



CERTIFICATE OF ANALYSIS

REPORTED TO	Parksville, City of 100 Jensen Avenue East Parksville, BC V9P 2H3	WORK ORDER	0011819
ATTENTION	Barbara Silenieks	RECEIVED / TEMP REPORTED	2020-01-28 08:45 / 10°C 2020-02-04 15:28
PO NUMBER	3695	COC NUMBER	B83492
PROJECT	361341 - THM Quarterly (Island Health)		
PROJECT INFO			

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

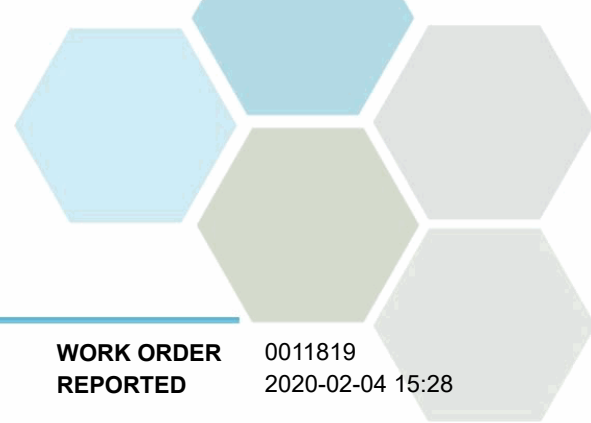
If you have any questions or concerns, please contact me at rsundar@caro.ca

Authorized By:

Rochita Sundar
Junior Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7



TEST RESULTS

REPORTED TO PROJECT Parksville, City of
361341 - THM Quarterly (Island Health)

WORK ORDER REPORTED 0011819
2020-02-04 15:28

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
Community Park (0011819-01) Matrix: Water Sampled: 2020-01-27 09:10					
<i>Calculated Parameters</i>					
Total Trihalomethanes	0.0450		0.00400 mg/L	N/A	
<i>Volatile Organic Compounds (VOC)</i>					
Bromodichloromethane	0.0061		0.0010 mg/L	2020-02-04	
Bromoform	< 0.0010		0.0010 mg/L	2020-02-04	
Chloroform	0.0366		0.0010 mg/L	2020-02-04	
Dibromochloromethane	0.0024		0.0010 mg/L	2020-02-04	
Surrogate: Toluene-d8	87		70-130 %	2020-02-04	
Surrogate: 4-Bromofluorobenzene	97		70-130 %	2020-02-04	

Temple (0011819-02) | Matrix: Water | Sampled: 2020-01-27 09:20

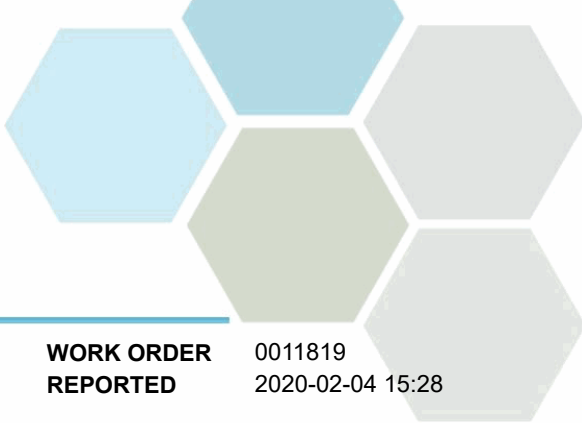
<i>Calculated Parameters</i>					
Total Trihalomethanes	0.0120		0.00400 mg/L	N/A	
<i>Volatile Organic Compounds (VOC)</i>					
Bromodichloromethane	0.0030		0.0010 mg/L	2020-02-04	
Bromoform	0.0015		0.0010 mg/L	2020-02-04	
Chloroform	0.0033		0.0010 mg/L	2020-02-04	
Dibromochloromethane	0.0042		0.0010 mg/L	2020-02-04	
Surrogate: Toluene-d8	86		70-130 %	2020-02-04	
Surrogate: 4-Bromofluorobenzene	96		70-130 %	2020-02-04	

Ermineskin (0011819-03) | Matrix: Water | Sampled: 2020-01-27 09:30

<i>Calculated Parameters</i>					
Total Trihalomethanes	0.00797		0.00400 mg/L	N/A	
<i>Volatile Organic Compounds (VOC)</i>					
Bromodichloromethane	0.0017		0.0010 mg/L	2020-02-04	
Bromoform	0.0017		0.0010 mg/L	2020-02-04	
Chloroform	0.0016		0.0010 mg/L	2020-02-04	
Dibromochloromethane	0.0030		0.0010 mg/L	2020-02-04	
Surrogate: Toluene-d8	86		70-130 %	2020-02-04	
Surrogate: 4-Bromofluorobenzene	96		70-130 %	2020-02-04	

Public Works (0011819-04) | Matrix: Water | Sampled: 2020-01-27 09:45

<i>Calculated Parameters</i>					
Total Trihalomethanes	0.0339		0.00400 mg/L	N/A	
<i>Volatile Organic Compounds (VOC)</i>					
Bromodichloromethane	0.0035		0.0010 mg/L	2020-02-04	

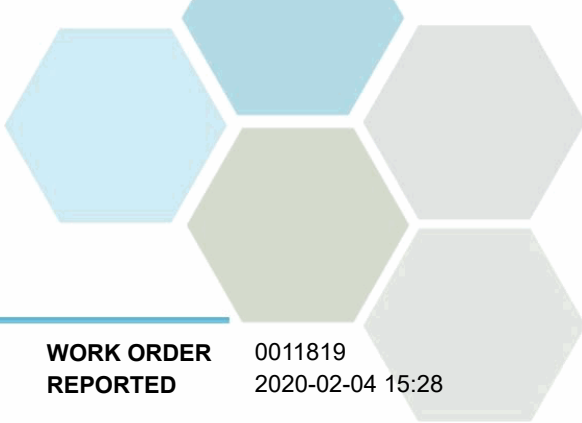


TEST RESULTS

REPORTED TO PROJECT Parksville, City of
361341 - THM Quarterly (Island Health)

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2020-02-04 15:28

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Public Works (0011819-04) Matrix: Water Sampled: 2020-01-27 09:45, Continued						
<i>Volatile Organic Compounds (VOC), Continued</i>						
Bromoform	< 0.0010		0.0010	mg/L	2020-02-04	
Chloroform	0.0276		0.0010	mg/L	2020-02-04	
Dibromochloromethane	0.0029		0.0010	mg/L	2020-02-04	
<i>Surrogate: Toluene-d8</i>	87		70-130	%	2020-02-04	
<i>Surrogate: 4-Bromofluorobenzene</i>	97		70-130	%	2020-02-04	



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Parksville, City of
361341 - THM Quarterly (Island Health)

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Analysis Description	Method Ref.	Technique	Location
Trihalomethanes in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	Richmond

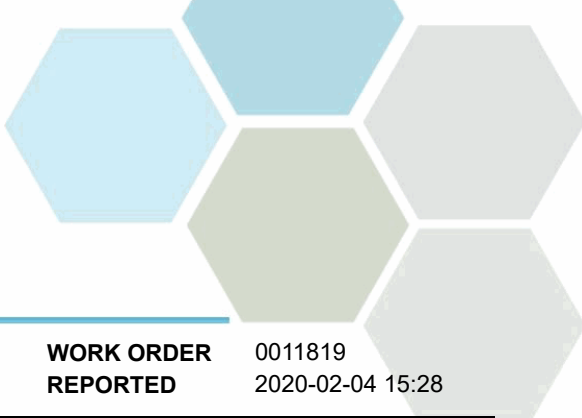
Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
EPA	United States Environmental Protection Agency Test Methods

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: rsundar@caro.ca



APPENDIX 2: QUALITY CONTROL RESULTS

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2020-02-04 15:28

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Volatile Organic Compounds (VOC), Batch B0B0105

Blank (B0B0105-BLK1)			Prepared: 2020-02-03, Analyzed: 2020-02-04						
Bromodichloromethane	< 0.0010	0.0010 mg/L							
Bromoform	< 0.0010	0.0010 mg/L							
Chloroform	< 0.0010	0.0010 mg/L							
Dibromochloromethane	< 0.0010	0.0010 mg/L							
Surrogate: Toluene-d8	0.0232	mg/L	0.0265		87	70-130			
Surrogate: 4-Bromofluorobenzene	0.0242	mg/L	0.0250		97	70-130			
LCS (B0B0105-BS1)			Prepared: 2020-02-03, Analyzed: 2020-02-04						
Bromodichloromethane	0.0218	0.0010 mg/L	0.0201		108	70-130			
Bromoform	0.0202	0.0010 mg/L	0.0201		101	70-130			
Chloroform	0.0220	0.0010 mg/L	0.0201		109	70-130			
Dibromochloromethane	0.0218	0.0010 mg/L	0.0202		108	70-130			
Surrogate: Toluene-d8	0.0207	mg/L	0.0265		78	70-130			
Surrogate: 4-Bromofluorobenzene	0.0282	mg/L	0.0250		113	70-130			

