



Nunavut - Community & Government Services  
- Rankin Inlet  
ATTN: SIMEONI TATTY / HUGH IKOE  
PO Box 490  
Rankin Inlet NU X0C 0G0

Date Received: 26-JUL-13  
Report Date: 29-JUL-13 14:16 (MT)  
Version: FINAL

Client Phone: 867-645-8166

## Certificate of Analysis

**Lab Work Order #:** L1338611  
**Project P.O. #:** NOT SUBMITTED  
**Job Reference:**  
**C of C Numbers:**  
**Legal Site Desc:**



Chantal Bouchard  
Account Manager

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ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721  
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

## ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                                                                                                                                                    | Result | Qualifier* | D.L.   | Units                  | Extracted | Analyzed               | Batch                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------|--------|------------------------|-----------|------------------------|----------------------|
| L1338611-1 TRUCK 77<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 10:55<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli                        | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-2 TRUCK 48<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 11:40<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli                        | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-3 TRUCK 52<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 11:45<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli                        | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-4 TRUCK 46<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 13:30<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli                        | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-5 WATER TREATMENT PLANT - TREATED<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 13:05<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-6 WATER TREATMENT PLANT - RAW<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 13:05<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli     | 1<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-7 MTC ELDERS CENTER<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 13:35<br>Matrix: water<br><br><b>Total Coliform and E.coli</b><br>Total Coliforms<br>Escherichia Coli               | 0<br>0 |            | 0<br>0 | MPN/100mL<br>MPN/100mL |           | 26-JUL-13<br>26-JUL-13 | R2657425<br>R2657425 |
| L1338611-8 MTC ELDERS CENTER<br>Sampled By: MIKE FONTAINE on 25-JUL-13 @ 13:40<br>Matrix: water                                                                                              |        |            |        |                        |           |                        |                      |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

| Sample Details/Parameters        |                                    | Result | Qualifier* | D.L. | Units     | Extracted | Analyzed  | Batch    |
|----------------------------------|------------------------------------|--------|------------|------|-----------|-----------|-----------|----------|
| L1338611-8                       | MTC ELDERS CENTER                  |        |            |      |           |           |           |          |
| Sampled By:                      | MIKE FONTAINE on 25-JUL-13 @ 13:40 |        |            |      |           |           |           |          |
| Matrix:                          | water                              |        |            |      |           |           |           |          |
| <b>Total Coliform and E.coli</b> |                                    |        |            |      |           |           |           |          |
| Total Coliforms                  |                                    | 0      |            | 0    | MPN/100mL |           | 26-JUL-13 | R2657425 |
| Escherichia Coli                 |                                    | 0      |            | 0    | MPN/100mL |           | 26-JUL-13 | R2657425 |
|                                  |                                    |        |            |      |           |           |           |          |

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

## Reference Information

### Test Method References:

| ALS Test Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Matrix | Test Description          | Method Reference** |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|--------------------|
| TC,EC-QT51-WP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Water  | Total Coliform and E.coli | APHA 9223          |
| The analysis of Total Coliform (TC) & Escherichia coli (EC) is processed by Quanti-tray (QT): Two substrates, ONPG for TC detection and MUG for EC detection are used. The substrates are added to the 100 ml sample dispensed into the 51 well tray. The tray is incubated at 35 Celcius for 24 hours. A colour reaction develops to indicate a positive reaction (presence of TC, EC). The number of positive wells are counted and converted to Most Probable Number Units (MPNU) per 100 ml. This test is also called 'rapid MPN method', therefore, the MPN results are derived from a statistical table with a 95% confidence and report as MPN units. The QT detection limit for a negative result is reported as zero. |        |                           |                    |
| TC,EC-QT51-WP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Water  | Total Coliform and E.coli | APHA 9223 QT       |
| The analysis of Total Coliform (TC) & Escherichia coli (EC) is processed by Quanti-tray (QT): Two substrates, ONPG for TC detection and MUG for EC detection are used. The substrates are added to the 100 ml sample dispensed into the 51 well tray. The tray is incubated at 35 Celcius for 24 hours. A colour reaction develops to indicate a positive reaction (presence of TC, EC). The number of positive wells are counted and converted to Most Probable Number Units (MPNU) per 100 ml. This test is also called 'rapid MPN method', therefore, the MPN results are derived from a statistical table with a 95% confidence and report as MPN units. The QT detection limit for a negative result is reported as zero. |        |                           |                    |

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

| Laboratory Definition Code | Laboratory Location                            |
|----------------------------|------------------------------------------------|
| WP                         | ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA |

### Chain of Custody Numbers:

### GLOSSARY OF REPORT TERMS

*Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.*

*mg/kg - milligrams per kilogram based on dry weight of sample*

*mg/kg ww - milligrams per kilogram based on wet weight of sample*

*mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight*

*mg/L - unit of concentration based on volume, parts per million.*

*< - Less than.*

*D.L. - The reporting limit.*

*N/A - Result not available. Refer to qualifier code and definition for explanation.*

*Test results reported relate only to the samples as received by the laboratory.*

*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*

*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*

The above results relate only to the sample tested. This water sample was only tested for the presence of both Total Coliform and *E. coli* bacterial indicators of contamination by using membrane filtration.

