



ANALYSIS REPORT

| | | | | |
|-----------------|---|--------------------------|-------------|------|
| Client: | Food and Health Standards (2006) Limited | Lab No: | 1823157 | SPV1 |
| Contact: | Lisa Shaw C/- Food and Health Standards (2006) Limited PO Box 7469 Christchurch 8240 | Date Received: | 09-Aug-2017 | |
| | | Date Reported: | 23-Aug-2017 | |
| | | Quote No: | 87133 | |
| | | Order No: | | |
| | | Client Reference: | | |
| | | Submitted By: | Lisa Shaw | |

Sample Type: Aqueous

| | | | | | |
|---------------------|---|--|---|--|--|
| Sample Name: | Amberley Church St Retic 09-Aug-2017 8:55 am | Upper Watohi Delmany Retic 09-Aug-2017 10:05 am | Hanmer Tardale Retic 09-Aug-2017 1:04 pm | | |
| Lab Number: | 1823157.1 | 1823157.2 | 1823157.3 | | |

Individual Tests

| | | | | | | |
|----------------|------------------|--------|------|--------|---|---|
| Monochloramine | g/m ³ | < 0.05 | 0.05 | < 0.05 | - | - |
|----------------|------------------|--------|------|--------|---|---|

Halogenated Acetic Acids in Water by GC-MS

| | | | | | | |
|-----------------------------|------------------|----------|----------|----------|---|---|
| Bromochloroacetic acid | g/m ³ | < 0.0005 | 0.0013 | < 0.0005 | - | - |
| Dibromoacetic acid | g/m ³ | < 0.0005 | < 0.0005 | < 0.0005 | - | - |
| Dichloroacetic acid | g/m ³ | < 0.0005 | 0.0162 | 0.0050 | - | - |
| Monobromoacetic acid | g/m ³ | < 0.0005 | 0.0023 | < 0.0005 | - | - |
| Monochloroacetic acid | g/m ³ | < 0.005 | 0.006 | < 0.005 | - | - |
| Trichloroacetic acid | g/m ³ | < 0.0010 | 0.021 | 0.0057 | - | - |
| Total HAA | g/m ³ | < 0.010 | 0.047 | 0.011 | - | - |
| Sum of HAA DWSNZ MAV ratios | | < 0.3 | 0.7 | < 0.3 | - | - |

Halogenated Volatile Disinfection By-Products in Water by GCMS

| | | | | | | |
|--|------------------|-----------|-----------|-----------|---|---|
| Bromochloroacetonitrile | g/m ³ | < 0.00014 | 0.00020 | < 0.00014 | - | - |
| Bromodichloromethane | g/m ³ | < 0.00007 | 0.0021 | 0.00057 | - | - |
| Bromoform (tribromomethane) | g/m ³ | 0.00111 | < 0.00007 | < 0.00007 | - | - |
| Carbon tetrachloride | g/m ³ | < 0.0007 | < 0.0007 | < 0.0007 | - | - |
| Chloroform (Trichloromethane) | g/m ³ | < 0.007 | 0.020 | 0.007 | - | - |
| Chloropicrin | g/m ³ | < 0.0003 | 0.0009 | < 0.0003 | - | - |
| 1,2-Dibromo-3-chloropropane | g/m ³ | < 0.0003 | < 0.0003 | < 0.0003 | - | - |
| Dibromoacetonitrile | g/m ³ | < 0.0003 | < 0.0003 | < 0.0003 | - | - |
| Dibromochloromethane | g/m ³ | 0.00012 | 0.00008 | < 0.00007 | - | - |
| 1,2-Dibromoethane (ethylene dibromide, EDB) | g/m ³ | < 0.0003 | < 0.0003 | < 0.0003 | - | - |
| 1,1-Dichloro-2-propanone | g/m ³ | < 0.0003 | 0.0005 | 0.0005 | - | - |
| Dichloroacetonitrile | g/m ³ | < 0.0003 | 0.0023 | < 0.0003 | - | - |
| Tetrachloroethene (tetrachloroethylene) | g/m ³ | < 0.00014 | < 0.00014 | < 0.00014 | - | - |
| 1,1,1-Trichloro-2-propanone | g/m ³ | < 0.0003 | 0.0017 | 0.0006 | - | - |
| Trichloroacetonitrile | g/m ³ | < 0.0003 | < 0.0003 | < 0.0003 | - | - |
| 1,1,1-Trichloroethane | g/m ³ | < 0.00014 | < 0.00014 | < 0.00014 | - | - |
| Trichloroethene (trichloroethylene) | g/m ³ | < 0.00007 | < 0.00007 | < 0.00007 | - | - |
| Total Trihalomethanes (THM) | g/m ³ | < 0.007 | 0.022 | 0.008 | - | - |
| Chloroform MAV ratio | | < 0.018 | 0.050 | 0.018 | - | - |
| Bromodichloromethane MAV ratio | | < 0.002 | 0.035 | 0.010 | - | - |
| Dibromochloromethane MAV ratio | | < 0.001 | < 0.001 | < 0.001 | - | - |
| Bromoform MAV ratio | | 0.011 | < 0.001 | < 0.001 | - | - |
| Sum of THM MAV ratios (NZ DW Stds) | | < 0.018 | 0.086 | 0.028 | - | - |
| Sum of Haloacetonitriles MAV ratios (NZ DW Stds) | | < 0.016 | 0.114 | < 0.016 | - | - |



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| | | | | | |
|---------------------|---|--|--|--|--|
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| Lab Number: | 1823157.1 | 1823157.2 | 1823157.3 | | |

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Aqueous

| Test | Method Description | Default Detection Limit | Sample No |
|--|---|-------------------------|-----------|
| Halogenated Acetic Acids in Water by GC-MS* | Solvent extraction, methylation, GC-MS SIM analysis Analysis performed at 1 Clyde Street, Hamilton | - | 1-3 |
| Halogenated Volatile Disinfection By-Products in Water by GCMS | Solvent extraction, GC-MS SIM analysis Analysis performed at 1 Clyde Street, Hamilton | - | 1-3 |
| Monochloramine | Colorimetric. Analysis performed at 1 Clyde Street, Hamilton. APHA 4500-Cl G 22 nd ed. 2012. | 0.05 g/m ³ | 1-3 |
| Sum of HAA DWSNZ MAV ratios | Calculated as the sum of the individual haloacetic acids specified in DWSNZ (monochloroacetic acid, dichloroacetic acid and trichloroacetic acid) to their respective Maximum Allowable Values (MAVs). Analysis performed at 1 Clyde Street, Hamilton. Drinking-water Standards for New Zealand 2005 (Revised 2008), Section 8.2.1.1. | 0.001 | 1-3 |
| Sum of Haloacetonitriles MAV ratios (NZ DW Stds) | Calculated as the sum of the individual haloacetonitriles specified in DWSNZ (dibromoacetonitrile & dichloroacetonitrile) to their respective Maximum Allowable Values (MAVs). Analysis performed at 1 Clyde Street, Hamilton. | 0 | 1-3 |

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental