

## Appendix F: Curling System Brine Analysis Reports

RUSH  YES  NO


		ROCHESTER MIDLAND CANADA CORP 143 Mills Road, Ajax, ON L1S 2H2 Tel: 905-619-6738 Fax: 905-619-8693 <a href="http://www.rochestermidland.com">www.rochestermidland.com</a>	
CUSTOMER: <u>CIMCO – Calgary</u> LOCATION ID: <u>S7180</u>		SALES REP: <span style="background-color: #cccccc; display: inline-block; width: 80px; height: 15px;"></span> CC: <span style="background-color: #cccccc; display: inline-block; width: 80px; height: 15px;"></span> <a href="mailto:">@toromont.com</a> <span style="background-color: #cccccc; display: inline-block; width: 80px; height: 15px;"></span> <a href="mailto:">@toromont.com</a> <span style="background-color: #cccccc; display: inline-block; width: 80px; height: 15px;"></span> <a href="mailto:">@toromont.com</a>	
LOG #: <u>L1712651</u> PRODUCT USED: <u>Brinehib</u>		PO #: <u>4500838958</u> JOB #:	
SAMPLE LABELED: <u>Femie Curling Club</u> 961 16 <sup>th</sup> Ave Femie, BC COLD BRINE DATE SAMPLED: <u>Aug 4, 2017</u>		<b>RML BRINE ANALYSIS</b>	
ANALYSIS	TEST RESULTS	RECOMMENDED CONTROL RANGES	
TOTAL IRON as Fe ppm	<b>61.5</b>	< 10 ppm	
TOTAL SUSPENDED SOLIDS ppm	166	< 1000 ppm	
SPECIFIC GRAVITY @ 20°C	1.191	1.20 – 1.22	
FREEZING POINT °F	- 5.8	-5.5°F to -11.6°F°	
CALCIUM CHLORIDE %	21.6	21.5% to 23.3%	
pH	10.02	9.0 – 10.0 Brinehib 8.5 – 9.5 Chromate	
COLOUR/CLARITY	AMBER	Clear	
AMMONIA as NH <sub>3</sub> ppm	<b>*1830</b>	Nil	
BRINEHIB ppm	<b>315</b>	4,000 – 5,000 ppm	
CHROMATE as CrO <sub>4</sub> ppm	NIL	1600 ppm Chromate	
COMMENTS and RECOMMENDATION - Very similar results to the June report. Brinehib reading is low. Please add 2 PAILS of Brinehib per 1000 gallons of system capacity. Please ensure good filtration on this system as iron readings are very high. **A significant amount of ammonia was detected in this sample. Please check for possible refrigerant leakage.			
Thank you			
DATE: August 29, 2017		ANALYZED BY: <span style="background-color: #cccccc; display: inline-block; width: 80px; height: 15px;"></span>	

Figure F-1: Brine Analysis Report for Curling System, August 29, 2017.

RUSH  YES  NO



ROCHESTER MIDLAND CANADA CORP  
 143 Mills Road, Ajax, ON L1S 2H2  
 Tel: 905-619-6738 Fax: 905-619-8693  
[www.rochestermidland.com](http://www.rochestermidland.com)

CUSTOMER: CIMCO – Calgary SALES REP: [REDACTED]  
 LOCATION ID : S7180 CC: [REDACTED] @toromont.com  
 [REDACTED] @toromont.com  
 [REDACTED] @toromont.com  
 LOG #: L1711926 PO #: 4500820314  
 PRODUCT USED: Brinehib JOB #:

SAMPLE LABELED: Fernie Curling Club  
 961 16<sup>th</sup> Ave Fernie, BC  
 COLD BRINE  
 DATE SAMPLED: May 11, 2017

**RML  
 BRINE ANALYSIS**

ANALYSIS	TEST RESULTS	RECOMMENDED CONTROL RANGES
TOTAL IRON as Fe ppm	31	< 10 ppm
TOTAL SUSPENDED SOLIDS ppm	384	< 1000 ppm
SPECIFIC GRAVITY @ 20°C	1.195	1.20 – 1.22
FREEZING POINT °F	- 5.5	-5.5°F to -11.6°F
CALCIUM CHLORIDE %	21.5	21.5% to 23.3%
pH	10.08	9.0 – 10.0 Brinehib 8.5 – 9.5 Chromate
COLOUR/CLARITY	AMBER	Clear
AMMONIA as NH <sub>3</sub> ppm	*3320	Nil
BRINEHIB ppm	220	4,000 – 5,000 ppm
CHROMATE as CrO <sub>4</sub> ppm	NIL	1600 ppm Chromate

COMMENTS and RECOMMENDATION  
 Brinehib reading is low. Please add 2 PAILS of Brinehib per 1000 gallons of system capacity. Please ensure good filtration on this system as iron readings are very high.  
 \*\*A significant amount of ammonia was detected in this sample. Please check for possible refrigerant leakage.

Thank you

DATE: June 6, 2017

ANALYZED BY: [REDACTED]

**Figure F-2: Brine Analysis Report for Curling System, June 6, 2017**

RUSH  YES  NO



ROCHESTER MIDLAND LIMITED  
 143 Mills Road, Ajax, ON L1S 2H2  
 Tel: 905-619-6738 Fax: 905-619-8693  
[www.rochestermidland.com](http://www.rochestermidland.com)

CUSTOMER: CIMCO – Calgary  
 LOCATION ID : S7180

SALES REP: [REDACTED]  
 CC: [REDACTED] [@toromont.com](mailto:[REDACTED]@toromont.com)  
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 [REDACTED] [@toromont.com](mailto:[REDACTED]@toromont.com)

LOG #: L1610315  
 PRODUCT USED: Brinehib

PO #: 4500735683  
 JOB #:

SAMPLE LABELED: Fernie Curling Club  
 961 16<sup>th</sup> Ave Fernie, BC  
 COLD BRINE  
 DATE SAMPLED: Jan 18, 2016

**RML  
 BRINE ANALYSIS**

ANALYSIS	TEST RESULTS	RECOMMENDED CONTROL RANGES
TOTAL IRON as Fe ppm	<b>108</b>	< 10 ppm
TOTAL SUSPENDED SOLIDS ppm	588	< 1000 ppm
SPECIFIC GRAVITY @ 20°C	1.193	1.20 – 1.22
FREEZING POINT °F	- 5.5	-5.5°F to -11.6°F
CALCIUM CHLORIDE %	21.5	21.5% to 23.3%
pH	8.68	9.0 – 10.0 Brinehib 8.5 – 9.5 Chromate
COLOUR/CLARITY	AMBER	Clear
AMMONIA as NH <sub>3</sub> ppm	NIL	Nil
BRINEHIB ppm	<b>298</b>	4,000 – 5,000 ppm
CHROMATE as CrO <sub>4</sub> ppm	NIL	1600 ppm Chromate

**COMMENTS and RECOMMENDATION**  
 Brinehib reading is low. Please add 2 PAILS of Brinehib per 1000 gallons of system capacity. Please ensure good filtration on this system as iron readings are very high.  
 All other readings are acceptable at time of testing.

Thank you

DATE: Feb. 16, 2016

ANALYZED BY: [REDACTED]

**Figure F-3: Brine Analysis Report for Curling System, February 16, 2016.**