

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	7060393
PO NUMBER	002541	RECEIVED / TEMP	2017-06-06 09:30 / 16°C
PROJECT	361341 - THM Quarterly (Island Health)	REPORTED	2017-06-07
PROJECT INFO		COC NUMBER	B42340

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:

Jeffery Lopes, B.Sc.
Account Manager

If you have any questions or concerns, please contact me at jlopes@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)

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2017-06-07

Analysis Description	Method Reference	Technique	Location
Trihalomethanes in Water	EPA 5030B / APHA 6200 B	Purge&Trap / Purge and Trap Capillary Column GC-MSD	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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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Temple (7060393-01) [Water] Sampled: 2017-06-05 09:25

Calculated Parameters							
Total Trihalomethanes	0.0145	N/A	0.00400	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.003	N/A	0.001	mg/L	N/A	2017-06-07	
Bromoform	0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Chloroform	0.008	N/A	0.001	mg/L	N/A	2017-06-07	
Dibromochloromethane	0.003	N/A	0.001	mg/L	N/A	2017-06-07	
Surrogate: Toluene-d8	114		70-130	%	N/A	2017-06-07	
Surrogate: 4-Bromofluorobenzene	101		70-130	%	N/A	2017-06-07	

Sample ID: PW 1116 Herring Gull (7060393-02) [Water] Sampled: 2017-06-05 10:00

Calculated Parameters							
Total Trihalomethanes	0.0181	N/A	0.00400	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Bromoform	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Chloroform	0.017	N/A	0.001	mg/L	N/A	2017-06-07	
Dibromochloromethane	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Surrogate: Toluene-d8	113		70-130	%	N/A	2017-06-07	
Surrogate: 4-Bromofluorobenzene	99		70-130	%	N/A	2017-06-07	

Sample ID: Ermineskin (7060393-03) [Water] Sampled: 2017-06-05 09:40

Calculated Parameters							
Total Trihalomethanes	< 0.00400	N/A	0.00400	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Bromoform	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Chloroform	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Dibromochloromethane	0.002	N/A	0.001	mg/L	N/A	2017-06-07	
Surrogate: Toluene-d8	113		70-130	%	N/A	2017-06-07	
Surrogate: 4-Bromofluorobenzene	101		70-130	%	N/A	2017-06-07	

Sample ID: Community Park (7060393-04) [Water] Sampled: 2017-06-05 09:10

Calculated Parameters							
Total Trihalomethanes	0.0170	N/A	0.00400	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Bromoform	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Chloroform	0.016	N/A	0.001	mg/L	N/A	2017-06-07	
Dibromochloromethane	< 0.001	N/A	0.001	mg/L	N/A	2017-06-07	
Surrogate: Toluene-d8	114		70-130	%	N/A	2017-06-07	
Surrogate: 4-Bromofluorobenzene	100		70-130	%	N/A	2017-06-07	

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Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
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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 B7F0439

Blank (B7F0439-BLK1)

Prepared: 2017-06-07, Analyzed: 2017-06-07

Bromodichloromethane	< 0.001	0.001 mg/L							
Bromoform	< 0.001	0.001 mg/L							
Chloroform	< 0.001	0.001 mg/L							
Dibromochloromethane	< 0.001	0.001 mg/L							
Surrogate: Toluene-d8	0.0271	mg/L	0.0250		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.0250	mg/L	0.0250		100	70-130			

LCS (B7F0439-BS1)

Prepared: 2017-06-06, Analyzed: 2017-06-06

Bromodichloromethane	0.017	0.001 mg/L	0.0200		86	70-130			
Bromoform	0.016	0.001 mg/L	0.0200		78	70-130			
Chloroform	0.018	0.001 mg/L	0.0200		92	70-130			
Dibromochloromethane	0.016	0.001 mg/L	0.0200		80	70-130			
Surrogate: Toluene-d8	0.0264	mg/L	0.0250		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0246	mg/L	0.0250		98	70-130			

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CHAIN OF CUSTODY RECORD

COC# **B 42340** PAGE **OF**

RELINQUISHED BY: Bob Sileniaks	DATE: Jun 5	RECEIVED BY: PORO TC	DATE: 06/06
PROJECT: THM	TIME: 10:30	PROJECT INFO:	TIME: 9:30

REPORT TO:
COMPANY: **City of Parksville**
ADDRESS: **1116 Herring Gull Way**
CONTACT:
TEL/FAX:
DELIVERY METHOD: EMAIL MAIL OTHER*
DATA FORMAT: EXCEL WATERTRAX ESdat
EQUIS BC EMS OTHER*
EMAIL 1: **bsileniaks@parksville.ca**
EMAIL 2:
EMAIL 3:

INVOICE TO: SAME AS REPORT TO
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

ANALYSES REQUESTED:

SAMPLED BY: **Bob Sileniaks**

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

BTEX <input type="checkbox"/>	VPH <input type="checkbox"/>	PHCF1 <input type="checkbox"/>	VOC <input type="checkbox"/>	VPH <input type="checkbox"/>	PHCF2-F4 <input type="checkbox"/>	PAH <input type="checkbox"/>	L/HEPH <input type="checkbox"/>	PHENOLS Chlorinated <input type="checkbox"/>	Non-Chlor. <input type="checkbox"/>	HAA <input type="checkbox"/>	PCB <input type="checkbox"/>	GLYCOLS <input type="checkbox"/>	HAA <input type="checkbox"/>	PESTICIDES <input type="checkbox"/>	ACID HERBICIDES <input type="checkbox"/>	Hg <input type="checkbox"/>	METALS - WATER TOTAL <input type="checkbox"/>	Hg <input type="checkbox"/>	METALS - WATER DISSOLVED <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	THM	HOLD					

CLIENT SAMPLE ID:	DRINKING WATER	OTHER WATER	SOIL	OTHER	# CONTAINERS	DATE	TIME	CHLORINATED	FILTERED	PRESERVED	COMMENTS
Temple	<input checked="" type="checkbox"/>				2	Jun/5/17	9:25	<input checked="" type="checkbox"/>			
RW 1116 Herring Gull	<input checked="" type="checkbox"/>				2	Jun/5/17	10:00	<input checked="" type="checkbox"/>			
Gomineskin	<input checked="" type="checkbox"/>				2	Jun/5/17	9:40	<input checked="" type="checkbox"/>			
Community Park	<input checked="" type="checkbox"/>				2	Jun/5/17	9:10	<input checked="" type="checkbox"/>			

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:**

PAYMENT:
CHEQUE
CREDIT
DEBIT
CASH
INVOICE

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): **15.5** ICE: Y N
COOLER 2 (°C): ICE: Y N
COOLER 3 (°C): ICE: Y N
CUSTODY SEALS INTACT: