CERTIFICATE OF ANALYSIS

REPORTED TO	Prince George, City of - Pump Station 1100 Patricia Boulevard Prince George, BC V2L 3v9		
ATTENTION	Cheyenne Magee	**WORK ORDER**	24J2870
PO NUMBER		**RECEIVED / TEMP**	2024-10-22 08:50 / 12.1°C
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12
PROJECT INFO		**COC NUMBER**	no#

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: https://www.caro.ca/terms-conditions

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

Authorized By:

Hanane El Hannaoui
Junior Account Manager

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Analyzed	Qualifier
PW 605 (24J2870-01) | Matrix: Water | Sampled: 2024-10-21 12:30					
Anions					
Bromide	< 0.20	0.20	mg/L	2024-10-26	
Chloride	**2.28**	0.50	mg/L	2024-10-26	
Fluoride	< 0.10	0.10	mg/L	2024-10-26	
Sulfate	**7.0**	1.0	mg/L	2024-10-26	
Calculated Parameters					
Total Trihalomethanes	< 0.00400	0.00400	mg/L	N/A	
Hardness, Dissolved (as CaCO3)	**87.8**	0.500	mg/L	N/A	
Nitrogen, Total	**0.0750**	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2024-10-24	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2024-10-24	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2024-10-24	
Barium, dissolved	**0.0189**	0.0050	mg/L	2024-10-24	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2024-10-24	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2024-10-24	
Boron, dissolved	< 0.0500	0.0500	mg/L	2024-10-24	
Cadmium, dissolved	**0.000019**	0.000010	mg/L	2024-10-24	
Calcium, dissolved	**22.7**	0.20	mg/L	2024-10-24	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2024-10-24	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2024-10-24	
Copper, dissolved	**0.00271**	0.00040	mg/L	2024-10-24	
Iron, dissolved	**0.013**	0.010	mg/L	2024-10-24	
Lead, dissolved	**0.00025**	0.00020	mg/L	2024-10-24	
Lithium, dissolved	**0.00071**	0.00010	mg/L	2024-10-24	
Magnesium, dissolved	**7.56**	0.010	mg/L	2024-10-24	
Manganese, dissolved	**0.0236**	0.00020	mg/L	2024-10-24	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2024-10-24	
Molybdenum, dissolved	**0.00152**	0.00010	mg/L	2024-10-24	
Nickel, dissolved	**0.00275**	0.00040	mg/L	2024-10-24	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2024-10-24	
Potassium, dissolved	**1.21**	0.10	mg/L	2024-10-24	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2024-10-24	
Silicon, dissolved	**5.6**	1.0	mg/L	2024-10-24	
Silver, dissolved	< 0.000050	0.000050	mg/L	2024-10-24	
Sodium, dissolved	**4.59**	0.10	mg/L	2024-10-24	
Strontium, dissolved	**0.109**	0.0010	mg/L	2024-10-24	
Sulfur, dissolved	< 3.0	3.0	mg/L	2024-10-24	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2024-10-24	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2024-10-24	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2024-10-24	
Tin, dissolved	< 0.00020	0.00020	mg/L	2024-10-24	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2024-10-24	

TEST RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Analyzed	Qualifier
PW 605 (24J2870-01) | Matrix: Water | Sampled: 2024-10-21 12:30, Continued					
Dissolved Metals, Continued					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2024-10-24	
Uranium, dissolved	**0.000154**	0.000020	mg/L	2024-10-24	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2024-10-24	
Zinc, dissolved	**0.0089**	0.0040	mg/L	2024-10-24	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2024-10-24	
General Parameters					
Adsorbable Organic Halides	< 6	6	µg/L	2024-10-28	CT5
Alkalinity, Total (as CaCO3)	**84.8**	2.0	mg/L	2024-10-25	
Bicarbonate (HCO3)	**103**	2.0	mg/L	2024-10-25	
Carbonate (CO3)	< 2.0	2.0	mg/L	2024-10-25	
Hydroxide (OH)	< 2.0	2.0	mg/L	2024-10-25	
Ammonia, Total (as N)	**0.073**	0.050	mg/L	2024-10-25	
Carbon, Total Organic	**3.68**	0.50	mg/L	2024-10-24	
Nitrogen, Total Kjeldahl	**0.075**	0.050	mg/L	2024-10-25	
Phosphorus, Dissolved Reactive	< 0.010	0.010	mg/L	2024-10-24	HT1
Solids, Total Suspended	< 2.0	2.0	mg/L	2024-10-24	
Microbiological Parameters					
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL	2024-10-23	
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL	2024-10-23	
E. coli (Q-Tray)	< 1	1	MPN/100 mL	2024-10-23	
Total Metals					
Aluminum, total	< 0.0050	0.0050	mg/L	2024-10-24	
Antimony, total	< 0.00020	0.00020	mg/L	2024-10-24	
Arsenic, total	< 0.00050	0.00050	mg/L	2024-10-24	
Barium, total	**0.0189**	0.0050	mg/L	2024-10-24	
Beryllium, total	< 0.00010	0.00010	mg/L	2024-10-24	
Bismuth, total	< 0.00010	0.00010	mg/L	2024-10-24	
Boron, total	< 0.0500	0.0500	mg/L	2024-10-24	
Cadmium, total	**0.000045**	0.000010	mg/L	2024-10-24	
Calcium, total	**22.5**	0.20	mg/L	2024-10-24	
Chromium, total	< 0.00050	0.00050	mg/L	2024-10-24	
Cobalt, total	< 0.00010	0.00010	mg/L	2024-10-24	
Copper, total	**0.00473**	0.00040	mg/L	2024-10-24	
Iron, total	**0.016**	0.010	mg/L	2024-10-24	
Lead, total	**0.00088**	0.00020	mg/L	2024-10-24	
Lithium, total	**0.00071**	0.00010	mg/L	2024-10-24	
Magnesium, total	**7.71**	0.010	mg/L	2024-10-24	
Manganese, total	**0.0229**	0.00020	mg/L	2024-10-24	
Mercury, total	< 0.000010	0.000010	mg/L	2024-10-24	
Molybdenum, total	**0.00189**	0.00010	mg/L	2024-10-24	
Nickel, total	**0.00211**	0.00040	mg/L	2024-10-24	

TEST RESULTS

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PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Analyzed	Qualifier
PW 605 (24J2870-01) | Matrix: Water | Sampled: 2024-10-21 12:30, Continued					
Total Metals, Continued					
Phosphorus, total	< 0.050	0.050	mg/L	2024-10-24	
Potassium, total	**1.25**	0.10	mg/L	2024-10-24	
Selenium, total	< 0.00050	0.00050	mg/L	2024-10-24	
Silicon, total	**5.7**	1.0	mg/L	2024-10-24	
Silver, total	< 0.000050	0.000050	mg/L	2024-10-24	
Sodium, total	**4.49**	0.10	mg/L	2024-10-24	
Strontium, total	**0.106**	0.0010	mg/L	2024-10-24	
Sulfur, total	< 3.0	3.0	mg/L	2024-10-24	
Tellurium, total	< 0.00050	0.00050	mg/L	2024-10-24	
Thallium, total	< 0.000020	0.000020	mg/L	2024-10-24	
Thorium, total	< 0.00010	0.00010	mg/L	2024-10-24	
Tin, total	**0.00024**	0.00020	mg/L	2024-10-24	
Titanium, total	< 0.0050	0.0050	mg/L	2024-10-24	
Tungsten, total	< 0.0010	0.0010	mg/L	2024-10-24	
Uranium, total	**0.000195**	0.000020	mg/L	2024-10-24	
Vanadium, total	< 0.0050	0.0050	mg/L	2024-10-24	
Zinc, total	**0.0135**	0.0040	mg/L	2024-10-24	
Zirconium, total	< 0.00010	0.00010	mg/L	2024-10-24	
Volatile Organic Compounds (VOC)					
Bromodichloromethane	< 0.0010	0.0010	mg/L	2024-10-24	
Bromoform	< 0.0010	0.0010	mg/L	2024-10-24	
Chloroform	< 0.0010	0.0010	mg/L	2024-10-24	
Dibromochloromethane	< 0.0010	0.0010	mg/L	2024-10-24	
Surrogate: Toluene-d8	*85*	*70-130*	%	*2024-10-24*	
Surrogate: 4-Bromofluorobenzene	*95*	*70-130*	%	*2024-10-24*	

Sample Qualifiers:

CT5	This sample has been incorrectly preserved for Adsorbable Organic Halides analysis
HT1	The sample was prepared and/or analyzed past the recommended holding time.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analysis Description	Method Ref.	Technique	Accredited	Location
Adsorbable Organic Halides in Water	PAPTAC/ISO - low level	Adsorption, Coulometric Titration		Sublet
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Edmonton
Ammonia, Total in Water	SM 4500-NH3 G* (2021)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Edmonton
Carbon, Total Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	Kelowna
Coliforms, Fecal in Water	SM 9223 B* (2016)	Most Probable Number / Enzyme Substrate Endo Agar	✓	Edmonton
Coliforms, Total in Water	SM 9223 B (2016)	Most Probable Number / Enzyme Substrate Endo Agar	✓	Edmonton
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
E. coli in Water	SM 9223 B (2016)	Most Probable Number / Enzyme Substrate Endo Agar	✓	Edmonton
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2021)	Block Digestion and Flow Injection Analysis	✓	Kelowna
Phosphorus, Dissolved Reactive in Water	SM 4500-P E (2021)	Colorimetry (Ascorbic Acid)		Edmonton
Solids, Total Suspended in Water	SM 2540 D* (2020)	Gravimetry (Dried at 103-105C)	✓	Edmonton
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Trihalomethanes in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Edmonton

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
MPN/100 mL	Most Probable Number per 100 millilitres
µg/L	Micrograms per litre
EPA	United States Environmental Protection Agency Test Methods
PAPTAC	Pulp and Paper Technical Association of Canada Standard Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

General Comments:

The results in this report apply to the received samples analyzed in accordance with the Chain of Custody 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. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager:hhannaoui@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

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)**: A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup)**: An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS)**: A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS)**: A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM)**: A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is 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 10-20 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	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B4J4416										
Blank (B4J4416-BLK1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Bromide	< 0.20	0.20	mg/L							
Chloride	< 0.50	0.50	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B4J4416-BS1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Bromide	10.9	0.20	mg/L	10.0		109	90-110			
Chloride	9.38	0.50	mg/L	10.0		94	90-110			
Fluoride	0.95	0.10	mg/L	1.00		95	85-115			
Sulfate	49.0	1.0	mg/L	50.0		98	90-110			
Dissolved Metals, Batch B4J4280										
Blank (B4J4280-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Aluminum, dissolved	< 0.0050	0.0050	mg/L							
Antimony, dissolved	< 0.00020	0.00020	mg/L							
Arsenic, dissolved	< 0.00050	0.00050	mg/L							
Barium, dissolved	< 0.0050	0.0050	mg/L							
Beryllium, dissolved	< 0.00010	0.00010	mg/L							
Bismuth, dissolved	< 0.00010	0.00010	mg/L							
Boron, dissolved	< 0.0500	0.0500	mg/L							
Cadmium, dissolved	< 0.000010	0.000010	mg/L							
Calcium, dissolved	< 0.20	0.20	mg/L							
Chromium, dissolved	< 0.00050	0.00050	mg/L							
Cobalt, dissolved	< 0.00010	0.00010	mg/L							
Copper, dissolved	< 0.00040	0.00040	mg/L							
Iron, dissolved	< 0.010	0.010	mg/L							
Lead, dissolved	< 0.00020	0.00020	mg/L							
Lithium, dissolved	< 0.00010	0.00010	mg/L							
Magnesium, dissolved	< 0.010	0.010	mg/L							
Manganese, dissolved	< 0.00020	0.00020	mg/L							
Molybdenum, dissolved	< 0.00010	0.00010	mg/L							
Nickel, dissolved	< 0.00040	0.00040	mg/L							
Phosphorus, dissolved	< 0.050	0.050	mg/L							
Potassium, dissolved	< 0.10	0.10	mg/L							
Selenium, dissolved	< 0.00050	0.00050	mg/L							

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PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B4J4280, Continued										
Blank (B4J4280-BLK1), Continued				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Silicon, dissolved	< 1.0	1.0	mg/L							
Silver, dissolved	< 0.000050	0.000050	mg/L							
Sodium, dissolved	< 0.10	0.10	mg/L							
Strontium, dissolved	< 0.0010	0.0010	mg/L							
Sulfur, dissolved	< 3.0	3.0	mg/L							
Tellurium, dissolved	< 0.00050	0.00050	mg/L							
Thallium, dissolved	< 0.000020	0.000020	mg/L							
Thorium, dissolved	< 0.00010	0.00010	mg/L							
Tin, dissolved	< 0.00020	0.00020	mg/L							
Titanium, dissolved	< 0.0050	0.0050	mg/L							
Tungsten, dissolved	< 0.0010	0.0010	mg/L							
Uranium, dissolved	< 0.000020	0.000020	mg/L							
Vanadium, dissolved	< 0.0050	0.0050	mg/L							
Zinc, dissolved	< 0.0040	0.0040	mg/L							
Zirconium, dissolved	< 0.00010	0.00010	mg/L							
LCS (B4J4280-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Aluminum, dissolved	4.16	0.0050	mg/L	4.00		104	80-120			
Antimony, dissolved	0.0402	0.00020	mg/L	0.0400		101	80-120			
Arsenic, dissolved	0.408	0.00050	mg/L	0.400		102	80-120			
Barium, dissolved	0.0407	0.0050	mg/L	0.0400		102	80-120			
Beryllium, dissolved	0.0421	0.00010	mg/L	0.0400		105	80-120			
Bismuth, dissolved	0.0412	0.00010	mg/L	0.0400		103	80-120			
Boron, dissolved	0.405	0.0500	mg/L	0.400		101	80-120			
Cadmium, dissolved	0.0406	0.000010	mg/L	0.0400		102	80-120			
Calcium, dissolved	4.18	0.20	mg/L	4.00		104	80-120			
Chromium, dissolved	0.0410	0.00050	mg/L	0.0400		102	80-120			
Cobalt, dissolved	0.0403	0.00010	mg/L	0.0400		101	80-120			
Copper, dissolved	0.0408	0.00040	mg/L	0.0400		102	80-120			
Iron, dissolved	4.04	0.010	mg/L	4.00		101	80-120			
Lead, dissolved	0.0406	0.00020	mg/L	0.0400		102	80-120			
Lithium, dissolved	0.0417	0.00010	mg/L	0.0400		104	80-120			
Magnesium, dissolved	4.17	0.010	mg/L	4.00		104	80-120			
Manganese, dissolved	0.0411	0.00020	mg/L	0.0400		103	80-120			
Molybdenum, dissolved	0.0403	0.00010	mg/L	0.0400		101	80-120			
Nickel, dissolved	0.0396	0.00040	mg/L	0.0400		99	80-120			
Phosphorus, dissolved	4.15	0.050	mg/L	4.00		104	80-120			
Potassium, dissolved	4.11	0.10	mg/L	4.00		103	80-120			
Selenium, dissolved	0.405	0.00050	mg/L	0.400		101	80-120			
Silicon, dissolved	4.3	1.0	mg/L	4.00		107	80-120			
Silver, dissolved	0.0400	0.000050	mg/L	0.0400		100	80-120			
Sodium, dissolved	4.44	0.10	mg/L	4.00		111	80-120			
Strontium, dissolved	0.0409	0.0010	mg/L	0.0400		102	80-120			
Sulfur, dissolved	42.5	3.0	mg/L	40.0		106	80-120			
Tellurium, dissolved	0.0399	0.00050	mg/L	0.0400		100	80-120			
Thallium, dissolved	0.0405	0.000020	mg/L	0.0400		101	80-120			
Thorium, dissolved	0.0426	0.00010	mg/L	0.0400		107	80-120			
Tin, dissolved	0.0401	0.00020	mg/L	0.0400		100	80-120			
Titanium, dissolved	0.0404	0.0050	mg/L	0.0400		101	80-120			
Tungsten, dissolved	0.0397	0.0010	mg/L	0.0400		99	80-120			
Uranium, dissolved	0.0415	0.000020	mg/L	0.0400		104	80-120			
Vanadium, dissolved	0.0406	0.0050	mg/L	0.0400		102	80-120			
Zinc, dissolved	0.410	0.0040	mg/L	0.400		102	80-120			
Zirconium, dissolved	0.0404	0.00010	mg/L	0.0400		101	80-120			
Dissolved Metals, Batch B4J4301										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B4J4301, Continued										
Blank (B4J4301-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	< 0.000010	0.000010	mg/L							
LCS (B4J4301-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	0.00240	0.000010	mg/L	0.00250		96	80-120			
LCS (B4J4301-BS2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	0.00208	0.000010	mg/L	0.00250		83	80-120			
LCS (B4J4301-BS3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	0.00300	0.000010	mg/L	0.00250		120	80-120			
LCS (B4J4301-BS4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, dissolved	0.00268	0.000010	mg/L	0.00250		107	80-120			
General Parameters, Batch B4J4172										
Blank (B4J4172-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Solids, Total Suspended	< 2.0	2.0	mg/L							
LCS (B4J4172-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Solids, Total Suspended	91.0	10.0	mg/L	100		91	90-110			
General Parameters, Batch B4J4188										
Blank (B4J4188-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Phosphorus, Dissolved Reactive	< 0.010	0.010	mg/L							
LCS (B4J4188-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Phosphorus, Dissolved Reactive	0.492	0.010	mg/L	0.500		98	85-115			
General Parameters, Batch B4J4234										
Blank (B4J4234-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-25						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
Blank (B4J4234-BLK2)				Prepared: 2024-10-24, Analyzed: 2024-10-25						
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L							
LCS (B4J4234-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-25						
Nitrogen, Total Kjeldahl	0.966	0.050	mg/L	1.00		97	85-115			
LCS (B4J4234-BS2)				Prepared: 2024-10-24, Analyzed: 2024-10-25						
Nitrogen, Total Kjeldahl	0.970	0.050	mg/L	1.00		97	85-115			
General Parameters, Batch B4J4235										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4J4235, Continued										
Blank (B4J4235-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B4J4235-BLK2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B4J4235-BLK3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B4J4235-BLK4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	< 0.50	0.50	mg/L							
LCS (B4J4235-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	9.40	0.50	mg/L	10.0		94	78-116			
LCS (B4J4235-BS2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	9.48	0.50	mg/L	10.0		95	78-116			
LCS (B4J4235-BS3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	9.42	0.50	mg/L	10.0		94	78-116			
LCS (B4J4235-BS4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Carbon, Total Organic	9.36	0.50	mg/L	10.0		94	78-116			
General Parameters, Batch B4J4311										
Blank (B4J4311-BLK1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Alkalinity, Total (as CaCO3)	< 2.0	2.0	mg/L							
Bicarbonate (HCO3)	< 2.0	2.0	mg/L							
Carbonate (CO3)	< 2.0	2.0	mg/L							
Hydroxide (OH)	< 2.0	2.0	mg/L							
LCS (B4J4311-BS1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Alkalinity, Total (as CaCO3)	246	2.0	mg/L	250		98	94-108			
General Parameters, Batch B4J4323										
Blank (B4J4323-BLK1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.028	0.010	mg/L							
Blank (B4J4323-BLK2)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	< 0.010	0.010	mg/L							
Blank (B4J4323-BLK3)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.027	0.010	mg/L							
Blank (B4J4323-BLK4)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.018	0.010	mg/L							
Blank (B4J4323-BLK5)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.019	0.010	mg/L							
Blank (B4J4323-BLK6)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.016	0.010	mg/L							
LCS (B4J4323-BS1)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	1.00	0.010	mg/L	1.00		100	85-115			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4J4323, Continued										
LCS (B4J4323-BS2)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.963	0.010	mg/L	1.00		96	85-115			
LCS (B4J4323-BS3)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.960	0.010	mg/L	1.00		96	85-115			
LCS (B4J4323-BS4)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.921	0.010	mg/L	1.00		92	85-115			
LCS (B4J4323-BS5)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.898	0.010	mg/L	1.00		90	85-115			
LCS (B4J4323-BS6)				Prepared: 2024-10-25, Analyzed: 2024-10-25						
Ammonia, Total (as N)	0.939	0.010	mg/L	1.00		94	85-115			
Microbiological Parameters, Batch B4J3913										
Blank (B4J3913-BLK1)				Prepared: 2024-10-22, Analyzed: 2024-10-23						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
Coliforms, Fecal (Q-Tray)	< 1	1	MPN/100 mL							
E. coli (Q-Tray)	< 1	1	MPN/100 mL							
Blank (B4J3913-BLK2)				Prepared: 2024-10-22, Analyzed: 2024-10-23						
Coliforms, Total (Q-Tray)	< 1	1	MPN/100 mL							
E. coli (Q-Tray)	< 1	1	MPN/100 mL							
Total Metals, Batch B4J4301										
Blank (B4J4301-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	< 0.000010	0.000010	mg/L							
Blank (B4J4301-BLK4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	< 0.000010	0.000010	mg/L							
LCS (B4J4301-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	0.00240	0.000010	mg/L	0.00250		96	80-120			
LCS (B4J4301-BS2)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	0.00208	0.000010	mg/L	0.00250		83	80-120			
LCS (B4J4301-BS3)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	0.00300	0.000010	mg/L	0.00250		120	80-120			
LCS (B4J4301-BS4)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Mercury, total	0.00268	0.000010	mg/L	0.00250		107	80-120			
Total Metals, Batch B4J4321										
Blank (B4J4321-BLK1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Aluminum, total	< 0.0050	0.0050	mg/L							
Antimony, total	< 0.00020	0.00020	mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B4J4321, Continued										
Blank (B4J4321-BLK1), Continued				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Arsenic, total	< 0.00050	0.00050	mg/L							
Barium, total	< 0.0050	0.0050	mg/L							
Beryllium, total	< 0.00010	0.00010	mg/L							
Bismuth, total	< 0.00010	0.00010	mg/L							
Boron, total	< 0.0500	0.0500	mg/L							
Cadmium, total	< 0.000010	0.000010	mg/L							
Calcium, total	< 0.20	0.20	mg/L							
Chromium, total	< 0.00050	0.00050	mg/L							
Cobalt, total	< 0.00010	0.00010	mg/L							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Lithium, total	< 0.00010	0.00010	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Molybdenum, total	< 0.00010	0.00010	mg/L							
Nickel, total	< 0.00040	0.00040	mg/L							
Phosphorus, total	< 0.050	0.050	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Silicon, total	< 1.0	1.0	mg/L							
Silver, total	< 0.000050	0.000050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Sulfur, total	< 3.0	3.0	mg/L							
Tellurium, total	< 0.00050	0.00050	mg/L							
Thallium, total	< 0.000020	0.000020	mg/L							
Thorium, total	< 0.00010	0.00010	mg/L							
Tin, total	< 0.00020	0.00020	mg/L							
Titanium, total	< 0.0050	0.0050	mg/L							
Tungsten, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Vanadium, total	< 0.0050	0.0050	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
Zirconium, total	< 0.00010	0.00010	mg/L							
LCS (B4J4321-BS1)				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Aluminum, total	4.06	0.0050	mg/L	4.00		102	80-120			
Antimony, total	0.0388	0.00020	mg/L	0.0400		97	80-120			
Arsenic, total	0.393	0.00050	mg/L	0.400		98	80-120			
Barium, total	0.0381	0.0050	mg/L	0.0400		95	80-120			
Beryllium, total	0.0401	0.00010	mg/L	0.0400		100	80-120			
Bismuth, total	0.0391	0.00010	mg/L	0.0400		98	80-120			
Boron, total	0.432	0.0500	mg/L	0.400		108	80-120			
Cadmium, total	0.0392	0.000010	mg/L	0.0400		98	80-120			
Calcium, total	4.11	0.20	mg/L	4.00		103	80-120			
Chromium, total	0.0399	0.00050	mg/L	0.0400		100	80-120			
Cobalt, total	0.0397	0.00010	mg/L	0.0400		99	80-120			
Copper, total	0.0392	0.00040	mg/L	0.0400		98	80-120			
Iron, total	3.97	0.010	mg/L	4.00		99	80-120			
Lead, total	0.0396	0.00020	mg/L	0.0400		99	80-120			
Lithium, total	0.0406	0.00010	mg/L	0.0400		102	80-120			
Magnesium, total	4.04	0.010	mg/L	4.00		101	80-120			
Manganese, total	0.0393	0.00020	mg/L	0.0400		98	80-120			
Molybdenum, total	0.0404	0.00010	mg/L	0.0400		101	80-120			
Nickel, total	0.0390	0.00040	mg/L	0.0400		97	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B4J4321, Continued										
LCS (B4J4321-BS1), Continued				Prepared: 2024-10-24, Analyzed: 2024-10-24						
Phosphorus, total	4.15	0.050	mg/L	4.00		104	80-120			
Potassium, total	4.08	0.10	mg/L	4.00		102	80-120			
Selenium, total	0.395	0.00050	mg/L	0.400		99	80-120			
Silicon, total	4.0	1.0	mg/L	4.00		100	80-120			
Silver, total	0.0394	0.000050	mg/L	0.0400		99	80-120			
Sodium, total	4.10	0.10	mg/L	4.00		103	80-120			
Strontium, total	0.0391	0.0010	mg/L	0.0400		98	80-120			
Sulfur, total	42.3	3.0	mg/L	40.0		106	80-120			
Tellurium, total	0.0369	0.00050	mg/L	0.0400		92	80-120			
Thallium, total	0.0386	0.000020	mg/L	0.0400		97	80-120			
Thorium, total	0.0432	0.00010	mg/L	0.0400		108	80-120			
Tin, total	0.0395	0.00020	mg/L	0.0400		99	80-120			
Titanium, total	0.0401	0.0050	mg/L	0.0400		100	80-120			
Tungsten, total	0.0393	0.0010	mg/L	0.0400		98	80-120			
Uranium, total	0.0405	0.000020	mg/L	0.0400		101	80-120			
Vanadium, total	0.0393	0.0050	mg/L	0.0400		98	80-120			
Zinc, total	0.390	0.0040	mg/L	0.400		98	80-120			
Zirconium, total	0.0394	0.00010	mg/L	0.0400		99	80-120			
Duplicate (B4J4321-DUP1)		**Source: 24J2870-01**		Prepared: 2024-10-24, Analyzed: 2024-10-24						
Aluminum, total	< 0.0050	0.0050	mg/L		< 0.0050					20
Antimony, total	< 0.00020	0.00020	mg/L		< 0.00020					20
Arsenic, total	< 0.00050	0.00050	mg/L		< 0.00050					20
Barium, total	0.0184	0.0050	mg/L		0.0189					20
Beryllium, total	< 0.00010	0.00010	mg/L		< 0.00010					20
Bismuth, total	< 0.00010	0.00010	mg/L		< 0.00010					20
Boron, total	< 0.0500	0.0500	mg/L		< 0.0500					20
Cadmium, total	0.000042	0.000010	mg/L		0.000045					20
Calcium, total	23.0	0.20	mg/L		22.5			2		20
Chromium, total	< 0.00050	0.00050	mg/L		< 0.00050					20
Cobalt, total	< 0.00010	0.00010	mg/L		< 0.00010					20
Copper, total	0.00488	0.00040	mg/L		0.00473			3		20
Iron, total	0.016	0.010	mg/L		0.016					20
Lead, total	0.00090	0.00020	mg/L		0.00088					20
Lithium, total	0.00070	0.00010	mg/L		0.00071			< 1		20
Magnesium, total	7.71	0.010	mg/L		7.71			< 1		20
Manganese, total	0.0232	0.00020	mg/L		0.0229			1		20
Molybdenum, total	0.00196	0.00010	mg/L		0.00189			4		20
Nickel, total	0.00219	0.00040	mg/L		0.00211			4		20
Phosphorus, total	< 0.050	0.050	mg/L		< 0.050					20
Potassium, total	1.24	0.10	mg/L		1.25			< 1		20
Selenium, total	< 0.00050	0.00050	mg/L		< 0.00050					20
Silicon, total	5.7	1.0	mg/L		5.7			< 1		20
Silver, total	< 0.000050	0.000050	mg/L		< 0.000050					20
Sodium, total	4.38	0.10	mg/L		4.49			3		20
Strontium, total	0.109	0.0010	mg/L		0.106			3		20
Sulfur, total	< 3.0	3.0	mg/L		< 3.0					20
Tellurium, total	< 0.00050	0.00050	mg/L		< 0.00050					20
Thallium, total	< 0.000020	0.000020	mg/L		< 0.000020					20
Thorium, total	< 0.00010	0.00010	mg/L		< 0.00010					20
Tin, total	0.00029	0.00020	mg/L		0.00024					20
Titanium, total	< 0.0050	0.0050	mg/L		< 0.0050					20
Tungsten, total	< 0.0010	0.0010	mg/L		< 0.0010					20
Uranium, total	0.000197	0.000020	mg/L		0.000195			1		20
Vanadium, total	< 0.0050	0.0050	mg/L		< 0.0050					20
Zinc, total	0.0136	0.0040	mg/L		0.0135					20

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Prince George, City of - Pump Station	**WORK ORDER**	24J2870
PROJECT	Raw Water - PW 605	**REPORTED**	2024-11-05 12:12

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B4J4321, Continued										
Duplicate (B4J4321-DUP1), Continued		**Source: 24J2870-01**		Prepared: 2024-10-24, Analyzed: 2024-10-24						
Zirconium, total	< 0.00010	0.00010	mg/L		< 0.00010				20	
Volatile Organic Compounds (VOC), Batch B4J4064										
Blank (B4J4064-BLK1)				Prepared: 2024-10-23, Analyzed: 2024-10-24						
Bromodichloromethane	< 0.0010	0.0010	mg/L							
Bromoform	< 0.0010	0.0010	mg/L							
Chloroform	< 0.0010	0.0010	mg/L							
Dibromochloromethane	< 0.0010	0.0010	mg/L							
Surrogate: Toluene-d8	*0.0168*		*mg/L*	0.0188		*90*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0200*		*mg/L*	0.0199		*101*	*70-130*			
LCS (B4J4064-BS1)				Prepared: 2024-10-23, Analyzed: 2024-10-24						
Bromodichloromethane	0.0146	0.0010	mg/L	0.0201		73	70-130			
Bromoform	0.0123	0.0010	mg/L	0.0201		61	70-130			SPK
Chloroform	0.0169	0.0010	mg/L	0.0201		84	70-130			
Dibromochloromethane	0.0130	0.0010	mg/L	0.0201		65	70-130			SPK
Surrogate: Toluene-d8	*0.0147*		*mg/L*	0.0188		*78*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0178*		*mg/L*	0.0199		*89*	*70-130*			

QC Qualifiers:

SPK The recovery of this analyte was outside of established control limits.