

## **APPENDIX II**

### **WATER QUALITY TEST DATA**

Accutest Laboratories – Tested water samples from:  
BGC03-12 and BGC03-14  
Ice Core samples from:  
BGC03-16, BGC03-20, and BGC03-21. (June 2003)

Maxxam Analytical – Tested water samples from:  
BGC03-12 and BGC03-14. (Sept. 2003)

# REPORT OF ANALYSIS

## ACCUTEST LABORATORIES LTD

Client: BGC Engineering Inc.  
1605-840 7th Avenue SW  
Calgary, AB

Attention: Gerry Ferris

Report Number: 2308149  
Date: 2003-06-18  
Date Submitted: 2003-06-04

Project: 0255-008-03

P.O. Number:

Matrix: Water

| Matrix:             |  |       |        |         |         |  |  |  |  | GUIDELINE  |            |  |
|---------------------|--|-------|--------|---------|---------|--|--|--|--|------------|------------|--|
| LAB ID:             |  |       |        |         |         |  |  |  |  | 252491     | 252492     |  |
| Sample Date:        |  |       |        |         |         |  |  |  |  | 2003-05-28 | 2003-05-28 |  |
| Sample ID:          |  |       |        |         |         |  |  |  |  | BGC03-12-1 | BGC03-14-1 |  |
| PARAMETER           |  | UNITS | MDL    |         |         |  |  |  |  |            |            |  |
| Acidity as CaCO3    |  | mg/L  | 1      | 18      | 24      |  |  |  |  |            |            |  |
| Alkalinity as CaCO3 |  | mg/L  | 5      | 51      | 77      |  |  |  |  |            |            |  |
| Chloride            |  | mg/L  | 1      | 2820    | 10300   |  |  |  |  |            |            |  |
| N-NH3 (Ammonia)     |  | mg/L  | 10     | 20      | 15.6    |  |  |  |  |            |            |  |
| Sulphate            |  | mg/L  | 1      | 1390    | 780     |  |  |  |  |            |            |  |
| Hardness as CaCO3   |  | mg/L  | 1      | 5170    | 14300   |  |  |  |  |            |            |  |
| Calcium             |  | mg/L  | 1      | 1850    | 5710    |  |  |  |  |            |            |  |
| Magnesium           |  | mg/L  | 1      | 133     | 16      |  |  |  |  |            |            |  |
| Potassium           |  | mg/L  | 1      | 163     | 287     |  |  |  |  |            |            |  |
| Sodium              |  | mg/L  | 2      | 87      | 208     |  |  |  |  |            |            |  |
| Arsenic             |  | mg/L  | 0.01   | 0.02    | <0.01   |  |  |  |  |            |            |  |
| Barium              |  | mg/L  | 0.01   | 0.02    | 0.05    |  |  |  |  |            |            |  |
| Boron               |  | mg/L  | 0.05   | 0.51    | 1.71    |  |  |  |  |            |            |  |
| Cadmium             |  | mg/L  | 0.001  | 0.014   | 0.005   |  |  |  |  |            |            |  |
| Chromium            |  | mg/L  | 0.01   | 0.05    | 0.01    |  |  |  |  |            |            |  |
| Copper              |  | mg/L  | 0.01   | 0.06    | 0.09    |  |  |  |  |            |            |  |
| Iron                |  | mg/L  | 0.01   | 26.4    | 1.68    |  |  |  |  |            |            |  |
| Lead                |  | mg/L  | 0.01   | 3.32    | 1.14    |  |  |  |  |            |            |  |
| Manganese           |  | mg/L  | 0.005  | 0.534   | 0.060   |  |  |  |  |            |            |  |
| Mercury             |  | mg/L  | 0.0001 | <0.0001 | <0.0001 |  |  |  |  |            |            |  |
| Selenium            |  | mg/L  | 0.01   | 0.01    | 0.03    |  |  |  |  |            |            |  |
| Aluminum            |  | mg/L  | 0.01   | 0.22    | 0.04    |  |  |  |  |            |            |  |
| Antimony            |  | mg/L  | 0.01   | <0.01   | <0.01   |  |  |  |  |            |            |  |
| Beryllium           |  | mg/L  | 0.001  | <0.001  | <0.001  |  |  |  |  |            |            |  |
| Cobalt              |  | mg/L  | 0.002  | 0.009   | 0.010   |  |  |  |  |            |            |  |
| Molybdenum          |  | mg/L  | 0.005  | 0.006   | 0.072   |  |  |  |  |            |            |  |
| Nickel              |  | mg/L  | 0.005  | 0.020   | <0.005  |  |  |  |  |            |            |  |
| Silicon             |  | mg/L  | 0.1    | 1.4     | 0.4     |  |  |  |  |            |            |  |
| Silver              |  | mg/L  | 0.001  | <0.001  | <0.001  |  |  |  |  |            |            |  |
| Strontium           |  | mg/L  | 0.002  | 46.3    | 167     |  |  |  |  |            |            |  |

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment: Alkalinity endpoint is pH 4.5, Acidity endpoint is pH 8.3

APPROVAL:   
Ewan McRobbie  
Inorganic Lab Supervisor

Client: BGC Engineering Inc.  
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Calgary, AB

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Attention: Gerry Ferris

Project: 0255-008-03

P.O. Number:  
Matrix:

Water

| PARAMETER | LAB ID:      |            | UNITS | MDL   | 252491<br>2003-05-28<br>BGC03-12-1 | 252492<br>2003-05-28<br>BGC03-14-1 | TYPE | LIMIT | UNITS | GUIDELINE |
|-----------|--------------|------------|-------|-------|------------------------------------|------------------------------------|------|-------|-------|-----------|
|           | Sample Date: | Sample ID: |       |       |                                    |                                    |      |       |       |           |
| Thallium  |              |            | mg/L  | 0.01  | <0.01                              | <0.01                              |      |       |       |           |
| Titanium  |              |            | mg/L  | 0.01  | <0.01                              | <0.01                              |      |       |       |           |
| Vanadium  |              |            | mg/L  | 0.01  | <0.01                              | <0.01                              |      |       |       |           |
| Zinc      |              |            | mg/L  | 0.005 | 4.75                               | 0.250                              |      |       |       |           |

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

APPROVAL:

  
Ewan McRobbie  
Inorganic Lab Supervisor

Client: BGC Engineering Inc.  
1605-840 7th Avenue SW  
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Attention: Gerry Ferris

Report Number: 2308150  
Date: 2003-06-17  
Date Submitted: 2003-06-04  
Project: 0255-008-03

P.O. Number:  
Matrix:

Water

| PARAMETER           | LAB ID: |      | UNITS  | MDL | Sample Date: |             |             | TYPE | LIMIT | UNITS |
|---------------------|---------|------|--------|-----|--------------|-------------|-------------|------|-------|-------|
|                     |         |      |        |     | 252493       | 252494      | 252495      |      |       |       |
|                     |         |      |        |     | 2003-05-27   | 2003-05-27  | 2003-05-27  |      |       |       |
|                     |         |      |        |     | BGC03-06-01  | BGC03-21-01 | BGC03-20-01 |      |       |       |
| Acidity as CaCO3    |         | mg/L | 1      |     | <5           | <5          | NS          |      |       |       |
| Alkalinity as CaCO3 |         | mg/L | 5      |     | 10           | 18          | NS          |      |       |       |
| Chloride            |         | mg/L | 1      |     | 47           | 4           | <1          |      |       |       |
| N-NH3 (Ammonia)     |         | mg/L | 0.02   |     | 0.03         | 0.04        | NS          |      |       |       |
| Sulphate            |         | mg/L | 1      |     | 1            | 14          | <1          |      |       |       |
| Hardness as CaCO3   |         | mg/L | 1      |     | 57           | 28          | 2880        |      |       |       |
| Calcium             |         | mg/L | 1      |     | 23           | 11          | 667         |      |       |       |
| Magnesium           |         | mg/L | 1      |     | <1           | <1          | 296         |      |       |       |
| Potassium           |         | mg/L | 1      |     |              |             | 3           |      |       |       |
| Sodium              |         | mg/L | 2      |     |              |             | 3           |      |       |       |
| Arsenic             |         | mg/L | 0.001  |     |              |             | 0.009       |      |       |       |
| Barium              |         | mg/L | 0.01   |     |              |             | 0.08        |      |       |       |
| Boron               |         | mg/L | 0.05   |     |              |             | 0.09        |      |       |       |
| Cadmium             |         | mg/L | 0.0001 |     |              |             | 0.0112      |      |       |       |
| Chromium            |         | mg/L | 0.001  |     |              |             | 0.060       |      |       |       |
| Copper              |         | mg/L | 0.001  |     |              |             | 0.842       |      |       |       |
| Iron                |         | mg/L | 0.01   |     |              |             | 38.3        |      |       |       |
| Lead                |         | mg/L | 0.001  |     |              |             | 14.0        |      |       |       |
| Manganese           |         | mg/L | 0.005  |     |              |             | 1.96        |      |       |       |
| Mercury             |         | mg/L | 0.0001 |     |              |             | <0.0001     |      |       |       |
| Selenium            |         | mg/L | 0.001  |     |              |             | <0.001      |      |       |       |
| Aluminum            |         | mg/L | 0.01   |     |              |             | 1.80        |      |       |       |
| Antimony            |         | mg/L | 0.001  |     |              |             | 0.004       |      |       |       |
| Beryllium           |         | mg/L | 0.001  |     |              |             | <0.001      |      |       |       |
| Cobalt              |         | mg/L | 0.0002 |     |              |             | 0.0287      |      |       |       |
| Molybdenum          |         | mg/L | 0.005  |     |              |             | <0.005      |      |       |       |
| Nickel              |         | mg/L | 0.005  |     |              |             | 0.047       |      |       |       |
| Silicon             |         | mg/L | 0.1    |     |              |             | 1.2         |      |       |       |
| Silver              |         | mg/L | 0.0001 |     |              |             | <0.0001     |      |       |       |
| Strontium           |         | mg/L | 0.002  |     |              |             | 0.815       |      |       |       |

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

252495: NS = No Sample.

APPROVAL:

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Matrix: Water

| LAB ID:      |  |  |  |  | 252493      |       | 252494      |  | 252495      |  | GUIDELINE |       |       |
|--------------|--|--|--|--|-------------|-------|-------------|--|-------------|--|-----------|-------|-------|
| Sample Date: |  |  |  |  | 2003-05-27  |       | 2003-05-27  |  | 2003-05-27  |  |           |       |       |
| Sample ID:   |  |  |  |  | BGC03-06-01 |       | BGC03-21-01 |  | BGC03-20-01 |  |           |       |       |
|              |  |  |  |  |             |       |             |  |             |  |           |       |       |
| PARAMETER    |  |  |  |  | UNITS       | MDL   |             |  |             |  | TYPE      | LIMIT | UNITS |
| Thallium     |  |  |  |  | mg/L        | 0.001 |             |  |             |  |           |       |       |
| Titanium     |  |  |  |  | mg/L        | 0.01  |             |  |             |  |           |       |       |
| Vanadium     |  |  |  |  | mg/L        | 0.001 |             |  |             |  |           |       |       |
| Zinc         |  |  |  |  | mg/L        | 0.005 |             |  |             |  |           |       |       |
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|              |  |  |  |  |             |       |             |  |             |  |           |       |       |

ND = Not detected  
N/A = Not Applicable  
TBA = Result to follow  
MDL = METHOD DETECTION LIMIT  
QC = QC Standard