

Your C.O.C. #: G098199

**Attention: Dan McGill**

UNION BAY IMPROVEMENT DISTRICT  
PO BOX 70  
UNION BAY, BC  
CANADA V0R 3B0

**Report Date: 2016/05/06**  
Report #: R2175170  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B633492**

**Received: 2016/05/03, 11:10**

Sample Matrix: Water  
# Samples Received: 2

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
VOCs, VH, F1, LH in Water by HS GC/MS (1)	2	2016/05/05	2016/05/05	BBY8SOP-00009	EPA 8260c R3 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Vancouver

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Shanaz Akbar, Project Manager

Email: SAkbar@maxxam.ca

Phone# (604)639-2618

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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**TRIHALOMETHANES (THM) IN WATER**

Maxxam ID		OO2085	OO2086		
Sampling Date		2016/05/03 10:40	2016/05/03 11:15		
COC Number		G098199	G098199		
	UNITS	BUCKLEY BAY BLO-OFF	KILMARNOK BLO-OFF	RDL	QC Batch
<b>Volatiles</b>					
Chloroform	ug/L	76	66	1.0	8261488
Chlorodibromomethane	ug/L	<1.0	<1.0	1.0	8261488
Bromodichloromethane	ug/L	2.3	2.2	1.0	8261488
Bromoform	ug/L	<1.0	<1.0	1.0	8261488
<b>Surrogate Recovery (%)</b>					
1,4-Difluorobenzene (sur.)	%	103	105		8261488
4-Bromofluorobenzene (sur.)	%	83	86		8261488
D4-1,2-Dichloroethane (sur.)	%	88	93		8261488
RDL = Reportable Detection Limit					

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**GENERAL COMMENTS**

**Results relate only to the items tested.**

**QUALITY ASSURANCE REPORT**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8261488	JL4	Matrix Spike [OO2085-01]	1,4-Difluorobenzene (sur.)	2016/05/05		97	%	70 - 130
			4-Bromofluorobenzene (sur.)	2016/05/05		95	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2016/05/05		107	%	70 - 130
			Chloroform	2016/05/05		NC	%	70 - 130
			Chlorodibromomethane	2016/05/05		102	%	70 - 130
			Bromodichloromethane	2016/05/05		103	%	70 - 130
			Bromoform	2016/05/05		104	%	70 - 130
8261488	JL4	Spiked Blank	1,4-Difluorobenzene (sur.)	2016/05/05		98	%	70 - 130
			4-Bromofluorobenzene (sur.)	2016/05/05		97	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2016/05/05		107	%	70 - 130
			Chloroform	2016/05/05		101	%	70 - 130
			Chlorodibromomethane	2016/05/05		96	%	70 - 130
			Bromodichloromethane	2016/05/05		94	%	70 - 130
			Bromoform	2016/05/05		101	%	70 - 130
8261488	JL4	Method Blank	1,4-Difluorobenzene (sur.)	2016/05/05		104	%	70 - 130
			4-Bromofluorobenzene (sur.)	2016/05/05		85	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2016/05/05		86	%	70 - 130
			Chloroform	2016/05/05	<1.0		ug/L	
			Chlorodibromomethane	2016/05/05	<1.0		ug/L	
			Bromodichloromethane	2016/05/05	<1.0		ug/L	
			Bromoform	2016/05/05	<1.0		ug/L	
8261488	JL4	RPD	Chloroform	2016/05/05	NC		%	30
			Chlorodibromomethane	2016/05/05	NC		%	30
			Bromodichloromethane	2016/05/05	NC		%	30
			Bromoform	2016/05/05	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).


NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

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### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



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Rob Reinert, B.Sc., Scientific Spécialist

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