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B1.0 DOMESTIC WELL SURVEY

It is recognised that the water well database obtained from the Ontario Ministry of the Environment (MOE) may not contain all wells within an area of the proposed Dundas South Quarry Extension and may not contain complete or up-to date information on some wells. Therefore a door-to-door domestic well survey was conducted on June 19, 20, 21 and 24 and July 4, 2013 for properties on, and within a 600 m radius of, the proposed Dundas South Quarry Extension. This domestic well survey included the collection of detailed information (where available) such as:

- Owner name, address and telephone number;
- Well depth, age, construction details;
- Pump information (type, age, intake depth);
- Water consumption;
- Existing water quality and quantity; and
- Current static water level (if accessible).

In order to maximise the number of responses obtained from the survey an information letter was delivered to residences in the survey area prior to the door-to-door visits and multiple attempts were made to contact residences during the door-to-door visits. The survey included both on-site wells located on Dundas South Quarry Extension lands owned by Lafarge and off-site wells on private properties located within 600 m of the Dundas South Quarry Extension. The results of the on-site and off-site well surveys are discussed in Section 7 of the Main Report in Volume One and are summarized in Sections B.1.1 and B.1.2, below.

B1.1 On-site Domestic Well Survey Results

A total of 20 residences located on the Dundas South Quarry Extension (Lafarge owned) lands were visited during the domestic well survey (Table B.1.1.1). Of these 20 residences, seven agreed to participate in the survey. Five out of the seven residences reported that they had a well in use on their property, however only one residence reported that they relied on their well for drinking water (Table B.1.1.2). As part of the survey, four of the wells were accessible for measurement of the water level and the results ranged from 5.85 m to 22.35 m below the top of the well.

Water quality samples were collected from five of the wells typically at an outside tap prior to any treatment systems. The laboratory certificates of analysis for these samples are provided in Attachment B.1.1 of this Appendix. The five wells were assumed to be completed in the Guelph Formation and Eramosa Members as these well depths could not be confirmed because the pump was obstructing access. The five water quality samples collected from the domestic wells were analysed for a similar suite of metals and inorganic parameters as was conducted on the on-site Dundas South Quarry Extension monitoring well samples. The on-site domestic well water quality results were similar to the groundwater quality results from the on-site Dundas South Quarry Extension monitoring wells completed in Guelph Formation and Eramosa Members.



Three residents agreed to allow a short pumping test to be conducted on their well using their well pump. Due to the unpredictable behavior of the pump and pressure tank system in use on each well, only two of the tests yielded analyzable data. The depths of these wells could not be confirmed; however it was assumed that they were completed in the Guelph Formation and Eramosa Members. Using this assumption the hydraulic conductivities of these wells were estimated to be 1.2×10^{-4} cm/s and 2.2×10^{-3} cm/s.

B1.2 Off-site Domestic Well Survey Results

A total of 30 properties located within 600 m of the Dundas South Quarry Extension were visited during the domestic well survey (Table B.1.2.1). Of these 30 properties, 11 agreed to participate in the survey. Five out of the 11 properties reported that they had a well in use, however only two residents reported that they relied on their well for drinking water (Table B.1.2.2). As part of the survey, four of the wells were accessible for measurement of the water level and they ranged from 19.82 m to 29.39 m below the top of the well.

Water quality samples were collected from three of the wells, typically at an outside tap prior to any treatment systems. The laboratory certificates of analysis for these samples are provided in Attachment B.1.2 of this Appendix. These wells were assumed to be completed in the Guelph Formation and Eramosa Members as these well depths could not be confirmed because the pump was obstructing access. The three water quality samples collected from the domestic wells were analysed for a similar suite of metals and inorganic parameters as was conducted on the on-site Dundas South Quarry Extension monitoring well samples discussed above. The domestic well water quality results were similar to the groundwater quality results from the on-site Dundas South Quarry Extension monitoring wells completed in Guelph Formation and Eramosa Members.

Four residents agreed to allow a short pumping test to be conducted on their well using their well pump. Due to the unpredictable behavior of the pump and pressure tank system in use on each well, only three of the tests yielded analyzable data. The depths of these wells could not be confirmed; however it was assumed that they were completed in the Guelph Formation and Eramosa Members. Using this assumption the hydraulic conductivities of these wells were estimated to be 2.1×10^{-5} cm/s, 4.4×10^{-5} cm/s and 2.3×10^{-4} cm/s.

B2.0 GREENSVILLE MUNICIPAL WELL DATA

The City of Hamilton Water Department monitors and records the water levels in the Greensville Municipal Well (well ID: FDG01) continuously at a one minute intervals. Two selections of this data were provided to Golder by the Water Department. One dataset consisted of the minimum and maximum recorded levels for each one hour period between June 1, 2006 and July 23, 2013 while the second dataset consisted of all of the one minute interval water level readings recorded during the 24 hour period of July 23, 2013. These datasets are presented as hydrographs on Figures B.2.1 and B.2.2 of this Appendix.

The long term data (Figure B.2.1) shows that the groundwater level in the Greensville Municipal Well fluctuates seasonally between approximately 3.5 mbgs and 6.8 mbgs. Lower water levels at 6.0 mbgs to 6.8 mbgs occurred during the dry years of 2007 and 2012. Based on these water levels, the standing water column in the well varies from approximately 15 m to 18 m. The July 23, 2013 data (Figure B.2.2) shows that over a 24 hour period the pump cycled 77 times at up to a 30 minute interval with the vast majority of recovery occurring in



APPENDIX B

Domestic Well Survey and Greenville Municipal Well Data

approximately one minute and the maximum change in ground water level was 0.7 m. This indicates that during the dry season the well has sufficient capacity so that the available water column only varies by less than 1 m (i.e., available water column is still 14 m to 17 m) under regular use.

\\golder.gds\gal\mississauga\active\2006\1112\06-1112-020 lafarge-soares-hamilton\reports\2013 reports\hydrogeology and sw\final\july and aug 2013 vr\final aug docs\pdfs\lapp b to have kawa quality added\06-1112-020 2013jul29 appendix b text.docx



TABLES



FIGURES



ATTACHMENT B.1.1

Water Quality Results for On-site Wells



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

520 Moxley Road

Your Project #: 06-1112-0020
 Site#: 06-1112-0020
 Your C.O.C. #: 41759301, 417593-01-01

Attention: Sharon Wood
 Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/06/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B397543
Received: 2013/06/20, 13:22

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/21 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/24 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/21 | CAM SOP-00463 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/21 | CAM SOP-00448 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/22 | CAM SOP-00446 | SM 2510 |
| Fluoride | 1 | 2013/06/20 | 2013/06/21 | CAM SOP-00449 | SM 5310 B |
| Hardness (calculated as CaCO3) | 1 | N/A | 2013/06/25 | CAM SOP 00102 | APHA 4500FC |
| Mercury | 1 | 2013/06/25 | 2013/06/25 | CAM SOP-00453 | SM 2340 B |
| Dissolved Metals Analysis by ICP | 1 | 2013/06/21 | 2013/06/24 | CAM SOP-00408 | SW-846 7470A |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/21 | 2013/06/25 | CAM SOP-00447 | SW-846 6010C |
| Ion Balance (% Difference) | 1 | N/A | 2013/06/25 | | EPA 6020 |
| Anion and Cation Sum | 1 | N/A | 2013/06/25 | | |
| Total Ammonia-N | 1 | N/A | 2013/06/24 | CAM SOP-00441 | US GS I-2522-90 |
| Nitrate (NO3) and Nitrite (NO2) in Water (2) | 1 | N/A | 2013/06/21 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| pH | 1 | N/A | 2013/06/21 | CAM SOP-00448 | SM 4500H+ B |
| Phenols (4AAP) | 1 | N/A | 2013/06/24 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Orthophosphate | 1 | N/A | 2013/06/21 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/25 | | |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/06/25 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/06/21 | CAM SOP-00464 | EPA 375.4 |
| Sulphide | 1 | N/A | 2013/06/21 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/25 | | |
| Total Dissolved Solids | 1 | N/A | 2013/06/21 | CAM SOP-00428 | APHA 2540C |
| Total Kjeldahl Nitrogen in Water | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00407 | APHA 4500 P,B,F |
| Total Suspended Solids | 1 | N/A | 2013/06/21 | CAM SOP-00428 | SM 2540D |
| Turbidity | 1 | N/A | 2013/06/20 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this

Your Project #: 06-1112-0020
Site#: 06-1112-0020
Your C.O.C. #: 41759301, 417593-01-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/06/28

CERTIFICATE OF ANALYSIS

-2-

analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Total cover pages: 2

Maxxam Job #: B397543
 Report Date: 2013/06/28

 Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RY8931 | | |
| Sampling Date | | | | | 2013/06/19 19:20 | | |
| COC Number | | | | | 417593-01-01 | | |
| | Units | Criteria A | IMC | A/O | SA#36 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 9.36 | N/A | 3254341 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 260 | 1.0 | 3254338 |
| Calculated TDS | mg/L | - | - | 500 | 513 | 1.0 | 3253859 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.8 | 1.0 | 3254338 |
| Cation Sum | me/L | - | - | - | 9.47 | N/A | 3254341 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 360 | 1.0 | 3254599 |
| Ion Balance (% Difference) | % | - | - | - | 0.600 | N/A | 3254340 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.775 | | 3254342 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.528 | | 3254343 |
| Saturation pH (@ 20C) | N/A | - | - | - | 7.10 | | 3254342 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.34 | | 3254343 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | 0.053 | 0.050 | 3255829 |
| Conductivity | umho/cm | - | - | - | 930 | 1.0 | 3255060 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 1.9 | 0.20 | 3254850 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3255038 |
| pH | pH | - | - | 6.5:8.5 | 7.87 | | 3255062 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 71 | 1 | 3255039 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 270 | 1.0 | 3255059 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 81 | 1 | 3255037 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3255046 |
| Nitrate (N) | mg/L | 10 | - | - | 3.5 | 0.10 | 3255046 |
| Nitrate + Nitrite | mg/L | 10 | - | - | 3.5 | 0.10 | 3255046 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 12 | 5.0 | 3255143 |
| . Antimony (Sb) | ug/L | - | 6 | - | 0.58 | 0.50 | 3255143 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RY8931 | | |
| Sampling Date | | | | | 2013/06/19 19:20 | | |
| COC Number | | | | | 417593-01-01 | | |
| | Units | Criteria A | IMC | A/O | SA#36 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|-------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3255143 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |
| . Uranium (U) | ug/L | 20 | - | - | 3.4 | 0.10 | 3255143 |
| . Vanadium (V) | ug/L | - | - | - | <0.50 | 0.50 | 3255143 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 200 | 5.0 | 3255143 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RY8931 | | |
| Sampling Date | | | | 2013/06/19 19:20 | | |
| COC Number | | | | 417593-01-01 | | |
| | Units | Criteria A | A/O | SA#36 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 660 | 10 | 3255252 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.45 | 0.10 | 3255061 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 1.3 | 0.10 | 3259014 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3256564 |
| Total Phosphorus | mg/L | - | - | 0.004 | 0.002 | 3258983 |
| Total Suspended Solids | mg/L | - | - | <10 | 10 | 3255259 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3254879 |
| Turbidity | NTU | - | 5 | <0.2 | 0.2 | 3254776 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3255634 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RY8931 | | |
| Sampling Date | | | 2013/06/19 19:20 | | |
| COC Number | | | 417593-01-01 | | |
| | Units | MAC | SA#36 | RDL | QC Batch |

| Metals | | | | | |
|-----------------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3258261 |
| Dissolved Sulphur (S) | mg/L | - | 26.2 | 0.5 | 3255148 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
Report Date: 2013/06/28

Golder Associates Ltd
Client Project #: 06-1112-0020

Sampler Initials: JY

Test Summary

Maxxam ID RY8931
Sample ID SA#36
Matrix Water

Collected 2013/06/19
Shipped
Received 2013/06/20

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|----------------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3255059 | N/A | 2013/06/21 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3254338 | N/A | 2013/06/24 | Automated Statchk |
| Anions | IC | 3255634 | N/A | 2013/06/24 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3255037 | N/A | 2013/06/21 | Alina Dobreanu |
| Conductivity | COND | 3255060 | N/A | 2013/06/21 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3254850 | N/A | 2013/06/22 | Anastasia Hamanov |
| Fluoride | F | 3255061 | 2013/06/20 | 2013/06/21 | Surinder Rai |
| Hardness (calculated as CaCO ₃) | | 3254599 | N/A | 2013/06/25 | Automated Statchk |
| Mercury | CVAA | 3258261 | 2013/06/25 | 2013/06/25 | Magdalena Carlos |
| Dissolved Metals Analysis by ICP | ICP | 3255148 | 2013/06/21 | 2013/06/24 | Azita Fazaeli |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3255143 | 2013/06/21 | 2013/06/25 | John Bowman |
| Ion Balance (% Difference) | CALC | 3254340 | N/A | 2013/06/25 | Automated Statchk |
| Anion and Cation Sum | CALC | 3254341 | N/A | 2013/06/25 | Automated Statchk |
| Total Ammonia-N | LACH/NH ₄ | 3255829 | N/A | 2013/06/24 | Charles Opoku-Ware |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water | LACH | 3255046 | N/A | 2013/06/21 | Chris Li |
| pH | PH | 3255062 | N/A | 2013/06/21 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3256564 | N/A | 2013/06/24 | Bramdeo Motiram |
| Orthophosphate | AC | 3255038 | N/A | 2013/06/21 | Alina Dobreanu |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3254342 | N/A | 2013/06/25 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3254343 | N/A | 2013/06/25 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3255039 | N/A | 2013/06/21 | Alina Dobreanu |
| Sulphide | ISE/S | 3254879 | N/A | 2013/06/21 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3253859 | N/A | 2013/06/25 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3255252 | N/A | 2013/06/21 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3259014 | 2013/06/25 | 2013/06/26 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3258983 | 2013/06/25 | 2013/06/26 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3255259 | N/A | 2013/06/21 | Gurpreet Kaur |
| Turbidity | TURB | 3254776 | N/A | 2013/06/20 | Neil Dassanayake |

Maxxam ID RY8931 Dup
Sample ID SA#36
Matrix Water

Collected 2013/06/19
Shipped
Received 2013/06/20

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|----------------------------------|----------------------|---------|------------|------------|--------------------|
| Anions | IC | 3255634 | N/A | 2013/06/24 | Fari Dehdezi |
| Dissolved Metals Analysis by ICP | ICP | 3255148 | 2013/06/21 | 2013/06/24 | Azita Fazaeli |
| Total Ammonia-N | LACH/NH ₄ | 3255829 | N/A | 2013/06/24 | Charles Opoku-Ware |
| Total Suspended Solids | SLDS | 3255259 | N/A | 2013/06/21 | Gurpreet Kaur |

Maxxam Job #: B397543
Report Date: 2013/06/28

Golder Associates Ltd
Client Project #: 06-1112-0020

Sampler Initials: JY

| | |
|-----------|--------|
| Package 1 | 13.7°C |
|-----------|--------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Revised Report (2013/06/28): Requested regulatory criteria have been included on this report. Client project number has been revised.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report
 Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits | |
|-------------|-----------------------------|-----------------------------|-----------------------------|------------|----------|---------|-----------|----------|
| 3254776 NYS | QC Standard | Turbidity | 2013/06/20 | | 99 | % | 85 - 115 | |
| | Method Blank | Turbidity | 2013/06/20 | <0.2 | | NTU | | |
| | RPD | Turbidity | 2013/06/20 | 1.5 | | % | 20 | |
| 3254850 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/22 | | 97 | % | 80 - 120 | |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/22 | | 95 | % | 80 - 120 | |
| | Method Blank | Dissolved Organic Carbon | 2013/06/21 | <0.20 | | mg/L | | |
| | RPD | Dissolved Organic Carbon | 2013/06/22 | NC | | % | 20 | |
| 3254879 NYS | Matrix Spike | Sulphide | 2013/06/21 | | 90 | % | 80 - 120 | |
| | Spiked Blank | Sulphide | 2013/06/21 | | 93 | % | 80 - 120 | |
| | Method Blank | Sulphide | 2013/06/21 | <0.020 | | mg/L | | |
| | RPD | Sulphide | 2013/06/21 | NC | | % | 20 | |
| 3255037 ADB | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/21 | | 106 | % | 80 - 120 | |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/21 | | 102 | % | 80 - 120 | |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/21 | <1 | | mg/L | | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/21 | NC | | % | 20 | |
| 3255038 ADB | Matrix Spike | Orthophosphate (P) | 2013/06/21 | | 95 | % | 75 - 125 | |
| | Spiked Blank | Orthophosphate (P) | 2013/06/21 | | 99 | % | 80 - 120 | |
| | Method Blank | Orthophosphate (P) | 2013/06/21 | <0.010 | | mg/L | | |
| | RPD | Orthophosphate (P) | 2013/06/21 | NC | | % | 25 | |
| 3255039 ADB | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/21 | | 97 | % | 75 - 125 | |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/21 | | 100 | % | 80 - 120 | |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/21 | <1 | | mg/L | | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/21 | 6.3 | | % | 20 | |
| 3255046 C_H | Matrix Spike [RY8930-01] | Nitrite (N) | 2013/06/21 | | 96 | % | 80 - 120 | |
| | | Nitrate (N) | 2013/06/21 | | 96 | % | 80 - 120 | |
| | Spiked Blank | Nitrite (N) | 2013/06/21 | | 93 | % | 85 - 115 | |
| | | Nitrate (N) | 2013/06/21 | | 94 | % | 85 - 115 | |
| | Method Blank | Nitrite (N) | 2013/06/21 | <0.010 | | mg/L | | |
| | | Nitrate (N) | 2013/06/21 | <0.10 | | mg/L | | |
| | RPD [RY8930-01] | Nitrite (N) | 2013/06/21 | NC | | % | 25 | |
| | | Nitrate (N) | 2013/06/21 | NC | | % | 25 | |
| | 3255059 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/21 | | 92 | % | 85 - 115 |
| | | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/21 | <1.0 | | mg/L | |
| RPD | | Alkalinity (Total as CaCO3) | 2013/06/21 | 12.5 | | % | 25 | |
| 3255060 SAU | QC Standard | Conductivity | 2013/06/21 | | 102 | % | 85 - 115 | |
| | Method Blank | Conductivity | 2013/06/21 | <1.0 | | umho/cm | | |
| | RPD | Conductivity | 2013/06/21 | 0.2 | | % | 25 | |
| 3255061 SAU | Matrix Spike | Fluoride (F-) | 2013/06/21 | | 101 | % | 80 - 120 | |
| | Spiked Blank | Fluoride (F-) | 2013/06/21 | | 97 | % | 80 - 120 | |
| | Method Blank | Fluoride (F-) | 2013/06/21 | <0.10 | | mg/L | | |
| | RPD | Fluoride (F-) | 2013/06/21 | NC | | % | 20 | |
| 3255143 JBW | Matrix Spike [RY8930-04] | . Aluminum (Al) | 2013/06/25 | | 99 | % | 80 - 120 | |
| | | . Antimony (Sb) | 2013/06/25 | | 104 | % | 80 - 120 | |
| | | . Arsenic (As) | 2013/06/25 | | 99 | % | 80 - 120 | |
| | | . Barium (Ba) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Beryllium (Be) | 2013/06/25 | | 100 | % | 80 - 120 | |
| | | . Bismuth (Bi) | 2013/06/25 | | 94 | % | 80 - 120 | |
| | | . Boron (B) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Cadmium (Cd) | 2013/06/25 | | 100 | % | 80 - 120 | |
| | | . Calcium (Ca) | 2013/06/25 | | 96 | % | 80 - 120 | |
| | | . Chromium (Cr) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Cobalt (Co) | 2013/06/25 | | 95 | % | 80 - 120 | |
| | | . Copper (Cu) | 2013/06/25 | | 93 | % | 80 - 120 | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|----------------|-----------------------------|-------------------|--------------------------------|-------|----------|-------|-----------|
| 3255143 JBW | Matrix Spike [RY8930-04] | . Iron (Fe) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/25 | | 95 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/25 | | 94 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/25 | | NC | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/25 | | 105 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/06/25 | | 95 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Uranium (U) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Zirconium (Zr) | 2013/06/25 | | 107 | % | 80 - 120 |
| | Spiked Blank | . Aluminum (Al) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/25 | | 102 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/25 | | 118 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/25 | | 102 | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/25 | | 104 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/25 | | 103 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|------------------|-------------------|-----------------------------|--------|----------|----------|-----------|
| 3255143 JBW | Spiked Blank | . Uranium (U) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/25 | | 100 | % | 80 - 120 |
| . Zinc (Zn) | | 2013/06/25 | | 100 | % | 80 - 120 | |
| . Zirconium (Zr) | | 2013/06/25 | | 105 | % | 80 - 120 | |
| | Method Blank | . Aluminum (Al) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/06/25 | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Calcium (Ca) | 2013/06/25 | <200 | | ug/L | |
| | | . Chromium (Cr) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Cobalt (Co) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Copper (Cu) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Iron (Fe) | 2013/06/25 | <100 | | ug/L | |
| | | . Lead (Pb) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Lithium (Li) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Magnesium (Mg) | 2013/06/25 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/06/25 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/06/25 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/06/25 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/06/25 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/06/25 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/06/25 | <0.50 | | ug/L | |
| | . Zinc (Zn) | 2013/06/25 | <5.0 | | ug/L | | |
| | . Zirconium (Zr) | 2013/06/25 | <1.0 | | ug/L | | |
| | RPD [RY8930-04] | . Aluminum (Al) | 2013/06/25 | NC | | % | 20 |
| | | . Antimony (Sb) | 2013/06/25 | NC | | % | 20 |
| | | . Arsenic (As) | 2013/06/25 | NC | | % | 20 |
| | | . Barium (Ba) | 2013/06/25 | NC | | % | 20 |
| | | . Beryllium (Be) | 2013/06/25 | NC | | % | 20 |
| | | . Bismuth (Bi) | 2013/06/25 | NC | | % | 20 |
| | | . Boron (B) | 2013/06/25 | NC | | % | 20 |
| | | . Cadmium (Cd) | 2013/06/25 | NC | | % | 20 |
| | | . Calcium (Ca) | 2013/06/25 | 0.1 | | % | 20 |
| | | . Chromium (Cr) | 2013/06/25 | NC | | % | 20 |
| | | . Cobalt (Co) | 2013/06/25 | NC | | % | 20 |
| | | . Copper (Cu) | 2013/06/25 | 2.4 | | % | 20 |
| | . Iron (Fe) | 2013/06/25 | NC | | % | 20 | |
| | . Lead (Pb) | 2013/06/25 | NC | | % | 20 | |
| | . Lithium (Li) | 2013/06/25 | NC | | % | 20 | |
| | . Magnesium (Mg) | 2013/06/25 | 0.2 | | % | 20 | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------------------|-------------------------------|-----------------------------|---------|----------|-------|-----------|
| 3255143 JBW | RPD [RY8930-04] | . Manganese (Mn) | 2013/06/25 | NC | | % | 20 |
| | | . Molybdenum (Mo) | 2013/06/25 | 3.7 | | % | 20 |
| | | . Nickel (Ni) | 2013/06/25 | NC | | % | 20 |
| | | . Phosphorus (P) | 2013/06/25 | NC | | % | 20 |
| | | . Potassium (K) | 2013/06/25 | NC | | % | 20 |
| | | . Selenium (Se) | 2013/06/25 | NC | | % | 20 |
| | | . Silicon (Si) | 2013/06/25 | 1.0 | | % | 20 |
| | | . Silver (Ag) | 2013/06/25 | NC | | % | 20 |
| | | . Sodium (Na) | 2013/06/25 | 0.06 | | % | 20 |
| | | . Strontium (Sr) | 2013/06/25 | 1.8 | | % | 20 |
| | | . Tellurium (Te) | 2013/06/25 | NC | | % | 20 |
| | | . Thallium (Tl) | 2013/06/25 | NC | | % | 20 |
| | | . Tin (Sn) | 2013/06/25 | NC | | % | 20 |
| | | . Titanium (Ti) | 2013/06/25 | NC | | % | 20 |
| | | . Tungsten (W) | 2013/06/25 | NC | | % | 20 |
| | | . Uranium (U) | 2013/06/25 | 0.6 | | % | 20 |
| | | . Vanadium (V) | 2013/06/25 | NC | | % | 20 |
| | | . Zinc (Zn) | 2013/06/25 | NC | | % | 20 |
| | | . Zirconium (Zr) | 2013/06/25 | NC | | % | 20 |
| 3255148 AFZ | Matrix Spike [RY8931-05] | Dissolved Sulphur (S) | 2013/06/24 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Sulphur (S) | 2013/06/24 | | 110 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphur (S) | 2013/06/24 | <0.5 | | mg/L | |
| | RPD [RY8931-05] | Dissolved Sulphur (S) | 2013/06/24 | 0.7 | | % | 25 |
| 3255252 MMJ | QC Standard | Total Dissolved Solids | 2013/06/21 | | 97 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/21 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/06/21 | 4.3 | | % | 25 |
| 3255259 GKR | QC Standard | Total Suspended Solids | 2013/06/21 | | 98 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/21 | <10 | | mg/L | |
| | RPD [RY8931-02] | Total Suspended Solids | 2013/06/21 | NC | | % | 25 |
| 3255634 FD | Matrix Spike [RY8931-01] | Dissolved Bromide (Br-) | 2013/06/24 | | 107 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/24 | | 106 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/24 | <1.0 | | mg/L | |
| | RPD [RY8931-01] | Dissolved Bromide (Br-) | 2013/06/24 | NC | | % | 20 |
| 3255829 COP | Matrix Spike [RY8931-03] | Total Ammonia-N | 2013/06/24 | | 101 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/24 | | 97 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/24 | <0.050 | | mg/L | |
| | RPD [RY8931-03] | Total Ammonia-N | 2013/06/24 | NC | | % | 20 |
| 3256564 BMO | Matrix Spike | Phenols-4AAP | 2013/06/24 | | NC | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/24 | | 98 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/24 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/06/24 | 2.8 | | % | 25 |
| 3258261 MC | Matrix Spike | Mercury (Hg) | 2013/06/25 | | 94 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/25 | | 98 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/25 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/25 | NC | | % | 20 |
| 3258983 VRO | Matrix Spike | Total Phosphorus | 2013/06/26 | | 100 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/26 | | 109 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/26 | | 106 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/26 | <0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/26 | 10.1 | | % | 20 |
| 3259014 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 101 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|-------|----------|-------|-----------|
| 3259014 C_N | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | 2.2 | | % | 20 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.


NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B397543

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink that reads "Cristina Carriere". The signature is written in a cursive style.

Cristina Carriere, Scientific Services

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

532 Moxley Road

Your Project #: 06-1112-0020
 Site#: 06-1112-0020
 Your C.O.C. #: 41759301, 417593-01-01

Attention: Sharon Wood
 Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/06/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B397543
Received: 2013/06/20, 13:22

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/21 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/24 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/21 | CAM SOP-00463 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/21 | CAM SOP-00448 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/22 | CAM SOP-00446 | SM 2510 |
| Fluoride | 1 | 2013/06/20 | 2013/06/21 | CAM SOP-00449 | SM 5310 B |
| Hardness (calculated as CaCO3) | 1 | N/A | 2013/06/25 | CAM SOP 00102 | APHA 4500FC |
| Mercury | 1 | 2013/06/25 | 2013/06/25 | CAM SOP-00453 | SM 2340 B |
| Dissolved Metals Analysis by ICP | 1 | 2013/06/21 | 2013/06/24 | CAM SOP-00408 | SW-846 7470A |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/21 | 2013/06/25 | CAM SOP-00447 | SW-846 6010C |
| Ion Balance (% Difference) | 1 | N/A | 2013/06/25 | | EPA 6020 |
| Anion and Cation Sum | 1 | N/A | 2013/06/25 | | |
| Total Ammonia-N | 1 | N/A | 2013/06/24 | CAM SOP-00441 | US GS I-2522-90 |
| Nitrate (NO3) and Nitrite (NO2) in Water (2) | 1 | N/A | 2013/06/21 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| pH | 1 | N/A | 2013/06/21 | CAM SOP-00448 | SM 4500H+ B |
| Phenols (4AAP) | 1 | N/A | 2013/06/24 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Orthophosphate | 1 | N/A | 2013/06/21 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/25 | | |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/06/25 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/06/21 | CAM SOP-00464 | EPA 375.4 |
| Sulphide | 1 | N/A | 2013/06/21 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/25 | | |
| Total Dissolved Solids | 1 | N/A | 2013/06/21 | CAM SOP-00428 | APHA 2540C |
| Total Kjeldahl Nitrogen in Water | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00407 | APHA 4500 P,B,F |
| Total Suspended Solids | 1 | N/A | 2013/06/21 | CAM SOP-00428 | SM 2540D |
| Turbidity | 1 | N/A | 2013/06/20 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this

Your Project #: 06-1112-0020
Site#: 06-1112-0020
Your C.O.C. #: 41759301, 417593-01-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/06/28

CERTIFICATE OF ANALYSIS

-2-

analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Total cover pages: 2

Maxxam Job #: B397543
 Report Date: 2013/06/28

 Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RY8930 | | |
| Sampling Date | | | | | 2013/06/19 17:30 | | |
| COC Number | | | | | 417593-01-01 | | |
| | Units | Criteria A | IMC | A/O | SA#40 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 10.8 | N/A | 3254341 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 300 | 1.0 | 3254338 |
| Calculated TDS | mg/L | - | - | 500 | 647 | 1.0 | 3253859 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.7 | 1.0 | 3254338 |
| Cation Sum | me/L | - | - | - | 11.0 | N/A | 3254341 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 19 | 1.0 | 3254599 |
| Ion Balance (% Difference) | % | - | - | - | 0.880 | N/A | 3254340 |
| Langelier Index (@ 20C) | N/A | - | - | - | -0.524 | | 3254342 |
| Langelier Index (@ 4C) | N/A | - | - | - | -0.771 | | 3254343 |
| Saturation pH (@ 20C) | N/A | - | - | - | 8.31 | | 3254342 |
| Saturation pH (@ 4C) | N/A | - | - | - | 8.56 | | 3254343 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | <0.050 | 0.050 | 3255829 |
| Conductivity | umho/cm | - | - | - | 1100 | 1.0 | 3255060 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 0.87 | 0.20 | 3254850 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3255038 |
| pH | pH | - | - | 6.5:8.5 | 7.79 | | 3255062 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 100 | 1 | 3255039 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 300 | 1.0 | 3255059 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 92 | 1 | 3255037 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3255046 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3255046 |
| Nitrate + Nitrite | mg/L | 10 | - | - | <0.10 | 0.10 | 3255046 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 12 | 5.0 | 3255143 |
| . Antimony (Sb) | ug/L | - | 6 | - | 0.59 | 0.50 | 3255143 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

 Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RY8930 | | |
| Sampling Date | | | | | 2013/06/19 17:30 | | |
| COC Number | | | | | 417593-01-01 | | |
| | Units | Criteria A | IMC | A/O | SA#40 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|--------|-------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | 1.7 | 1.0 | 3255143 |
| . Barium (Ba) | ug/L | 1000 | - | - | <2.0 | 2.0 | 3255143 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3255143 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |
| . Boron (B) | ug/L | - | 5000 | - | 29 | 10 | 3255143 |
| . Cadmium (Cd) | ug/L | 5 | - | - | <0.10 | 0.10 | 3255143 |
| . Calcium (Ca) | ug/L | - | - | - | 5300 | 200 | 3255143 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3255143 |
| . Cobalt (Co) | ug/L | - | - | - | <0.50 | 0.50 | 3255143 |
| . Copper (Cu) | ug/L | - | - | 1000 | 18 | 1.0 | 3255143 |
| . Iron (Fe) | ug/L | - | - | 300 | <100 | 100 | 3255143 |
| . Lead (Pb) | ug/L | 10 | - | - | 0.59 | 0.50 | 3255143 |
| . Lithium (Li) | ug/L | - | - | - | <5.0 | 5.0 | 3255143 |
| . Magnesium (Mg) | ug/L | - | - | - | 1400 | 50 | 3255143 |
| . Manganese (Mn) | ug/L | - | - | 50 | <2.0 | 2.0 | 3255143 |
| . Molybdenum (Mo) | ug/L | - | - | - | 3.1 | 0.50 | 3255143 |
| . Nickel (Ni) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3255143 |
| . Potassium (K) | ug/L | - | - | - | <200 | 200 | 3255143 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3255143 |
| . Silicon (Si) | ug/L | - | - | - | 9200 | 50 | 3255143 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3255143 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 240000 | 100 | 3255143 |
| . Strontium (Sr) | ug/L | - | - | - | 13 | 1.0 | 3255143 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |
| . Thallium (Tl) | ug/L | - | - | - | <0.050 | 0.050 | 3255143 |
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RY8930 | | |
| Sampling Date | | | | | 2013/06/19 17:30 | | |
| COC Number | | | | | 417593-01-01 | | |
| | Units | Criteria A | IMC | A/O | SA#40 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|-------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3255143 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |
| . Uranium (U) | ug/L | 20 | - | - | 3.7 | 0.10 | 3255143 |
| . Vanadium (V) | ug/L | - | - | - | <0.50 | 0.50 | 3255143 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 8.8 | 5.0 | 3255143 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3255143 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RY8930 | | |
| Sampling Date | | | | 2013/06/19 17:30 | | |
| COC Number | | | | 417593-01-01 | | |
| | Units | Criteria A | A/O | SA#40 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 748 | 10 | 3255252 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.27 | 0.10 | 3255061 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.19 | 0.10 | 3259014 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3256564 |
| Total Phosphorus | mg/L | - | - | <0.002 | 0.002 | 3258983 |
| Total Suspended Solids | mg/L | - | - | <10 | 10 | 3255259 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3254879 |
| Turbidity | NTU | - | 5 | <0.2 | 0.2 | 3254776 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3255634 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration
 [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table
 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
 Report Date: 2013/06/28

Golder Associates Ltd
 Client Project #: 06-1112-0020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RY8930 | | |
| Sampling Date | | | 2013/06/19 17:30 | | |
| COC Number | | | 417593-01-01 | | |
| | Units | MAC | SA#40 | RDL | QC Batch |

| Metals | | | | | |
|-----------------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3258261 |
| Dissolved Sulphur (S) | mg/L | - | 37.5 | 0.5 | 3255148 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B397543
Report Date: 2013/06/28

Golder Associates Ltd
Client Project #: 06-1112-0020

Sampler Initials: JY

Test Summary

Maxxam ID RY8930
Sample ID SA#40
Matrix Water

Collected 2013/06/19
Shipped
Received 2013/06/20

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3255059 | N/A | 2013/06/21 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3254338 | N/A | 2013/06/24 | Automated Statchk |
| Anions | IC | 3255634 | N/A | 2013/06/24 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3255037 | N/A | 2013/06/21 | Alina Dobreanu |
| Conductivity | COND | 3255060 | N/A | 2013/06/21 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3254850 | N/A | 2013/06/22 | Anastasia Hamanov |
| Fluoride | F | 3255061 | 2013/06/20 | 2013/06/21 | Surinder Rai |
| Hardness (calculated as CaCO3) | | 3254599 | N/A | 2013/06/25 | Automated Statchk |
| Mercury | CVAA | 3258261 | 2013/06/25 | 2013/06/25 | Magdalena Carlos |
| Dissolved Metals Analysis by ICP | ICP | 3255148 | 2013/06/21 | 2013/06/24 | Azita Fazaeli |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3255143 | 2013/06/21 | 2013/06/25 | John Bowman |
| Ion Balance (% Difference) | CALC | 3254340 | N/A | 2013/06/25 | Automated Statchk |
| Anion and Cation Sum | CALC | 3254341 | N/A | 2013/06/25 | Automated Statchk |
| Total Ammonia-N | LACH/NH4 | 3255829 | N/A | 2013/06/24 | Charles Opoku-Ware |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3255046 | N/A | 2013/06/21 | Chris Li |
| pH | PH | 3255062 | N/A | 2013/06/21 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3256564 | N/A | 2013/06/24 | Bramdeo Motiram |
| Orthophosphate | AC | 3255038 | N/A | 2013/06/21 | Alina Dobreanu |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3254342 | N/A | 2013/06/25 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3254343 | N/A | 2013/06/25 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3255039 | N/A | 2013/06/21 | Alina Dobreanu |
| Sulphide | ISE/S | 3254879 | N/A | 2013/06/21 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3253859 | N/A | 2013/06/25 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3255252 | N/A | 2013/06/21 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3259014 | 2013/06/25 | 2013/06/26 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3258983 | 2013/06/25 | 2013/06/26 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3255259 | N/A | 2013/06/21 | Gurpreet Kaur |
| Turbidity | TURB | 3254776 | N/A | 2013/06/20 | Neil Dassanayake |

Maxxam ID RY8930 Dup
Sample ID SA#40
Matrix Water

Collected 2013/06/19
Shipped
Received 2013/06/20

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-------------|
| Metals Analysis by ICPMS (as received) | ICP/MS | 3255143 | 2013/06/21 | 2013/06/25 | John Bowman |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3255046 | N/A | 2013/06/21 | Chris Li |

Maxxam Job #: B397543
Report Date: 2013/06/28

Golder Associates Ltd
Client Project #: 06-1112-0020

Sampler Initials: JY

| | |
|-----------|--------|
| Package 1 | 13.7°C |
|-----------|--------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Revised Report (2013/06/28): Requested regulatory criteria have been included on this report. Client project number has been revised.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report
 Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits | |
|-------------|-----------------------------|-----------------------------|-----------------------------|------------|----------|---------|-----------|----------|
| 3254776 NYS | QC Standard | Turbidity | 2013/06/20 | | 99 | % | 85 - 115 | |
| | Method Blank | Turbidity | 2013/06/20 | <0.2 | | NTU | | |
| | RPD | Turbidity | 2013/06/20 | 1.5 | | % | 20 | |
| 3254850 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/22 | | 97 | % | 80 - 120 | |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/22 | | 95 | % | 80 - 120 | |
| | Method Blank | Dissolved Organic Carbon | 2013/06/21 | <0.20 | | mg/L | | |
| | RPD | Dissolved Organic Carbon | 2013/06/22 | NC | | % | 20 | |
| 3254879 NYS | Matrix Spike | Sulphide | 2013/06/21 | | 90 | % | 80 - 120 | |
| | Spiked Blank | Sulphide | 2013/06/21 | | 93 | % | 80 - 120 | |
| | Method Blank | Sulphide | 2013/06/21 | <0.020 | | mg/L | | |
| | RPD | Sulphide | 2013/06/21 | NC | | % | 20 | |
| 3255037 ADB | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/21 | | 106 | % | 80 - 120 | |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/21 | | 102 | % | 80 - 120 | |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/21 | <1 | | mg/L | | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/21 | NC | | % | 20 | |
| 3255038 ADB | Matrix Spike | Orthophosphate (P) | 2013/06/21 | | 95 | % | 75 - 125 | |
| | Spiked Blank | Orthophosphate (P) | 2013/06/21 | | 99 | % | 80 - 120 | |
| | Method Blank | Orthophosphate (P) | 2013/06/21 | <0.010 | | mg/L | | |
| | RPD | Orthophosphate (P) | 2013/06/21 | NC | | % | 25 | |
| 3255039 ADB | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/21 | | 97 | % | 75 - 125 | |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/21 | | 100 | % | 80 - 120 | |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/21 | <1 | | mg/L | | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/21 | 6.3 | | % | 20 | |
| 3255046 C_H | Matrix Spike [RY8930-01] | Nitrite (N) | 2013/06/21 | | 96 | % | 80 - 120 | |
| | | Nitrate (N) | 2013/06/21 | | 96 | % | 80 - 120 | |
| | Spiked Blank | Nitrite (N) | 2013/06/21 | | 93 | % | 85 - 115 | |
| | | Nitrate (N) | 2013/06/21 | | 94 | % | 85 - 115 | |
| | Method Blank | Nitrite (N) | 2013/06/21 | <0.010 | | mg/L | | |
| | | Nitrate (N) | 2013/06/21 | <0.10 | | mg/L | | |
| | RPD [RY8930-01] | Nitrite (N) | 2013/06/21 | NC | | % | 25 | |
| | | Nitrate (N) | 2013/06/21 | NC | | % | 25 | |
| | 3255059 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/21 | | 92 | % | 85 - 115 |
| | | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/21 | <1.0 | | mg/L | |
| RPD | | Alkalinity (Total as CaCO3) | 2013/06/21 | 12.5 | | % | 25 | |
| 3255060 SAU | QC Standard | Conductivity | 2013/06/21 | | 102 | % | 85 - 115 | |
| | Method Blank | Conductivity | 2013/06/21 | <1.0 | | umho/cm | | |
| | RPD | Conductivity | 2013/06/21 | 0.2 | | % | 25 | |
| 3255061 SAU | Matrix Spike | Fluoride (F-) | 2013/06/21 | | 101 | % | 80 - 120 | |
| | Spiked Blank | Fluoride (F-) | 2013/06/21 | | 97 | % | 80 - 120 | |
| | Method Blank | Fluoride (F-) | 2013/06/21 | <0.10 | | mg/L | | |
| | RPD | Fluoride (F-) | 2013/06/21 | NC | | % | 20 | |
| 3255143 JBW | Matrix Spike [RY8930-04] | . Aluminum (Al) | 2013/06/25 | | 99 | % | 80 - 120 | |
| | | . Antimony (Sb) | 2013/06/25 | | 104 | % | 80 - 120 | |
| | | . Arsenic (As) | 2013/06/25 | | 99 | % | 80 - 120 | |
| | | . Barium (Ba) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Beryllium (Be) | 2013/06/25 | | 100 | % | 80 - 120 | |
| | | . Bismuth (Bi) | 2013/06/25 | | 94 | % | 80 - 120 | |
| | | . Boron (B) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Cadmium (Cd) | 2013/06/25 | | 100 | % | 80 - 120 | |
| | | . Calcium (Ca) | 2013/06/25 | | 96 | % | 80 - 120 | |
| | | . Chromium (Cr) | 2013/06/25 | | 97 | % | 80 - 120 | |
| | | . Cobalt (Co) | 2013/06/25 | | 95 | % | 80 - 120 | |
| | | . Copper (Cu) | 2013/06/25 | | 93 | % | 80 - 120 | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------------------|-------------------|-----------------------------|-------|----------|-------|-----------|
| 3255143 JBW | Matrix Spike [RY8930-04] | . Iron (Fe) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/25 | | 95 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/25 | | 94 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/25 | | NC | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/25 | | 105 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/06/25 | | 95 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Uranium (U) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Zirconium (Zr) | 2013/06/25 | | 107 | % | 80 - 120 |
| | Spiked Blank | . Aluminum (Al) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/25 | | 96 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/25 | | 100 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/25 | | 102 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/25 | | 118 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/25 | | 101 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/25 | | 103 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/25 | | 102 | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/25 | | 98 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/25 | | 104 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/06/25 | | 97 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/25 | | 103 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|------------------|-------------------|-----------------------------|--------|----------|----------|-----------|
| 3255143 JBW | Spiked Blank | . Uranium (U) | 2013/06/25 | | 99 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/25 | | 100 | % | 80 - 120 |
| . Zinc (Zn) | | 2013/06/25 | | 100 | % | 80 - 120 | |
| . Zirconium (Zr) | | 2013/06/25 | | 105 | % | 80 - 120 | |
| | Method Blank | . Aluminum (Al) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/06/25 | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Calcium (Ca) | 2013/06/25 | <200 | | ug/L | |
| | | . Chromium (Cr) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Cobalt (Co) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Copper (Cu) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Iron (Fe) | 2013/06/25 | <100 | | ug/L | |
| | | . Lead (Pb) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Lithium (Li) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Magnesium (Mg) | 2013/06/25 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/06/25 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/06/25 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/06/25 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/06/25 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/06/25 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/06/25 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/06/25 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/06/25 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/06/25 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/06/25 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/06/25 | <5.0 | | ug/L | |
| | . Zirconium (Zr) | 2013/06/25 | <1.0 | | ug/L | | |
| | RPD [RY8930-04] | . Aluminum (Al) | 2013/06/25 | NC | | % | 20 |
| | | . Antimony (Sb) | 2013/06/25 | NC | | % | 20 |
| | | . Arsenic (As) | 2013/06/25 | NC | | % | 20 |
| | | . Barium (Ba) | 2013/06/25 | NC | | % | 20 |
| | | . Beryllium (Be) | 2013/06/25 | NC | | % | 20 |
| | | . Bismuth (Bi) | 2013/06/25 | NC | | % | 20 |
| | | . Boron (B) | 2013/06/25 | NC | | % | 20 |
| | | . Cadmium (Cd) | 2013/06/25 | NC | | % | 20 |
| | | . Calcium (Ca) | 2013/06/25 | 0.1 | | % | 20 |
| | | . Chromium (Cr) | 2013/06/25 | NC | | % | 20 |
| | | . Cobalt (Co) | 2013/06/25 | NC | | % | 20 |
| | | . Copper (Cu) | 2013/06/25 | 2.4 | | % | 20 |
| | | . Iron (Fe) | 2013/06/25 | NC | | % | 20 |
| | | . Lead (Pb) | 2013/06/25 | NC | | % | 20 |
| | . Lithium (Li) | 2013/06/25 | NC | | % | 20 | |
| | . Magnesium (Mg) | 2013/06/25 | 0.2 | | % | 20 | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------------------|-------------------------------|-----------------------------|---------|----------|-------|-----------|
| 3255143 JBW | RPD [RY8930-04] | . Manganese (Mn) | 2013/06/25 | NC | | % | 20 |
| | | . Molybdenum (Mo) | 2013/06/25 | 3.7 | | % | 20 |
| | | . Nickel (Ni) | 2013/06/25 | NC | | % | 20 |
| | | . Phosphorus (P) | 2013/06/25 | NC | | % | 20 |
| | | . Potassium (K) | 2013/06/25 | NC | | % | 20 |
| | | . Selenium (Se) | 2013/06/25 | NC | | % | 20 |
| | | . Silicon (Si) | 2013/06/25 | 1.0 | | % | 20 |
| | | . Silver (Ag) | 2013/06/25 | NC | | % | 20 |
| | | . Sodium (Na) | 2013/06/25 | 0.06 | | % | 20 |
| | | . Strontium (Sr) | 2013/06/25 | 1.8 | | % | 20 |
| | | . Tellurium (Te) | 2013/06/25 | NC | | % | 20 |
| | | . Thallium (Tl) | 2013/06/25 | NC | | % | 20 |
| | | . Tin (Sn) | 2013/06/25 | NC | | % | 20 |
| | | . Titanium (Ti) | 2013/06/25 | NC | | % | 20 |
| | | . Tungsten (W) | 2013/06/25 | NC | | % | 20 |
| | | . Uranium (U) | 2013/06/25 | 0.6 | | % | 20 |
| | | . Vanadium (V) | 2013/06/25 | NC | | % | 20 |
| . Zinc (Zn) | 2013/06/25 | NC | | % | 20 | | |
| . Zirconium (Zr) | 2013/06/25 | NC | | % | 20 | | |
| 3255148 AFZ | Matrix Spike [RY8931-05] | Dissolved Sulphur (S) | 2013/06/24 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Sulphur (S) | 2013/06/24 | | 110 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphur (S) | 2013/06/24 | <0.5 | | mg/L | |
| 3255252 MMJ | RPD [RY8931-05] | Dissolved Sulphur (S) | 2013/06/24 | 0.7 | | % | 25 |
| | QC Standard | Total Dissolved Solids | 2013/06/21 | | 97 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/21 | <10 | | mg/L | |
| 3255259 GKR | RPD | Total Dissolved Solids | 2013/06/21 | 4.3 | | % | 25 |
| | QC Standard | Total Suspended Solids | 2013/06/21 | | 98 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/21 | <10 | | mg/L | |
| 3255634 FD | RPD [RY8931-02] | Total Suspended Solids | 2013/06/21 | NC | | % | 25 |
| | Matrix Spike [RY8931-01] | Dissolved Bromide (Br-) | 2013/06/24 | | 107 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/24 | | 106 | % | 80 - 120 |
| 3255829 COP | Method Blank | Dissolved Bromide (Br-) | 2013/06/24 | <1.0 | | mg/L | |
| | RPD [RY8931-01] | Dissolved Bromide (Br-) | 2013/06/24 | NC | | % | 20 |
| | Matrix Spike [RY8931-03] | Total Ammonia-N | 2013/06/24 | | 101 | % | 80 - 120 |
| 3256564 BMO | Spiked Blank | Total Ammonia-N | 2013/06/24 | | 97 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/24 | <0.050 | | mg/L | |
| | RPD [RY8931-03] | Total Ammonia-N | 2013/06/24 | NC | | % | 20 |
| 3258261 MC | Matrix Spike | Phenols-4AAP | 2013/06/24 | | NC | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/24 | | 98 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/24 | <0.0010 | | mg/L | |
| 3258983 VRO | RPD | Phenols-4AAP | 2013/06/24 | 2.8 | | % | 25 |
| | Matrix Spike | Mercury (Hg) | 2013/06/25 | | 94 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/25 | | 98 | % | 80 - 120 |
| 3259014 C_N | Method Blank | Mercury (Hg) | 2013/06/25 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/25 | NC | | % | 20 |
| | Matrix Spike | Total Phosphorus | 2013/06/26 | | 100 | % | 80 - 120 |
| 3259014 C_N | QC Standard | Total Phosphorus | 2013/06/26 | | 109 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/26 | | 106 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/26 | <0.002 | | mg/L | |
| 3259014 C_N | RPD | Total Phosphorus | 2013/06/26 | 10.1 | | % | 20 |
| | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 101 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-0020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB397543

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|-------|----------|-------|-----------|
| 3259014 C_N | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/26 | 2.2 | | % | 20 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.


NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B397543

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink that reads "Cristina Carriere". The signature is written in a cursive style.

Cristina Carriere, Scientific Services

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

554 Moxley Road

Your Project #: 06-1112-020
 Site#: 06-1112-020
 Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B398824

Received: 2013/06/21, 13:17

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/28 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/27 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/27 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/27 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 2510 |
| Fluoride | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO ₃) | 1 | N/A | 2013/06/26 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/07/02 | CAM SOP 00102 | SM 2340 B |
| Dissolved Metals Analysis by ICP | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/29 | 2013/07/03 | CAM SOP-00408 | SW-846 6010C |
| Ion Balance (% Difference) | 1 | N/A | 2013/06/28 | CAM SOP-00447 | EPA 6020 |
| Anion and Cation Sum | 1 | N/A | 2013/07/02 | | |
| Total Ammonia-N | 1 | N/A | 2013/07/02 | | |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water (2) | 1 | N/A | 2013/06/27 | CAM SOP-00441 | US GS I-2522-90 |
| pH | 1 | N/A | 2013/06/28 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| Phenols (4AAP) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 4500H+ B |
| Orthophosphate | 1 | N/A | 2013/06/28 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/27 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/07/02 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/07/02 | | |
| Sulphide | 1 | N/A | 2013/06/27 | CAM SOP-00464 | EPA 375.4 |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/27 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids | 1 | N/A | 2013/07/02 | | |
| Total Kjeldahl Nitrogen in Water | 1 | N/A | 2013/06/27 | CAM SOP-00428 | APHA 2540C |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/27 | 2013/06/27 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Suspended Solids | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00407 | APHA 4500 P,B,F |
| Turbidity | 1 | N/A | 2013/06/26 | CAM SOP-00428 | SM 2540D |
| | 1 | N/A | 2013/06/26 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies

Your Project #: 06-1112-020
Site#: 06-1112-020
Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

-2-

comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

(1) Metals analysis was performed on the sample 'as received'.

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Total cover pages: 2

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4612 | | |
| Sampling Date | | | | | 2013/06/20 16:30 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 54 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 9.35 | N/A | 3258572 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 260 | 1.0 | 3258569 |
| Calculated TDS | mg/L | - | - | 500 | 511 | 1.0 | 3258575 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.5 | 1.0 | 3258569 |
| Cation Sum | me/L | - | - | - | 9.39 | N/A | 3258572 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 440 | 1.0 | 3258486 |
| Ion Balance (% Difference) | % | - | - | - | 0.210 | N/A | 3258571 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.817 | | 3258573 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.570 | | 3258574 |
| Saturation pH (@ 20C) | N/A | - | - | - | 6.97 | | 3258573 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.21 | | 3258574 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | 0.053 | 0.050 | 3260395 |
| Conductivity | umho/cm | - | - | - | 930 | 1.0 | 3259772 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 0.67 | 0.20 | 3259703 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3260523 |
| pH | pH | - | - | 6.5:8.5 | 7.78 | | 3259774 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 48 | 1 | 3260524 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 260 | 1.0 | 3259771 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 110 | 1 | 3260520 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3261289 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Nitrate + Nitrite | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 10 | 5.0 | 3263396 |
| . Antimony (Sb) | ug/L | - | 6 | - | <0.50 | 0.50 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4612 | | |
| Sampling Date | | | | | 2013/06/20 16:30 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 54 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|--------|-------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | 6.7 | 1.0 | 3263396 |
| . Barium (Ba) | ug/L | 1000 | - | - | 79 | 2.0 | 3263396 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Boron (B) | ug/L | - | 5000 | - | 19 | 10 | 3263396 |
| . Cadmium (Cd) | ug/L | 5 | - | - | <0.10 | 0.10 | 3263396 |
| . Calcium (Ca) | ug/L | - | - | - | 130000 | 200 | 3263396 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3263396 |
| . Cobalt (Co) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Copper (Cu) | ug/L | - | - | 1000 | 1.1 | 1.0 | 3263396 |
| . Iron (Fe) | ug/L | - | - | 300 | 1000 | 100 | 3263396 |
| . Lead (Pb) | ug/L | 10 | - | - | 2.0 | 0.50 | 3263396 |
| . Lithium (Li) | ug/L | - | - | - | 9.5 | 5.0 | 3263396 |
| . Magnesium (Mg) | ug/L | - | - | - | 25000 | 50 | 3263396 |
| . Manganese (Mn) | ug/L | - | - | 50 | 49 | 2.0 | 3263396 |
| . Molybdenum (Mo) | ug/L | - | - | - | 2.1 | 0.50 | 3263396 |
| . Nickel (Ni) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3263396 |
| . Potassium (K) | ug/L | - | - | - | 3300 | 200 | 3263396 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3263396 |
| . Silicon (Si) | ug/L | - | - | - | 9400 | 50 | 3263396 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3263396 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 11000 | 100 | 3263396 |
| . Strontium (Sr) | ug/L | - | - | - | 280 | 1.0 | 3263396 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Thallium (Tl) | ug/L | - | - | - | <0.050 | 0.050 | 3263396 |
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4612 | | |
| Sampling Date | | | | | 2013/06/20 16:30 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 54 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|-------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3263396 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Uranium (U) | ug/L | 20 | - | - | 1.0 | 0.10 | 3263396 |
| . Vanadium (V) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Zinc (Zn) | ug/L | - | - | 5000 | <5.0 | 5.0 | 3263396 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RZ4612 | | |
| Sampling Date | | | | 2013/06/20 16:30 | | |
| COC Number | | | | 417453-03-01 | | |
| | Units | Criteria A | A/O | SA#WELL 54 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 718 | 10 | 3260472 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.18 | 0.10 | 3259773 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.23 | 0.10 | 3262112 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3259674 |
| Total Phosphorus | mg/L | - | - | <0.002 | 0.002 | 3261640 |
| Total Suspended Solids | mg/L | - | - | 10 | 10 | 3260463 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3261242 |
| Turbidity | NTU | - | 5 | 13 | 0.2 | 3259697 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3260950 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RZ4612 | | |
| Sampling Date | | | 2013/06/20 16:30 | | |
| COC Number | | | 417453-03-01 | | |
| | Units | MAC | SA#WELL 54 | RDL | QC Batch |

| Metals | | | | | |
|-----------------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3262085 |
| Dissolved Sulphur (S) | mg/L | - | 16.2 | 0.5 | 3264692 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

Test Summary

Maxxam ID RZ4612
Sample ID SA#WELL 54
Matrix Water

Collected 2013/06/20
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3259771 | N/A | 2013/06/28 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3258569 | N/A | 2013/06/27 | Automated Statchk |
| Anions | IC | 3260950 | N/A | 2013/06/27 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3260520 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Conductivity | COND | 3259772 | N/A | 2013/06/26 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3259703 | N/A | 2013/06/26 | Anastasia Hamanov |
| Fluoride | F | 3259773 | 2013/06/25 | 2013/06/26 | Surinder Rai |
| Hardness (calculated as CaCO3) | | 3258486 | N/A | 2013/07/02 | Automated Statchk |
| Mercury | CVAA | 3262085 | 2013/06/27 | 2013/06/28 | Magdalena Carlos |
| Dissolved Metals Analysis by ICP | ICP | 3264692 | 2013/06/29 | 2013/07/03 | Azita Fazaeli |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3263396 | 2013/06/28 | 2013/06/28 | Hua Ren |
| Ion Balance (% Difference) | CALC | 3258571 | N/A | 2013/07/02 | Automated Statchk |
| Anion and Cation Sum | CALC | 3258572 | N/A | 2013/07/02 | Automated Statchk |
| Total Ammonia-N | LACH/NH4 | 3260395 | N/A | 2013/06/27 | Charles Opoku-Ware |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3261289 | N/A | 2013/06/28 | Chris Li |
| pH | PH | 3259774 | N/A | 2013/06/26 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3259674 | N/A | 2013/06/28 | Bramdeo Motiram |
| Orthophosphate | AC | 3260523 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3258573 | N/A | 2013/07/02 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3258574 | N/A | 2013/07/02 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3260524 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sulphide | ISE/S | 3261242 | N/A | 2013/06/27 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3258575 | N/A | 2013/07/02 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3260472 | N/A | 2013/06/27 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3262112 | 2013/06/27 | 2013/06/27 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3261640 | 2013/06/27 | 2013/06/28 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |
| Turbidity | TURB | 3259697 | N/A | 2013/06/26 | Lemeneh Addis |

Maxxam ID RZ4612 Dup
Sample ID SA#WELL 54
Matrix Water

Collected 2013/06/20
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|------------------------|-----------------|---------|-----------|------------|-----------------------|
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |

Maxxam Job #: B398824
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

| | |
|-----------|-------|
| Package 1 | 5.3°C |
|-----------|-------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Sample RZ4613-01: Metals: Due to high concentrations of the target analytes, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-----------------------------|-----------------------------|--------------|----------|---------|-----------|
| 3259674 BMO | Matrix Spike | Phenols-4AAP | 2013/06/28 | | 99 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/28 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/06/28 | NC | | % | 25 |
| 3259697 L_A | QC Standard | Turbidity | 2013/06/26 | | 96 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/06/26 | 0.3, RDL=0.2 | | NTU | |
| | RPD | Turbidity | 2013/06/26 | NC | | % | 20 |
| 3259703 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/06/26 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/06/26 | 3.2 | | % | 20 |
| 3259720 C_H | Matrix Spike | Nitrite (N) | 2013/06/26 | | 100 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/26 | | NC | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/26 | | 99 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/26 | | 105 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/26 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Nitrite (N) | 2013/06/26 | NC | | % | 25 |
| | | Nitrate (N) | 2013/06/26 | 0.3 | | % | 25 |
| 3259771 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/28 | | 95 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/28 | <1.0 | | mg/L | |
| | RPD [RZ4614-01] | Alkalinity (Total as CaCO3) | 2013/06/28 | 0.05 | | % | 25 |
| 3259772 SAU | QC Standard | Conductivity | 2013/06/26 | | 102 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/06/26 | <1.0 | | umho/cm | |
| | RPD [RZ4614-01] | Conductivity | 2013/06/26 | 0 | | % | 25 |
| 3259773 SAU | Matrix Spike | Fluoride (F-) | 2013/06/26 | | 99 | % | 80 - 120 |
| | [RZ4614-01] | Fluoride (F-) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/06/26 | <0.10 | | mg/L | |
| | Method Blank | Fluoride (F-) | 2013/06/26 | 1.9 | | % | 20 |
| 3260395 COP | RPD [RZ4614-01] | Fluoride (F-) | 2013/06/26 | | | % | 20 |
| | Matrix Spike | Total Ammonia-N | 2013/06/27 | | 103 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/27 | | 105 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/27 | <0.050 | | mg/L | |
| 3260463 MMJ | RPD | Total Ammonia-N | 2013/06/27 | NC | | % | 20 |
| | QC Standard | Total Suspended Solids | 2013/06/26 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/26 | <10 | | mg/L | |
| | RPD [RZ4612-02] | Total Suspended Solids | 2013/06/26 | NC | | % | 25 |
| 3260472 MMJ | QC Standard | Total Dissolved Solids | 2013/06/27 | | 98 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/27 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/06/27 | 2.2 | | % | 25 |
| 3260520 DRM | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/27 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/27 | 0.9 | | % | 20 |
| 3260523 DRM | Matrix Spike | Orthophosphate (P) | 2013/06/27 | | 107 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/06/27 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/06/27 | NC | | % | 25 |
| 3260524 DRM | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/27 | | NC | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/27 | 0.6 | | % | 20 |
| 3260950 FD | Matrix Spike | Dissolved Bromide (Br-) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/27 | | 100 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/27 | <1.0 | | mg/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|------------------|----------|-------|-----------|
| 3260950 FD | RPD | Dissolved Bromide (Br-) | 2013/06/27 | NC | | % | 20 |
| 3261242 NYS | Matrix Spike | Sulphide | 2013/06/27 | | 93 | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/06/27 | | 89 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/06/27 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/06/27 | NC | | % | 20 |
| 3261289 C_H | Matrix Spike | Nitrite (N) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/28 | | 95 | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/28 | | 96 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/28 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/28 | <0.10 | | mg/L | |
| | RPD | Nitrate (N) | 2013/06/28 | NC | | % | 25 |
| 3261640 VRO | Matrix Spike | Total Phosphorus | 2013/06/28 | | 112 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/28 | | 109 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/28 | | 108 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/28 | 0.003, RDL=0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/28 | 2.3 | | % | 20 |
| 3262085 MC | Matrix Spike | Mercury (Hg) | 2013/06/28 | | 88 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/28 | | 103 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/28 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/28 | NC | | % | 20 |
| 3262112 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | 10.3 | | % | 20 |
| 3263396 HRE | Matrix Spike | . Aluminum (Al) | 2013/06/28 | | 92 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 102 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/28 | | 103 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-------------------|-----------------------------|-------|----------|-------|-----------|
| 3263396 HRE | Matrix Spike | . Titanium (Ti) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/28 | | 100 | % | 80 - 120 |
| Spiked Blank | | . Uranium (U) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Zirconium (Zr) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Aluminum (Al) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| . Sodium (Na) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Strontium (Sr) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tellurium (Te) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Thallium (Tl) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tin (Sn) | 2013/06/28 | | 104 | % | 80 - 120 | | |
| . Titanium (Ti) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Tungsten (W) | 2013/06/28 | | 103 | % | 80 - 120 | | |
| . Uranium (U) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Vanadium (V) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Zinc (Zn) | 2013/06/28 | | 98 | % | 80 - 120 | | |
| . Zirconium (Zr) | 2013/06/28 | | 102 | % | 80 - 120 | | |
| Method Blank | | . Aluminum (Al) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/06/28 | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Calcium (Ca) | 2013/06/28 | <200 | | ug/L | |
| | | . Chromium (Cr) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Cobalt (Co) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Copper (Cu) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Iron (Fe) | 2013/06/28 | <100 | | ug/L | |
| | | . Lead (Pb) | 2013/06/28 | <0.50 | | ug/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-----------------------|-----------------------------|--------|----------|-------|-----------|
| 3263396 HRE | Method Blank | . Lithium (Li) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Magnesium (Mg) | 2013/06/28 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/06/28 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/06/28 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/06/28 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/06/28 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/06/28 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/06/28 | <5.0 | | ug/L | |
| . Zirconium (Zr) | 2013/06/28 | <1.0 | | ug/L | | | |
| 3264692 AFZ | Matrix Spike | Dissolved Sulphur (S) | 2013/07/02 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Sulphur (S) | 2013/07/02 | | 103 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphur (S) | 2013/07/02 | <0.5 | | mg/L | |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B398824

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

626 Brock Road

Your Project #: 06-1112-020
 Site#: 06-1112-020
 Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B398824

Received: 2013/06/21, 13:17

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/28 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/27 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/27 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/27 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 2510 |
| Fluoride | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO ₃) | 1 | N/A | 2013/06/26 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/07/02 | CAM SOP 00102 | SM 2340 B |
| Dissolved Metals Analysis by ICP | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/29 | 2013/07/03 | CAM SOP-00408 | SW-846 6010C |
| Ion Balance (% Difference) | 1 | N/A | 2013/06/28 | CAM SOP-00447 | EPA 6020 |
| Anion and Cation Sum | 1 | N/A | 2013/07/02 | | |
| Total Ammonia-N | 1 | N/A | 2013/07/02 | | |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water (2) | 1 | N/A | 2013/06/27 | CAM SOP-00441 | US GS I-2522-90 |
| pH | 1 | N/A | 2013/06/26 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| Phenols (4AAP) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 4500H+ B |
| Orthophosphate | 1 | N/A | 2013/06/28 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/27 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/07/02 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/07/02 | | |
| Sulphide | 1 | N/A | 2013/06/27 | CAM SOP-00464 | EPA 375.4 |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/27 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids | 1 | N/A | 2013/07/02 | | |
| Total Kjeldahl Nitrogen in Water | 1 | N/A | 2013/06/27 | CAM SOP-00428 | APHA 2540C |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/27 | 2013/06/27 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Suspended Solids | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00407 | APHA 4500 P,B,F |
| Turbidity | 1 | N/A | 2013/06/26 | CAM SOP-00428 | SM 2540D |
| | 1 | N/A | 2013/06/26 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies

Your Project #: 06-1112-020
Site#: 06-1112-020
Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

-2-

comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Total cover pages: 2

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4614 | | |
| Sampling Date | | | | | 2013/06/20 19:40 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 29 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 8.72 | N/A | 3258572 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 270 | 1.0 | 3258569 |
| Calculated TDS | mg/L | - | - | 500 | 455 | 1.0 | 3258575 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.6 | 1.0 | 3258569 |
| Cation Sum | me/L | - | - | - | 8.56 | N/A | 3258572 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 330 | 1.0 | 3258486 |
| Ion Balance (% Difference) | % | - | - | - | 0.910 | N/A | 3258571 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.660 | | 3258573 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.412 | | 3258574 |
| Saturation pH (@ 20C) | N/A | - | - | - | 7.13 | | 3258573 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.38 | | 3258574 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | <0.050 | 0.050 | 3260395 |
| Conductivity | umho/cm | - | - | - | 840 | 1.0 | 3259772 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 1.5 | 0.20 | 3259703 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3260523 |
| pH | pH | - | - | 6.5:8.5 | 7.79 | | 3259774 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 45 | 1 | 3260524 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 270 | 1.0 | 3259771 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 76 | 1 | 3260520 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3259720 |
| Nitrate (N) | mg/L | 10 | - | - | 2.1 | 0.10 | 3259720 |
| Nitrate + Nitrite | mg/L | 10 | - | - | 2.1 | 0.10 | 3259720 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 12 | 5.0 | 3263396 |
| . Antimony (Sb) | ug/L | - | 6 | - | <0.50 | 0.50 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4614 | | |
| Sampling Date | | | | | 2013/06/20 19:40 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 29 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|--------------|-------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | <1.0 | 1.0 | 3263396 |
| . Barium (Ba) | ug/L | 1000 | - | - | 49 | 2.0 | 3263396 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Boron (B) | ug/L | - | 5000 | - | 26 | 10 | 3263396 |
| . Cadmium (Cd) | ug/L | 5 | - | - | 0.25 | 0.10 | 3263396 |
| . Calcium (Ca) | ug/L | - | - | - | 80000 | 200 | 3263396 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3263396 |
| . Cobalt (Co) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Copper (Cu) | ug/L | - | - | 1000 | 74 | 1.0 | 3263396 |
| . Iron (Fe) | ug/L | - | - | 300 | <100 | 100 | 3263396 |
| . Lead (Pb) | ug/L | 10 | - | - | 32 | 0.50 | 3263396 |
| . Lithium (Li) | ug/L | - | - | - | <5.0 | 5.0 | 3263396 |
| . Magnesium (Mg) | ug/L | - | - | - | 33000 | 50 | 3263396 |
| . Manganese (Mn) | ug/L | - | - | 50 | 5.5 | 2.0 | 3263396 |
| . Molybdenum (Mo) | ug/L | - | - | - | 9.5 | 0.50 | 3263396 |
| . Nickel (Ni) | ug/L | - | - | - | 3.4 | 1.0 | 3263396 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3263396 |
| . Potassium (K) | ug/L | - | - | - | 840 | 200 | 3263396 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3263396 |
| . Silicon (Si) | ug/L | - | - | - | 2100 | 50 | 3263396 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3263396 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 43000 | 100 | 3263396 |
| . Strontium (Sr) | ug/L | - | - | - | 1700 | 1.0 | 3263396 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Thallium (Tl) | ug/L | - | - | - | 0.084 | 0.050 | 3263396 |
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4614 | | |
| Sampling Date | | | | | 2013/06/20 19:40 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 29 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3263396 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Uranium (U) | ug/L | 20 | - | - | 1.7 | 0.10 | 3263396 |
| . Vanadium (V) | ug/L | - | - | - | 0.59 | 0.50 | 3263396 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 170 | 5.0 | 3263396 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RZ4614 | | |
| Sampling Date | | | | 2013/06/20 19:40 | | |
| COC Number | | | | 417453-03-01 | | |
| | Units | Criteria A | A/O | SA#WELL 29 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 488 | 10 | 3260472 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.68 | 0.10 | 3259773 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.31 | 0.10 | 3262112 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3259674 |
| Total Phosphorus | mg/L | - | - | <0.002 | 0.002 | 3261640 |
| Total Suspended Solids | mg/L | - | - | <10 | 10 | 3260463 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3261242 |
| Turbidity | NTU | - | 5 | 0.3 | 0.2 | 3259697 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3260950 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration
 [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table
 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RZ4614 | | |
| Sampling Date | | | 2013/06/20 19:40 | | |
| COC Number | | | 417453-03-01 | | |
| | Units | MAC | SA#WELL 29 | RDL | QC Batch |

| Metals | | | | | |
|-----------------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3262085 |
| Dissolved Sulphur (S) | mg/L | - | 15.7 | 0.5 | 3264692 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

Test Summary

Maxxam ID RZ4614
Sample ID SA#WELL 29
Matrix Water

Collected 2013/06/20
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3259771 | N/A | 2013/06/28 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3258569 | N/A | 2013/06/27 | Automated Statchk |
| Anions | IC | 3260950 | N/A | 2013/06/27 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3260520 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Conductivity | COND | 3259772 | N/A | 2013/06/26 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3259703 | N/A | 2013/06/26 | Anastasia Hamanov |
| Fluoride | F | 3259773 | 2013/06/25 | 2013/06/26 | Surinder Rai |
| Hardness (calculated as CaCO3) | | 3258486 | N/A | 2013/07/02 | Automated Statchk |
| Mercury | CVAA | 3262085 | 2013/06/27 | 2013/06/28 | Magdalena Carlos |
| Dissolved Metals Analysis by ICP | ICP | 3264692 | 2013/06/29 | 2013/07/03 | Azita Fazaeli |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3263396 | 2013/06/28 | 2013/06/28 | Hua Ren |
| Ion Balance (% Difference) | CALC | 3258571 | N/A | 2013/07/02 | Automated Statchk |
| Anion and Cation Sum | CALC | 3258572 | N/A | 2013/07/02 | Automated Statchk |
| Total Ammonia-N | LACH/NH4 | 3260395 | N/A | 2013/06/27 | Charles Opoku-Ware |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3259720 | N/A | 2013/06/26 | Chris Li |
| pH | PH | 3259774 | N/A | 2013/06/26 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3259674 | N/A | 2013/06/28 | Bramdeo Motiram |
| Orthophosphate | AC | 3260523 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3258573 | N/A | 2013/07/02 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3258574 | N/A | 2013/07/02 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3260524 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sulphide | ISE/S | 3261242 | N/A | 2013/06/27 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3258575 | N/A | 2013/07/02 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3260472 | N/A | 2013/06/27 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3262112 | 2013/06/27 | 2013/06/27 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3261640 | 2013/06/27 | 2013/06/28 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |
| Turbidity | TURB | 3259697 | N/A | 2013/06/26 | Lemeneh Addis |

Maxxam ID RZ4614 Dup
Sample ID SA#WELL 29
Matrix Water

Collected 2013/06/20
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|------------------|-----------------|---------|------------|------------|--------------|
| Alkalinity | PH | 3259771 | N/A | 2013/06/28 | Surinder Rai |
| Conductivity | COND | 3259772 | N/A | 2013/06/26 | Surinder Rai |
| Fluoride | F | 3259773 | 2013/06/25 | 2013/06/26 | Surinder Rai |
| pH | PH | 3259774 | N/A | 2013/06/26 | Surinder Rai |

Maxxam Job #: B398824
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

| | |
|-----------|-------|
| Package 1 | 5.3°C |
|-----------|-------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Sample RZ4613-01: Metals: Due to high concentrations of the target analytes, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-----------------------------|-----------------------------|--------------|----------|---------|-----------|
| 3259674 BMO | Matrix Spike | Phenols-4AAP | 2013/06/28 | | 99 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/28 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/06/28 | NC | | % | 25 |
| 3259697 L_A | QC Standard | Turbidity | 2013/06/26 | | 96 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/06/26 | 0.3, RDL=0.2 | | NTU | |
| | RPD | Turbidity | 2013/06/26 | NC | | % | 20 |
| 3259703 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/06/26 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/06/26 | 3.2 | | % | 20 |
| 3259720 C_H | Matrix Spike | Nitrite (N) | 2013/06/26 | | 100 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/26 | | NC | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/26 | | 99 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/26 | | 105 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/26 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Nitrite (N) | 2013/06/26 | NC | | % | 25 |
| | | Nitrate (N) | 2013/06/26 | 0.3 | | % | 25 |
| 3259771 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/28 | | 95 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/28 | <1.0 | | mg/L | |
| | RPD [RZ4614-01] | Alkalinity (Total as CaCO3) | 2013/06/28 | 0.05 | | % | 25 |
| 3259772 SAU | QC Standard | Conductivity | 2013/06/26 | | 102 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/06/26 | <1.0 | | umho/cm | |
| | RPD [RZ4614-01] | Conductivity | 2013/06/26 | 0 | | % | 25 |
| 3259773 SAU | Matrix Spike | Fluoride (F-) | 2013/06/26 | | 99 | % | 80 - 120 |
| | [RZ4614-01] | Fluoride (F-) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/06/26 | <0.10 | | mg/L | |
| | Method Blank | Fluoride (F-) | 2013/06/26 | 1.9 | | % | 20 |
| 3260395 COP | Matrix Spike | Total Ammonia-N | 2013/06/27 | | 103 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/27 | | 105 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/27 | <0.050 | | mg/L | |
| | RPD | Total Ammonia-N | 2013/06/27 | NC | | % | 20 |
| 3260463 MMJ | QC Standard | Total Suspended Solids | 2013/06/26 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/26 | <10 | | mg/L | |
| | RPD [RZ4612-02] | Total Suspended Solids | 2013/06/26 | NC | | % | 25 |
| 3260472 MMJ | QC Standard | Total Dissolved Solids | 2013/06/27 | | 98 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/27 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/06/27 | 2.2 | | % | 25 |
| 3260520 DRM | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/27 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/27 | 0.9 | | % | 20 |
| 3260523 DRM | Matrix Spike | Orthophosphate (P) | 2013/06/27 | | 107 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/06/27 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/06/27 | NC | | % | 25 |
| 3260524 DRM | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/27 | | NC | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/27 | 0.6 | | % | 20 |
| 3260950 FD | Matrix Spike | Dissolved Bromide (Br-) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/27 | | 100 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/27 | <1.0 | | mg/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|------------------|----------|-------|-----------|
| 3260950 FD | RPD | Dissolved Bromide (Br-) | 2013/06/27 | NC | | % | 20 |
| 3261242 NYS | Matrix Spike | Sulphide | 2013/06/27 | | 93 | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/06/27 | | 89 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/06/27 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/06/27 | NC | | % | 20 |
| 3261289 C_H | Matrix Spike | Nitrite (N) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/28 | | 95 | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/28 | | 96 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/28 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/28 | <0.10 | | mg/L | |
| | RPD | Nitrate (N) | 2013/06/28 | NC | | % | 25 |
| 3261640 VRO | Matrix Spike | Total Phosphorus | 2013/06/28 | | 112 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/28 | | 109 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/28 | | 108 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/28 | 0.003, RDL=0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/28 | 2.3 | | % | 20 |
| 3262085 MC | Matrix Spike | Mercury (Hg) | 2013/06/28 | | 88 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/28 | | 103 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/28 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/28 | NC | | % | 20 |
| 3262112 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | 10.3 | | % | 20 |
| 3263396 HRE | Matrix Spike | . Aluminum (Al) | 2013/06/28 | | 92 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 102 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/28 | | 103 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-------------------|-----------------------------|-------|----------|-------|-----------|
| 3263396 HRE | Matrix Spike | . Titanium (Ti) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/28 | | 100 | % | 80 - 120 |
| Spiked Blank | | . Uranium (U) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Zirconium (Zr) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Aluminum (Al) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| . Sodium (Na) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Strontium (Sr) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tellurium (Te) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Thallium (Tl) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tin (Sn) | 2013/06/28 | | 104 | % | 80 - 120 | | |
| . Titanium (Ti) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Tungsten (W) | 2013/06/28 | | 103 | % | 80 - 120 | | |
| . Uranium (U) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Vanadium (V) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Zinc (Zn) | 2013/06/28 | | 98 | % | 80 - 120 | | |
| . Zirconium (Zr) | 2013/06/28 | | 102 | % | 80 - 120 | | |
| Method Blank | | . Aluminum (Al) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/06/28 | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Calcium (Ca) | 2013/06/28 | <200 | | ug/L | |
| | | . Chromium (Cr) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Cobalt (Co) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Copper (Cu) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Iron (Fe) | 2013/06/28 | <100 | | ug/L | |
| | | . Lead (Pb) | 2013/06/28 | <0.50 | | ug/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-----------------------|-----------------------------|--------|----------|-------|-----------|
| 3263396 HRE | Method Blank | . Lithium (Li) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Magnesium (Mg) | 2013/06/28 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/06/28 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/06/28 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/06/28 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/06/28 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/06/28 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/06/28 | <5.0 | | ug/L | |
| . Zirconium (Zr) | 2013/06/28 | <1.0 | | ug/L | | | |
| 3264692 AFZ | Matrix Spike | Dissolved Sulphur (S) | 2013/07/02 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Sulphur (S) | 2013/07/02 | | 103 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphur (S) | 2013/07/02 | <0.5 | | mg/L | |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B398824

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

826 Concession 4W

Your Project #: 06-1112-020
 Site#: 06-1112-020
 Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B398824

Received: 2013/06/21, 13:17

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/28 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/27 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/27 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/27 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 2510 |
| Fluoride | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO ₃) | 1 | N/A | 2013/06/26 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/07/02 | CAM SOP 00102 | SM 2340 B |
| Dissolved Metals Analysis by ICP | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/29 | 2013/07/03 | CAM SOP-00408 | SW-846 6010C |
| Ion Balance (% Difference) | 1 | N/A | 2013/06/28 | CAM SOP-00447 | EPA 6020 |
| Anion and Cation Sum | 1 | N/A | 2013/07/02 | | |
| Total Ammonia-N | 1 | N/A | 2013/07/02 | | |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water (2) | 1 | N/A | 2013/06/27 | CAM SOP-00441 | US GS I-2522-90 |
| pH | 1 | N/A | 2013/06/28 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| Phenols (4AAP) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 4500H+ B |
| Orthophosphate | 1 | N/A | 2013/06/28 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/27 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/07/02 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/07/02 | | |
| Sulphide | 1 | N/A | 2013/06/27 | CAM SOP-00464 | EPA 375.4 |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/27 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids | 1 | N/A | 2013/07/02 | | |
| Total Kjeldahl Nitrogen in Water | 1 | N/A | 2013/06/27 | CAM SOP-00428 | APHA 2540C |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/27 | 2013/06/27 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Suspended Solids | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00407 | APHA 4500 P,B,F |
| Turbidity | 1 | N/A | 2013/06/26 | CAM SOP-00428 | SM 2540D |
| | 1 | N/A | 2013/06/26 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies

Your Project #: 06-1112-020
Site#: 06-1112-020
Your C.O.C. #: 41745303, 417453-03-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/07/04

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

-2-

comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Total cover pages: 2

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4613 | | |
| Sampling Date | | | | | 2013/06/20 18:50 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 11 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 33.0 | N/A | 3258572 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 220 | 1.0 | 3258569 |
| Calculated TDS | mg/L | - | - | 500 | 2010 | 1.0 | 3258575 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.0 | 1.0 | 3258569 |
| Cation Sum | me/L | - | - | - | 31.8 | N/A | 3258572 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 1300 | 1.0 | 3258486 |
| Ion Balance (% Difference) | % | - | - | - | 1.89 | N/A | 3258571 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.933 | | 3258573 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.690 | | 3258574 |
| Saturation pH (@ 20C) | N/A | - | - | - | 6.77 | | 3258573 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.02 | | 3258574 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | 1.2 | 0.050 | 3260395 |
| Conductivity | umho/cm | - | - | - | 2800 | 1.0 | 3259772 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 0.50 | 0.20 | 3259703 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3260523 |
| pH | pH | - | - | 6.5:8.5 | 7.71 | | 3259774 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 1000 | 5 | 3260524 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 220 | 1.0 | 3259771 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 250 | 3 | 3260520 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3261289 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Nitrate + Nitrite | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 28 | 5.0 | 3263396 |
| . Antimony (Sb) | ug/L | - | 6 | - | <0.50 | 0.50 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4613 | | |
| Sampling Date | | | | | 2013/06/20 18:50 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 11 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|---------------|-------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | <1.0 | 1.0 | 3263396 |
| . Barium (Ba) | ug/L | 1000 | - | - | 8.1 | 2.0 | 3263396 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Boron (B) | ug/L | - | 5000 | - | 1300 | 10 | 3263396 |
| . Cadmium (Cd) | ug/L | 5 | - | - | <0.10 | 0.10 | 3263396 |
| . Calcium (Ca) | ug/L | - | - | - | 360000 | 1000 | 3263396 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3263396 |
| . Cobalt (Co) | ug/L | - | - | - | <1.0 (1) | 1.0 | 3263396 |
| . Copper (Cu) | ug/L | - | - | 1000 | 6.4 | 2.0 | 3263396 |
| . Iron (Fe) | ug/L | - | - | 300 | 1400 | 100 | 3263396 |
| . Lead (Pb) | ug/L | 10 | - | - | 1.7 | 0.50 | 3263396 |
| . Lithium (Li) | ug/L | - | - | - | 130 | 5.0 | 3263396 |
| . Magnesium (Mg) | ug/L | - | - | - | 110000 | 50 | 3263396 |
| . Manganese (Mn) | ug/L | - | - | 50 | 72 | 2.0 | 3263396 |
| . Molybdenum (Mo) | ug/L | - | - | - | <0.50 | 0.50 | 3263396 |
| . Nickel (Ni) | ug/L | - | - | - | <2.0 (1) | 2.0 | 3263396 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3263396 |
| . Potassium (K) | ug/L | - | - | - | 11000 | 200 | 3263396 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3263396 |
| . Silicon (Si) | ug/L | - | - | - | 3000 | 50 | 3263396 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3263396 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 110000 | 100 | 3263396 |
| . Strontium (Sr) | ug/L | - | - | - | 15000 | 1.0 | 3263396 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Thallium (Tl) | ug/L | - | - | - | <0.050 | 0.050 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

(1) Metal analysis:Detection Limit was raised due to matrix interferences.

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ4613 | | |
| Sampling Date | | | | | 2013/06/20 18:50 | | |
| COC Number | | | | | 417453-03-01 | | |
| | Units | Criteria A | IMC | A/O | SA#WELL 11 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|------|-------|------|---------|
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3263396 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3263396 |
| . Uranium (U) | ug/L | 20 | - | - | <0.10 | 0.10 | 3263396 |
| . Vanadium (V) | ug/L | - | - | - | 0.52 | 0.50 | 3263396 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 290 | 10 | 3263396 |
| . Zirconium (Zr) | ug/L | - | - | - | 2.5 | 1.0 | 3263396 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RZ4613 | | |
| Sampling Date | | | | 2013/06/20 18:50 | | |
| COC Number | | | | 417453-03-01 | | |
| | Units | Criteria A | A/O | SA#WELL 11 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 2320 | 10 | 3260472 |
| Fluoride (F-) | mg/L | 1.5 | - | 1.04 | 0.10 | 3259773 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 1.3 | 0.10 | 3262112 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3259674 |
| Total Phosphorus | mg/L | - | - | <0.002 | 0.002 | 3261640 |
| Total Suspended Solids | mg/L | - | - | <10 | 10 | 3260463 |
| Sulphide | mg/L | - | 0.05 | 1.4 | 0.020 | 3261242 |
| Turbidity | NTU | - | 5 | 4.3 | 0.2 | 3259697 |
| Dissolved Bromide (Br-) | mg/L | - | - | 3.4 | 1.0 | 3260950 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RZ4613 | | |
| Sampling Date | | | 2013/06/20 18:50 | | |
| COC Number | | | 417453-03-01 | | |
| | Units | MAC | SA#WELL 11 | RDL | QC Batch |

| Metals | | | | | |
|-----------------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3262085 |
| Dissolved Sulphur (S) | mg/L | - | 372 | 5 | 3264692 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398824
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

Test Summary

Maxxam ID RZ4613
Sample ID SA#WELL 11
Matrix Water

Collected 2013/06/20
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3259771 | N/A | 2013/06/28 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3258569 | N/A | 2013/06/27 | Automated Statchk |
| Anions | IC | 3260950 | N/A | 2013/06/27 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3260520 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Conductivity | COND | 3259772 | N/A | 2013/06/26 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3259703 | N/A | 2013/06/26 | Anastasia Hamanov |
| Fluoride | F | 3259773 | 2013/06/25 | 2013/06/26 | Surinder Rai |
| Hardness (calculated as CaCO3) | | 3258486 | N/A | 2013/07/02 | Automated Statchk |
| Mercury | CVAA | 3262085 | 2013/06/27 | 2013/06/28 | Magdalena Carlos |
| Dissolved Metals Analysis by ICP | ICP | 3264692 | 2013/06/29 | 2013/07/03 | Azita Fazaeli |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3263396 | 2013/06/28 | 2013/06/28 | Hua Ren |
| Ion Balance (% Difference) | CALC | 3258571 | N/A | 2013/07/02 | Automated Statchk |
| Anion and Cation Sum | CALC | 3258572 | N/A | 2013/07/02 | Automated Statchk |
| Total Ammonia-N | LACH/NH4 | 3260395 | N/A | 2013/06/27 | Charles Opoku-Ware |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3261289 | N/A | 2013/06/28 | Chris Li |
| pH | PH | 3259774 | N/A | 2013/06/26 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3259674 | N/A | 2013/06/28 | Bramdeo Motiram |
| Orthophosphate | AC | 3260523 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3258573 | N/A | 2013/07/02 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3258574 | N/A | 2013/07/02 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3260524 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sulphide | ISE/S | 3261242 | N/A | 2013/06/27 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3258575 | N/A | 2013/07/02 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3260472 | N/A | 2013/06/27 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3262112 | 2013/06/27 | 2013/06/27 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3261640 | 2013/06/27 | 2013/06/28 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |
| Turbidity | TURB | 3259697 | N/A | 2013/06/26 | Lemeneh Addis |

Maxxam Job #: B398824
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

| | |
|-----------|-------|
| Package 1 | 5.3°C |
|-----------|-------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Sample RZ4613-01: Metals: Due to high concentrations of the target analytes, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report
 Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-----------------------------|-----------------------------|--------------|----------|---------|-----------|
| 3259674 BMO | Matrix Spike | Phenols-4AAP | 2013/06/28 | | 99 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/28 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/06/28 | NC | | % | 25 |
| 3259697 L_A | QC Standard | Turbidity | 2013/06/26 | | 96 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/06/26 | 0.3, RDL=0.2 | | NTU | |
| | RPD | Turbidity | 2013/06/26 | NC | | % | 20 |
| 3259703 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/06/26 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/06/26 | 3.2 | | % | 20 |
| 3259720 C_H | Matrix Spike | Nitrite (N) | 2013/06/26 | | 100 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/26 | | NC | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/26 | | 99 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/26 | | 105 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/26 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Nitrite (N) | 2013/06/26 | NC | | % | 25 |
| | | Nitrate (N) | 2013/06/26 | 0.3 | | % | 25 |
| 3259771 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/28 | | 95 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/28 | <1.0 | | mg/L | |
| | RPD [RZ4614-01] | Alkalinity (Total as CaCO3) | 2013/06/28 | 0.05 | | % | 25 |
| 3259772 SAU | QC Standard | Conductivity | 2013/06/26 | | 102 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/06/26 | <1.0 | | umho/cm | |
| | RPD [RZ4614-01] | Conductivity | 2013/06/26 | 0 | | % | 25 |
| 3259773 SAU | Matrix Spike | Fluoride (F-) | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Fluoride (F-) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD [RZ4614-01] | Fluoride (F-) | 2013/06/26 | 1.9 | | % | 20 |
| 3260395 COP | Matrix Spike | Total Ammonia-N | 2013/06/27 | | 103 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/27 | | 105 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/27 | <0.050 | | mg/L | |
| | RPD | Total Ammonia-N | 2013/06/27 | NC | | % | 20 |
| 3260463 MMJ | QC Standard | Total Suspended Solids | 2013/06/26 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/26 | <10 | | mg/L | |
| | RPD [RZ4612-02] | Total Suspended Solids | 2013/06/26 | NC | | % | 25 |
| 3260472 MMJ | QC Standard | Total Dissolved Solids | 2013/06/27 | | 98 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/27 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/06/27 | 2.2 | | % | 25 |
| 3260520 DRM | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/27 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/27 | 0.9 | | % | 20 |
| 3260523 DRM | Matrix Spike | Orthophosphate (P) | 2013/06/27 | | 107 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/06/27 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/06/27 | NC | | % | 25 |
| 3260524 DRM | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/27 | | NC | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/27 | 0.6 | | % | 20 |
| 3260950 FD | Matrix Spike | Dissolved Bromide (Br-) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/27 | | 100 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/27 | <1.0 | | mg/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|------------------|----------|-------|-----------|
| 3260950 FD | RPD | Dissolved Bromide (Br-) | 2013/06/27 | NC | | % | 20 |
| 3261242 NYS | Matrix Spike | Sulphide | 2013/06/27 | | 93 | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/06/27 | | 89 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/06/27 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/06/27 | NC | | % | 20 |
| 3261289 C_H | Matrix Spike | Nitrite (N) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/28 | | 95 | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/28 | | 96 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/28 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/28 | <0.10 | | mg/L | |
| | RPD | Nitrate (N) | 2013/06/28 | NC | | % | 25 |
| 3261640 VRO | Matrix Spike | Total Phosphorus | 2013/06/28 | | 112 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/28 | | 109 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/28 | | 108 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/28 | 0.003, RDL=0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/28 | 2.3 | | % | 20 |
| 3262085 MC | Matrix Spike | Mercury (Hg) | 2013/06/28 | | 88 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/28 | | 103 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/28 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/28 | NC | | % | 20 |
| 3262112 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | 10.3 | | % | 20 |
| 3263396 HRE | Matrix Spike | . Aluminum (Al) | 2013/06/28 | | 92 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 102 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/06/28 | | 93 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/06/28 | | 103 | % | 80 - 120 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-------------------|-----------------------------|-------|----------|-------|-----------|
| 3263396 HRE | Matrix Spike | . Titanium (Ti) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/06/28 | | 100 | % | 80 - 120 |
| Spiked Blank | | . Uranium (U) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/06/28 | | 97 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/06/28 | | NC | % | 80 - 120 |
| | | . Zirconium (Zr) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Aluminum (Al) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/06/28 | | 96 | % | 80 - 120 |
| | | . Boron (B) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/06/28 | | 101 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/06/28 | | 103 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/06/28 | | 100 | % | 80 - 120 |
| | | . Potassium (K) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/06/28 | | 98 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/06/28 | | 100 | % | 80 - 120 |
| . Sodium (Na) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Strontium (Sr) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tellurium (Te) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Thallium (Tl) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Tin (Sn) | 2013/06/28 | | 104 | % | 80 - 120 | | |
| . Titanium (Ti) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Tungsten (W) | 2013/06/28 | | 103 | % | 80 - 120 | | |
| . Uranium (U) | 2013/06/28 | | 100 | % | 80 - 120 | | |
| . Vanadium (V) | 2013/06/28 | | 99 | % | 80 - 120 | | |
| . Zinc (Zn) | 2013/06/28 | | 98 | % | 80 - 120 | | |
| . Zirconium (Zr) | 2013/06/28 | | 102 | % | 80 - 120 | | |
| Method Blank | | . Aluminum (Al) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/06/28 | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Calcium (Ca) | 2013/06/28 | <200 | | ug/L | |
| | | . Chromium (Cr) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Cobalt (Co) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Copper (Cu) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Iron (Fe) | 2013/06/28 | <100 | | ug/L | |
| | | . Lead (Pb) | 2013/06/28 | <0.50 | | ug/L | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB398824

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|--------------|-----------------------|-----------------------------|--------|----------|-------|-----------|
| 3263396 HRE | Method Blank | . Lithium (Li) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Magnesium (Mg) | 2013/06/28 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/06/28 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/06/28 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/06/28 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/06/28 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/06/28 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/06/28 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/06/28 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/06/28 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/06/28 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/06/28 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/06/28 | <5.0 | | ug/L | |
| . Zirconium (Zr) | 2013/06/28 | <1.0 | | ug/L | | | |
| 3264692 AFZ | Matrix Spike | Dissolved Sulphur (S) | 2013/07/02 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Sulphur (S) | 2013/07/02 | | 103 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphur (S) | 2013/07/02 | <0.5 | | mg/L | |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B398824

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



ATTACHMENT B.1.2

Water Quality Results for Off-site Wells



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

617 Brock Road

Your Project #: 021-1112-020
 Site#: 021-1112-020
 Site Location: SR QUARRY
 Your C.O.C. #: 41759303, 417593-03-01

