

REPORTED TO	Parksville, City of P O Box 1390, 100 Jensen Avenue East Parksville, BC V9P 2H3	TEL	(250) 951-2489
		FAX	
ATTENTION	Barbara Silenieks	WORK ORDER	7102772
PO NUMBER	002791	RECEIVED / TEMP	2017-10-31 08:30 / 9°C
PROJECT	361341 - THM Quarterly (Island Health)	REPORTED	2017-11-06
PROJECT INFO		COC NUMBER	B52877

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition 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.



Authorized By:

Helen Maleki, Dipl T
Client Service Representative

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

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100

www.caro.ca

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

WORK ORDER REPORTED 7102772
2017-11-06

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

Method Reference Descriptions:

EPA United States Environmental Protection Agency Test Methods

Glossary of Terms:

MRL Method Reporting Limit
 < Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
 mg/L Milligrams per litre

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361341 - THM Quarterly (Island Health)

WORK ORDER REPORTED 7102772
2017-11-06

Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Community Park (7102772-01) [Water] Sampled: 2017-10-30 10:30

<i>Calculated Parameters</i>							
Total Trihalomethanes	0.0132	N/A	0.00400	mg/L	N/A	N/A	
<i>Volatile Organic Compounds (VOC)</i>							
Bromodichloromethane	0.0036	N/A	0.0010	mg/L	N/A	2017-11-03	
Bromoform	0.0018	N/A	0.0010	mg/L	N/A	2017-11-03	
Chloroform	0.0034	N/A	0.0010	mg/L	N/A	2017-11-03	
Dibromochloromethane	0.0044	N/A	0.0010	mg/L	N/A	2017-11-03	
Surrogate: Toluene-d8	100		70-130	%	N/A	2017-11-03	
Surrogate: 4-Bromofluorobenzene	88		70-130	%	N/A	2017-11-03	

Sample ID: Temple (7102772-02) [Water] Sampled: 2017-10-30 10:40

<i>Calculated Parameters</i>							
Total Trihalomethanes	0.00527	N/A	0.00400	mg/L	N/A	N/A	
<i>Volatile Organic Compounds (VOC)</i>							
Bromodichloromethane	0.0014	N/A	0.0010	mg/L	N/A	2017-11-03	
Bromoform	0.0014	N/A	0.0010	mg/L	N/A	2017-11-03	
Chloroform	< 0.0010	N/A	0.0010	mg/L	N/A	2017-11-03	
Dibromochloromethane	0.0026	N/A	0.0010	mg/L	N/A	2017-11-03	
Surrogate: Toluene-d8	98		70-130	%	N/A	2017-11-03	
Surrogate: 4-Bromofluorobenzene	89		70-130	%	N/A	2017-11-03	

Sample ID: Ermineskin (7102772-03) [Water] Sampled: 2017-10-30 10:50

<i>Calculated Parameters</i>							
Total Trihalomethanes	< 0.00400	N/A	0.00400	mg/L	N/A	N/A	
<i>Volatile Organic Compounds (VOC)</i>							
Bromodichloromethane	< 0.0010	N/A	0.0010	mg/L	N/A	2017-11-03	
Bromoform	0.0011	N/A	0.0010	mg/L	N/A	2017-11-03	
Chloroform	< 0.0010	N/A	0.0010	mg/L	N/A	2017-11-03	
Dibromochloromethane	0.0018	N/A	0.0010	mg/L	N/A	2017-11-03	
Surrogate: Toluene-d8	100		70-130	%	N/A	2017-11-03	
Surrogate: 4-Bromofluorobenzene	89		70-130	%	N/A	2017-11-03	

Sample ID: PW 1116 Herring Gull (7102772-04) [Water] Sampled: 2017-10-30 11:00

<i>Calculated Parameters</i>							
Total Trihalomethanes	0.00973	N/A	0.00400	mg/L	N/A	N/A	
<i>Volatile Organic Compounds (VOC)</i>							
Bromodichloromethane	0.0024	N/A	0.0010	mg/L	N/A	2017-11-03	
Bromoform	0.0018	N/A	0.0010	mg/L	N/A	2017-11-03	
Chloroform	0.0018	N/A	0.0010	mg/L	N/A	2017-11-03	
Dibromochloromethane	0.0038	N/A	0.0010	mg/L	N/A	2017-11-03	
Surrogate: Toluene-d8	99		70-130	%	N/A	2017-11-03	
Surrogate: 4-Bromofluorobenzene	89		70-130	%	N/A	2017-11-03	

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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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PROJECT 361341 - THM Quarterly (Island Health)

WORK ORDER 7102772
REPORTED 2017-11-06

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):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are 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 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	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
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Volatiles Organic Compounds (VOC), Batch B7K0215

Blank (B7K0215-BLK1)

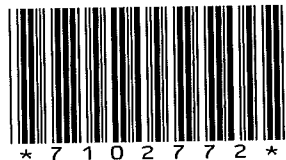
Prepared: 2017-11-03, Analyzed: 2017-11-03

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	0.0255	mg/L	0.0246		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0221	mg/L	0.0250		88	70-130			

LCS (B7K0215-BS1)

Prepared: 2017-11-03, Analyzed: 2017-11-03

Bromodichloromethane	0.0161	0.0010 mg/L	0.0200		80	70-130			
Bromoform	0.0174	0.0010 mg/L	0.0202		86	70-130			
Chloroform	0.0168	0.0010 mg/L	0.0202		83	70-130			
Dibromochloromethane	0.0166	0.0010 mg/L	0.0201		83	70-130			
Surrogate: Toluene-d8	0.0270	mg/L	0.0246		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.0245	mg/L	0.0250		98	70-130			



X 5C3

5S 1H7

TT TO

CHAIN OF CUSTODY RECORD COC# B 52877 PAGE OF

RELINQUISHED BY: <i>Barbara Sileniek</i>	DATE: <i>Oct 30</i> TIME: <i>11:20</i>	RECEIVED BY: <i>PURD TC</i>	DATE: <i>10/31</i> TIME: <i>8:30</i>
PROJECT: <i>THM</i>		PROJECT INFO:	

REPORT TO:
COMPANY: *City of Parksville*
ADDRESS: *1116 Herring Gull Way
Parksville, BC V91R2*
CONTACT: *Barb Sileniek*
TEL/FAX: *250 951-2489*
DELIVERY METHOD: EMAIL MAIL OTHER*
DATA FORMAT: EXCEL WATERTRAX ESdat
EQuis BC EMS OTHER*
EMAIL 1: *bsileniek@gmail.com*
EMAIL 2:
EMAIL 3:
PO #:

IN
COMPANY:
ADDRESS:
CONTACT:
TEL/FAX:
DELIVERY METHOD: EMAIL MAIL OTHER*
EMAIL 1:
EMAIL 2:
EMAIL 3:
PO #:

TURNAROUND TIME REQUESTED:
Routine: (5-7 Days)
Rush: 1 Day* 2 Day* 3 Day*
Other*
*Contact Lab To Confirm. Surcharge May Apply

REGULATORY APPLICATION:
Canadian Drinking Water Quality Guidelines Regs on Report?
BC Drinking Water Protection Act / Reg.
BC CSR AB TIER 1 CCME OTHER*
AL PL RL CL IL AW IW LW

** NEW ** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, check here:

SAMPLED BY: *B. Sileniek*

MATRIX: DRINKING WATER OTHER WATER SOIL OTHER
SAMPLING: DATE TIME
COMMENTS: (e.g. flow/volume media ID/notes)

CLIENT SAMPLE ID:	DRINKING WATER	OTHER WATER	SOIL	OTHER	# CONTAINERS	DATE	TIME	CHLORINATED	FILTERED	PRESERVED	COMMENTS
<i>Community Park</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<i>2 Oct 30 '17</i>	<i>10:30</i>				
<i>Temple St.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<i>2 Oct 30 '17</i>	<i>10:40</i>				
<i>Ermineskin</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<i>2 Oct 30 '17</i>	<i>10:50</i>				
<i>1116 Herring Gull</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<i>2 Oct 30 '17</i>	<i>11:00</i>				

ANALYSES REQUESTED:

BTEX <input type="checkbox"/>	VPH <input type="checkbox"/>	PHC F1 <input type="checkbox"/>	VOC <input type="checkbox"/>	VPH <input type="checkbox"/>	PHC F2-F4 <input type="checkbox"/>	PAH <input type="checkbox"/>	L/HEPH <input type="checkbox"/>	PHENOLS Chlorinated <input type="checkbox"/>	Non-Chlor. <input type="checkbox"/>	PCB <input type="checkbox"/>	GLYCOLS <input type="checkbox"/>	HAA <input type="checkbox"/>	PESTICIDES <input type="checkbox"/>	ACID HERBICIDES <input type="checkbox"/>	METALS - WATER TOTAL <input type="checkbox"/>	Hg <input type="checkbox"/>	METALS - WATER DISSOLVED <input type="checkbox"/>	Hg <input type="checkbox"/>	METALS - SOIL (SALM) <input type="checkbox"/>	inc. pH <input type="checkbox"/>	pH <input type="checkbox"/>	EC <input type="checkbox"/>	ALK <input type="checkbox"/>	TSS <input type="checkbox"/>	VSS <input type="checkbox"/>	TDS <input type="checkbox"/>	BOD <input type="checkbox"/>	COD <input type="checkbox"/>	TOG <input type="checkbox"/>	MOG <input type="checkbox"/>	FECAL COLIFORMS <input type="checkbox"/>	HPC <input type="checkbox"/>	TOTAL COLIFORMS <input type="checkbox"/>	E. coli <input type="checkbox"/>	ASBESTOS	<i>THM</i>	HOLD
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SHIPPING INSTRUCTIONS: Return Cooler(s)
Supplies Needed:

SAMPLE RETENTION INSTRUCTIONS (Discarded 30 days after Report unless otherwise specified):
60 Days 90 Days Longer Date (Surcharges will Apply):
*OTHER INSTRUCTIONS: *PO 002791*

PAYMENT:
CHEQUE
CREDIT
DEBIT
CASH
INVOICE

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): *8.8* ICE: Y N
COOLER 2 (°C): ICE: Y N
COOLER 3 (°C): ICE: Y N
CUSTODY SEALS INTACT: