

# 2004 North American Proficiency Testing Program

## 4<sup>th</sup> Quarter Report January 14, 2005

Laboratory ID

| Water                     |        | Sample 2004-310 |       |        |     | Sample 2004-311 |        |       |     | Sample 2004-312 |       |     |  |
|---------------------------|--------|-----------------|-------|--------|-----|-----------------|--------|-------|-----|-----------------|-------|-----|--|
| Analysis                  |        | Units           | n     | Median | MAD | Lab             | Median | MAD   | Lab | Median          | MAD   | Lab |  |
| pH                        | Unit   | 38              | 7.70  | 0.18   |     |                 | 8.62   | 0.08  |     | 7.79            | 0.14  |     |  |
| EC                        | dS/m   | 37              | 0.78  | 0.020  |     |                 | 4.00   | 0.150 |     | 3.01            | 0.09  |     |  |
| Cations                   |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
| Ca                        | mmol/L | 36              | 4.41  | 0.18   |     |                 | 0.21   | 0.06  |     | 6.57            | 0.31  |     |  |
| Mg                        | mmol/L | 36              | 1.33  | 0.07   |     |                 | 0.13   | 0.02  |     | 0.19            | 0.02  |     |  |
| Na                        | mmol/L | 35              | 2.1   | 0.09   |     |                 | 46.6   | 3.91  |     | 19.6            | 0.98  |     |  |
| K                         | mmol/L | 34              | 0.08  | 0.02   |     |                 | 0.04   | 0.018 |     | 0.64            | 0.065 |     |  |
| NH <sub>4</sub> -N        | mmol/L | 18              | 0.003 | 0.003  |     |                 | 0.001  | 0.001 |     | 0.112           | 0.01  |     |  |
| Sum Cations               | mmol/L | 22              | 7.9   | 0.4    |     |                 | 49     | 3.0   |     | 27.6            | 1.01  |     |  |
| SAR                       | value  | 25              | 1.2   | 0.1    |     |                 | 109    | 24.0  |     | 10.6            | 0.59  |     |  |
| Adj-SAR                   | value  | 9               | 2.4   | 0.2    |     |                 | 192    | 26.4  |     | 17.8            | 0.44  |     |  |
| Anions                    |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
| HCO <sub>3</sub>          | mmol/L | 28              | 2.2   | 0.21   |     |                 | 45.3   | 4.2   |     | 1.50            | 0.23  |     |  |
| CO <sub>3</sub>           | mmol/L | 16              | 0.00  | 0.00   |     |                 | 3.26   | 1.56  |     | 0.00            | 0.00  |     |  |
| Cl                        | mmol/L | 29              | 2.05  | 0.11   |     |                 | 0.19   | 0.04  |     | 23.9            | 1.79  |     |  |
| NO <sub>3</sub>           | mmol/L | 32              | 0.11  | 0.02   |     |                 | 0.014  | 0.006 |     | 0.19            | 0.02  |     |  |
| SO <sub>4</sub>           | mmol/L | 31              | 3.39  | 0.24   |     |                 | 0.13   | 0.02  |     | 1.94            | 0.10  |     |  |
| Sum Anions                | mmol/L | 22              | 7.88  | 0.42   |     |                 | 48.8   | 3.3   |     | 27.7            | 1.63  |     |  |
| Cation-Anion Difference   |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
|                           |        | 22              | -0.1  | 0.48   |     |                 | 0.2    | 2.38  |     | 0.10            | 2.10  |     |  |
| Boron                     |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
|                           | mg/L   | 24              | 0.030 | 0.010  |     |                 | 0.013  | 0.005 |     | 0.59            | 0.030 |     |  |
| PO <sub>4</sub> -P - Spec | mg/L   | 8               | 0.007 | 0.007  |     |                 | 0.137  | 0.077 |     | 1.16            | 0.05  |     |  |
| P - ICP (Total)           |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
|                           | mg/L   | 21              | 0.050 | 0.030  |     |                 | 0.108  | 0.037 |     | 1.14            | 0.09  |     |  |
| TKN                       | mg/L   | 4               | 0.73  | 0.03   |     |                 | 0.40   | 0.08  |     | 1.7             | 0.2   |     |  |
| Nitrogen Combustion       |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
|                           | mg/L   | 1               | 27.0  | 0.00   |     |                 | 26.0   | 0.00  |     | 25.0            | 0.00  |     |  |
| Total Organic Carbon      |        |                 |       |        |     |                 |        |       |     |                 |       |     |  |
|                           | mg/L   | 5               | 3.1   | 1.33   |     |                 | 7.0    | 3.92  |     | 0.85            | 0.06  |     |  |

1 - Values flagged exceed Warning Limits " \* " 2.5 x MAD (Median Absolute Deviation) and Control Limits " \*\* " 4 x MAD. "<" and "ND" values not recorded.