

Your C.O.C. #: n/a

Attention: Marcus Pfeil

Savarin Springs Inc
1575 Strasburg Rd
Kitchener, ON
N2R 1K2

Report Date: 2018/01/04

Report #: R4928364

Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B7P0055

Received: 2017/11/07, 17:45

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Alkalinity	3	N/A	2017/11/10	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2017/11/13	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	3	N/A	2017/11/13	CAM SOP-00463	EPA 325.2 m
Conductivity	3	N/A	2017/11/10	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2017/11/09	CAM SOP-00446	SM 22 5310 B m
Hardness (calculated as CaCO3)	3	N/A	2017/11/14	CAM SOP 00102/00408/00447	SM 2340 B
Metals Analysis by ICPMS (as received) (2)	3	N/A	2017/11/14	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	3	N/A	2017/11/14		
Anion and Cation Sum	3	N/A	2017/11/14		
Heterotrophic plate count, (CFU/mL)	3	N/A	2017/11/08	CAM SOP-00512	SM 9215B
Total Ammonia-N	3	N/A	2017/11/15	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	2	N/A	2017/11/11	CAM SOP-00440	SM 22 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (3)	1	N/A	2017/11/13	CAM SOP-00440	SM 22 4500-NO3I/NO2B
pH	3	N/A	2017/11/10	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	3	N/A	2017/11/13	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	3	N/A	2017/11/14		
Sat. pH and Langelier Index (@ 4C)	3	N/A	2017/11/14		
Sulphate by Automated Colourimetry	3	N/A	2017/11/13	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	3	N/A	2017/11/14		

Remarks:

Scope Statement:

The analysis detailed in this document is intended to assist you, the Client, in your efforts and responsibility to produce safe food. The analysis may be for contaminants or adulterants that are known to be or may potentially be harmful, or that may impact on the quality or desired characteristics of the product. The results are representative of the samples at the time and condition of submission, and as determined by the indicated method(s). Any inference as to their applicability to any particular product, production lot, intermediate, ingredient or facility should be made by an individual with relevant expertise, based on an understanding of the product and the suitability of the sampling protocol.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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- (1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
- (2) Metals analysis was performed on the sample 'as received'.
- (3) 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.

Jared Bowers, Customer Service Representative

Email: JBowers@maxxam.ca

Phone# (905)817-5834

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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.

RESULTS OF ANALYSES OF WATER

Maxxam ID		FMU029	FMU030	FMU031	
Sampling Date					
COC Number		n/a	n/a	n/a	
	UNITS	RO WATER	DISTILLED WATER	SPRING WATER	RDL
Anion Sum	me/L	0.134	0.000	4.95	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	4.1	ND	220	1.0
Calculated TDS	mg/L	8.0	ND	250	1.0
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	ND	3.0	1.0
Cation Sum	me/L	0.132	0.00600	4.82	N/A
Hardness (CaCO3)	mg/L	ND	ND	230	1.0
Ion Balance (% Difference)	%	NC	NC	1.38	N/A
Langelier Index (@ 20C)	N/A	NC	NC	0.845	N/A
Langelier Index (@ 4C)	N/A	NC	NC	0.596	N/A
Saturation pH (@ 20C)	N/A	NC	NC	7.31	N/A
Saturation pH (@ 4C)	N/A	NC	NC	7.56	N/A
Ammonia-N	mg/L	ND	ND	ND	0.050
Conductivity	umho/cm	17	3.2	440	1.0
Organic Carbon	mg/L	ND	ND	ND	0.50
Orthophosphate (P)	mg/L	ND	ND	ND	0.010
pH	pH	6.64	6.00	8.16	N/A
Sulphate (SO4)	mg/L	ND	ND	19	1.0
Alkalinity (Total as CaCO3)	mg/L	4.1	ND	220	1.0
Chloride (Cl)	mg/L	1.8	ND	2.4	1.0
Nitrite (N)	mg/L	ND	ND	ND	0.010
Nitrate (N)	mg/L	ND	ND	ND	0.10
RDL = Reportable Detection Limit N/A = Not Applicable ND = Not detected					

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FMU029	FMU030	FMU031	
Sampling Date					
COC Number		n/a	n/a	n/a	
	UNITS	RO WATER	DISTILLED WATER	SPRING WATER	RDL
Aluminum (Al)	ug/L	ND	ND	ND	5.0
Antimony (Sb)	ug/L	ND	ND	ND	0.50
Arsenic (As)	ug/L	ND	ND	ND	1.0
Barium (Ba)	ug/L	ND	ND	280	2.0
Beryllium (Be)	ug/L	ND	ND	ND	0.50
Boron (B)	ug/L	25	ND	16	10
Cadmium (Cd)	ug/L	ND	ND	ND	0.10
Calcium (Ca)	ug/L	ND	ND	55000	200
Chromium (Cr)	ug/L	ND	ND	ND	5.0
Cobalt (Co)	ug/L	ND	ND	ND	0.50
Copper (Cu)	ug/L	ND	3.0	ND	1.0
Iron (Fe)	ug/L	ND	ND	ND	100
Lead (Pb)	ug/L	ND	ND	ND	0.50
Magnesium (Mg)	ug/L	ND	ND	23000	50
Manganese (Mn)	ug/L	ND	ND	2.6	2.0
Molybdenum (Mo)	ug/L	ND	ND	1.7	0.50
Nickel (Ni)	ug/L	ND	ND	ND	1.0
Phosphorus (P)	ug/L	ND	ND	ND	100
Potassium (K)	ug/L	ND	ND	940	200
Selenium (Se)	ug/L	ND	ND	ND	2.0
Silicon (Si)	ug/L	520	ND	3300	50
Silver (Ag)	ug/L	ND	ND	ND	0.10
Sodium (Na)	ug/L	3000	120	2900	100
Strontium (Sr)	ug/L	1.3	1.8	990	1.0
Thallium (Tl)	ug/L	ND	ND	ND	0.050
Titanium (Ti)	ug/L	ND	ND	ND	5.0
Uranium (U)	ug/L	ND	ND	0.52	0.10
Vanadium (V)	ug/L	ND	ND	ND	0.50
Zinc (Zn)	ug/L	ND	ND	ND	5.0
RDL = Reportable Detection Limit					
ND = Not detected					

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MICROBIOLOGY (WATER)

Maxxam ID		FMU029	FMU030	FMU031
Sampling Date				
COC Number		n/a	n/a	n/a
	UNITS	RO WATER	DISTILLED WATER	SPRING WATER
Heterotrophic plate count	CFU/mL	0	0	0

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GENERAL COMMENTS

Results relate only to the items tested.

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VALIDATION SIGNATURE PAGE

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

Ewa P.


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

Vimukthi

Vimukthi Gunawardhan, Team Lead - Food

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