



Your C.O.C. #: 658253-01-01

Attention: Gracelyn Shannon

TOWN OF GIBSONS
474 South Fletcher
Gibsons, BC
CANADA V0N 1V0

Report Date: 2022/03/02

Report #: R3141885

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C211416

Received: 2022/02/23, 16:00

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO3,HCO3,OH	1	N/A	2022/02/25	BBY6SOP-00026	SM 23 2320 B m
BTEX/MTBE LH, VH, F1 SIM/MS	2	N/A	2022/02/25	BBY8SOP-00010 / BBY8SOP-00011 / BBY8SOP-00012	BCMOE BCLM Jul 2017
Chloride/Sulphate by Auto Colourimetry	1	N/A	2022/03/02	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO4-E m
Hardness Total (calculated as CaCO3) (1)	1	N/A	2022/02/28	BBY WI-00033	Auto Calc
Mercury (Total) by CV	2	2022/02/24	2022/02/24	AB SOP-00084	BCMOE BCLM Oct2013 m
EPH in Water when PAH required	2	2022/02/28	2022/02/28	BBY8SOP-00029	BCMOE BCLM Sep2017 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	2022/02/24	2022/02/28	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	2022/02/24	2022/02/25	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrate + Nitrite (N)	1	N/A	2022/02/25	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	1	N/A	2022/02/25	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	1	N/A	2022/02/26	BBY WI-00033	Auto Calc
PAH in Water by GC/MS (SIM)	2	2022/02/28	2022/02/28	BBY8SOP-00021	BCMOE BCLM Jul2017m
Total LMW, HMW, Total PAH Calc (2)	2	N/A	2022/03/01	BBY WI-00033	Auto Calc
pH @25°C (3)	1	N/A	2022/02/25	BBY6SOP-00026	SM 23 4500-H+ B m
EPH less PAH in Water by GC/FID (4)	2	N/A	2022/03/01	BBY WI-00033	Auto Calc
Volatile HC-BTEX (5)	2	N/A	2022/02/28	BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless



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otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(2) Total PAHs in Water include: Quinoline, Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Acridine, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b&j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, and Benzo(g,h,i)perylene.

(3) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(4) LEPH = EPH (C10 to C19) - (Acenaphthene + Acridine + Anthracene + Fluorene + Naphthalene + Phenanthrene)

HEPH = EPH (C19 to C32) - (Benzo(a)anthracene + Benzo(a)pyrene + Fluoranthene + Pyrene)

(5) VPH = VH - (Benzene + Toluene + Ethylbenzene + m & p-Xylene + o-Xylene + Styrene)

Encryption Key

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

Customer Solutions, Western Canada Customer Experience Team

Email: customersolutionswest@bureauveritas.com

Phone# (604) 734 7276

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This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.

For Service Group specific validation please refer to the Validation Signature Page.



RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		APB768		
Sampling Date		2022/02/22 15:10		
COC Number		658253-01-01		
	UNITS	SEAWALK	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	<0.0050	0.0050	A509550
Calculated Parameters				
Nitrate (N)	mg/L	0.020	0.020	A507599
Misc. Inorganics				
pH	pH	7.27	N/A	A509610
Anions				
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	A509611
Alkalinity (Total as CaCO3)	mg/L	110	1.0	A509611
Bicarbonate (HCO3)	mg/L	140	1.0	A509611
Carbonate (CO3)	mg/L	<1.0	1.0	A509611
Hydroxide (OH)	mg/L	<1.0	1.0	A509611
Chloride (Cl)	mg/L	29	1.0	A514448
Sulphate (SO4)	mg/L	<1.0	1.0	A514448
Nutrients				
Nitrate plus Nitrite (N)	mg/L	0.020	0.020	A509548
RDL = Reportable Detection Limit N/A = Not Applicable				



BUREAU
VERITAS

Bureau Veritas Job #: C211416
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TOWN OF GIBSONS
Sampler Initials: PS

MERCURY BY COLD VAPOR (WATER)

Bureau Veritas ID		APB767		
Sampling Date		2022/02/18 13:45		
COC Number		658253-01-01		
	UNITS	SEAWALK	RDL	QC Batch
Elements				
Total Mercury (Hg)	ug/L	<0.038 (1)	0.038	A507720
RDL = Reportable Detection Limit (1) Detection limit raised based on sample volume used and sample matrix				



CSR BTEX/VPH IN WATER (WATER)

Bureau Veritas ID		APB767	APB768		
Sampling Date		2022/02/18 13:45	2022/02/22 15:10		
COC Number		658253-01-01	658253-01-01		
	UNITS	SEAWALK	SEAWALK	RDL	QC Batch
Calculated Parameters					
VPH (VH6 to 10 - BTEX)	ug/L	<300	<300	300	A507618
Volatiles					
Methyl-tert-butylether (MTBE)	ug/L	<4.0	<4.0	4.0	A509008
Benzene	ug/L	<0.40	<0.40	0.40	A509008
Toluene	ug/L	<0.40	0.72	0.40	A509008
Ethylbenzene	ug/L	<0.40	<0.40	0.40	A509008
m & p-Xylene	ug/L	<0.40	<0.40	0.40	A509008
o-Xylene	ug/L	<0.40	<0.40	0.40	A509008
Styrene	ug/L	<0.40	<0.40	0.40	A509008
Xylenes (Total)	ug/L	<0.40	<0.40	0.40	A509008
VH C6-C10	ug/L	<300	<300	300	A509008
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	94	99		A509008
4-Bromofluorobenzene (sur.)	%	97	101		A509008
D4-1,2-Dichloroethane (sur.)	%	85	84		A509008
RDL = Reportable Detection Limit					

**LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)**

Bureau Veritas ID		APB767		APB768		
Sampling Date		2022/02/18 13:45		2022/02/22 15:10		
COC Number		658253-01-01		658253-01-01		
	UNITS	SEAWALK	RDL	SEAWALK	RDL	QC Batch
Calculated Parameters						
Low Molecular Weight PAH's	ug/L	<0.10	0.10	0.36	0.15	A507616
High Molecular Weight PAH's	ug/L	<0.050	0.050	<0.050	0.050	A507616
Total PAH	ug/L	<0.10	0.10	0.37	0.15	A507616
Polycyclic Aromatics						
Quinoline	ug/L	<0.020	0.020	<0.15 (1)	0.15	A510861
Naphthalene	ug/L	<0.10	0.10	0.11 (2)	0.10	A510861
1-Methylnaphthalene	ug/L	<0.050	0.050	0.15	0.050	A510861
2-Methylnaphthalene	ug/L	<0.10	0.10	0.11	0.10	A510861
Acenaphthylene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Acenaphthene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Fluorene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Phenanthrene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Anthracene	ug/L	<0.010	0.010	<0.010	0.010	A510861
Acridine	ug/L	<0.050	0.050	<0.050	0.050	A510861
Fluoranthene	ug/L	<0.020	0.020	<0.020	0.020	A510861
Pyrene	ug/L	<0.020	0.020	<0.020	0.020	A510861
Benzo(a)anthracene	ug/L	<0.010	0.010	<0.010	0.010	A510861
Chrysene	ug/L	<0.020	0.020	<0.020	0.020	A510861
Benzo(b&j)fluoranthene	ug/L	<0.030	0.030	<0.030	0.030	A510861
Benzo(k)fluoranthene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Benzo(a)pyrene	ug/L	<0.0050	0.0050	0.0074	0.0050	A510861
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Dibenz(a,h)anthracene	ug/L	<0.0030	0.0030	<0.0030	0.0030	A510861
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	<0.050	0.050	A510861
Calculated Parameters						
LEPH (C10-C19 less PAH)	mg/L	<0.20	0.20	<0.20	0.20	A507617
HEPH (C19-C32 less PAH)	mg/L	<0.20	0.20	<0.20	0.20	A507617
Ext. Pet. Hydrocarbon						
EPH (C10-C19)	mg/L	<0.20	0.20	<0.20	0.20	A510867
EPH (C19-C32)	mg/L	<0.20	0.20	<0.20	0.20	A510867
RDL = Reportable Detection Limit						
(1) Detection limits raised due to matrix interference.						
(2) Tentatively identified result and may be potentially biased high due to matrix interference.						



LEPH & HEPH WITH CSR/CCME PAH IN WATER (WATER)

Bureau Veritas ID		APB767		APB768		
Sampling Date		2022/02/18 13:45		2022/02/22 15:10		
COC Number		658253-01-01		658253-01-01		
	UNITS	SEAWALK	RDL	SEAWALK	RDL	QC Batch
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	97		99		A510867
D10-ANTHRACENE (sur.)	%	85		88		A510861
D8-ACENAPHTHYLENE (sur.)	%	85		87		A510861
D8-NAPHTHALENE (sur.)	%	74		76		A510861
TERPHENYL-D14 (sur.)	%	84		88		A510861
RDL = Reportable Detection Limit						



CSR TOTAL METALS IN WATER WITH CV HG (WATER)

Bureau Veritas ID		APB768		
Sampling Date		2022/02/22 15:10		
COC Number		658253-01-01		
	UNITS	SEAWALK	RDL	QC Batch

Calculated Parameters

Total Hardness (CaCO3)	mg/L	131	0.50	A507596
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Elements

Total Mercury (Hg)	ug/L	<0.038 (1)	0.038	A507720
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Total Metals by ICPMS

Total Aluminum (Al)	ug/L	6140	3.0	A508015
Total Antimony (Sb)	ug/L	0.53	0.50	A508015
Total Arsenic (As)	ug/L	26.0	0.10	A508015
Total Barium (Ba)	ug/L	118	1.0	A508015
Total Beryllium (Be)	ug/L	<0.10	0.10	A508015
Total Bismuth (Bi)	ug/L	<1.0	1.0	A508015
Total Boron (B)	ug/L	<50	50	A508015
Total Cadmium (Cd)	ug/L	0.187	0.010	A508015
Total Chromium (Cr)	ug/L	13.2	1.0	A508015
Total Cobalt (Co)	ug/L	3.05	0.20	A508015
Total Copper (Cu)	ug/L	42.7	0.50	A508015
Total Iron (Fe)	ug/L	40100	10	A508015
Total Lead (Pb)	ug/L	62.8	0.20	A508015
Total Lithium (Li)	ug/L	2.8	2.0	A508015
Total Manganese (Mn)	ug/L	831	1.0	A508015
Total Molybdenum (Mo)	ug/L	<1.0	1.0	A508015
Total Nickel (Ni)	ug/L	5.7	1.0	A508015
Total Phosphorus (P)	ug/L	1550	10	A508015
Total Selenium (Se)	ug/L	0.23	0.10	A508015
Total Silicon (Si)	ug/L	14700	100	A508015
Total Silver (Ag)	ug/L	0.056	0.020	A508015
Total Strontium (Sr)	ug/L	292	1.0	A508015
Total Thallium (Tl)	ug/L	0.022	0.010	A508015
Total Tin (Sn)	ug/L	<5.0	5.0	A508015
Total Titanium (Ti)	ug/L	205	5.0	A508015
Total Uranium (U)	ug/L	0.31	0.10	A508015
Total Vanadium (V)	ug/L	15.5	5.0	A508015

RDL = Reportable Detection Limit
(1) Detection limit raised based on sample volume used and sample matrix



CSR TOTAL METALS IN WATER WITH CV HG (WATER)

Bureau Veritas ID		APB768		
Sampling Date		2022/02/22 15:10		
COC Number		658253-01-01		
	UNITS	SEAWALK	RDL	QC Batch
Total Zinc (Zn)	ug/L	84.0	5.0	A508015
Total Zirconium (Zr)	ug/L	1.17	0.10	A508015
Total Calcium (Ca)	mg/L	45.4	0.050	A507680
Total Magnesium (Mg)	mg/L	4.22	0.050	A507680
Total Potassium (K)	mg/L	3.44	0.050	A507680
Total Sodium (Na)	mg/L	11.3	0.050	A507680
Total Sulphur (S)	mg/L	<3.0	3.0	A507680
RDL = Reportable Detection Limit				



BUREAU
VERITAS

Bureau Veritas Job #: C211416
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TOWN OF GIBSONS
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GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C211416

Report Date: 2022/03/02

QUALITY ASSURANCE REPORT

TOWN OF GIBSONS

Sampler Initials: PS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A509008	1,4-Difluorobenzene (sur.)	2022/02/25	92	70 - 130	87	70 - 130	92	%		
A509008	4-Bromofluorobenzene (sur.)	2022/02/25	96	70 - 130	95	70 - 130	99	%		
A509008	D4-1,2-Dichloroethane (sur.)	2022/02/25	88	70 - 130	79	70 - 130	87	%		
A510861	D10-ANTHRACENE (sur.)	2022/02/28			94	50 - 140	86	%		
A510861	D8-ACENAPHTHYLENE (sur.)	2022/02/28			89	50 - 140	79	%		
A510861	D8-NAPHTHALENE (sur.)	2022/02/28			81	50 - 140	72	%		
A510861	TERPHENYL-D14 (sur.)	2022/02/28			95	50 - 140	83	%		
A510867	O-TERPHENYL (sur.)	2022/02/28			99	60 - 140	100	%		
A507720	Total Mercury (Hg)	2022/02/24	121 (1)	80 - 120	112	80 - 120	<0.0019	ug/L	17	20
A508015	Total Aluminum (Al)	2022/02/25	105	80 - 120	103	80 - 120	<3.0	ug/L	1.3	20
A508015	Total Antimony (Sb)	2022/02/25	102	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
A508015	Total Arsenic (As)	2022/02/25	106	80 - 120	103	80 - 120	<0.10	ug/L	0.39	20
A508015	Total Barium (Ba)	2022/02/25	101	80 - 120	97	80 - 120	<1.0	ug/L	0.27	20
A508015	Total Beryllium (Be)	2022/02/25	103	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
A508015	Total Bismuth (Bi)	2022/02/25	102	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A508015	Total Boron (B)	2022/02/25	103	80 - 120	100	80 - 120	<50	ug/L	NC	20
A508015	Total Cadmium (Cd)	2022/02/25	103	80 - 120	99	80 - 120	<0.010	ug/L	18	20
A508015	Total Chromium (Cr)	2022/02/25	102	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
A508015	Total Cobalt (Co)	2022/02/25	101	80 - 120	99	80 - 120	<0.20	ug/L	NC	20
A508015	Total Copper (Cu)	2022/02/25	99	80 - 120	98	80 - 120	<0.50	ug/L	0.64	20
A508015	Total Iron (Fe)	2022/02/25	104	80 - 120	101	80 - 120	<10	ug/L	2.0	20
A508015	Total Lead (Pb)	2022/02/25	105	80 - 120	102	80 - 120	<0.20	ug/L	1.2	20
A508015	Total Lithium (Li)	2022/02/25	97	80 - 120	97	80 - 120	<2.0	ug/L	NC	20
A508015	Total Manganese (Mn)	2022/02/25	102	80 - 120	100	80 - 120	<1.0	ug/L	1.4	20
A508015	Total Molybdenum (Mo)	2022/02/25	110	80 - 120	102	80 - 120	<1.0	ug/L	NC	20
A508015	Total Nickel (Ni)	2022/02/25	100	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A508015	Total Phosphorus (P)	2022/02/25	110	80 - 120	103	80 - 120	<10	ug/L	3.4	20
A508015	Total Selenium (Se)	2022/02/25	104	80 - 120	101	80 - 120	<0.10	ug/L	0.079	20
A508015	Total Silicon (Si)	2022/02/25	112	80 - 120	110	80 - 120	<100	ug/L	1.4	20
A508015	Total Silver (Ag)	2022/02/25	101	80 - 120	98	80 - 120	<0.020	ug/L	NC	20
A508015	Total Strontium (Sr)	2022/02/25	NC	80 - 120	100	80 - 120	<1.0	ug/L	1.9	20
A508015	Total Thallium (Tl)	2022/02/25	104	80 - 120	100	80 - 120	<0.010	ug/L	NC	20
A508015	Total Tin (Sn)	2022/02/25	102	80 - 120	99	80 - 120	<5.0	ug/L	NC	20



BUREAU
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Bureau Veritas Job #: C211416

Report Date: 2022/03/02

QUALITY ASSURANCE REPORT(CONT'D)

TOWN OF GIBSONS

Sampler Initials: PS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A508015	Total Titanium (Ti)	2022/02/25	100	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
A508015	Total Uranium (U)	2022/02/25	107	80 - 120	102	80 - 120	<0.10	ug/L	1.1	20
A508015	Total Vanadium (V)	2022/02/25	105	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
A508015	Total Zinc (Zn)	2022/02/25	102	80 - 120	99	80 - 120	<5.0	ug/L	2.0	20
A508015	Total Zirconium (Zr)	2022/02/25	106	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
A509008	Benzene	2022/02/25	100	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
A509008	Ethylbenzene	2022/02/25	105	70 - 130	98	70 - 130	<0.40	ug/L	4.6	30
A509008	m & p-Xylene	2022/02/25	100	70 - 130	95	70 - 130	<0.40	ug/L	1.3	30
A509008	Methyl-tert-butylether (MTBE)	2022/02/25	91	70 - 130	83	70 - 130	<4.0	ug/L		
A509008	o-Xylene	2022/02/25	100	70 - 130	95	70 - 130	<0.40	ug/L	3.6	30
A509008	Styrene	2022/02/25	100	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
A509008	Toluene	2022/02/25	99	70 - 130	93	70 - 130	<0.40	ug/L	2.3	30
A509008	VH C6-C10	2022/02/25			87	70 - 130	<300	ug/L	NC	30
A509008	Xylenes (Total)	2022/02/25					<0.40	ug/L	2.0	30
A509548	Nitrate plus Nitrite (N)	2022/02/25			108	80 - 120	<0.020	mg/L		
A509550	Nitrite (N)	2022/02/25			103	80 - 120	<0.0050	mg/L		
A509610	pH	2022/02/25			101	97 - 103			0.57	N/A
A509611	Alkalinity (PP as CaCO3)	2022/02/25					<1.0	mg/L		
A509611	Alkalinity (Total as CaCO3)	2022/02/25			92	80 - 120	<1.0	mg/L		
A509611	Bicarbonate (HCO3)	2022/02/25					<1.0	mg/L		
A509611	Carbonate (CO3)	2022/02/25					<1.0	mg/L		
A509611	Hydroxide (OH)	2022/02/25					<1.0	mg/L		
A510861	1-Methylnaphthalene	2022/02/28			82	50 - 140	<0.050	ug/L	NC	40
A510861	2-Methylnaphthalene	2022/02/28			82	50 - 140	<0.10	ug/L	NC	40
A510861	Acenaphthene	2022/02/28			85	50 - 140	<0.050	ug/L	NC	40
A510861	Acenaphthylene	2022/02/28			81	50 - 140	<0.050	ug/L	NC	40
A510861	Acridine	2022/02/28			92	50 - 140	<0.050	ug/L	NC	40
A510861	Anthracene	2022/02/28			81	50 - 140	<0.010	ug/L	NC	40
A510861	Benzo(a)anthracene	2022/02/28			86	50 - 140	<0.010	ug/L	NC	40
A510861	Benzo(a)pyrene	2022/02/28			87	50 - 140	<0.0050	ug/L	NC	40
A510861	Benzo(b&j)fluoranthene	2022/02/28			85	50 - 140	<0.030	ug/L	NC	40
A510861	Benzo(g,h,i)perylene	2022/02/28			85	50 - 140	<0.050	ug/L	NC	40
A510861	Benzo(k)fluoranthene	2022/02/28			104	50 - 140	<0.050	ug/L	NC	40



BUREAU
VERITAS

Bureau Veritas Job #: C211416

Report Date: 2022/03/02

QUALITY ASSURANCE REPORT(CONT'D)

TOWN OF GIBSONS

Sampler Initials: PS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A510861	Chrysene	2022/02/28			87	50 - 140	<0.020	ug/L	NC	40
A510861	Dibenz(a,h)anthracene	2022/02/28			86	50 - 140	<0.0030	ug/L	NC	40
A510861	Fluoranthene	2022/02/28			77	50 - 140	<0.020	ug/L	NC	40
A510861	Fluorene	2022/02/28			82	50 - 140	<0.050	ug/L	NC	40
A510861	Indeno(1,2,3-cd)pyrene	2022/02/28			85	50 - 140	<0.050	ug/L	NC	40
A510861	Naphthalene	2022/02/28			82	50 - 140	<0.10	ug/L	NC	40
A510861	Phenanthrene	2022/02/28			88	50 - 140	<0.050	ug/L	NC	40
A510861	Pyrene	2022/02/28			85	50 - 140	<0.020	ug/L	NC	40
A510861	Quinoline	2022/02/28			100	50 - 140	<0.020	ug/L	NC	40
A510867	EPH (C10-C19)	2022/02/28			92	70 - 130	<0.20	mg/L	NC	30
A510867	EPH (C19-C32)	2022/02/28			94	70 - 130	<0.20	mg/L	NC	30
A514448	Chloride (Cl)	2022/03/02	NC	80 - 120	99	80 - 120	<1.0	mg/L	0.10	20
A514448	Sulphate (SO4)	2022/03/02	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.031	20

N/A = Not Applicable

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 spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 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 (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "D. Huang", written over a horizontal line.

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



INVOICE TO:		Report Information		Project Information		 C211416_COC	nly
Company Name	#2371 TOWN OF GIBSONS	Company Name		Quotation #	B90406		Bottle Order #:
Contact Name	Accounts Payable	Contact Name	Gracelyn Shannon	P.O. #			 654253
Address	474 South Fletcher Gibsons BC V0N 1V0	Address		Project #		Chain Of Custody Record	Project Manager
Phone	(604) 886-2274 Fax: (604) 886-9735	Phone		Project Name		 C0658253-01-01	Customer Solutions
Email	finance@gibsons.ca, wwp@gibsons.ca	Email	gshannon@gibsons.ca	Site #			
				Sampled By	Paul Sheridan / Jackson		

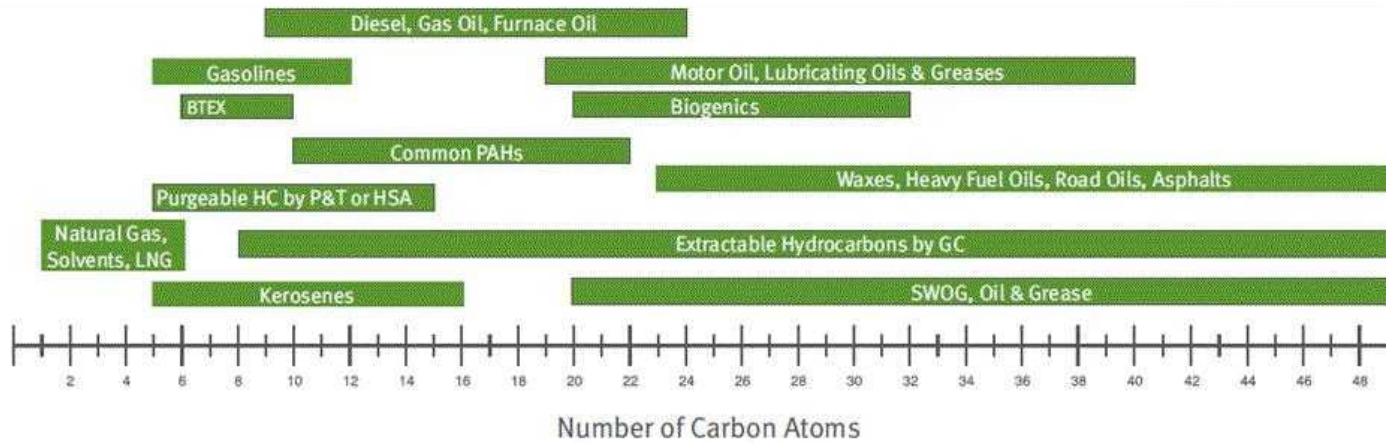
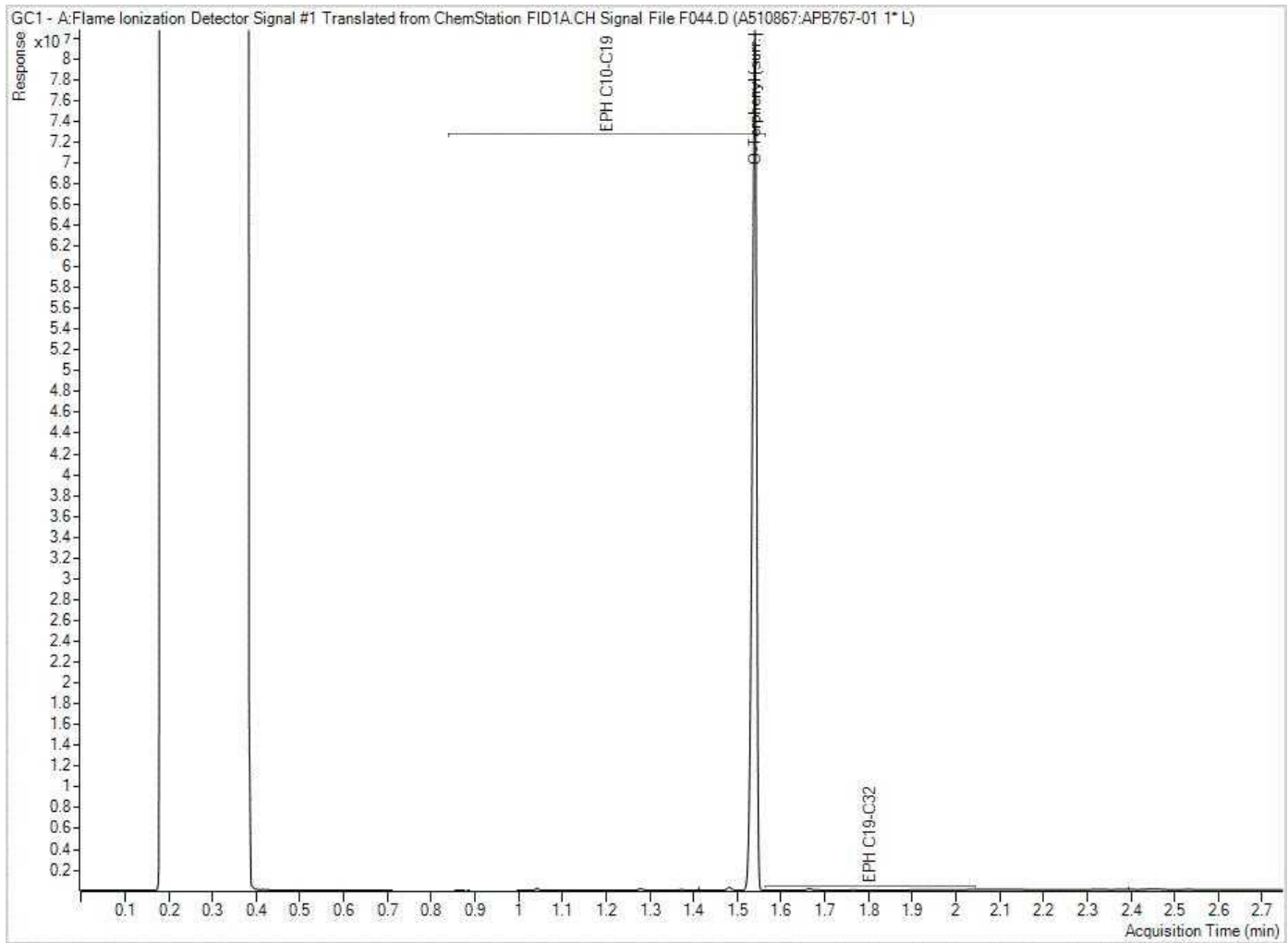
Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other _____		Special Instructions 	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required: Please provide advance notice for rush projects			
			Metals Field Filtered? (Y/N)	Alkalinity @25C (pp. total), CO3.HCO3.OH	Nitrate + Nitrite (N)	Nitrite (N) by CFA	Nitrogen - Nitrate (as N)	Chloride/Sulphate by Auto Colourimetry	CSR BTEXVPH in Water	LEPH & HEPH with CSR/CCME PAH in Water	CSR Total Metals in Water with CV Hg					Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
																Job Specific Rush TAT (if applies to entire submission) 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS															
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	Alkalinity @25C (pp. total), CO3.HCO3.OH	Nitrate + Nitrite (N)	Nitrite (N) by CFA	Nitrogen - Nitrate (as N)	Chloride/Sulphate by Auto Colourimetry	CSR BTEXVPH in Water	LEPH & HEPH with CSR/CCME PAH in Water	CSR Total Metals in Water with CV Hg	# of Bottles	Comments
1	Seawalk	Feb 18/22	13:45	Water	N						✓	✓	✓	3	
2	Seawalk	Feb 22/22	15:10	Water	N	✓	✓	✓	✓	✓	✓	✓	✓	5	
3															
4															
5															
6															
7															
8															
9															
10															

