

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

Analytical Report

Report Number: 19/43920

Issue: 1
28 August 2019

| Sample | Site | Map Ref. | Date Sampled | Date Received | Order No. |
|-------------|----------------------|----------|------------------|------------------|-----------|
| 19/43920-01 | Miscellaneous Sample | | 22/08/2019 12:40 | 22/08/2019 15:28 | 18539724 |

Notes: Winstone Bore

| Test | Result | Units | Comments | Signatory |
|----------------------------|---------|------------------------|----------|---------------------|
| 0001 pH | 6.4 | | | Jennifer Mont KTP |
| 0052 Alkalinity - Total | 21 | g CaCO3/m ³ | | Jennifer Mont KTP |
| 0055 Conductivity at 25°C | 9.7 | mS/m | | Jennifer Mont KTP |
| 0602 Chloride | 9.56 | g/m ³ | | Shanel Kumar KTP |
| 0605 Nitrate - Nitrogen | 0.93 | g/m ³ | | Shanel Kumar KTP |
| 1642 Total Hardness | 28 | g CaCO3/m ³ | | Shanel Kumar KTP |
| 1800 Aluminium - Dissolved | < 0.005 | g/m ³ | | Shanel Kumar KTP |
| 1810 Calcium - Dissolved | 8.38 | g/m ³ | | Shanel Kumar KTP |
| 1819 Iron - Dissolved | < 0.005 | g/m ³ | | Shanel Kumar KTP |
| 1822 Magnesium - Dissolved | 1.68 | g/m ³ | | Shanel Kumar KTP |
| 1823 Manganese - Dissolved | < 0.005 | g/m ³ | | Shanel Kumar 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. |
|-------------|----------------------|----------|------------------|------------------|-----------|
| 19/43920-02 | Miscellaneous Sample | | 22/08/2019 13:11 | 22/08/2019 15:28 | 18539724 |

Notes: 72 Te Roto Bore

| Test | Result | Units | Comments | Signatory |
|----------------------------|---------|------------------------|----------|---------------------|
| 0001 pH | 6.6 | | | Jennifer Mont KTP |
| 0052 Alkalinity - Total | 20 | g CaCO3/m ³ | | Jennifer Mont KTP |
| 0055 Conductivity at 25°C | 10.3 | mS/m | | Jennifer Mont KTP |
| 0602 Chloride | 10.0 | g/m ³ | | Shanel Kumar KTP |
| 0605 Nitrate - Nitrogen | 1.10 | g/m ³ | | Shanel Kumar KTP |
| 1642 Total Hardness | 29 | g CaCO3/m ³ | | Shanel Kumar KTP |
| 1800 Aluminium - Dissolved | < 0.005 | g/m ³ | | Shanel Kumar KTP |
| 1810 Calcium - Dissolved | 8.70 | g/m ³ | | Shanel Kumar KTP |
| 1819 Iron - Dissolved | 0.022 | g/m ³ | | Shanel Kumar KTP |
| 1822 Magnesium - Dissolved | 1.78 | g/m ³ | | Shanel Kumar KTP |
| 1823 Manganese - Dissolved | < 0.005 | g/m ³ | | Shanel Kumar 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. |
|-------------|----------------------|----------|------------------|------------------|-----------|
| 19/43920-03 | Miscellaneous Sample | | 22/08/2019 13:00 | 22/08/2019 15:28 | 18539724 |

Notes: Winstone Pond

| Test | Result | Units | Comments | Signatory |
|----------------------------|--------|-------------------------------------|----------------------------|---------------------|
| 0001 pH | 7.4 | | | Jennifer Mont KTP |
| 0052 Alkalinity - Total | 17 | g CaCO ₃ /m ³ | | Jennifer Mont KTP |
| 0055 Conductivity at 25°C | 7.0 | mS/m | | Jennifer Mont KTP |
| 0602 Chloride | 7.56 | g/m ³ | | Shanel Kumar KTP |
| 0605 Nitrate - Nitrogen | 0.26 | g/m ³ | | Shanel Kumar KTP |
| 1642 Total Hardness | 19 | g CaCO ₃ /m ³ | | Shanel Kumar KTP |
| 1800 Aluminium - Dissolved | 0.033 | g/m ³ | | Shanel Kumar KTP |
| 1810 Calcium - Dissolved | 5.63 | g/m ³ | | Shanel Kumar KTP |
| 1819 Iron - Dissolved | 0.043 | g/m ³ | | Shanel Kumar KTP |
| 1822 Magnesium - Dissolved | 1.18 | g/m ³ | | Shanel Kumar KTP |
| 1823 Manganese - Dissolved | 0.025 | g/m ³ | | Shanel Kumar 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 | 7 | cfu/100mL | Above extreme maximum of 1 | Yuemei Yu KTP |
| M0409 E. coli | 7 | cfu/100mL | | Yuemei Yu 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 CaCO ₃ /m ³ |
| Conductivity at 25°C | APHA Online Edition Method 2510 B. | 0.1 mS/m |
| Chloride | Ion Chromatography following APHA 4110B. | 0.02 g/m ³ |
| Nitrate - Nitrogen | Ion Chromatography following APHA 4110B. | 0.01 g/m ³ |
| Total Hardness | ICP-OES following APHA Online Edition Method 3120 B (modified). | 1 g CaCO ₃ /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

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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

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