

CERTIFICATE OF ANALYSIS

(250) 951-2489

REPORTED TO Parksville, City of

P O Box 1390, 100 Jensen Avenue East TEL

Parksville, BC V9P 2H3 FAX

ATTENTION Barbara Silenieks WORK ORDER 6111040

PO NUMBER 002306 RECEIVED / TEMP 2016-11-15 09:00 / 10°C

PROJECT361341 - THM Quarterly (Island Health)REPORTED2016-11-22PROJECT INFOCOC NUMBERB35796

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:

Brent Coates, B.Sc.

Division Manager, Richmond

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ANALYSIS INFORMATION

REPORTED TOParksville, City ofWORK ORDER6111040PROJECT361341 - THM Quarterly (Island Health)REPORTED2016-11-22

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



SAMPLE ANALYTICAL DATA

REPORTED TO	Parksville, City of	WORK ORDER	6111040
PROJECT	361341 - THM Quarterly (Island Health)	REPORTED	2016-11-22

501341 - 11IW	guarterry (Island Fri	caili i j			REPU	IXI LU	2010-11-22
Analyte	Result / Recovery	Standard / Guideline	MRL / Limits	Units	Prepared	Analyzed	Notes
Sample ID: Temple (6111040-01) [V	Vater] Sampled: 2	016-11-14 09:20)				
Calculated Parameters							
Total Trihalomethanes	0.005	N/A	0.004	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.001	N/A	0.001	ma/l	N/A	2016-11-16	
Bromoform	0.001	N/A	0.001		N/A	2016-11-16	
Chloroform	< 0.001	N/A	0.001		N/A	2016-11-16	
Dibromochloromethane	0.002	N/A	0.001		N/A	2016-11-16	
Surrogate: Toluene-d8	106	1477	70-130		N/A	2016-11-16	
Surrogate: 4-Bromofluorobenzene	106		70-130		N/A	2016-11-16	
cample ID: Ermines Kin (6111040-0	2) [Water] Sampl	led: 2016-11-14	08:30				
Total Trihalomethanes	< 0.004	N/A	0.004	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
	- 0 001	NI/A	0.004		NI/A	2040 44 40	
Bromodichloromethane	< 0.001 < 0.001	N/A	0.001		N/A	2016-11-16	
Bromoform		N/A	0.001		N/A	2016-11-16	
Chloroform	< 0.001	N/A	0.001		N/A	2016-11-16	
Dibromochloromethane	0.001	N/A	0.001		N/A	2016-11-16	
Surrogate: Toluene-d8 Surrogate: 4-Bromofluorobenzene	107 107		70-130 70-130		N/A N/A	2016-11-16	
cample ID: Corfield (6111040-03) [Calculated Parameters	waterj Sampled: 2	2016-11-14 08:4	U				
Total Trihalomethanes	0.015	N/A	0.004	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.004	N/A	0.001	ma/l	N/A	2016-11-17	
Bromoform	0.004	N/A	0.001		N/A N/A	2016-11-17	
Chloroform	0.002	N/A	0.001		N/A	2016-11-17	
Dibromochloromethane	0.004	N/A	0.001		N/A	2016-11-17	
Surrogate: Toluene-d8	116	11//1	70-130		N/A	2016-11-17	
Surrogate: 4-Bromofluorobenzene	116		70-130		N/A	2016-11-17	
Sample ID: Works Yard (6111040-04		ed: 2016-11-14 0			,,,,		
Calculated Parameters							
Total Trihalomethanes	0.006	N/A	0.004	mg/L	N/A	N/A	
Volatile Organic Compounds (VOC)							
Bromodichloromethane	0.002	N/A	0.001		N/A	2016-11-17	
Bromoform	0.001	N/A	0.001		N/A	2016-11-17	
			0 00 4	ma/l	N/A	2016-11-17	
	0.001	N/A	0.001				
Dibromochloromethane	0.002	N/A N/A	0.001	mg/L	N/A	2016-11-17	
Chloroform Dibromochloromethane Surrogate: Toluene-d8 Surrogate: 4-Bromofluorobenzene				mg/L %			



SAMPLE ANALYTICAL DATA

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Analyte Result / Standard / MRL / Units Prepared Analyzed Notes

Recovery Guideline Limits



APPENDIX 1: QUALITY CONTROL DATA

REPORTED TO PROJECT

Parksville, City of

361341 - THM Quarterly (Island Health)

WORK ORDER REPORTED

6111040 2016-11-22

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						
Analyte	Result	WIKE UNITS	Level	Result	% REC	Limit	70 KPD	Limit	Notes						
Volatile Organic Compounds (VOC), I	Batch B6K1081														
Blank (B6K1081-BLK1)	Prepared: 2016-11-16, Analyzed: 2016-11-16														
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	0.0254	mg/L	0.0250		101	70-130									
Surrogate: 4-Bromofluorobenzene	0.0249	mg/L	0.0250		99	70-130									
LCS (B6K1081-BS1)			Prepared	d: 2016-11-	-16, Analyz	ed: 2016	-11-16								
Bromodichloromethane	0.020	0.001 mg/L	0.0200		98	70-130									
Bromoform	0.017	0.001 mg/L	0.0200		87	70-130									
Chloroform	0.021	0.001 mg/L	0.0200		105	70-130									
Dibromochloromethane	0.018	0.001 mg/L	0.0200		88	70-130									
Surrogate: Toluene-d8	0.0264	mg/L	0.0250		106	70-130									
Surrogate: 4-Bromofluorobenzene	0.0252	mg/L	0.0250		101	70-130									



COMPANY: City of Parksville

REPORT TO:

ADDRESS:



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CARO BC COC, Rev 2015-09

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