Attention: Sharon Wood

Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/07/24

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3A0685

Received: 2013/06/25, 13:40

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/06/27 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/27 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/27 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/06/27 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/06/27 | CAM SOP-00448 | SM 2510 |
| Fluoride | 1 | 2013/06/26 | 2013/06/27 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO3) | 1 | N/A | 2013/06/27 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/07/02 | CAM SOP 00102 | SM 2340 B |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICP (as received) | 1 | 2013/07/02 | 2013/07/02 | CAM SOP-00447 | EPA 6020 |
| Ion Balance (% Difference) | 1 | N/A | 2013/07/03 | CAM SOP-00408 | EPA 6010 |
| Anion and Cation Sum | 1 | N/A | 2013/07/02 | | |
| Total Ammonia-N | 1 | N/A | 2013/07/02 | | |
| Nitrate (NO3) and Nitrite (NO2) in Water (2) | 1 | N/A | 2013/06/27 | CAM SOP-00441 | US GS I-2522-90 |
| pH | 1 | N/A | 2013/06/28 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| Phenols (4AAP) | 1 | N/A | 2013/06/27 | CAM SOP-00448 | SM 4500H+ B |
| Orthophosphate | 1 | N/A | 2013/07/02 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/27 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/07/02 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/07/02 | | |
| Sulphide | 1 | N/A | 2013/06/27 | CAM SOP-00464 | EPA 375.4 |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/26 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids | 1 | N/A | 2013/07/02 | | |
| Total Kjeldahl Nitrogen in Water | 1 | N/A | 2013/06/27 | CAM SOP-00428 | APHA 2540C |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/27 | 2013/06/27 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Suspended Solids | 1 | 2013/06/28 | 2013/06/29 | CAM SOP-00407 | APHA 4500 P,B,F |
| Turbidity | 1 | N/A | 2013/06/26 | CAM SOP-00428 | SM 2540D |
| | 1 | N/A | 2013/06/27 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies

Your Project #: 021-1112-020
Site#: 021-1112-020
Site Location: SR QUARRY
Your C.O.C. #: 41759303, 417593-03-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/07/24

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

-2-

comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Keshani Vijh, Project Manager
Email: KVijh@maxxam.ca
Phone# (905) 817-5700

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B3A0685
 Report Date: 2013/07/24

 Golder Associates Ltd
 Client Project #: 021-1112-020
 Site Location: SR QUARRY
 Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SA5384 | | |
| Sampling Date | | | | | 2013/06/24 19:15 | | |
| COC Number | | | | | 417593-03-01 | | |
| | Units | Criteria A | IMC | A/O | WELL-28 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|--|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 13.0 | N/A | 3258572 |
| Bicarb. Alkalinity (calc. as CaCO ₃) | mg/L | - | - | - | 320 | 1.0 | 3258569 |
| Calculated TDS | mg/L | - | - | 500 | 719 | 1.0 | 3258575 |
| Carb. Alkalinity (calc. as CaCO ₃) | mg/L | - | - | - | 2.4 | 1.0 | 3258569 |
| Cation Sum | me/L | - | - | - | 13.8 | N/A | 3258572 |
| Hardness (CaCO ₃) | mg/L | - | - | 80:100 | 410 | 1.0 | 3258486 |
| Ion Balance (% Difference) | % | - | - | - | 3.11 | N/A | 3258571 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.907 | | 3258573 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.660 | | 3258574 |
| Saturation pH (@ 20C) | N/A | - | - | - | 6.99 | | 3258573 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.24 | | 3258574 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | <0.050 | 0.050 | 3260794 |
| Conductivity | umho/cm | - | - | - | 1300 | 1.0 | 3261326 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 1.7 | 0.20 | 3260608 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3260523 |
| pH | pH | - | - | 6.5:8.5 | 7.90 | | 3261329 |
| Dissolved Sulphate (SO ₄) | mg/L | - | - | 500 | 71 | 1 | 3260524 |
| Alkalinity (Total as CaCO ₃) | mg/L | - | - | 30:500 | 330 | 1.0 | 3261324 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 170 | 2 | 3260520 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3261292 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3261292 |
| Nitrate + Nitrite | mg/L | 10 | - | - | <0.10 | 0.10 | 3261292 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 110 | 5.0 | 3265300 |
| . Antimony (Sb) | ug/L | - | 6 | - | <0.50 | 0.50 | 3265300 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3A0685
Report Date: 2013/07/24

Golder Associates Ltd
Client Project #: 021-1112-020
Site Location: SR QUARRY
Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SA5384 | | |
| Sampling Date | | | | | 2013/06/24 19:15 | | |
| COC Number | | | | | 417593-03-01 | | |
| | Units | Criteria A | IMC | A/O | WELL-28 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|---------------|-------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | 10 | 1.0 | 3265300 |
| . Barium (Ba) | ug/L | 1000 | - | - | 82 | 2.0 | 3265300 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3265300 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3265300 |
| . Boron (B) | ug/L | - | 5000 | - | 26 | 10 | 3265300 |
| . Cadmium (Cd) | ug/L | 5 | - | - | <0.10 | 0.10 | 3265300 |
| . Calcium (Ca) | ug/L | - | - | - | 100000 | 200 | 3265300 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3265300 |
| . Cobalt (Co) | ug/L | - | - | - | 1.7 | 0.50 | 3265300 |
| . Copper (Cu) | ug/L | - | - | 1000 | 31 | 1.0 | 3265300 |
| . Iron (Fe) | ug/L | - | - | 300 | 4100 | 100 | 3265300 |
| . Lead (Pb) | ug/L | 10 | - | - | 15 | 0.50 | 3265300 |
| . Lithium (Li) | ug/L | - | - | - | <5.0 | 5.0 | 3265300 |
| . Magnesium (Mg) | ug/L | - | - | - | 38000 | 50 | 3265300 |
| . Manganese (Mn) | ug/L | - | - | 50 | 78 | 2.0 | 3265300 |
| . Molybdenum (Mo) | ug/L | - | - | - | 18 | 0.50 | 3265300 |
| . Nickel (Ni) | ug/L | - | - | - | 4.8 | 1.0 | 3265300 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3265300 |
| . Potassium (K) | ug/L | - | - | - | 4200 | 200 | 3265300 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3265300 |
| . Silicon (Si) | ug/L | - | - | - | 3200 | 100 | 3265300 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3265300 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 120000 | 100 | 3265300 |
| . Strontium (Sr) | ug/L | - | - | - | 4900 | 1.0 | 3265300 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3265300 |
| . Thallium (Tl) | ug/L | - | - | - | <0.050 | 0.050 | 3265300 |
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3265300 |

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3A0685
 Report Date: 2013/07/24

Golder Associates Ltd
 Client Project #: 021-1112-020
 Site Location: SR QUARRY
 Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SA5384 | | |
| Sampling Date | | | | | 2013/06/24 19:15 | | |
| COC Number | | | | | 417593-03-01 | | |
| | Units | Criteria A | IMC | A/O | WELL-28 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3265300 |
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3265300 |
| . Uranium (U) | ug/L | 20 | - | - | 2.2 | 0.10 | 3265300 |
| . Vanadium (V) | ug/L | - | - | - | 1.1 | 0.50 | 3265300 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 160 | 5.0 | 3265300 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3265300 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3A0685
 Report Date: 2013/07/24

Golder Associates Ltd
 Client Project #: 021-1112-020
 Site Location: SR QUARRY
 Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | SA5384 | | |
| Sampling Date | | | | 2013/06/24 19:15 | | |
| COC Number | | | | 417593-03-01 | | |
| | Units | Criteria A | A/O | WELL-28 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 728 | 10 | 3260472 |
| Fluoride (F-) | mg/L | 1.5 | - | 1.25 | 0.10 | 3261328 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.30 | 0.10 | 3262112 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3261312 |
| Total Phosphorus | mg/L | - | - | 0.073 | 0.002 | 3263434 |
| Total Suspended Solids | mg/L | - | - | 20 | 10 | 3260463 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3260519 |
| Turbidity | NTU | - | 5 | 6.2 | 0.2 | 3261121 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3260950 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration
 [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table
 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3A0685
 Report Date: 2013/07/24

Golder Associates Ltd
 Client Project #: 021-1112-020
 Site Location: SR QUARRY
 Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | SA5384 | | |
| Sampling Date | | | 2013/06/24 19:15 | | |
| COC Number | | | 417593-03-01 | | |
| | Units | MAC | WELL-28 | RDL | QC Batch |

| Metals | | | | | |
|---------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3262085 |
| . Sulphur (S) | mg/L | - | 24.5 | 0.5 | 3264700 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3A0685
Report Date: 2013/07/24

Golder Associates Ltd
Client Project #: 021-1112-020
Site Location: SR QUARRY
Sampler Initials: JY

Test Summary

Maxxam ID SA5384
Sample ID WELL-28
Matrix Water

Collected 2013/06/24
Shipped
Received 2013/06/25

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|----------------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3261324 | N/A | 2013/06/27 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3258569 | N/A | 2013/06/27 | Automated Statchk |
| Anions | IC | 3260950 | N/A | 2013/06/27 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3260520 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Conductivity | COND | 3261326 | N/A | 2013/06/27 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3260608 | N/A | 2013/06/27 | Anastasia Hamanov |
| Fluoride | F | 3261328 | 2013/06/26 | 2013/06/27 | Surinder Rai |
| Hardness (calculated as CaCO ₃) | | 3258486 | N/A | 2013/07/02 | Automated Statchk |
| Mercury | CVAA | 3262085 | 2013/06/27 | 2013/06/28 | Magdalena Carlos |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3265300 | 2013/07/02 | 2013/07/02 | Hua Ren |
| Metals Analysis by ICP (as received) | ICP | 3264700 | N/A | 2013/07/03 | Azita Fazaeli |
| Ion Balance (% Difference) | CALC | 3258571 | N/A | 2013/07/02 | Automated Statchk |
| Anion and Cation Sum | CALC | 3258572 | N/A | 2013/07/02 | Automated Statchk |
| Total Ammonia-N | LACH/NH ₄ | 3260794 | N/A | 2013/06/27 | Charles Opoku-Ware |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water | LACH | 3261292 | N/A | 2013/06/28 | Chris Li |
| pH | PH | 3261329 | N/A | 2013/06/27 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3261312 | N/A | 2013/07/02 | Bramdeo Motiram |
| Orthophosphate | AC | 3260523 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3258573 | N/A | 2013/07/02 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3258574 | N/A | 2013/07/02 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3260524 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sulphide | ISE/S | 3260519 | N/A | 2013/06/26 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3258575 | N/A | 2013/07/02 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3260472 | N/A | 2013/06/27 | Malik Kai Morgan John |
| Total Kjeldahl Nitrogen in Water | AC | 3262112 | 2013/06/27 | 2013/06/27 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3263434 | 2013/06/28 | 2013/06/29 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |
| Turbidity | TURB | 3261121 | N/A | 2013/06/27 | Lemeneh Addis |

Maxxam ID SA5384 Dup
Sample ID WELL-28
Matrix Water

Collected 2013/06/24
Shipped
Received 2013/06/25

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|--------------|
| Alkalinity | PH | 3261324 | N/A | 2013/06/27 | Surinder Rai |
| Conductivity | COND | 3261326 | N/A | 2013/06/27 | Surinder Rai |
| Fluoride | F | 3261328 | 2013/06/26 | 2013/06/27 | Surinder Rai |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3265300 | 2013/07/02 | 2013/07/02 | Hua Ren |
| pH | PH | 3261329 | N/A | 2013/06/27 | Surinder Rai |

Maxxam Job #: B3A0685
Report Date: 2013/07/24

Golder Associates Ltd
Client Project #: 021-1112-020
Site Location: SR QUARRY
Sampler Initials: JY

| | |
|-----------|-------|
| Package 1 | 7.0°C |
|-----------|-------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Revised Report (2013/07/24): Requested regulatory criteria have been included on this report.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 021-1112-020
 P.O. #:
 Site Location: SR QUARRY

Quality Assurance Report

Maxxam Job Number: MB3A0685

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-----------------------------|-----------------------------|--------------|----------|---------|-----------|
| 3260463 MMJ | QC Standard | Total Suspended Solids | 2013/06/26 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/26 | <10 | | mg/L | |
| | RPD | Total Suspended Solids | 2013/06/26 | NC | | % | 25 |
| 3260472 MMJ | QC Standard | Total Dissolved Solids | 2013/06/27 | | 98 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/06/27 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/06/27 | 2.2 | | % | 25 |
| 3260519 NYS | Matrix Spike | Sulphide | 2013/06/26 | | NC | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/06/26 | | 94 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/06/26 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/06/26 | 0 (1) | | % | 20 |
| 3260520 DRM | Matrix Spike | Dissolved Chloride (Cl) | 2013/06/27 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/06/27 | 0.9 | | % | 20 |
| 3260523 DRM | Matrix Spike | Orthophosphate (P) | 2013/06/27 | | 107 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/06/27 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/06/27 | NC | | % | 25 |
| 3260524 DRM | Matrix Spike | Dissolved Sulphate (SO4) | 2013/06/27 | | NC | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/06/27 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/06/27 | 0.6 | | % | 20 |
| 3260608 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/27 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/06/26 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/06/27 | 2.7 | | % | 20 |
| 3260794 COP | Matrix Spike | Total Ammonia-N | 2013/06/27 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/27 | | 99 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/27 | <0.050 | | mg/L | |
| | RPD | Total Ammonia-N | 2013/06/27 | NC | | % | 20 |
| 3260950 FD | Matrix Spike | Dissolved Bromide (Br-) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/27 | | 100 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/27 | <1.0 | | mg/L | |
| | RPD | Dissolved Bromide (Br-) | 2013/06/27 | NC | | % | 20 |
| 3261121 L_A | QC Standard | Turbidity | 2013/06/26 | | 92 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/06/26 | 0.4, RDL=0.2 | | NTU | |
| | RPD | Turbidity | 2013/06/26 | 5.7 | | % | 20 |
| 3261292 C_H | Matrix Spike | Nitrite (N) | 2013/06/28 | | 99 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/28 | | 105 | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/06/28 | | 99 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/28 | | 103 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/28 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/28 | <0.10 | | mg/L | |
| | RPD | Nitrite (N) | 2013/06/28 | NC | | % | 25 |
| | | Nitrate (N) | 2013/06/28 | NC | | % | 25 |
| 3261312 BMO | Matrix Spike | Phenols-4AAP | 2013/07/02 | | 103 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/07/02 | | 102 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/07/02 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/07/02 | NC | | % | 25 |
| 3261324 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/06/27 | | 95 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/06/27 | <1.0 | | mg/L | |
| | RPD [SA5384-01] | Alkalinity (Total as CaCO3) | 2013/06/27 | 0.3 | | % | 25 |
| 3261326 SAU | QC Standard | Conductivity | 2013/06/27 | | 102 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/06/27 | <1.0 | | umho/cm | |
| | RPD [SA5384-01] | Conductivity | 2013/06/27 | 0.6 | | % | 25 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 021-1112-020
 P.O. #:
 Site Location: SR QUARRY

Quality Assurance Report (Continued)

Maxxam Job Number: MB3A0685

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------------------|-------------------------------|-----------------------------|--------|----------|----------|-----------|
| 3261328 SAU | Matrix Spike | Fluoride (F-) | 2013/06/27 | | 104 | % | 80 - 120 |
| | [SA5384-01] | Fluoride (F-) | 2013/06/27 | | 105 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/06/27 | <0.10 | | mg/L | |
| | Method Blank | Fluoride (F-) | 2013/06/27 | 1.4 | | % | 20 |
| 3262085 MC | RPD [SA5384-01] | Fluoride (F-) | 2013/06/27 | | | | |
| | Matrix Spike | Mercury (Hg) | 2013/06/28 | | 88 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/28 | | 103 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/28 | <0.1 | | ug/L | |
| 3262112 C_N | RPD | Mercury (Hg) | 2013/06/28 | NC | | % | 20 |
| | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 103 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | | 99 | % | 80 - 120 |
| 3263434 VRO | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/06/27 | 10.3 | | % | 20 |
| | Matrix Spike | Total Phosphorus | 2013/06/29 | | 102 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/29 | | 107 | % | 80 - 120 |
| 3264700 AFZ | Spiked Blank | Total Phosphorus | 2013/06/29 | | 96 | % | 80 - 120 |
| | Method Blank | Total Phosphorus | 2013/06/29 | <0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/29 | NC | | % | 20 |
| | Matrix Spike | Sulphur (S) | 2013/07/02 | | NC | % | 80 - 120 |
| 3265300 HRE | Spiked Blank | Sulphur (S) | 2013/07/02 | | 104 | % | 80 - 120 |
| | Method Blank | Sulphur (S) | 2013/07/02 | <0.5 | | mg/L | |
| | RPD | Sulphur (S) | 2013/07/02 | 0.2 | | % | 25 |
| | Matrix Spike [SA5384-04] | Aluminum (Al) | 2013/07/02 | | 93 | % | 80 - 120 |
| | Antimony (Sb) | 2013/07/02 | | 108 | % | 80 - 120 | |
| | Arsenic (As) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | Barium (Ba) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | Beryllium (Be) | 2013/07/02 | | 108 | % | 80 - 120 | |
| | Bismuth (Bi) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | Boron (B) | 2013/07/02 | | 106 | % | 80 - 120 | |
| | Cadmium (Cd) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | Calcium (Ca) | 2013/07/02 | | NC | % | 80 - 120 | |
| | Chromium (Cr) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | Cobalt (Co) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | Copper (Cu) | 2013/07/02 | | 99 | % | 80 - 120 | |
| | Iron (Fe) | 2013/07/02 | | 102 | % | 80 - 120 | |
| | Lead (Pb) | 2013/07/02 | | 102 | % | 80 - 120 | |
| | Lithium (Li) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | Magnesium (Mg) | 2013/07/02 | | NC | % | 80 - 120 | |
| | Manganese (Mn) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | Molybdenum (Mo) | 2013/07/02 | | 109 | % | 80 - 120 | |
| | Nickel (Ni) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | Phosphorus (P) | 2013/07/02 | | 106 | % | 80 - 120 | |
| | Potassium (K) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | Selenium (Se) | 2013/07/02 | | 109 | % | 80 - 120 | |
| | Silicon (Si) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | Silver (Ag) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | Sodium (Na) | 2013/07/02 | | NC | % | 80 - 120 | |
| | Strontium (Sr) | 2013/07/02 | | NC | % | 80 - 120 | |
| | Tellurium (Te) | 2013/07/02 | | 102 | % | 80 - 120 | |
| | Thallium (Tl) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | Tin (Sn) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | Titanium (Ti) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | Tungsten (W) | 2013/07/02 | | 106 | % | 80 - 120 | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 021-1112-020
 P.O. #:
 Site Location: SR QUARRY

Quality Assurance Report (Continued)

Maxxam Job Number: MB3A0685

| QA/QC Batch Num Init | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits | |
|----------------------------|-----------------------------|-------------------|--------------------------------|-------|----------|----------|-----------|--|
| 3265300 HRE | Matrix Spike [SA5384-04] | . Uranium (U) | 2013/07/02 | | 106 | % | 80 - 120 | |
| | | . Vanadium (V) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | | . Zinc (Zn) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | Spiked Blank | . Zirconium (Zr) | 2013/07/02 | | 111 | % | 80 - 120 | |
| | | . Aluminum (Al) | 2013/07/02 | | 93 | % | 80 - 120 | |
| | | . Antimony (Sb) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Arsenic (As) | 2013/07/02 | | 102 | % | 80 - 120 | |
| | | . Barium (Ba) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Beryllium (Be) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Bismuth (Bi) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | | . Boron (B) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | | . Cadmium (Cd) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Calcium (Ca) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | | . Chromium (Cr) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | | . Cobalt (Co) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | | . Copper (Cu) | 2013/07/02 | | 98 | % | 80 - 120 | |
| | | . Iron (Fe) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Lead (Pb) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Lithium (Li) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Magnesium (Mg) | 2013/07/02 | | 99 | % | 80 - 120 | |
| | | . Manganese (Mn) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Molybdenum (Mo) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Nickel (Ni) | 2013/07/02 | | 99 | % | 80 - 120 | |
| | | . Phosphorus (P) | 2013/07/02 | | 102 | % | 80 - 120 | |
| | | . Potassium (K) | 2013/07/02 | | 98 | % | 80 - 120 | |
| | | . Selenium (Se) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | | . Silicon (Si) | 2013/07/02 | | 100 | % | 80 - 120 | |
| | | . Silver (Ag) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Sodium (Na) | 2013/07/02 | | 103 | % | 80 - 120 | |
| | | . Strontium (Sr) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | | . Tellurium (Te) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Thallium (Tl) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Tin (Sn) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Titanium (Ti) | 2013/07/02 | | 101 | % | 80 - 120 | |
| | | . Tungsten (W) | 2013/07/02 | | 105 | % | 80 - 120 | |
| | | . Uranium (U) | 2013/07/02 | | 106 | % | 80 - 120 | |
| | . Vanadium (V) | 2013/07/02 | | 101 | % | 80 - 120 | | |
| | . Zinc (Zn) | 2013/07/02 | | 102 | % | 80 - 120 | | |
| | . Zirconium (Zr) | 2013/07/02 | | 108 | % | 80 - 120 | | |
| | Method Blank | . Aluminum (Al) | 2013/07/02 | | <5.0 | | ug/L | |
| | | . Antimony (Sb) | 2013/07/02 | | <0.50 | | ug/L | |
| | | . Arsenic (As) | 2013/07/02 | | <1.0 | | ug/L | |
| | | . Barium (Ba) | 2013/07/02 | | <2.0 | | ug/L | |
| | | . Beryllium (Be) | 2013/07/02 | | <0.50 | | ug/L | |
| | | . Bismuth (Bi) | 2013/07/02 | | <1.0 | | ug/L | |
| | | . Boron (B) | 2013/07/02 | | <10 | | ug/L | |
| | | . Cadmium (Cd) | 2013/07/02 | | <0.10 | | ug/L | |
| . Calcium (Ca) | | 2013/07/02 | | <200 | | ug/L | | |
| . Chromium (Cr) | | 2013/07/02 | | <5.0 | | ug/L | | |
| . Cobalt (Co) | | 2013/07/02 | | <0.50 | | ug/L | | |
| . Copper (Cu) | | 2013/07/02 | | <1.0 | | ug/L | | |
| . Iron (Fe) | | 2013/07/02 | | <100 | | ug/L | | |
| . Lead (Pb) | | 2013/07/02 | | <0.50 | | ug/L | | |
| . Lithium (Li) | 2013/07/02 | | <5.0 | | ug/L | | | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 021-1112-020
 P.O. #:
 Site Location: SR QUARRY

Quality Assurance Report (Continued)

Maxxam Job Number: MB3A0685

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-------------------|-----------------------------|----------------|----------|-------|-----------|
| 3265300 HRE | Method Blank | . Magnesium (Mg) | 2013/07/02 | <50 | | ug/L | |
| | | . Manganese (Mn) | 2013/07/02 | <2.0 | | ug/L | |
| | | . Molybdenum (Mo) | 2013/07/02 | 0.55, RDL=0.50 | | ug/L | |
| | | . Nickel (Ni) | 2013/07/02 | <1.0 | | ug/L | |
| | | . Phosphorus (P) | 2013/07/02 | <100 | | ug/L | |
| | | . Potassium (K) | 2013/07/02 | <200 | | ug/L | |
| | | . Selenium (Se) | 2013/07/02 | <2.0 | | ug/L | |
| | | . Silicon (Si) | 2013/07/02 | <50 | | ug/L | |
| | | . Silver (Ag) | 2013/07/02 | <0.10 | | ug/L | |
| | | . Sodium (Na) | 2013/07/02 | <100 | | ug/L | |
| | | . Strontium (Sr) | 2013/07/02 | <1.0 | | ug/L | |
| | | . Tellurium (Te) | 2013/07/02 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/07/02 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/07/02 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/07/02 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/07/02 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/07/02 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/07/02 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/07/02 | <5.0 | | ug/L | |
| | | . Zirconium (Zr) | 2013/07/02 | <1.0 | | ug/L | |
| | RPD [SA5384-04] | . Aluminum (Al) | 2013/07/02 | 0.7 | | % | 20 |
| | | . Antimony (Sb) | 2013/07/02 | NC | | % | 20 |
| | | . Arsenic (As) | 2013/07/02 | 4.9 | | % | 20 |
| | | . Barium (Ba) | 2013/07/02 | 2.5 | | % | 20 |
| | | . Beryllium (Be) | 2013/07/02 | NC | | % | 20 |
| | | . Bismuth (Bi) | 2013/07/02 | NC | | % | 20 |
| | | . Boron (B) | 2013/07/02 | NC | | % | 20 |
| | | . Cadmium (Cd) | 2013/07/02 | NC | | % | 20 |
| | | . Calcium (Ca) | 2013/07/02 | 2.5 | | % | 20 |
| | | . Chromium (Cr) | 2013/07/02 | NC | | % | 20 |
| | | . Cobalt (Co) | 2013/07/02 | NC | | % | 20 |
| | | . Copper (Cu) | 2013/07/02 | 4.1 | | % | 20 |
| | | . Iron (Fe) | 2013/07/02 | 3.7 | | % | 20 |
| | | . Lead (Pb) | 2013/07/02 | 0.2 | | % | 20 |
| | | . Lithium (Li) | 2013/07/02 | NC | | % | 20 |
| | | . Magnesium (Mg) | 2013/07/02 | 0.9 | | % | 20 |
| | | . Manganese (Mn) | 2013/07/02 | 2.0 | | % | 20 |
| | | . Molybdenum (Mo) | 2013/07/02 | 0.06 | | % | 20 |
| | | . Nickel (Ni) | 2013/07/02 | NC | | % | 20 |
| | | . Phosphorus (P) | 2013/07/02 | NC | | % | 20 |
| | | . Potassium (K) | 2013/07/02 | 3.2 | | % | 20 |
| | | . Selenium (Se) | 2013/07/02 | NC | | % | 20 |
| | | . Silicon (Si) | 2013/07/02 | 1.7 | | % | 20 |
| | | . Silver (Ag) | 2013/07/02 | NC | | % | 20 |
| | | . Sodium (Na) | 2013/07/02 | 1.1 | | % | 20 |
| | | . Strontium (Sr) | 2013/07/02 | 1.2 | | % | 20 |
| | | . Tellurium (Te) | 2013/07/02 | NC | | % | 20 |
| | | . Thallium (Tl) | 2013/07/02 | NC | | % | 20 |
| | | . Tin (Sn) | 2013/07/02 | NC | | % | 20 |
| | | . Titanium (Ti) | 2013/07/02 | NC | | % | 20 |
| | | . Tungsten (W) | 2013/07/02 | NC | | % | 20 |
| | | . Uranium (U) | 2013/07/02 | 2.0 | | % | 20 |
| | | . Vanadium (V) | 2013/07/02 | NC | | % | 20 |
| | | . Zinc (Zn) | 2013/07/02 | 3.4 | | % | 20 |
| | | . Zirconium (Zr) | 2013/07/02 | NC | | % | 20 |

Golder Associates Ltd
Attention: Sharon Wood
Client Project #: 021-1112-020
P.O. #:
Site Location: SR QUARRY

Quality Assurance Report (Continued)

Maxxam Job Number: MB3A0685

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) Sulphide: The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

Validation Signature Page

Maxxam Job #: B3A0685

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, Scientific Services

Eva Pranjic 

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

633 Brock Road

Your Project #: 06-1112-020

Site#: 06-1112-020

Your C.O.C. #: 17075

Attention: Sharon Wood

Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/09/05
CERTIFICATE OF ANALYSIS
MAXXAM JOB #: B3E3912
Received: 2013/08/28, 14:09

Sample Matrix: Water

Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/08/30 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/09/03 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/08/30 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/08/30 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/08/30 | CAM SOP-00414 | SM 2510 |
| Fluoride | 1 | 2013/08/29 | 2013/08/30 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO3) | 1 | N/A | 2013/08/30 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/09/04 | CAM SOP 00102 | SM 2340 B |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/09/04 | 2013/09/04 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICP (as received) | 1 | 2013/09/03 | 2013/09/04 | CAM SOP-00447 | EPA 6020 |
| Ion Balance (% Difference) | 1 | N/A | 2013/09/05 | CAM SOP-00408 | EPA 6010 |
| Anion and Cation Sum | 1 | N/A | 2013/09/04 | | |
| Total Ammonia-N | 1 | N/A | 2013/09/04 | CAM SOP-00441 | US GS I-2522-90 |
| Nitrate (NO3) and Nitrite (NO2) in Water (2) | 1 | N/A | 2013/09/03 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| pH | 1 | N/A | 2013/08/30 | CAM SOP-00413 | SM 4500H+ B |
| Phenols (4AAP) | 1 | N/A | 2013/09/04 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Orthophosphate | 1 | N/A | 2013/08/30 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/09/04 | | |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/09/04 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/08/30 | CAM SOP-00464 | EPA 375.4 |
| Sulphide | 1 | N/A | 2013/09/01 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/09/04 | | |
| Total Dissolved Solids | 1 | N/A | 2013/08/30 | CAM SOP-00428 | APHA 2540C |
| Total Kjeldahl Nitrogen in Water | 1 | 2013/09/03 | 2013/09/04 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Phosphorus (Colourimetric) | 1 | 2013/09/03 | 2013/09/04 | CAM SOP-00407 | APHA 4500 P,B,F |
| Total Suspended Solids | 1 | N/A | 2013/08/30 | CAM SOP-00428 | SM 2540D |
| Turbidity | 1 | N/A | 2013/08/30 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this

Your Project #: 06-1112-020

Site#: 06-1112-020

Your C.O.C. #: 17075

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/09/05**CERTIFICATE OF ANALYSIS**

-2-

analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

(1) Metals analysis was performed on the sample 'as received'.

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Beatrice Boschetti,
Email: bboschetti@maxxam.ca
Phone# (905) 817-5700

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Page 2 of 15

Maxxam Job #: B3E3912
 Report Date: 2013/09/05

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SV6015 | | |
| Sampling Date | | | | | 2013/08/28 13:00 | | |
| COC Number | | | | | 17075 | | |
| | Units | Criteria A | IMC | A/O | G33 BROCK | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|----|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 9.70 | N/A | 3331158 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 280 | 1.0 | 3330913 |
| Calculated TDS | mg/L | - | - | 500 | 524 | 1.0 | 3331161 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 2.0 | 1.0 | 3330913 |
| Cation Sum | me/L | - | - | - | 10.2 | N/A | 3331158 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 380 | 1.0 | 3331156 |
| Ion Balance (% Difference) | % | - | - | - | 2.62 | N/A | 3331157 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.802 | | 3331159 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.555 | | 3331160 |
| Saturation pH (@ 20C) | N/A | - | - | - | 7.07 | | 3331159 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.31 | | 3331160 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | 0.054 | 0.050 | 3336063 |
| Conductivity | umho/cm | - | - | - | 950 | 1.0 | 3332635 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 1.9 | 0.20 | 3334057 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3332926 |
| pH | pH | - | - | 6.5:8.5 | 7.87 | | 3332637 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 68 | 1 | 3332927 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 290 | 1.0 | 3332633 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 91 | 1 | 3332909 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3333569 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3333569 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 40 | 5.0 | 3336452 |
| . Antimony (Sb) | ug/L | - | 6 | - | <0.50 | 0.50 | 3336452 |
| . Arsenic (As) | ug/L | - | 25 | - | <1.0 | 1.0 | 3336452 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3E3912
 Report Date: 2013/09/05

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SV6015 | | |
| Sampling Date | | | | | 2013/08/28 13:00 | | |
| COC Number | | | | | 17075 | | |
| | Units | Criteria A | IMC | A/O | G33 BROCK | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|-------|------|--------|-------|-------|---------|
| . Barium (Ba) | ug/L | 1000 | - | - | 38 | 2.0 | 3336452 |
| . Beryllium (Be) | ug/L | - | - | - | <0.50 | 0.50 | 3336452 |
| . Bismuth (Bi) | ug/L | - | - | - | <1.0 | 1.0 | 3336452 |
| . Boron (B) | ug/L | - | 5000 | - | 20 | 10 | 3336452 |
| . Cadmium (Cd) | ug/L | 5 | - | - | 0.50 | 0.10 | 3336452 |
| . Calcium (Ca) | ug/L | - | - | - | 91000 | 200 | 3336452 |
| . Chromium (Cr) | ug/L | 50 | - | - | <5.0 | 5.0 | 3336452 |
| . Cobalt (Co) | ug/L | - | - | - | <0.50 | 0.50 | 3336452 |
| . Copper (Cu) | ug/L | - | - | 1000 | 4.7 | 1.0 | 3336452 |
| . Iron (Fe) | ug/L | - | - | 300 | 140 | 100 | 3336452 |
| . Lead (Pb) | ug/L | 10 | - | - | 6.9 | 0.50 | 3336452 |
| . Lithium (Li) | ug/L | - | - | - | <5.0 | 5.0 | 3336452 |
| . Magnesium (Mg) | ug/L | - | - | - | 37000 | 50 | 3336452 |
| . Manganese (Mn) | ug/L | - | - | 50 | 4.6 | 2.0 | 3336452 |
| . Molybdenum (Mo) | ug/L | - | - | - | 11 | 0.50 | 3336452 |
| . Nickel (Ni) | ug/L | - | - | - | 4.4 | 1.0 | 3336452 |
| . Phosphorus (P) | ug/L | - | - | - | <100 | 100 | 3336452 |
| . Potassium (K) | ug/L | - | - | - | 1300 | 200 | 3336452 |
| . Selenium (Se) | ug/L | 10 | - | - | <2.0 | 2.0 | 3336452 |
| . Silicon (Si) | ug/L | - | - | - | 2300 | 50 | 3336452 |
| . Silver (Ag) | ug/L | - | - | - | <0.10 | 0.10 | 3336452 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 60000 | 100 | 3336452 |
| . Strontium (Sr) | ug/L | - | - | - | 1200 | 1.0 | 3336452 |
| . Tellurium (Te) | ug/L | - | - | - | <1.0 | 1.0 | 3336452 |
| . Thallium (Tl) | ug/L | - | - | - | 0.076 | 0.050 | 3336452 |
| . Tin (Sn) | ug/L | - | - | - | <1.0 | 1.0 | 3336452 |
| . Titanium (Ti) | ug/L | - | - | - | <5.0 | 5.0 | 3336452 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3E3912
 Report Date: 2013/09/05

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | SV6015 | | |
| Sampling Date | | | | | 2013/08/28 13:00 | | |
| COC Number | | | | | 17075 | | |
| | Units | Criteria A | IMC | A/O | G33 BROCK | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|-------------|------|------|---------|
| . Tungsten (W) | ug/L | - | - | - | <1.0 | 1.0 | 3336452 |
| . Uranium (U) | ug/L | 20 | - | - | 3.4 | 0.10 | 3336452 |
| . Vanadium (V) | ug/L | - | - | - | 0.65 | 0.50 | 3336452 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 400 | 5.0 | 3336452 |
| . Zirconium (Zr) | ug/L | - | - | - | <1.0 | 1.0 | 3336452 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3E3912
 Report Date: 2013/09/05

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|------------------|------------|-----------------|
| Maxxam ID | | | | SV6015 | | |
| Sampling Date | | | | 2013/08/28 | | |
| | | | | 13:00 | | |
| COC Number | | | | 17075 | | |
| | Units | Criteria A | A/O | G33 BROCK | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 560 | 10 | 3334022 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.52 | 0.10 | 3332636 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.43 | 0.10 | 3335989 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3335523 |
| Total Phosphorus | mg/L | - | - | 0.003 | 0.002 | 3335703 |
| Total Suspended Solids | mg/L | - | - | 10 | 10 | 3333881 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3334100 |
| Turbidity | NTU | - | 5 | 13 | 0.2 | 3332622 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3333028 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration
 [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table
 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3E3912
 Report Date: 2013/09/05

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | SV6015 | | |
| Sampling Date | | | 2013/08/28 13:00 | | |
| COC Number | | | 17075 | | |
| | Units | MAC | G33 BROCK | RDL | QC Batch |

| Metals | | | | | |
|---------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3336817 |
| . Sulphur (S) | mg/L | - | 24.5 | 0.5 | 3337089 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B3E3912
Report Date: 2013/09/05

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

Test Summary

Maxxam ID SV6015
Sample ID G33 BROCK
Matrix Water

Collected 2013/08/28
Shipped
Received 2013/08/28

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|----------------------|---------|------------|------------|--------------------|
| Alkalinity | PH | 3332633 | N/A | 2013/08/30 | Neil Dassanayake |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3330913 | N/A | 2013/09/03 | Automated Statchk |
| Anions | IC | 3333028 | N/A | 2013/08/30 | Sally Coughlin |
| Chloride by Automated Colourimetry | AC | 3332909 | N/A | 2013/08/30 | Alina Dobreanu |
| Conductivity | COND | 3332635 | N/A | 2013/08/30 | Neil Dassanayake |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3334057 | N/A | 2013/08/30 | Anastasia Hamanov |
| Fluoride | F | 3332636 | 2013/08/29 | 2013/08/30 | Neil Dassanayake |
| Hardness (calculated as CaCO ₃) | | 3331156 | N/A | 2013/09/04 | Automated Statchk |
| Mercury | CVAA | 3336817 | 2013/09/04 | 2013/09/04 | Magdalena Carlos |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3336452 | 2013/09/03 | 2013/09/04 | Prempal Bhatti |
| Metals Analysis by ICP (as received) | ICP | 3337089 | N/A | 2013/09/05 | Azita Fazaeli |
| Ion Balance (% Difference) | CALC | 3331157 | N/A | 2013/09/04 | Automated Statchk |
| Anion and Cation Sum | CALC | 3331158 | N/A | 2013/09/04 | Automated Statchk |
| Total Ammonia-N | LACH/NH ₄ | 3336063 | N/A | 2013/09/04 | Charles Opoku-Ware |
| Nitrate (NO ₃) and Nitrite (NO ₂) in Water | LACH | 3333569 | N/A | 2013/09/03 | Sandeep Singh |
| pH | PH | 3332637 | N/A | 2013/08/30 | Neil Dassanayake |
| Phenols (4AAP) | TECH/PHEN | 3335523 | N/A | 2013/09/04 | Bramdeo Motiram |
| Orthophosphate | AC | 3332926 | N/A | 2013/08/30 | Alina Dobreanu |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3331159 | N/A | 2013/09/04 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3331160 | N/A | 2013/09/04 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3332927 | N/A | 2013/08/30 | Alina Dobreanu |
| Sulphide | ISE/S | 3334100 | N/A | 2013/09/01 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3331161 | N/A | 2013/09/04 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3334022 | N/A | 2013/08/30 | Gurpreet Kaur |
| Total Kjeldahl Nitrogen in Water | AC | 3335989 | 2013/09/03 | 2013/09/04 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3335703 | 2013/09/03 | 2013/09/04 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3333881 | N/A | 2013/08/30 | Gurpreet Kaur |
| Turbidity | TURB | 3332622 | N/A | 2013/08/30 | Lemeneh Addis |

Maxxam ID SV6015 Dup
Sample ID G33 BROCK
Matrix Water

Collected 2013/08/28
Shipped
Received 2013/08/28

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--------------------------------------|-----------------|---------|------------|------------|------------------|
| Mercury | CVAA | 3336817 | 2013/09/04 | 2013/09/04 | Magdalena Carlos |
| Metals Analysis by ICP (as received) | ICP | 3337089 | N/A | 2013/09/05 | Azita Fazaeli |

Maxxam Job #: B3E3912
Report Date: 2013/09/05

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

| | |
|-----------|--------|
| Package 1 | 12.3°C |
|-----------|--------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report

Maxxam Job Number: MB3E3912

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-----------------------------|-----------------------------|--------------|----------|---------|-----------|
| 3332622 L_A | QC Standard | Turbidity | 2013/08/30 | | 100 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/08/30 | <0.2 | | NTU | |
| | RPD | Turbidity | 2013/08/30 | 18.0 | | % | 20 |
| 3332633 NYS | QC Standard | Alkalinity (Total as CaCO3) | 2013/08/30 | | 94 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/08/30 | 1.2, RDL=1.0 | | mg/L | |
| | RPD | Alkalinity (Total as CaCO3) | 2013/08/30 | 0.06 | | % | 25 |
| 3332635 NYS | QC Standard | Conductivity | 2013/08/30 | | 102 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/08/30 | <1.0 | | umho/cm | |
| | RPD | Conductivity | 2013/08/30 | 0.2 | | % | 25 |
| 3332636 NYS | Matrix Spike | Fluoride (F-) | 2013/08/30 | | 99 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/08/30 | | 99 | % | 80 - 120 |
| | Method Blank | Fluoride (F-) | 2013/08/30 | <0.10 | | mg/L | |
| | RPD | Fluoride (F-) | 2013/08/30 | NC | | % | 20 |
| 3332909 ADB | Matrix Spike | Dissolved Chloride (Cl) | 2013/08/30 | | 116 | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/08/30 | | 104 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/08/30 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/08/30 | NC | | % | 20 |
| 3332926 ADB | Matrix Spike | Orthophosphate (P) | 2013/08/30 | | 109 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/08/30 | | 104 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/08/30 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/08/30 | NC | | % | 25 |
| 3332927 ADB | Matrix Spike | Dissolved Sulphate (SO4) | 2013/08/30 | | 105 | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/08/30 | | 101 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/08/30 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/08/30 | NC | | % | 20 |
| 3333028 SAC | Matrix Spike | Dissolved Bromide (Br-) | 2013/08/30 | | 101 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/08/30 | | 103 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/08/30 | <1.0 | | mg/L | |
| | RPD | Dissolved Bromide (Br-) | 2013/08/30 | NC | | % | 20 |
| 3333569 SS4 | Matrix Spike | Nitrite (N) | 2013/09/03 | | 105 | % | 80 - 120 |
| | | Nitrate (N) | 2013/09/03 | | NC | % | 80 - 120 |
| | Spiked Blank | Nitrite (N) | 2013/09/03 | | 107 | % | 85 - 115 |
| | | Nitrate (N) | 2013/09/03 | | 96 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/09/03 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/09/03 | <0.10 | | mg/L | |
| | RPD | Nitrite (N) | 2013/09/03 | NC | | % | 25 |
| | | Nitrate (N) | 2013/09/03 | 0.6 | | % | 25 |
| 3333881 GKR | QC Standard | Total Suspended Solids | 2013/08/30 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/08/30 | <10 | | mg/L | |
| | RPD | Total Suspended Solids | 2013/08/30 | NC | | % | 25 |
| 3334022 GKR | QC Standard | Total Dissolved Solids | 2013/08/30 | | 96 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/08/30 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/08/30 | 2.0 | | % | 25 |
| 3334057 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/08/30 | | 100 | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/08/30 | | 99 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/08/30 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/08/30 | 1.7 | | % | 20 |
| 3334100 NYS | Matrix Spike | Sulphide | 2013/09/01 | | 86 | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/09/01 | | 89 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/09/01 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/09/01 | NC | | % | 20 |
| 3335523 BMO | Matrix Spike | Phenols-4AAP | 2013/09/04 | | 101 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/09/04 | | 99 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/09/04 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/09/04 | NC | | % | 25 |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB3E3912

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|------------------|-------------------------------|-----------------------------|----------------|----------|----------|-----------|
| 3335703 VRO | Matrix Spike | Total Phosphorus | 2013/09/04 | | 92 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/09/04 | | 103 | % | 80 - 120 |
| | Spiked Blank | Total Phosphorus | 2013/09/04 | | 98 | % | 80 - 120 |
| | Method Blank | Total Phosphorus | 2013/09/04 | <0.002 | | mg/L | |
| | RPD | Total Phosphorus | 2013/09/04 | NC | | % | 20 |
| 3335989 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/09/04 | | 106 | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/09/04 | | 106 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/09/04 | | 98 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/09/04 | 0.18, RDL=0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/09/04 | NC | | % | 20 |
| 3336063 COP | Matrix Spike | Total Ammonia-N | 2013/09/04 | | 102 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/09/04 | | 96 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/09/04 | <0.050 | | mg/L | |
| | RPD | Total Ammonia-N | 2013/09/04 | NC | | % | 20 |
| 3336452 PBA | Matrix Spike | . Aluminum (Al) | 2013/09/04 | | 112 | % | 80 - 120 |
| | | . Antimony (Sb) | 2013/09/04 | | 116 | % | 80 - 120 |
| | | . Arsenic (As) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Barium (Ba) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Beryllium (Be) | 2013/09/04 | | 109 | % | 80 - 120 |
| | | . Bismuth (Bi) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Boron (B) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Cadmium (Cd) | 2013/09/04 | | 113 | % | 80 - 120 |
| | | . Calcium (Ca) | 2013/09/04 | | NC | % | 80 - 120 |
| | | . Chromium (Cr) | 2013/09/04 | | 109 | % | 80 - 120 |
| | | . Cobalt (Co) | 2013/09/04 | | 108 | % | 80 - 120 |
| | | . Copper (Cu) | 2013/09/04 | | 105 | % | 80 - 120 |
| | | . Iron (Fe) | 2013/09/04 | | 109 | % | 80 - 120 |
| | | . Lead (Pb) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Lithium (Li) | 2013/09/04 | | 110 | % | 80 - 120 |
| | | . Magnesium (Mg) | 2013/09/04 | | NC | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/09/04 | | NC | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/09/04 | | 112 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/09/04 | | 107 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/09/04 | | 113 | % | 80 - 120 |
| | | . Potassium (K) | 2013/09/04 | | 112 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/09/04 | | 113 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/09/04 | | 110 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/09/04 | | 104 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/09/04 | | NC | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/09/04 | | NC | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/09/04 | | 105 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/09/04 | | 108 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/09/04 | | 115 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/09/04 | | 110 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/09/04 | | 110 | % | 80 - 120 |
| | | . Uranium (U) | 2013/09/04 | | 112 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/09/04 | | 111 | % | 80 - 120 |
| . Zinc (Zn) | 2013/09/04 | | 109 | % | 80 - 120 | | |
| . Zirconium (Zr) | 2013/09/04 | | 113 | % | 80 - 120 | | |
| Spiked Blank | . Aluminum (Al) | 2013/09/04 | | 106 | % | 80 - 120 | |
| | . Antimony (Sb) | 2013/09/04 | | 106 | % | 80 - 120 | |
| | . Arsenic (As) | 2013/09/04 | | 100 | % | 80 - 120 | |
| | . Barium (Ba) | 2013/09/04 | | 101 | % | 80 - 120 | |
| | . Beryllium (Be) | 2013/09/04 | | 99 | % | 80 - 120 | |
| . Bismuth (Bi) | 2013/09/04 | | 102 | % | 80 - 120 | | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB3E3912

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits | | |
|-------------------|--------------|-------------------|-----------------------------|-----------------|------------|-------|-----------|------|--|
| 3336452 PBA | Spiked Blank | . Boron (B) | 2013/09/04 | | 95 | % | 80 - 120 | | |
| | | . Cadmium (Cd) | 2013/09/04 | | 104 | % | 80 - 120 | | |
| | | . Calcium (Ca) | 2013/09/04 | | 105 | % | 80 - 120 | | |
| | | . Chromium (Cr) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Cobalt (Co) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Copper (Cu) | 2013/09/04 | | 99 | % | 80 - 120 | | |
| | | . Iron (Fe) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Lead (Pb) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Lithium (Li) | 2013/09/04 | | 100 | % | 80 - 120 | | |
| | | . Magnesium (Mg) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | . Manganese (Mn) | 2013/09/04 | | 105 | % | 80 - 120 | | |
| | | . Molybdenum (Mo) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Nickel (Ni) | 2013/09/04 | | 100 | % | 80 - 120 | | |
| | | . Phosphorus (P) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Potassium (K) | 2013/09/04 | | 104 | % | 80 - 120 | | |
| | | . Selenium (Se) | 2013/09/04 | | 104 | % | 80 - 120 | | |
| | | . Silicon (Si) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | . Silver (Ag) | 2013/09/04 | | 98 | % | 80 - 120 | | |
| | | . Sodium (Na) | 2013/09/04 | | 105 | % | 80 - 120 | | |
| | | . Strontium (Sr) | 2013/09/04 | | 106 | % | 80 - 120 | | |
| | | . Tellurium (Te) | 2013/09/04 | | 99 | % | 80 - 120 | | |
| | | . Thallium (Tl) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | . Tin (Sn) | 2013/09/04 | | 105 | % | 80 - 120 | | |
| | | . Titanium (Ti) | 2013/09/04 | | 99 | % | 80 - 120 | | |
| | | . Tungsten (W) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | . Uranium (U) | 2013/09/04 | | 105 | % | 80 - 120 | | |
| | | . Vanadium (V) | 2013/09/04 | | 102 | % | 80 - 120 | | |
| | | . Zinc (Zn) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | . Zirconium (Zr) | 2013/09/04 | | 103 | % | 80 - 120 | | |
| | | Method Blank | | . Aluminum (Al) | 2013/09/04 | <5.0 | | ug/L | |
| | | | | . Antimony (Sb) | 2013/09/04 | <0.50 | | ug/L | |
| | | | | . Arsenic (As) | 2013/09/04 | <1.0 | | ug/L | |
| | | | | . Barium (Ba) | 2013/09/04 | <2.0 | | ug/L | |
| . Beryllium (Be) | 2013/09/04 | | | <0.50 | | ug/L | | | |
| . Bismuth (Bi) | 2013/09/04 | | | <1.0 | | ug/L | | | |
| . Boron (B) | 2013/09/04 | | | <10 | | ug/L | | | |
| . Cadmium (Cd) | 2013/09/04 | | | <0.10 | | ug/L | | | |
| . Calcium (Ca) | 2013/09/04 | | | <200 | | ug/L | | | |
| . Chromium (Cr) | 2013/09/04 | | | <5.0 | | ug/L | | | |
| . Cobalt (Co) | 2013/09/04 | | | <0.50 | | ug/L | | | |
| . Copper (Cu) | 2013/09/04 | | | <1.0 | | ug/L | | | |
| . Iron (Fe) | 2013/09/04 | | | <100 | | ug/L | | | |
| . Lead (Pb) | 2013/09/04 | | | <0.50 | | ug/L | | | |
| . Lithium (Li) | 2013/09/04 | | | <5.0 | | ug/L | | | |
| . Magnesium (Mg) | 2013/09/04 | | | <50 | | ug/L | | | |
| . Manganese (Mn) | 2013/09/04 | | | <2.0 | | ug/L | | | |
| . Molybdenum (Mo) | 2013/09/04 | | | <0.50 | | ug/L | | | |
| . Nickel (Ni) | 2013/09/04 | | | <1.0 | | ug/L | | | |
| . Phosphorus (P) | 2013/09/04 | | | <100 | | ug/L | | | |
| . Potassium (K) | 2013/09/04 | | | <200 | | ug/L | | | |
| . Selenium (Se) | 2013/09/04 | <2.0 | | ug/L | | | | | |
| . Silicon (Si) | 2013/09/04 | <50 | | ug/L | | | | | |
| . Silver (Ag) | 2013/09/04 | <0.10 | | ug/L | | | | | |
| . Sodium (Na) | 2013/09/04 | <100 | | ug/L | | | | | |
| . Strontium (Sr) | 2013/09/04 | <1.0 | | ug/L | | | | | |

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB3E3912

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|-----------------|-------------------|-----------------------------|--------|----------|-------|-----------|
| 3336452 PBA | Method Blank | . Tellurium (Te) | 2013/09/04 | <1.0 | | ug/L | |
| | | . Thallium (Tl) | 2013/09/04 | <0.050 | | ug/L | |
| | | . Tin (Sn) | 2013/09/04 | <1.0 | | ug/L | |
| | | . Titanium (Ti) | 2013/09/04 | <5.0 | | ug/L | |
| | | . Tungsten (W) | 2013/09/04 | <1.0 | | ug/L | |
| | | . Uranium (U) | 2013/09/04 | <0.10 | | ug/L | |
| | | . Vanadium (V) | 2013/09/04 | <0.50 | | ug/L | |
| | | . Zinc (Zn) | 2013/09/04 | <5.0 | | ug/L | |
| | | . Zirconium (Zr) | 2013/09/04 | <1.0 | | ug/L | |
| | RPD | . Aluminum (Al) | 2013/09/04 | 0.09 | | % | 20 |
| | | . Antimony (Sb) | 2013/09/04 | 5.2 | | % | 20 |
| | | . Arsenic (As) | 2013/09/04 | NC | | % | 20 |
| | | . Barium (Ba) | 2013/09/04 | 2.4 | | % | 20 |
| | | . Beryllium (Be) | 2013/09/04 | NC | | % | 20 |
| | | . Bismuth (Bi) | 2013/09/04 | NC | | % | 20 |
| | | . Boron (B) | 2013/09/04 | NC | | % | 20 |
| | | . Cadmium (Cd) | 2013/09/04 | 4.6 | | % | 20 |
| | | . Calcium (Ca) | 2013/09/04 | 1.7 | | % | 20 |
| | | . Chromium (Cr) | 2013/09/04 | NC | | % | 20 |
| | | . Cobalt (Co) | 2013/09/04 | NC | | % | 20 |
| | | . Copper (Cu) | 2013/09/04 | 6.4 | | % | 20 |
| | | . Iron (Fe) | 2013/09/04 | 4.0 | | % | 20 |
| | | . Lead (Pb) | 2013/09/04 | 0.6 | | % | 20 |
| | | . Lithium (Li) | 2013/09/04 | NC | | % | 20 |
| | | . Magnesium (Mg) | 2013/09/04 | 0.7 | | % | 20 |
| | | . Manganese (Mn) | 2013/09/04 | 1.5 | | % | 20 |
| | | . Molybdenum (Mo) | 2013/09/04 | 5.2 | | % | 20 |
| | | . Nickel (Ni) | 2013/09/04 | NC | | % | 20 |
| | | . Phosphorus (P) | 2013/09/04 | NC | | % | 20 |
| | | . Potassium (K) | 2013/09/04 | 1.0 | | % | 20 |
| | | . Selenium (Se) | 2013/09/04 | NC | | % | 20 |
| | | . Silicon (Si) | 2013/09/04 | 1.5 | | % | 20 |
| | | . Silver (Ag) | 2013/09/04 | NC | | % | 20 |
| | | . Sodium (Na) | 2013/09/04 | 0.7 | | % | 20 |
| | | . Strontium (Sr) | 2013/09/04 | 0.6 | | % | 20 |
| | | . Tellurium (Te) | 2013/09/04 | NC | | % | 20 |
| | | . Thallium (Tl) | 2013/09/04 | NC | | % | 20 |
| | | . Tin (Sn) | 2013/09/04 | NC | | % | 20 |
| | | . Titanium (Ti) | 2013/09/04 | NC | | % | 20 |
| | | . Tungsten (W) | 2013/09/04 | NC | | % | 20 |
| | | . Uranium (U) | 2013/09/04 | 1.5 | | % | 20 |
| | | . Vanadium (V) | 2013/09/04 | NC | | % | 20 |
| | | . Zinc (Zn) | 2013/09/04 | 2.5 | | % | 20 |
| | | . Zirconium (Zr) | 2013/09/04 | NC | | % | 20 |
| 3336817 MC | Matrix Spike | | | | | | |
| | [SV6015-06] | Mercury (Hg) | 2013/09/04 | | 105 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/09/04 | | 102 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/09/04 | <0.1 | | ug/L | |
| | RPD [SV6015-06] | Mercury (Hg) | 2013/09/04 | NC | | % | 20 |
| 3337089 AFZ | Matrix Spike | | | | | | |
| | [SV6015-04] | . Sulphur (S) | 2013/09/05 | | NC | % | 80 - 120 |
| | Spiked Blank | . Sulphur (S) | 2013/09/05 | | 102 | % | 80 - 120 |
| | Method Blank | . Sulphur (S) | 2013/09/05 | <0.5 | | mg/L | |
| | RPD [SV6015-04] | . Sulphur (S) | 2013/09/05 | 0.9 | | % | 25 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Golder Associates Ltd
Attention: Sharon Wood
Client Project #: 06-1112-020
P.O. #:
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: MB3E3912

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.


NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B3E3912

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink that reads "Cristina Carriere". The signature is written in a cursive style.

Cristina Carriere, Scientific Services

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



APPENDIX B
Domestic Well Survey and Greenville Municipal Well Data

681 Concession 4W

Your Project #: 06-1112-020
 Site#: 06-1112-020
 Your C.O.C. #: 41745302, 417453-02-01

Attention: Sharon Wood
 Golder Associates Ltd
 Mississauga - Standing Offer
 6925 Century Ave
 Suite 100
 Mississauga, ON
 CANADA L5N 7K2

Report Date: 2013/07/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B398933
Received: 2013/06/21, 19:57

Sample Matrix: Water
 # Samples Received: 1

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Method Reference |
|--|----------|-------------------|------------------|-------------------|---------------------|
| Alkalinity | 1 | N/A | 2013/07/04 | CAM SOP-00448 | SM 2320B |
| Carbonate, Bicarbonate and Hydroxide Anions | 1 | N/A | 2013/06/27 | CAM SOP-00102 | APHA 4500-CO2 D |
| Chloride by Automated Colourimetry | 1 | N/A | 2013/06/27 | CAM SOP-00435 | SM 4110B |
| Conductivity | 1 | N/A | 2013/07/04 | CAM SOP-00463 | EPA 325.2 |
| Dissolved Organic Carbon (DOC) | 1 | N/A | 2013/07/04 | CAM SOP-00448 | SM 2510 |
| Fluoride | 1 | 2013/06/25 | 2013/06/26 | CAM SOP-00446 | SM 5310 B |
| Hardness (calculated as CaCO3) | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00449 | APHA 4500FC |
| Mercury | 1 | N/A | 2013/07/02 | CAM SOP 00102 | SM 2340 B |
| Metals Analysis by ICPMS (as received) (1) | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00453 | SW-846 7470A |
| Metals Analysis by ICP (as received) | 1 | 2013/07/03 | 2013/07/03 | CAM SOP-00447 | EPA 6020 |
| Ion Balance (% Difference) | 1 | N/A | 2013/07/03 | CAM SOP-00408 | EPA 6010 |
| Anion and Cation Sum | 1 | N/A | 2013/07/02 | | |
| Total Ammonia-N | 1 | N/A | 2013/07/02 | | |
| Nitrate (NO3) and Nitrite (NO2) in Water (2) | 1 | N/A | 2013/06/27 | CAM SOP-00441 | US GS I-2522-90 |
| pH | 1 | N/A | 2013/06/28 | CAM SOP-00440 | SM 4500 NO3/NO2B |
| Phenols (4AAP) | 1 | N/A | 2013/06/26 | CAM SOP-00448 | SM 4500H+ B |
| Orthophosphate | 1 | N/A | 2013/06/28 | CAM SOP-00444 | MOE ROPHEN-E3179 |
| Sat. pH and Langelier Index (@ 20C) | 1 | N/A | 2013/06/27 | CAM SOP-00461 | EPA 365.1 |
| Sat. pH and Langelier Index (@ 4C) | 1 | N/A | 2013/07/02 | | |
| Sulphate by Automated Colourimetry | 1 | N/A | 2013/07/02 | | |
| Sulphide | 1 | N/A | 2013/07/04 | CAM SOP-00464 | EPA 375.4 |
| Total Dissolved Solids (TDS calc) | 1 | N/A | 2013/06/26 | CAM SOP-00455 | SM 4500-S G |
| Total Dissolved Solids | 1 | N/A | 2013/07/02 | | |
| Total Kjeldahl Nitrogen in Water | 1 | N/A | 2013/07/03 | CAM SOP-00428 | APHA 2540C |
| Total Phosphorus (Colourimetric) | 1 | 2013/06/28 | 2013/07/02 | CAM SOP-00454 | EPA 351.2 Rev 2 |
| Total Suspended Solids | 1 | 2013/06/27 | 2013/06/28 | CAM SOP-00407 | SM 4500 P,B,F |
| Turbidity | 1 | N/A | 2013/06/26 | CAM SOP-00428 | SM 2540D |
| | 1 | N/A | 2013/06/26 | CAM SOP-00417 | APHA 2130B |

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this

Your Project #: 06-1112-020
Site#: 06-1112-020
Your C.O.C. #: 41745302, 417453-02-01

Attention: Sharon Wood

Golder Associates Ltd
Mississauga - Standing Offer
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2013/07/04

CERTIFICATE OF ANALYSIS

-2-

analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following the 'Alberta Environment Draft Addenda to the CWS-PHC, Appendix 6, Validation of Alternate Methods'. Documentation is available upon request. Maxxam has made the following improvements to the CWS-PHC reference benchmark method: (i) Headspace for F1; and, (ii) Mechanical extraction for F2-F4. Note: F4G cannot be added to the C6 to C50 hydrocarbons. The extraction date for samples field preserved with methanol for F1 and Volatile Organic Compounds is considered to be the date sampled.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

- (1) Metals analysis was performed on the sample 'as received'.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Keshani Vijh, Project Manager
Email: KVijh@maxxam.ca
Phone# (905) 817-5700

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B398933
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ5127 | | |
| Sampling Date | | | | | 2013/06/21 17:00 | | |
| COC Number | | | | | 417453-02-01 | | |
| | Units | Criteria A | IMC | A/O | SA #3 | RDL | QC Batch |

| Calculated Parameters | | | | | | | |
|-------------------------------------|---------|----|---|---------|--------|-------|---------|
| Anion Sum | me/L | - | - | - | 10.5 | N/A | 3258572 |
| Bicarb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 290 | 1.0 | 3258569 |
| Calculated TDS | mg/L | - | - | 500 | 1170 | 1.0 | 3258575 |
| Carb. Alkalinity (calc. as CaCO3) | mg/L | - | - | - | 1.4 | 1.0 | 3258569 |
| Cation Sum | me/L | - | - | - | 27.7 | N/A | 3258572 |
| Hardness (CaCO3) | mg/L | - | - | 80:100 | 580 | 1.0 | 3258486 |
| Ion Balance (% Difference) | % | - | - | - | 45.2 | N/A | 3258571 |
| Langelier Index (@ 20C) | N/A | - | - | - | 0.927 | | 3258573 |
| Langelier Index (@ 4C) | N/A | - | - | - | 0.680 | | 3258574 |
| Saturation pH (@ 20C) | N/A | - | - | - | 6.79 | | 3258573 |
| Saturation pH (@ 4C) | N/A | - | - | - | 7.03 | | 3258574 |
| Inorganics | | | | | | | |
| Total Ammonia-N | mg/L | - | - | - | 0.22 | 0.050 | 3260395 |
| Conductivity | umho/cm | - | - | - | 950 | 1.0 | 3268202 |
| Dissolved Organic Carbon | mg/L | - | - | 5 | 0.87 | 0.20 | 3259703 |
| Orthophosphate (P) | mg/L | - | - | - | <0.010 | 0.010 | 3260523 |
| pH | pH | - | - | 6.5:8.5 | 7.71 | | 3259774 |
| Dissolved Sulphate (SO4) | mg/L | - | - | 500 | 170 | 1 | 3268191 |
| Alkalinity (Total as CaCO3) | mg/L | - | - | 30:500 | 290 | 1.0 | 3268200 |
| Dissolved Chloride (Cl) | mg/L | - | - | 250 | 36 | 1 | 3268189 |
| Nitrite (N) | mg/L | 1 | - | - | <0.010 | 0.010 | 3261289 |
| Nitrate (N) | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Nitrate + Nitrite | mg/L | 10 | - | - | <0.10 | 0.10 | 3261289 |
| Metals | | | | | | | |
| . Aluminum (Al) | ug/L | - | - | 100 | 50 | 25 | 3266821 |
| . Antimony (Sb) | ug/L | - | 6 | - | <2.5 | 2.5 | 3266821 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398933
 Report Date: 2013/07/04

 Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ5127 | | |
| Sampling Date | | | | | 2013/06/21 17:00 | | |
| COC Number | | | | | 417453-02-01 | | |
| | Units | Criteria A | IMC | A/O | SA #3 | RDL | QC Batch |

| | | | | | | | |
|-------------------|------|--------------|------|--------|-------------|------|---------|
| . Arsenic (As) | ug/L | - | 25 | - | 2300 | 5.0 | 3266821 |
| . Barium (Ba) | ug/L | 1000 | - | - | 410 | 10 | 3266821 |
| . Beryllium (Be) | ug/L | - | - | - | <2.5 | 2.5 | 3266821 |
| . Bismuth (Bi) | ug/L | - | - | - | <5.0 | 5.0 | 3266821 |
| . Boron (B) | ug/L | - | 5000 | - | <50 | 50 | 3266821 |
| . Cadmium (Cd) | ug/L | 5 | - | - | 3.6 | 0.50 | 3266821 |
| . Calcium (Ca) | ug/L | - | - | - | 180000 | 1000 | 3266821 |
| . Chromium (Cr) | ug/L | 50 | - | - | <25 | 25 | 3266821 |
| . Cobalt (Co) | ug/L | - | - | - | 32 | 2.5 | 3266821 |
| . Copper (Cu) | ug/L | - | - | 1000 | 150 | 5.0 | 3266821 |
| . Iron (Fe) | ug/L | - | - | 300 | 440000 | 500 | 3266821 |
| . Lead (Pb) | ug/L | 10 | - | - | 5200 | 2.5 | 3266821 |
| . Lithium (Li) | ug/L | - | - | - | <25 | 25 | 3266821 |
| . Magnesium (Mg) | ug/L | - | - | - | 33000 | 250 | 3266821 |
| . Manganese (Mn) | ug/L | - | - | 50 | 1300 | 10 | 3266821 |
| . Molybdenum (Mo) | ug/L | - | - | - | 6.2 | 2.5 | 3266821 |
| . Nickel (Ni) | ug/L | - | - | - | 26 | 5.0 | 3266821 |
| . Phosphorus (P) | ug/L | - | - | - | 550 | 500 | 3266821 |
| . Potassium (K) | ug/L | - | - | - | 1000 | 1000 | 3266821 |
| . Selenium (Se) | ug/L | 10 | - | - | <10 | 10 | 3266821 |
| . Silicon (Si) | ug/L | - | - | - | 59000 | 250 | 3266821 |
| . Silver (Ag) | ug/L | - | - | - | <0.50 | 0.50 | 3266821 |
| . Sodium (Na) | ug/L | 20000 | - | 200000 | 9700 | 500 | 3266821 |
| . Strontium (Sr) | ug/L | - | - | - | 4300 | 5.0 | 3266821 |
| . Tellurium (Te) | ug/L | - | - | - | <5.0 | 5.0 | 3266821 |
| . Thallium (Tl) | ug/L | - | - | - | 2.5 | 0.25 | 3266821 |
| . Tin (Sn) | ug/L | - | - | - | <5.0 | 5.0 | 3266821 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A, IMC, A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398933
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RCAP - COMPREHENSIVE (DRINKING WATER)

| | | | | | | | |
|---------------|--------------|-------------------|------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | | RZ5127 | | |
| Sampling Date | | | | | 2013/06/21 17:00 | | |
| COC Number | | | | | 417453-02-01 | | |
| | Units | Criteria A | IMC | A/O | SA #3 | RDL | QC Batch |

| | | | | | | | |
|------------------|------|-----------|---|------|------|------|---------|
| . Titanium (Ti) | ug/L | - | - | - | <25 | 25 | 3266821 |
| . Tungsten (W) | ug/L | - | - | - | <5.0 | 5.0 | 3266821 |
| . Uranium (U) | ug/L | 20 | - | - | 12 | 0.50 | 3266821 |
| . Vanadium (V) | ug/L | - | - | - | 5.7 | 2.5 | 3266821 |
| . Zinc (Zn) | ug/L | - | - | 5000 | 6200 | 25 | 3266821 |
| . Zirconium (Zr) | ug/L | - | - | - | <5.0 | 5.0 | 3266821 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,IMC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC],
 Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health
 Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398933
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

RESULTS OF ANALYSES OF WATER

| | | | | | | |
|---------------|--------------|-------------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | | RZ5127 | | |
| Sampling Date | | | | 2013/06/21 17:00 | | |
| COC Number | | | | 417453-02-01 | | |
| | Units | Criteria A | A/O | SA #3 | RDL | QC Batch |

| Inorganics | | | | | | |
|-------------------------------|------|-----|------|---------|--------|---------|
| Total Dissolved Solids | mg/L | - | 500 | 656 | 10 | 3267621 |
| Fluoride (F-) | mg/L | 1.5 | - | 0.94 | 0.10 | 3259773 |
| Total Kjeldahl Nitrogen (TKN) | mg/L | - | - | 0.80 | 0.10 | 3263666 |
| Phenols-4AAP | mg/L | - | - | <0.0010 | 0.0010 | 3259674 |
| Total Phosphorus | mg/L | - | - | 1.8 | 0.040 | 3262854 |
| Total Suspended Solids | mg/L | - | - | 700 | 50 | 3260463 |
| Sulphide | mg/L | - | 0.05 | <0.020 | 0.020 | 3260519 |
| Turbidity | NTU | - | 5 | 980 | 1 | 3259697 |
| Dissolved Bromide (Br-) | mg/L | - | - | <1.0 | 1.0 | 3260950 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Criteria A,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration
 [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table
 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398933
 Report Date: 2013/07/04

Golder Associates Ltd
 Client Project #: 06-1112-020

Sampler Initials: JY

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

| | | | | | |
|---------------|--------------|------------|---------------------|------------|-----------------|
| Maxxam ID | | | RZ5127 | | |
| Sampling Date | | | 2013/06/21 17:00 | | |
| COC Number | | | 417453-02-01 | | |
| | Units | MAC | SA #3 | RDL | QC Batch |

| Metals | | | | | |
|---------------|------|---|------|-----|---------|
| Mercury (Hg) | ug/L | 1 | <0.1 | 0.1 | 3262085 |
| . Sulphur (S) | mg/L | - | 58 | 5 | 3264700 |

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 MAC: Ontario Drinking Water Standards - Maximum Acceptable Concentration [Criteria A / MAC], Interim Maximum Acceptable Concentration [IMC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
 (Made under the Ontario Safe Drinking Water Act, 2002)

Maxxam Job #: B398933
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

Test Summary

Maxxam ID RZ5127
Sample ID SA #3
Matrix Water

Collected 2013/06/21
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|-----------------------|
| Alkalinity | PH | 3268200 | N/A | 2013/07/04 | Surinder Rai |
| Carbonate, Bicarbonate and Hydroxide | CALC | 3258569 | N/A | 2013/06/27 | Automated Statchk |
| Anions | IC | 3260950 | N/A | 2013/06/27 | Fari Dehdezi |
| Chloride by Automated Colourimetry | AC | 3268189 | N/A | 2013/07/04 | Deonarine Ramnarine |
| Conductivity | COND | 3268202 | N/A | 2013/07/04 | Surinder Rai |
| Dissolved Organic Carbon (DOC) | TOCV/NDIR | 3259703 | N/A | 2013/06/26 | Anastasia Hamanov |
| Fluoride | F | 3259773 | 2013/06/25 | 2013/06/26 | Surinder Rai |
| Hardness (calculated as CaCO3) | | 3258486 | N/A | 2013/07/02 | Automated Statchk |
| Mercury | CVAA | 3262085 | 2013/06/27 | 2013/06/28 | Magdalena Carlos |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3266821 | 2013/07/03 | 2013/07/03 | Hua Ren |
| Metals Analysis by ICP (as received) | ICP | 3264700 | N/A | 2013/07/03 | Azita Fazaeli |
| Ion Balance (% Difference) | CALC | 3258571 | N/A | 2013/07/02 | Automated Statchk |
| Anion and Cation Sum | CALC | 3258572 | N/A | 2013/07/02 | Automated Statchk |
| Total Ammonia-N | LACH/NH4 | 3260395 | N/A | 2013/06/27 | Charles Opoku-Ware |
| Nitrate (NO3) and Nitrite (NO2) in Water | LACH | 3261289 | N/A | 2013/06/28 | Chris Li |
| pH | PH | 3259774 | N/A | 2013/06/26 | Surinder Rai |
| Phenols (4AAP) | TECH/PHEN | 3259674 | N/A | 2013/06/28 | Bramdeo Motiram |
| Orthophosphate | AC | 3260523 | N/A | 2013/06/27 | Deonarine Ramnarine |
| Sat. pH and Langelier Index (@ 20C) | CALC | 3258573 | N/A | 2013/07/02 | Automated Statchk |
| Sat. pH and Langelier Index (@ 4C) | CALC | 3258574 | N/A | 2013/07/02 | Automated Statchk |
| Sulphate by Automated Colourimetry | AC | 3268191 | N/A | 2013/07/04 | Deonarine Ramnarine |
| Sulphide | ISE/S | 3260519 | N/A | 2013/06/26 | Neil Dassanayake |
| Total Dissolved Solids (TDS calc) | CALC | 3258575 | N/A | 2013/07/02 | Automated Statchk |
| Total Dissolved Solids | SLDS | 3267621 | N/A | 2013/07/03 | Gurpreet Kaur |
| Total Kjeldahl Nitrogen in Water | AC | 3263666 | 2013/06/28 | 2013/07/02 | Chandra Nandlal |
| Total Phosphorus (Colourimetric) | LACH/P | 3262854 | 2013/06/27 | 2013/06/28 | Viorica Rotaru |
| Total Suspended Solids | SLDS | 3260463 | N/A | 2013/06/26 | Malik Kai Morgan John |
| Turbidity | TURB | 3259697 | N/A | 2013/06/26 | Lemeneh Addis |

Maxxam ID RZ5127 Dup
Sample ID SA #3
Matrix Water

Collected 2013/06/21
Shipped
Received 2013/06/21

| Test Description | Instrumentation | Batch | Extracted | Analyzed | Analyst |
|--|-----------------|---------|------------|------------|--------------|
| Alkalinity | PH | 3268200 | N/A | 2013/07/04 | Surinder Rai |
| Conductivity | COND | 3268202 | N/A | 2013/07/04 | Surinder Rai |
| Metals Analysis by ICPMS (as received) | ICP/MS | 3266821 | 2013/07/03 | 2013/07/03 | Hua Ren |

Maxxam Job #: B398933
Report Date: 2013/07/04

Golder Associates Ltd
Client Project #: 06-1112-020

Sampler Initials: JY

| | |
|-----------|--------|
| Package 1 | 12.7°C |
|-----------|--------|

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Sample RZ5127-01: Metals: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Metal analysis: Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Elevated ion balance was confirmed by re-analysis of anions and cations.

Results relate only to the items tested.

Golder Associates Ltd
 Attention: Sharon Wood
 Client Project #: 06-1112-020
 P.O. #:
 Site Location:

Quality Assurance Report
 Maxxam Job Number: MB398933

| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------|--------------|-------------------------------|-----------------------------|--------------|----------|-------|-----------|
| 3259674 BMO | Matrix Spike | Phenols-4AAP | 2013/06/28 | | 99 | % | 80 - 120 |
| | Spiked Blank | Phenols-4AAP | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Phenols-4AAP | 2013/06/28 | <0.0010 | | mg/L | |
| | RPD | Phenols-4AAP | 2013/06/28 | NC | | % | 25 |
| 3259697 L_A | QC Standard | Turbidity | 2013/06/26 | | 96 | % | 85 - 115 |
| | Method Blank | Turbidity | 2013/06/26 | 0.3, RDL=0.2 | | NTU | |
| | RPD | Turbidity | 2013/06/26 | NC | | % | 20 |
| 3259703 AHA | Matrix Spike | Dissolved Organic Carbon | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Organic Carbon | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Dissolved Organic Carbon | 2013/06/26 | <0.20 | | mg/L | |
| | RPD | Dissolved Organic Carbon | 2013/06/26 | 3.2 | | % | 20 |
| 3259773 SAU | Matrix Spike | Fluoride (F-) | 2013/06/26 | | 99 | % | 80 - 120 |
| | Spiked Blank | Fluoride (F-) | 2013/06/26 | | 97 | % | 80 - 120 |
| | Method Blank | Fluoride (F-) | 2013/06/26 | <0.10 | | mg/L | |
| | RPD | Fluoride (F-) | 2013/06/26 | 1.9 | | % | 20 |
| 3260395 COP | Matrix Spike | Total Ammonia-N | 2013/06/27 | | 103 | % | 80 - 120 |
| | Spiked Blank | Total Ammonia-N | 2013/06/27 | | 105 | % | 85 - 115 |
| | Method Blank | Total Ammonia-N | 2013/06/27 | <0.050 | | mg/L | |
| | RPD | Total Ammonia-N | 2013/06/27 | NC | | % | 20 |
| 3260463 MMJ | QC Standard | Total Suspended Solids | 2013/06/26 | | 99 | % | 85 - 115 |
| | Method Blank | Total Suspended Solids | 2013/06/26 | <10 | | mg/L | |
| | RPD | Total Suspended Solids | 2013/06/26 | NC | | % | 25 |
| 3260519 NYS | Matrix Spike | Sulphide | 2013/06/26 | | NC | % | 80 - 120 |
| | Spiked Blank | Sulphide | 2013/06/26 | | 94 | % | 80 - 120 |
| | Method Blank | Sulphide | 2013/06/26 | <0.020 | | mg/L | |
| | RPD | Sulphide | 2013/06/26 | 0 (1) | | % | 20 |
| 3260523 DRM | Matrix Spike | Orthophosphate (P) | 2013/06/27 | | 107 | % | 75 - 125 |
| | Spiked Blank | Orthophosphate (P) | 2013/06/27 | | 101 | % | 80 - 120 |
| | Method Blank | Orthophosphate (P) | 2013/06/27 | <0.010 | | mg/L | |
| | RPD | Orthophosphate (P) | 2013/06/27 | NC | | % | 25 |
| 3260950 FD | Matrix Spike | Dissolved Bromide (Br-) | 2013/06/27 | | 99 | % | 80 - 120 |
| | Spiked Blank | Dissolved Bromide (Br-) | 2013/06/27 | | 100 | % | 80 - 120 |
| | Method Blank | Dissolved Bromide (Br-) | 2013/06/27 | <1.0 | | mg/L | |
| | RPD | Dissolved Bromide (Br-) | 2013/06/27 | NC | | % | 20 |
| 3261289 C_H | Matrix Spike | Nitrite (N) | 2013/06/28 | | 94 | % | 80 - 120 |
| | | Nitrate (N) | 2013/06/28 | | 95 | % | 80 - 120 |
| | | Nitrite (N) | 2013/06/28 | | 96 | % | 85 - 115 |
| | | Nitrate (N) | 2013/06/28 | | 99 | % | 85 - 115 |
| | Method Blank | Nitrite (N) | 2013/06/28 | <0.010 | | mg/L | |
| | | Nitrate (N) | 2013/06/28 | <0.10 | | mg/L | |
| | | Nitrite (N) | 2013/06/28 | NC | | % | 25 |
| | | Nitrate (N) | 2013/06/28 | NC | | % | 25 |
| 3262085 MC | Matrix Spike | Mercury (Hg) | 2013/06/28 | | 88 | % | 75 - 125 |
| | Spiked Blank | Mercury (Hg) | 2013/06/28 | | 103 | % | 80 - 120 |
| | Method Blank | Mercury (Hg) | 2013/06/28 | <0.1 | | ug/L | |
| | RPD | Mercury (Hg) | 2013/06/28 | NC | | % | 20 |
| 3262854 VRO | Matrix Spike | Total Phosphorus | 2013/06/28 | | 101 | % | 80 - 120 |
| | QC Standard | Total Phosphorus | 2013/06/28 | | 102 | % | 85 - 115 |
| | Spiked Blank | Total Phosphorus | 2013/06/28 | | 104 | % | 85 - 115 |
| | Method Blank | Total Phosphorus | 2013/06/28 | <0.020 | | mg/L | |
| | RPD | Total Phosphorus | 2013/06/28 | 0.4 | | % | 20 |
| 3263666 C_N | Matrix Spike | Total Kjeldahl Nitrogen (TKN) | 2013/07/02 | | NC | % | 80 - 120 |
| | QC Standard | Total Kjeldahl Nitrogen (TKN) | 2013/07/02 | | 104 | % | 80 - 120 |
| | Spiked Blank | Total Kjeldahl Nitrogen (TKN) | 2013/07/02 | | 91 | % | 80 - 120 |
| | Method Blank | Total Kjeldahl Nitrogen (TKN) | 2013/07/02 | <0.10 | | mg/L | |
| | RPD | Total Kjeldahl Nitrogen (TKN) | 2013/07/02 | 0.4 | | % | 20 |

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| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits | |
|----------------------------|--------------|-------------------|-----------------------------|------------|----------|----------|-----------|----------|
| 3264700 AFZ | Matrix Spike | . Sulphur (S) | 2013/07/02 | | NC | % | 80 - 120 | |
| | Spiked Blank | . Sulphur (S) | 2013/07/02 | | 104 | % | 80 - 120 | |
| | Method Blank | . Sulphur (S) | 2013/07/02 | <0.5 | | mg/L | | |
| | RPD | . Sulphur (S) | 2013/07/02 | 0.2 | | % | 25 | |
| 3266821 HRE [RZ5127-03] | Matrix Spike | . Aluminum (Al) | 2013/07/03 | | 90 | % | 80 - 120 | |
| | | . Antimony (Sb) | 2013/07/03 | | 101 | % | 80 - 120 | |
| | | . Arsenic (As) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Barium (Ba) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Beryllium (Be) | 2013/07/03 | | 105 | % | 80 - 120 | |
| | | . Bismuth (Bi) | 2013/07/03 | | 99 | % | 80 - 120 | |
| | | . Boron (B) | 2013/07/03 | | 99 | % | 80 - 120 | |
| | | . Cadmium (Cd) | 2013/07/03 | | 101 | % | 80 - 120 | |
| | | . Calcium (Ca) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Chromium (Cr) | 2013/07/03 | | 95 | % | 80 - 120 | |
| | | . Cobalt (Co) | 2013/07/03 | | 98 | % | 80 - 120 | |
| | | . Copper (Cu) | 2013/07/03 | | 94 | % | 80 - 120 | |
| | | . Iron (Fe) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Lead (Pb) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Lithium (Li) | 2013/07/03 | | 102 | % | 80 - 120 | |
| | | . Magnesium (Mg) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Manganese (Mn) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Molybdenum (Mo) | 2013/07/03 | | 102 | % | 80 - 120 | |
| | | . Nickel (Ni) | 2013/07/03 | | 99 | % | 80 - 120 | |
| | | . Phosphorus (P) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Potassium (K) | 2013/07/03 | | 98 | % | 80 - 120 | |
| | | . Selenium (Se) | 2013/07/03 | | 93 | % | 80 - 120 | |
| | | . Silicon (Si) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Silver (Ag) | 2013/07/03 | | 97 | % | 80 - 120 | |
| | | . Sodium (Na) | 2013/07/03 | | 94 | % | 80 - 120 | |
| | | . Strontium (Sr) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Tellurium (Te) | 2013/07/03 | | 97 | % | 80 - 120 | |
| | | . Thallium (Tl) | 2013/07/03 | | 100 | % | 80 - 120 | |
| | | . Tin (Sn) | 2013/07/03 | | 102 | % | 80 - 120 | |
| | | . Titanium (Ti) | 2013/07/03 | | 94 | % | 80 - 120 | |
| | | . Tungsten (W) | 2013/07/03 | | 103 | % | 80 - 120 | |
| | | . Uranium (U) | 2013/07/03 | | 99 | % | 80 - 120 | |
| | | . Vanadium (V) | 2013/07/03 | | 95 | % | 80 - 120 | |
| | | . Zinc (Zn) | 2013/07/03 | | NC | % | 80 - 120 | |
| | | . Zirconium (Zr) | 2013/07/03 | | 102 | % | 80 - 120 | |
| | | Spiked Blank | . Aluminum (Al) | 2013/07/03 | | 98 | % | 80 - 120 |
| | | | . Antimony (Sb) | 2013/07/03 | | 106 | % | 80 - 120 |
| | | | . Arsenic (As) | 2013/07/03 | | 101 | % | 80 - 120 |
| | | | . Barium (Ba) | 2013/07/03 | | 103 | % | 80 - 120 |
| | | | . Beryllium (Be) | 2013/07/03 | | 104 | % | 80 - 120 |
| | | | . Bismuth (Bi) | 2013/07/03 | | 103 | % | 80 - 120 |
| . Boron (B) | 2013/07/03 | | | 105 | % | 80 - 120 | | |
| . Cadmium (Cd) | 2013/07/03 | | | 103 | % | 80 - 120 | | |
| . Calcium (Ca) | 2013/07/03 | | | 107 | % | 80 - 120 | | |
| . Chromium (Cr) | 2013/07/03 | | | 101 | % | 80 - 120 | | |
| . Cobalt (Co) | 2013/07/03 | | | 102 | % | 80 - 120 | | |
| . Copper (Cu) | 2013/07/03 | | | 101 | % | 80 - 120 | | |
| . Iron (Fe) | 2013/07/03 | | | 101 | % | 80 - 120 | | |
| . Lead (Pb) | 2013/07/03 | | | 100 | % | 80 - 120 | | |
| . Lithium (Li) | 2013/07/03 | | 101 | % | 80 - 120 | | | |

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| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|-------------------|--------------|-------------------|-----------------------------|------------------|------------|-------|-----------|
| 3266821 HRE | Spiked Blank | . Magnesium (Mg) | 2013/07/03 | | 102 | % | 80 - 120 |
| | | . Manganese (Mn) | 2013/07/03 | | 99 | % | 80 - 120 |
| | | . Molybdenum (Mo) | 2013/07/03 | | 105 | % | 80 - 120 |
| | | . Nickel (Ni) | 2013/07/03 | | 102 | % | 80 - 120 |
| | | . Phosphorus (P) | 2013/07/03 | | 100 | % | 80 - 120 |
| | | . Potassium (K) | 2013/07/03 | | 104 | % | 80 - 120 |
| | | . Selenium (Se) | 2013/07/03 | | 98 | % | 80 - 120 |
| | | . Silicon (Si) | 2013/07/03 | | 103 | % | 80 - 120 |
| | | . Silver (Ag) | 2013/07/03 | | 100 | % | 80 - 120 |
| | | . Sodium (Na) | 2013/07/03 | | 104 | % | 80 - 120 |
| | | . Strontium (Sr) | 2013/07/03 | | 102 | % | 80 - 120 |
| | | . Tellurium (Te) | 2013/07/03 | | 100 | % | 80 - 120 |
| | | . Thallium (Tl) | 2013/07/03 | | 101 | % | 80 - 120 |
| | | . Tin (Sn) | 2013/07/03 | | 104 | % | 80 - 120 |
| | | . Titanium (Ti) | 2013/07/03 | | 104 | % | 80 - 120 |
| | | . Tungsten (W) | 2013/07/03 | | 103 | % | 80 - 120 |
| | | . Uranium (U) | 2013/07/03 | | 101 | % | 80 - 120 |
| | | . Vanadium (V) | 2013/07/03 | | 101 | % | 80 - 120 |
| | | . Zinc (Zn) | 2013/07/03 | | 99 | % | 80 - 120 |
| | | Method Blank | | . Zirconium (Zr) | 2013/07/03 | | 107 |
| . Aluminum (Al) | 2013/07/03 | | | <5.0 | | ug/L | |
| . Antimony (Sb) | 2013/07/03 | | | <0.50 | | ug/L | |
| . Arsenic (As) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Barium (Ba) | 2013/07/03 | | | <2.0 | | ug/L | |
| . Beryllium (Be) | 2013/07/03 | | | <0.50 | | ug/L | |
| . Bismuth (Bi) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Boron (B) | 2013/07/03 | | | <10 | | ug/L | |
| . Cadmium (Cd) | 2013/07/03 | | | <0.10 | | ug/L | |
| . Calcium (Ca) | 2013/07/03 | | | <200 | | ug/L | |
| . Chromium (Cr) | 2013/07/03 | | | <5.0 | | ug/L | |
| . Cobalt (Co) | 2013/07/03 | | | <0.50 | | ug/L | |
| . Copper (Cu) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Iron (Fe) | 2013/07/03 | | | <100 | | ug/L | |
| . Lead (Pb) | 2013/07/03 | | | <0.50 | | ug/L | |
| . Lithium (Li) | 2013/07/03 | | | <5.0 | | ug/L | |
| . Magnesium (Mg) | 2013/07/03 | | | <50 | | ug/L | |
| . Manganese (Mn) | 2013/07/03 | | | <2.0 | | ug/L | |
| . Molybdenum (Mo) | 2013/07/03 | | | <0.50 | | ug/L | |
| . Nickel (Ni) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Phosphorus (P) | 2013/07/03 | | | <100 | | ug/L | |
| . Potassium (K) | 2013/07/03 | | | <200 | | ug/L | |
| . Selenium (Se) | 2013/07/03 | | | <2.0 | | ug/L | |
| . Silicon (Si) | 2013/07/03 | | | <50 | | ug/L | |
| . Silver (Ag) | 2013/07/03 | | | <0.10 | | ug/L | |
| . Sodium (Na) | 2013/07/03 | | | <100 | | ug/L | |
| . Strontium (Sr) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Tellurium (Te) | 2013/07/03 | | | <1.0 | | ug/L | |
| . Thallium (Tl) | 2013/07/03 | <0.050 | | ug/L | | | |
| . Tin (Sn) | 2013/07/03 | <1.0 | | ug/L | | | |
| . Titanium (Ti) | 2013/07/03 | <5.0 | | ug/L | | | |
| . Tungsten (W) | 2013/07/03 | <1.0 | | ug/L | | | |
| . Uranium (U) | 2013/07/03 | <0.10 | | ug/L | | | |
| . Vanadium (V) | 2013/07/03 | <0.50 | | ug/L | | | |
| . Zinc (Zn) | 2013/07/03 | <5.0 | | ug/L | | | |
| . Zirconium (Zr) | 2013/07/03 | <1.0 | | ug/L | | | |

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| QA/QC Batch | QC Type | Parameter | Date Analyzed yyyy/mm/dd | Value | Recovery | Units | QC Limits |
|------------------|-----------------|-----------------------------|-----------------------------|-------|----------|---------|-----------|
| 3266821 HRE | RPD [RZ5127-03] | . Aluminum (Al) | 2013/07/03 | NC | | % | 20 |
| | | . Antimony (Sb) | 2013/07/03 | NC | | % | 20 |
| | | . Arsenic (As) | 2013/07/03 | 3.0 | | % | 20 |
| | | . Barium (Ba) | 2013/07/03 | 0.05 | | % | 20 |
| | | . Beryllium (Be) | 2013/07/03 | NC | | % | 20 |
| | | . Bismuth (Bi) | 2013/07/03 | NC | | % | 20 |
| | | . Boron (B) | 2013/07/03 | NC | | % | 20 |
| | | . Cadmium (Cd) | 2013/07/03 | 8.6 | | % | 20 |
| | | . Calcium (Ca) | 2013/07/03 | 0.4 | | % | 20 |
| | | . Chromium (Cr) | 2013/07/03 | NC | | % | 20 |
| | | . Cobalt (Co) | 2013/07/03 | 2.2 | | % | 20 |
| | | . Copper (Cu) | 2013/07/03 | 2.4 | | % | 20 |
| | | . Iron (Fe) | 2013/07/03 | 0.3 | | % | 20 |
| | | . Lead (Pb) | 2013/07/03 | 1.0 | | % | 20 |
| | | . Lithium (Li) | 2013/07/03 | NC | | % | 20 |
| | | . Magnesium (Mg) | 2013/07/03 | 0.6 | | % | 20 |
| | | . Manganese (Mn) | 2013/07/03 | 0.5 | | % | 20 |
| | | . Molybdenum (Mo) | 2013/07/03 | NC | | % | 20 |
| | | . Nickel (Ni) | 2013/07/03 | 0.5 | | % | 20 |
| | | . Phosphorus (P) | 2013/07/03 | NC | | % | 20 |
| | | . Potassium (K) | 2013/07/03 | NC | | % | 20 |
| | | . Selenium (Se) | 2013/07/03 | NC | | % | 20 |
| | | . Silicon (Si) | 2013/07/03 | 0.08 | | % | 20 |
| | | . Silver (Ag) | 2013/07/03 | NC | | % | 20 |
| | | . Sodium (Na) | 2013/07/03 | 1.7 | | % | 20 |
| | | . Strontium (Sr) | 2013/07/03 | 2.7 | | % | 20 |
| | | . Tellurium (Te) | 2013/07/03 | NC | | % | 20 |
| | | . Thallium (Tl) | 2013/07/03 | 0.7 | | % | 20 |
| | | . Tin (Sn) | 2013/07/03 | NC | | % | 20 |
| | | . Titanium (Ti) | 2013/07/03 | NC | | % | 20 |
| | | . Tungsten (W) | 2013/07/03 | NC | | % | 20 |
| | | . Uranium (U) | 2013/07/03 | 0.2 | | % | 20 |
| | | . Vanadium (V) | 2013/07/03 | NC | | % | 20 |
| . Zinc (Zn) | 2013/07/03 | 2.2 | | % | 20 | | |
| . Zirconium (Zr) | 2013/07/03 | NC | | % | 20 | | |
| 3267621 GKR | QC Standard | Total Dissolved Solids | 2013/07/03 | | 97 | % | 90 - 110 |
| | Method Blank | Total Dissolved Solids | 2013/07/03 | <10 | | mg/L | |
| | RPD | Total Dissolved Solids | 2013/07/03 | 0.7 | | % | 25 |
| 3268189 DRM | Matrix Spike | Dissolved Chloride (Cl) | 2013/07/04 | | NC | % | 80 - 120 |
| | Spiked Blank | Dissolved Chloride (Cl) | 2013/07/04 | | 104 | % | 80 - 120 |
| | Method Blank | Dissolved Chloride (Cl) | 2013/07/04 | <1 | | mg/L | |
| | RPD | Dissolved Chloride (Cl) | 2013/07/04 | 0.3 | | % | 20 |
| 3268191 DRM | Matrix Spike | Dissolved Sulphate (SO4) | 2013/07/04 | | NC | % | 75 - 125 |
| | Spiked Blank | Dissolved Sulphate (SO4) | 2013/07/04 | | 104 | % | 80 - 120 |
| | Method Blank | Dissolved Sulphate (SO4) | 2013/07/04 | <1 | | mg/L | |
| | RPD | Dissolved Sulphate (SO4) | 2013/07/04 | 1.3 | | % | 20 |
| 3268200 SAU | QC Standard | Alkalinity (Total as CaCO3) | 2013/07/04 | | 93 | % | 85 - 115 |
| | Method Blank | Alkalinity (Total as CaCO3) | 2013/07/04 | <1.0 | | mg/L | |
| | RPD [RZ5127-01] | Alkalinity (Total as CaCO3) | 2013/07/04 | 0.6 | | % | 25 |
| 3268202 SAU | QC Standard | Conductivity | 2013/07/04 | | 101 | % | 85 - 115 |
| | Method Blank | Conductivity | 2013/07/04 | <1.0 | | umho/cm | |
| | RPD [RZ5127-01] | Conductivity | 2013/07/04 | 2.1 | | % | 25 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method

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accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) Sulphide: The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

Validation Signature Page

Maxxam Job #: B398933

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.