RELINQUISHED BY: (Signature/Print) Paul Sheridan		Date: (YY/MM/DD) 22/02/23	Time 11:00am	RECEIVED BY: (Signature/Print) FIQUA LLO		Date: (YY/MM/DD) 2022/02/23	Time 16:00	# Jars used and not submitted 	Lab Use Only	
								Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 6.4/4	Custody Seal Intact on Cooler? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

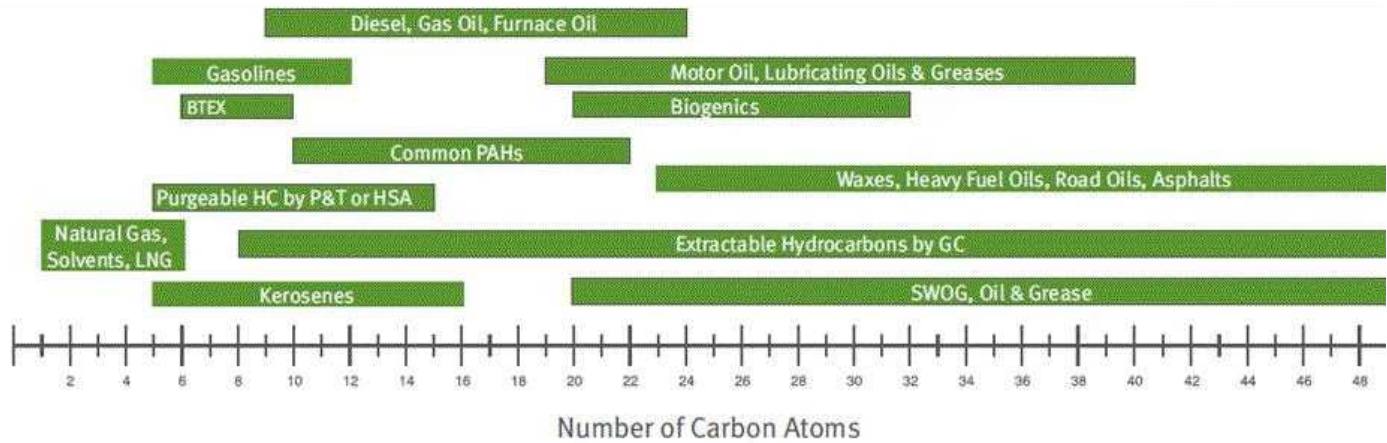
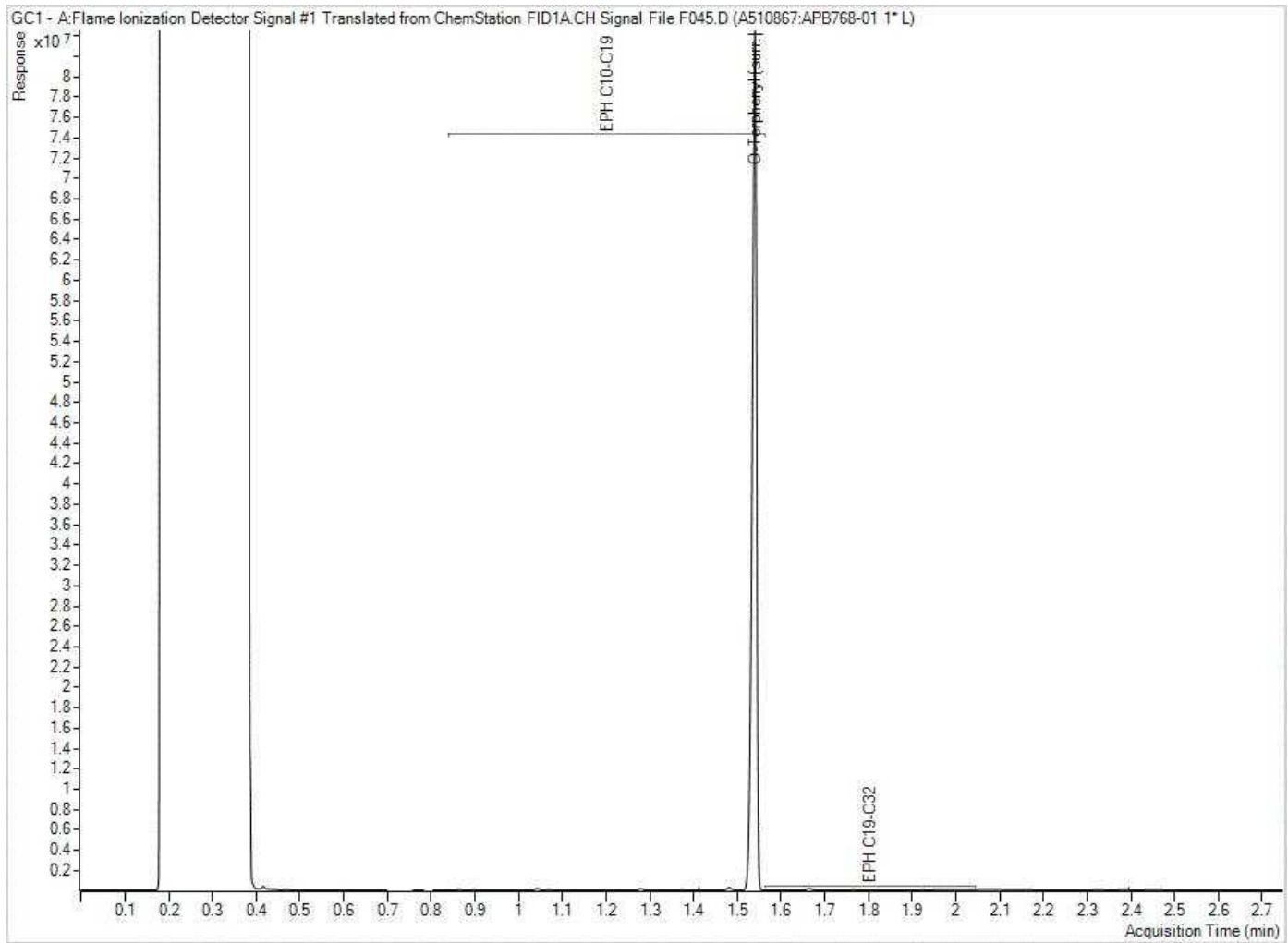
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.
 * IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

EPH in Water when PAH required Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

EPH in Water when PAH required Chromatogram



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