The above results relate only to the sample tested. This water sample was only tested for the presence of both Total Coliform and *E. coli* bacterial indicators of contamination by using membrane filtration.

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|                                                                                                                                                           |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------|---------|----------------------|-----------------------------------------------|
| <b>Report To</b>                                                                                                                                          |                                                                       | <b>Re:</b> L1338611-COFC                                                                                                                        |                 | <b>Service Requested</b> (Rush for routine analysis subject to availability)                    |         |                      |                                               |
| Company: Nunavut Community & Gov't Services (W8133)                                                                                                       |                                                                       | <input checked="" type="checkbox"/> PDF <input type="checkbox"/> Excel <input type="checkbox"/> Digital <input checked="" type="checkbox"/> Fax |                 | <input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)            |         |                      |                                               |
| Contact: Simeoni Tatty/Hugh Ikoe                                                                                                                          |                                                                       | Email 1: statty@gov.nu.ca                                                                                                                       |                 | <input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT |         |                      |                                               |
| Address: PO Box 490<br>Rankin Inlet, NU, X0C 0G0                                                                                                          |                                                                       | Email 2:                                                                                                                                        |                 | <input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT   |         |                      |                                               |
| Phone: 867-645-8166 Fax:                                                                                                                                  |                                                                       | Email 3:                                                                                                                                        |                 | <input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT                |         |                      |                                               |
| Invoice To Rankin Inlet <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                          |                                                                       | Client / Project Information                                                                                                                    |                 | Analysis Request                                                                                |         |                      |                                               |
| Hardcopy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                 |                                                                       | Job #:                                                                                                                                          |                 | Please indicate below Filtered, Preserved or both (F, P, F/P)                                   |         |                      |                                               |
| Company: (W8133) Gov of Nun                                                                                                                               |                                                                       | PO / AFE:                                                                                                                                       |                 | TC, EC, QT51-WP                                                                                 |         | Number of Containers |                                               |
| Contact: Lexie Morling / Simeoni Tatty                                                                                                                    |                                                                       | LSD:                                                                                                                                            |                 |                                                                                                 |         |                      |                                               |
| Address: Rankin                                                                                                                                           |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| Phone: 645 8166                                                                                                                                           |                                                                       | Quote #:                                                                                                                                        |                 |                                                                                                 |         |                      |                                               |
| Lab Work Order # (lab use only)                                                                                                                           |                                                                       | ALS Contact:                                                                                                                                    |                 | Sampler: Mike Fontaine                                                                          |         |                      |                                               |
| Sample #                                                                                                                                                  | Sample Identification<br>(This description will appear on the report) | Date<br>(dd-mm-yy)                                                                                                                              | Time<br>(hh:mm) | Sample Type                                                                                     |         |                      |                                               |
| 1                                                                                                                                                         | TRUCK 77                                                              | 25/07/13                                                                                                                                        | 10:55           | water                                                                                           |         |                      |                                               |
| 2                                                                                                                                                         | TRUCK 48                                                              | 25/07/13                                                                                                                                        | 11:40           | water                                                                                           |         |                      |                                               |
| 3                                                                                                                                                         | TRUCK 52                                                              | 25/07/13                                                                                                                                        | 11:45           | water                                                                                           |         |                      |                                               |
| 4                                                                                                                                                         | TRUCK 46                                                              | 25/07/13                                                                                                                                        | 13:30           | water                                                                                           |         |                      |                                               |
| 5                                                                                                                                                         | Water Treatment Plant                                                 | 25/07/13                                                                                                                                        | 13:05           | TREATED WATER                                                                                   |         |                      |                                               |
| 6                                                                                                                                                         | " " "                                                                 | 25/07/13                                                                                                                                        | 13:05           | RAW WATER                                                                                       |         |                      |                                               |
| 7                                                                                                                                                         | HEALTH CENTRE                                                         | 25/07/13                                                                                                                                        | 13:35           | WATER                                                                                           |         |                      |                                               |
| 8                                                                                                                                                         | MTC ELDERS CENTRE                                                     | 25/07/13                                                                                                                                        | 13:40           | WATER                                                                                           |         |                      |                                               |
| Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| ALL TREATED SAMPLES EXCEPT RAW WATER                                                                                                                      |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.                                                       |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.                               |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / holding time table for common analyses.           |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      |                                               |
| SHIPMENT RELEASE (client use)                                                                                                                             |                                                                       | SHIPMENT RECEPTION (lab use only)                                                                                                               |                 | SHIPMENT VERIFICATION (lab use only)                                                            |         |                      |                                               |
| Released by:                                                                                                                                              | Date (dd-mm-yy)                                                       | Time (hh-mm)                                                                                                                                    | Received by:    | Date:                                                                                           | Time:   | Temperature:         | Verified by:                                  |
|                                                                                                                                                           |                                                                       |                                                                                                                                                 | 11              | 26/07/13                                                                                        | 12:25pm | 10 °C                |                                               |
|                                                                                                                                                           |                                                                       |                                                                                                                                                 |                 |                                                                                                 |         |                      | Observations:<br>Yes / No ?<br>If Yes add SIF |

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