dissolved	ICP-OES following APHA Online Edition Method 3120 B (modified).	0.005 g/m ³
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	Total Petroleum Hydrocarbon performed by GC-FID.	0.5 mg/L
Faecal Coliforms	APHA 9222D:Online Edition	1 cfu/100mL
E. coli	APHA 9222G:Online Edition	1 cfu/100mL

Unless otherwise stated, all tests are performed in Wellington.

"<" 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.

g/m3 is the equivalent to mg/L and ppm.

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



Report Released By
Rob Deacon

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 IANZ", which are outside the scope of this laboratory's accreditation.

This report may not be reproduced except in full without the written approval of this laboratory.



Wellington
85 Port Road, Seaview
Lower Hutt 5045
Phone: (04) 576-5016

Rolleston
43 Detroit Drive
Rolleston 7675
Phone: (03) 343-5227

Dunedin
16 Lorne Street
South Dunedin 9012
Phone: (03) 972-7963

Page 3 of 3
Report Number: 19/13470-1 ELS
26 March 2019 16:01:24