

CERTIFICATE OF ANALYSIS

REPORTED TO	Parksville, City of P O Box 1390, 100 Jensen Avenue East Parksville, BC V9P 2H3	TEL FAX	(250) 951-2489
ATTENTION	Barbara Silenieks	WORK ORDER	7021147
PO NUMBER PROJECT PROJECT INFO	2455 361341 - THM Quarterly (Island Health)	RECEIVED / TEMP REPORTED	2017-02-21 09:20 / 7°C 2017-02-27

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.

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Authorized By:

Jeffery Lopes, B.Sc. Account Manager

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

Locations:

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ANALYSIS INFORMATION

REPORTED TO Parksville, City of PROJECT 361341 - THM Quarterly (Island Health)			7021147 2017-02-27		
Analysis Descri	otion	Method Reference	Technique		Location
Trihalomethanes in	n Water	EPA 5030B / APHA 6200 B	Purge&Trap / Purge and Trap Capillary (GC-MSD	Column	Richmond
Method Referen	ce Descriptions:				
EPA	United States Env	vironmental Protection Agency	Test Methods		
Glossary of Terr	ns:				
MRL	Method Reporting	g 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	е			



SAMPLE ANALYTICAL DATA

REPORTED TO PROJECT	Parksville, City o 361341 - THM Q	f uarterly (Island H	ealth)					7021147 2017-02-27	
Analyte		Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes	
Sample ID: Templ	e (7021147-01) [W	ater] Sampled: 2	017-02-20 08:30						
Calculated Parame	ters								
Total Trihalomethan	es	< 0.004	N/A	0.004	mg/L	N/A	N/A		
Volatile Organic Co	ompounds (VOC)								
Bromodichlorometh	ane	0.001	N/A	0.001	mg/L	N/A	2017-02-22		
Bromoform		< 0.001	N/A	0.001	mg/L	N/A	2017-02-22		
Chloroform		< 0.001	N/A	0.001	mg/L	N/A	2017-02-22		
Dibromochlorometh	ane	0.002	N/A	0.001	mg/L	N/A	2017-02-22		
Surrogate: Toluene-	d8	130		70-130	%	N/A	2017-02-22		
	fluorobenzene	119		70-130	%	N/A	2017-02-22		

Sample ID: 1116 Herring Gull (7021147-02) [Water] Sampled: 2017-02-20 08:55

Calculated Parameters						
Total Trihalomethanes	0.004	N/A	0.004 mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)						
Bromodichloromethane	0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Bromoform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Chloroform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Dibromochloromethane	0.002	N/A	0.001 mg/L	N/A	2017-02-22	
Surrogate: Toluene-d8	130		70-130 %	N/A	2017-02-22	
Surrogate: 4-Bromofluorobenzene	121		70-130 %	N/A	2017-02-22	

Sample ID: Ermineskin (7021147-03) [Water] Sampled: 2017-02-20 08:40

Calculated Parameters						
Total Trihalomethanes	< 0.004	N/A	0.004 mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)						
Bromodichloromethane	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Bromoform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Chloroform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Dibromochloromethane	0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Surrogate: Toluene-d8	129		70-130 %	N/A	2017-02-22	
Surrogate: 4-Bromofluorobenzene	121		70-130 %	N/A	2017-02-22	

Sample ID: Community Park (7021147-04) [Water] Sampled: 2017-02-20 08:15

Calculated Parameters						
Total Trihalomethanes	< 0.004	N/A	0.004 mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)						
Bromodichloromethane	0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Bromoform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Chloroform	< 0.001	N/A	0.001 mg/L	N/A	2017-02-22	
Dibromochloromethane	0.002	N/A	0.001 mg/L	N/A	2017-02-22	
Surrogate: Toluene-d8	127		70-130 %	N/A	2017-02-22	
Surrogate: 4-Bromofluorobenzene	119		70-130 %	N/A	2017-02-22	

CARO Analytical Services

Rev 2017-01-05



SAMPLE ANALYTICAL DATA

REPORTED TO PROJECT	Parksville, City of 361341 - THM Quarterly (Island He	ealth)		WORK (REPOR		7021147 2017-02-27
Analyte	Result / Recovery	Standard / Guideline	MRL / Units	Prepared	Analyzed	Notes



APPENDIX 1: QUALITY CONTROL DATA

REPORTED TOParksville, City of**PROJECT**361341 - THM Quarterly (Island Health)

WORK ORDER	7021147
REPORTED	2017-02-27

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 Source _{% REC} REC _{% RPD} RPD Notes Level Result Limit Limit
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Volatile Organic Compounds (VOC), Batch B7B1059

Blank (B7B1059-BLK1)	Prepared: 2017-02-22, Analyzed: 2017-02-22					
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	0.0282	mg/L	0.0250	113	70-130	
Surrogate: 4-Bromofluorobenzene	0.0279	mg/L	0.0250	111	70-130	
LCS (B7B1059-BS1)			Prepared: 2017	7-02-22, Analy	zed: 2017-02-22	
Bromodichloromethane	0.022	0.001 mg/L	0.0200	110	70-130	
Bromoform	0.020	0.001 mg/L	0.0200	101	70-130	
Chloroform	0.023	0.001 mg/L	0.0200	113	70-130	
Dibromochloromethane	0.021	0.001 mg/L	0.0200	104	70-130	
Surrogate: Toluene-d8	0.0294	mg/L	0.0250	118	70-130	
Surrogate: 4-Bromofluorobenzene	0.0291	mg/L	0.0250	116	70-130	

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ANALY * 7 0 2 1 1 4 7 * β		3893 AB T5S 1H7 9700		DATE: ₁₇₆₆₋₂₀ , '17 TIME: 9:00	RECEIVED BY: PURCE TC	DATE:02/21
COMPANY: City of Britshulle	INVOICE TO: COMPANY:	SAME AS REPORT TO	THM		PROJECT INFO:	
ADDRESS: 116 Herring Gull Way	ADDRESS:		TURNAROUND TIME REQUESTED: Routine: (5-7 Days) Rush: 1 Day* 2 Day* 3 Day*	Canadian [ORY APPLICATION: Drinking Water Quality Guidelines J g Water Protection Act / Reg.	Regs on Report?
CONTACT:	CONTACT:		Other* *Contact Lab To Confirm. Surcharge Ma	BC CSR	AB TIER 1 CCME	OTHER*
EL/FAX:	TEL/FAX:	ана — <u>А</u> . — <u>А</u> а. — — — — — — — — — — — — — — — — — — —	Contact Lab To Comm. Surcharge Mi	ANALYSES RE		
ELIVERY METHOD: EMAIL 🕅 MAIL 🗍 OTHER* 🥅 ATA FORMAT: EXCEL 🖾 WATERTRAX 🗌 ESdat 🗍 EQUIS 📋 BC EMS 📋 OTHER* 🗍 MAIL 1: b <u>5 i le mietko@perkoville.ce</u> MAIL 2: MAIL 3:	EMAIL 1:	MAIL TOTHER*	PHC F1] PHC F1] 2-F4] H] H] Red] Non-Chlor.] US] HAA] ACID HERBICIDES] ACID HERBICIDES] DISSOLIVED H2]			
NEW ** If you would like to sign up for ClientConnect and/or Env						
AMPLED BY ROL SUDDING MATRI	X: SAMPLING:	COMMENTS:	VPH P VPH VPH VPH VPH VPH VPH VPH VPH VPH VPH			
CLIENT SAMPLE ID:	OTHER MW:HH ALV-UD #CONTAINERS	CHLORINATED FILTERED PRESERVED Preserved media ID/notes)	BTEXVPHPHC F1 VOCVPH VOCVPH EPHPHC F2-F4 PAHL/HEPH PAH PAH	METALS - SOIL (SALM) PHALKALK TSSVSSTDS BODCOD	TOG 그 MOG 그 FECAL COLIFORMS TOTAL COLIFORMS ASBESTOS THA	ОПОН
Temple V	220-02-17 8:30					
1116 Herring Gull	2 20-02-17-8:55					
Ermuneskin V	220-02-17 840					
Community Parks V	22002-17815					
						+++++++++++++++++++++++++++++++++++++++
olies Needed: 60 Days 🔽	ETENTION INSTRUCTIONS (Disca 90 Days C Longer Date (Surcha NSTRUCTIONS:	rded 30 days after Report arges will Apply):	t unless otherwise specified):			
				DEBIT T CASH T INVOICE T	COOLER 2 (°C): IC COOLER 3 (°C): IC CUSTODY SEALS INTACT: NA J	Page 6 of 6

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