



2022-10-20 09:15 / 11.1°C

CERTIFICATE OF ANALYSIS

REPORTED TO Prince George, City of - Pump Station

1100 Patricia Boulevard Prince George, BC V2L 3v9

ATTENTION Cheyenne Magee WORK ORDER 22J2666

PO NUMBER

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.

 PROJECT
 Raw Water - PW 624
 REPORTED
 2022-11-01 17:46

PROJECT INFO [info] COC NUMBER No Number

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

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

RECEIVED / TEMP

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 pmand@caro.ca

Authorized By:

Preena Mand Client Service Team Lead X

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TEST RESULTS

REPORTED TO PROJECT	Prince George, City of - Pump Station Raw Water - PW 624		ORK ORDER EPORTED	22J2666 2022-11-0	1 17:46
Analyte	Result	RL Ur	nits	Analyzed	Qualifier
	524 (22J2666-01) Matrix: Water Sampled: 2022-10-19	09:45			
Anions					
Bromide	< 0.10	0.10 mg	g/L	2022-10-22	
Chloride	10.9	0.10 mg	J/L	2022-10-22	
Fluoride	< 0.10	0.10 mg	J/L	2022-10-22	
Nitrate (as N)	0.026	0.010 mc	1/L	2022-10-22	

< 0.010

< 0.0050

14.1

Calculated Parameters

Nitrite (as N)

Sulfate

Phosphate (as P)

Total Trihalomethanes	< 0.00400	0.00400 mg/L	N/A	
Hardness, Total (as CaCO3)	167	0.500 mg/L	N/A	
Nitrate+Nitrite (as N)	0.0258	0.0100 mg/L	N/A	
Nitrogen, Total	< 0.0500	0.0500 mg/L	N/A	

0.010 mg/L

0.0050 mg/L

1.0 mg/L

2022-10-22

2022-10-22

2022-10-22

Hardness, Total (as CaCO3)	167	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.0258	0.0100	mg/L	N/A	
Nitrogen, Total	< 0.0500	0.0500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2022-10-31	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2022-10-31	
Arsenic, dissolved	0.00109	0.00050	mg/L	2022-10-31	
Barium, dissolved	0.0450	0.0050	mg/L	2022-10-31	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2022-10-31	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2022-10-31	
Boron, dissolved	< 0.0500	0.0500	mg/L	2022-10-31	
Cadmium, dissolved	0.000014	0.000010	mg/L	2022-11-01	RE2
Calcium, dissolved	41.3	0.20	mg/L	2022-10-31	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2022-10-31	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2022-10-31	
Copper, dissolved	0.0204	0.00040	mg/L	2022-10-31	
Iron, dissolved	< 0.010	0.010	mg/L	2022-10-31	
Lead, dissolved	0.00091	0.00020	mg/L	2022-10-31	
Lithium, dissolved	0.00338	0.00010	mg/L	2022-10-31	
Magnesium, dissolved	15.4	0.010	mg/L	2022-10-31	
Manganese, dissolved	0.0263	0.00020	mg/L	2022-10-31	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2022-10-27	
Molybdenum, dissolved	0.00187	0.00010	mg/L	2022-10-31	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2022-10-31	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2022-10-31	
Potassium, dissolved	2.50	0.10	mg/L	2022-10-31	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2022-10-31	
Silicon, dissolved	7.0	1.0	mg/L	2022-10-31	
Silver, dissolved	< 0.000050	0.000050	mg/L	2022-11-01	
Sodium, dissolved	7.22	0.10	mg/L	2022-10-31	
Strontium, dissolved	0.306	0.0010	mg/L	2022-10-31	
Sulfur, dissolved	3.8	3.0	mg/L	2022-10-31	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2022-10-31	Dogo O of 1
					1000 7 of 1

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TEST RESULTS

REPORTED TO Prince George PROJECT Prince George Raw Water - F	e, City of - Pump Station PW 624		WORK ORDER REPORTED	22J2666 2022-11-01	17:46
Analyte	Result	RL	Units	Analyzed	Qualifier
WT# DBA5 - PW624 (22J2666-01) Matrix: Water Sampl	ed: 2022-10-19 09:45, Continued			
Dissolved Metals, Continued					
Thallium, dissolved	< 0.000020	0.000020	mg/L	2022-10-31	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2022-10-31	
Tin, dissolved	< 0.00020	0.00020	mg/L	2022-10-31	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2022-10-31	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2022-10-31	
Uranium, dissolved	0.00169	0.000020	mg/L	2022-10-31	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2022-10-31	
Zinc, dissolved	0.0307	0.0040	mg/L	2022-10-31	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2022-10-31	
General Parameters					
Alkalinity, Total (as CaCO3)	179	1.0	mg/L	2022-10-26	
Alkalinity, Phenolphthalein (as CaC			mg/L	2022-10-26	
Alkalinity, Bicarbonate (as CaCO3)	179		mg/L	2022-10-26	
Alkalinity, Carbonate (as CaCO3)	< 1.0		mg/L	2022-10-26	
Alkalinity, Hydroxide (as CaCO3)	< 1.0		mg/L	2022-10-26	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2022-10-21	
Carbon, Total Organic	1.42	0.50		2022-10-24	
Nitrogen, Total Kjeldahl	< 0.050	0.050	mg/L	2022-10-26	
Solids, Total Suspended	< 2.0		mg/L	2022-10-26	
Microbiological Parameters					
Coliforms, Total	<1	1	CFU/100 mL	2022-10-20	
Coliforms, Fecal	<1		CFU/100 mL	2022-10-20	
E. coli	<1		CFU/100 mL	2022-10-20	
	- 1	<u>'</u>	OI O/ TOO TILE	2022-10-20	
Total Metals					
Aluminum, total	0.0251	0.0050	mg/L	2022-10-31	
Antimony, total	< 0.00020	0.00020		2022-10-31	
Arsenic, total	0.00107	0.00050		2022-10-31	
Barium, total	0.0406	0.0050	mg/L	2022-10-31	
Beryllium, total	< 0.00010	0.00010		2022-10-31	
Bismuth, total	< 0.00010	0.00010	mg/L	2022-10-31	
Boron, total	< 0.0500	0.0500	mg/L	2022-10-31	
Cadmium, total	0.000011	0.000010	mg/L	2022-10-31	
Calcium, total	45.2			2022-10-31	
Chromium, total	< 0.00050	0.00050		2022-10-31	
Cobalt, total	< 0.00010	0.00010	mg/L	2022-10-31	
Copper, total	0.0199	0.00040		2022-10-31	
Iron, total	< 0.010	0.010		2022-10-31	
Lead, total	0.00095	0.00020		2022-10-31	
Lithium, total	0.00305	0.00010		2022-10-31	
Magnesium, total	13.9	0.010		2022-10-31	
Manganese, total	0.0254	0.00020	mg/L	2022-10-31	



TEST RESULTS

RE2

REPORTED TO Prince George, City of - Pump Station

Result was confirmed by re-analysis prior to reporting.

PROJECT Raw Water - PW 624

WORK ORDER REPORTED 22J2666

2022-11-01 17:46

Analyte	Result	RL	Units	Analyzed	Qualifie
VT# DBA5 - PW624 (22J2666-01) Ma	atrix: Water Sampled: 2022-1	0-19 09:45, Continued			
Total Metals, Continued					
Mercury, total	< 0.000010	0.000010	mg/L	2022-10-27	
Molybdenum, total	0.00196	0.00010	mg/L	2022-10-31	
Nickel, total	< 0.00040	0.00040	mg/L	2022-10-31	
Phosphorus, total	< 0.050	0.050	mg/L	2022-10-31	
Potassium, total	2.59	0.10	mg/L	2022-10-31	
Selenium, total	< 0.00050	0.00050	mg/L	2022-10-31	
Silicon, total	6.7	1.0	mg/L	2022-10-31	
Silver, total	< 0.000050	0.000050	mg/L	2022-10-31	
Sodium, total	6.63	0.10	mg/L	2022-10-31	
Strontium, total	0.291	0.0010	mg/L	2022-10-31	
Sulfur, total	4.4	3.0	mg/L	2022-10-31	
Tellurium, total	< 0.00050	0.00050	mg/L	2022-10-31	
Thallium, total	< 0.000020	0.000020	mg/L	2022-10-31	
Thorium, total	< 0.00010	0.00010	mg/L	2022-10-31	
Tin, total	< 0.00020	0.00020	mg/L	2022-10-31	
Titanium, total	< 0.0050	0.0050	mg/L	2022-10-31	
Tungsten, total	< 0.0002	0.0002	mg/L	2022-10-31	
Uranium, total	0.00176	0.000020	mg/L	2022-10-31	
Vanadium, total	< 0.0050	0.0050	mg/L	2022-10-31	
Zinc, total	0.0282	0.0040	mg/L	2022-10-31	
Zirconium, total	< 0.00010	0.00010	mg/L	2022-10-31	
olatile Organic Compounds (VOC)					
Bromodichloromethane	< 0.0010	0.0010	mg/L	2022-10-27	
Bromoform	< 0.0010	0.0010		2022-10-27	
Chloroform	< 0.0010	0.0010	mg/L	2022-10-27	
Dibromochloromethane	< 0.0010	0.0010	mg/L	2022-10-27	
Surrogate: Toluene-d8	97	70-130	%	2022-10-27	
Surrogate: 4-Bromofluorobenzene	89	70-130	%	2022-10-27	



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Prince George, City of - Pump Station

PROJECT Raw Water - PW 624

WORK ORDER REPORTED 22J2666 2022-11-01 17:46

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Carbon, Total Organic in Water	SM 5310 B (2017)	Combustion, Infrared CO2 Detection	✓	Kelowna
Coliforms, Fecal in Water	SM 9222 D (2017)	Membrane Filtration / m-FC Agar	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
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 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	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* (2017)	Block Digestion and Flow Injection Analysis	✓	Kelowna
Solids, Total Suspended in Water	Solids in Water, Filtered / SM 2540 D* (2017)	Solids in Water, Filtered / Gravimetry (Dried at 103-105C)	✓	Kelowna
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)	✓	Richmond

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

CFU/100 mL Colony Forming Units per 100 millilitres

mg/L Milligrams per litre

EPA United States Environmental Protection Agency 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

PROJECT Raw Water - PW 624

WORK ORDER

22J2666

REPORTED 2022-11-01 17:46

General Comments:

The results in this report apply to the 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. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing.

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 <u>not</u> 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:pmand@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.



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PROJECT Raw Water - PW 624

WORK ORDER REPORTED

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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.

Blank (B2J2409-BLK1)	Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Bromide	Anions, Batch B2J2409									
Chloride	Blank (B2J2409-BLK1)			Prepared	d: 2022-10-2	22, Analyze	ed: 2022-	10-22		
Fluoride	Bromide	< 0.10	0.10 mg/L							
Nitrate (as N) < 0.010 0.010 mg/L Nitrite (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 1.0 mg/L Blank (B2J2409-BLK2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide < 0.10 0.10 mg/L Chloride < 0.10 0.10 mg/L Nitrole (as N) < 0.010 0.010 mg/L Nitrite (as N) < 0.010 0.010 mg/L Nitrite (as N) < 0.010 0.010 mg/L Sulfate < 1.0 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 85-115 Chloride 16.2 0.10 mg/L 4.00 101 85-115 Pituride (as N) 4.02 0.01 mg/L 4.00 102 88-108 Nitrate (as N) 4.02 0.01 mg/L 4.00 102 88-108 Nitrate (as N) 1.84 0.01 mg/L 4.00 10<	Chloride	< 0.10	0.10 mg/L							
Nitrite (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 mg/L Prepared: 2022-10-23, Analyzed: 2022-10-23 Blank (B2J2409-BLK2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide < 0.10 mg/L 0.10 mg/L Chloride < 0.01 mg/L 0.10 mg/L Fluoride < 0.01 mg/L 0.010 mg/L Nitrate (as N) < 0.010 mg/L 0.010 mg/L Phosphate (as P) < 0.0050 mg/L 0.0050 mg/L Sulfate < 1.0 mg/L 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 mg/L 0.10 mg/L 4.00 mg/L 85-115 Chloride 16.2 mg/L 0.10 mg/L 4.00 mg/L 90-110 Fluoride 4.09 mg/L 4.00 mg/L 4.00 mg/L 90-110 Nitrate (as N) 4.02 mg/L 0.01 mg/L 4.00 mg/L 90-110 Nitrate (as N) 4.02 mg/L 0.00 mg/L 4.00 mg/L 90-110 Nitrate (as N) 1.06 mg	Fluoride	< 0.10	0.10 mg/L							
Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 1.0 mg/L Blank (B2J2409-BLK2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide < 0.10 0.10 mg/L Chloride < 0.10 0.10 mg/L Fluoride < 0.10 0.010 mg/L Nitrate (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0500 mg/L Sulfate < 1.0 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 mg/L 85-115 Chloride 16.2 0.10 mg/L 4.00 101 mg/L 85-115 Pluoride 4.09 0.10 mg/L 4.00 102 mg/L 88-108 Nitrate (as N) 4.02 0.010 mg/L 4.00 102 mg/L 81-10 Fluoride 4.09 0.10 mg/L 4.00 102 mg/L 88-108 Nitrate (as N) 1.84 0.010 mg/L 4.00 106 mg/L 80-10	Nitrate (as N)	< 0.010	0.010 mg/L							
Sulfate < 1.0 1.0 mg/L Blank (B2J2409-BLK2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide < 0.10 0.10 mg/L Chloride < 0.10 0.10 mg/L Nitrate (as N) < 0.010 0.010 mg/L Nitrate (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 85-115 Chloride 16.2 0.10 mg/L 4.00 101 85-115 Chloride 16.2 0.10 mg/L 4.00 102 88-108 Nitrate (as N) 4.02 0.10 mg/L 4.00 102 88-108 Nitrate (as N) 1.84 0.010 mg/L 4.00 100 90-110 Nitrate (as N) 1.84 0.010 mg/L 1.00 106 80-120 Sulfate 1.59 1.0 mg/L 16.0	Nitrite (as N)	< 0.010	0.010 mg/L							
Blank (B2J2409-BLK2)	Phosphate (as P)	< 0.0050	0.0050 mg/L							
Bromide < 0.10 0.10 mg/L	Sulfate	< 1.0	1.0 mg/L							
Chloride < 0.10 0.10 mg/L Fluoride < 0.10 0.10 mg/L Nitrate (as N) < 0.010 0.010 mg/L Nitrite (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 10 mg/L Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 mg/L 85-115 Chloride 16.2 0.10 mg/L 4.00 101 mg/L 88-108 Nitrate (as N) 4.02 0.01 mg/L 4.00 mg/L 100 mg/L 90-110 Nitrate (as N) 4.02 0.01 mg/L 4.00 mg/L 90-110 90-110 Nitrate (as N) 1.84 mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/m	Blank (B2J2409-BLK2)			Prepared	d: 2022-10-2	23, Analyze	ed: 2022-	10-23		
Fluoride	Bromide	< 0.10	0.10 mg/L							
Nitrate (as N) < 0.010 0.010 mg/L Nitrite (as N) < 0.010	Chloride	< 0.10	0.10 mg/L							
Nitrite (as N) < 0.010 0.010 mg/L Phosphate (as P) < 0.0050 0.0050 mg/L Sulfate < 1.0 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 mg/L 85-115 Chloride 16.2 0.10 mg/L 16.0 101 mg/L 90-110 Fluoride 4.09 0.10 mg/L 4.00 102 mg/L 88-108 Nitrate (as N) 4.02 0.01 mg/L 4.00 102 mg/L 88-108 Nitrite (as N) 1.84 mg/L 0.01 mg/L 4.00 mg/L 100 mg/L 90-110 Nitrite (as N) 1.84 mg/L 0.01 mg/L 2.00 mg/L 92 mg/L 85-115 Phosphate (as P) 1.06 mg/L 1.00 mg/L 1.00 mg/L 1.00 mg/L 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/m	Fluoride	< 0.10	0.10 mg/L							
Phosphate (as P)	Nitrate (as N)	< 0.010	0.010 mg/L							
Sulfate < 1.0 1.0 mg/L LCS (B2J2409-BS1) Prepared: 2022-10-22, Analyzed: 2022-10-22 Bromide 4.04 0.10 mg/L 4.00 101 mg/L 85-115 Chloride 16.2 mg/L 16.0 mg/L 100 mg/L 90-110 Fluoride 4.09 mg/L 4.00 mg/L 4.00 mg/L 88-108 Nitrate (as N) 4.02 mg/L 0.010 mg/L 4.00 mg/L 90-110 Nitrite (as N) 1.84 mg/L 0.010 mg/L 2.00 mg/L 92 mg/L 85-115 Phosphate (as P) 1.06 mg/L 0.0050 mg/L 1.00 mg/L 1.00 mg/L 90 mg/L 90 mg/L LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 mg/L 0.10 mg/L 4.00 mg/L 90 mg/L 90 mg/L 100 mg/L 100 mg/L 4.00 mg/L 100 mg/L	Nitrite (as N)	< 0.010	0.010 mg/L							
Prepared: 2022-10-22, Analyzed: 2022-10-22	Phosphate (as P)	< 0.0050	0.0050 mg/L							
Bromide 4.04 0.10 mg/L 4.00 101 85-115 Chloride 16.2 0.10 mg/L 16.0 101 90-110 Fluoride 4.09 0.10 mg/L 4.00 102 88-108 Nitrate (as N) 4.02 0.010 mg/L 4.00 100 90-110 Nitrite (as N) 1.84 0.010 mg/L 2.00 92 85-115 Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 4.00 96 85-115 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 4.00 <t< td=""><td>Sulfate</td><td>< 1.0</td><td>1.0 mg/L</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Sulfate	< 1.0	1.0 mg/L							
Chloride 16.2 0.10 mg/L 16.0 101 90-110 Fluoride 4.09 0.10 mg/L 4.00 102 88-108 Nitrate (as N) 4.02 0.010 mg/L 4.00 100 90-110 Nitrite (as N) 1.84 0.010 mg/L 2.00 92 85-115 Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	LCS (B2J2409-BS1)			Prepared	d: 2022-10-2	22, Analyze	ed: 2022-	10-22		
Fluoride 4.09 0.10 mg/L 4.00 102 88-108 Nitrate (as N) 4.02 0.010 mg/L 4.00 100 90-110 Nitrite (as N) 1.84 0.010 mg/L 2.00 92 85-115 Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Bromide	4.04	0.10 mg/L	4.00		101	85-115			
Nitrate (as N) 4.02 0.010 mg/L 4.00 100 90-110 Nitrite (as N) 1.84 0.010 mg/L 2.00 92 85-115 Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Chloride	16.2	0.10 mg/L	16.0		101	90-110			
Nitrite (as N) 1.84 0.010 mg/L 2.00 92 85-115 Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Fluoride	4.09	0.10 mg/L	4.00		102	88-108			
Phosphate (as P) 1.06 0.0050 mg/L 1.00 106 80-120 Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Nitrate (as N)	4.02	0.010 mg/L	4.00		100	90-110			
Sulfate 15.9 1.0 mg/L 16.0 100 90-110 LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Nitrite (as N)	1.84	0.010 mg/L	2.00		92	85-115			
LCS (B2J2409-BS2) Prepared: 2022-10-23, Analyzed: 2022-10-23 Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Phosphate (as P)	1.06	0.0050 mg/L	1.00		106	80-120			
Bromide 3.84 0.10 mg/L 4.00 96 85-115 Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Sulfate	15.9	1.0 mg/L	16.0		100	90-110			
Chloride 15.8 0.10 mg/L 16.0 99 90-110 Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	LCS (B2J2409-BS2)			Prepared	d: 2022-10-2	23, Analyze	ed: 2022-	10-23		
Fluoride 4.29 0.10 mg/L 4.00 107 88-108 Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Bromide	3.84	0.10 mg/L	4.00		96	85-115		<u> </u>	
Nitrate (as N) 4.13 0.010 mg/L 4.00 103 90-110 Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Chloride	15.8	0.10 mg/L	16.0		99	90-110			
Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Fluoride	4.29	0.10 mg/L	4.00		107	88-108			
Nitrite (as N) 1.96 0.010 mg/L 2.00 98 85-115 Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120	Nitrate (as N)	4.13	0.010 mg/L	4.00		103	90-110			
Phosphate (as P) 1.07 0.0050 mg/L 1.00 107 80-120		1.96	0.010 mg/L	2.00		98	85-115			
Sulfate 15.7 1.0 mg/L 16.0 98 90-110	Phosphate (as P)	1.07	0.0050 mg/L	1.00		107	80-120			
		15.7	1.0 mg/L	16.0		98	90-110			



Aluminum, dissolved

Antimony, dissolved Arsenic, dissolved

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Prince George PROJECT Raw Water - F	e, City of - Pump S PW 624	tation		WORK REPOR		22J2 2022	2666 2-11-01	17:46	
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifie
Dissolved Metals, Batch B2J3251,	Continued								
Blank (B2J3251-BLK1)			Prepared	: 2022-10-2	27. Analvze	d: 2022-1	0-27		
Mercury, dissolved	< 0.000010	0.000010 mg/L	<u>'</u>		, ,				
•	0.0000.0	0.0000.0g, _							
Blank (B2J3251-BLK2)			Prepared	: 2022-10-2	27, Analyze	d: 2022-1	0-27		
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B2J3251-BS1)			Prepared	: 2022-10-2	27, Analyze	d: 2022-1	0-27		
Mercury, dissolved	0.000488	0.000010 mg/L	0.000500		98	80-120			
L CC (PO 19954 PCO)			Dronorod	. 2022 40 1)7 Analyza	4. 2022 1	0.27		
LCS (B2J3251-BS2)				: 2022-10-2			0-27		
Mercury, dissolved	0.000498	0.000010 mg/L	0.000500		100	80-120			
Dissolved Metals, Batch B2J3633									
Blank (B2J3633-BLK1)			Prepared	: 2022-10-3	31, Analvze	d: 2022-1	0-31		
Aluminum, dissolved	< 0.0050	0.0050 mg/L			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Antimony, dissolved	< 0.0000	0.00000 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							
Calaium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved, dissolved Chromium, dissolved	< 0.20 < 0.00050	0.20 mg/L 0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00030 Hig/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, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved Nickel, dissolved	< 0.00010 < 0.00040	0.00010 mg/L 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							
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 Thallium, dissolved	< 0.00050 < 0.000020	0.00050 mg/L 0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.000020 Hig/L 0.00010 mg/L							
Tin, dissolved	< 0.00010	0.00010 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 (B2J3633-BS1)			Prepared	: 2022-10-3	31, Analyze	d: 2022-1	0-31		
	4 4-	0.0050 (1	4.00		404	00 400			

4.00

0.0400

0.0400

104

102

105

80-120

80-120

80-120

0.0050 mg/L

0.00020 mg/L

0.00050 mg/L

4.17

0.0410

0.0421



REPORTED TO Prince George, Cit PROJECT Raw Water - PW 6		ty of - Pump Station 624			WORK ORD REPORTED						
Analyte		Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, B	atch B2J3633, Cont	inued									
LCS (B2J3633-BS1)	, Continued				Prepared	: 2022-10-3	1, Analyze	d: 2022-1	10-31		
Barium, dissolved		0.0418	0.0050	ma/L	0.0400		104	80-120			
Beryllium, dissolved		0.0405	0.00010		0.0400		101	80-120			
Bismuth, dissolved		0.0409	0.00010		0.0400		102	80-120			
Boron, dissolved		< 0.0500	0.0500	mg/L	0.0400		98	80-120			
Cadmium, dissolved		0.0410	0.000010	mg/L	0.0400		102	80-120			
Calcium, dissolved, dis	solved	4.17	0.20	mg/L	4.00		104	80-120			
Chromium, dissolved		0.0412	0.00050	mg/L	0.0400		103	80-120			
Cobalt, dissolved		0.0402	0.00010	mg/L	0.0400		100	80-120			
Copper, dissolved		0.0411	0.00040		0.0400		103	80-120			
Iron, dissolved		4.04	0.010		4.00		101	80-120			
Lead, dissolved		0.0405	0.00020		0.0400		101	80-120			
Lithium, dissolved		0.0408	0.00010		0.0400		102	80-120			
Magnesium, dissolved,	dissolved	4.16	0.010		4.00		104	80-120			
Manganese, dissolved		0.0410	0.00020		0.0400		103	80-120			
Molybdenum, dissolved	1	0.0401	0.00010		0.0400		100	80-120			
Nickel, dissolved		0.0399	0.00040		0.0400		100	80-120			
Phosphorus, dissolved		4.13	0.050		4.00		103	80-120			
Potassium, dissolved Selenium, dissolved		4.10 0.0404	0.00050	mg/L	4.00 0.0400		102 101	80-120 80-120			
Silicon, dissolved		4.2		mg/L	4.00		106	80-120			
Silver, dissolved		0.0414	0.000050		0.0400		103	80-120			
Sodium, dissolved		4.15		mg/L	4.00		104	80-120			
Strontium, dissolved		0.0413	0.0010		0.0400		103	80-120			
Sulfur, dissolved		40.9		mg/L	40.0		102	80-120			
Tellurium, dissolved		0.0409	0.00050		0.0400		102	80-120			
Thallium, dissolved		0.0399	0.000020		0.0400		100	80-120			
Thorium, dissolved		0.0403	0.00010		0.0400		101	80-120			
Tin, dissolved		0.0419	0.00020	mg/L	0.0400		105	80-120			
Titanium, dissolved		0.0399	0.0050		0.0400		100	80-120			
Tungsten, dissolved		0.0404	0.0010	mg/L	0.0400		101	80-120			
Uranium, dissolved		0.0398	0.000020	mg/L	0.0400		100	80-120			
Vanadium, dissolved		0.0411	0.0050	mg/L	0.0400		103	80-120			
Zinc, dissolved		0.0410	0.0040		0.0400		102	80-120			
Zirconium, dissolved		0.0412	0.00010	mg/L	0.0400		103	80-120			
Matrix Spike (B2J36	33-MS1)	So	urce: 22J2	666-01	Prepared	: 2022-10-3	1, Analyze	d: 2022-1	10-31		
Aluminum, dissolved	, , , , , , , , , , , , , , , , , , ,	4.09	0.0050	ma/l	4.00	< 0.0050	102	70-130			
Antimony, dissolved		0.0385	0.00020		0.0400	< 0.00020	96	70-130			
Arsenic, dissolved		0.0432	0.00050		0.0400	0.00109	105	70-130			
Barium, dissolved		0.0851	0.0050		0.0400	0.0450	100	70-130			
Beryllium, dissolved		0.0388	0.00010		0.0400	< 0.00010	97	70-130			
Bismuth, dissolved		0.0299	0.00010		0.0400	< 0.00010	75	70-130			
Boron, dissolved		< 0.0500	0.0500		0.0400	< 0.0500	82	70-130			
Cadmium, dissolved		0.0408	0.000010	mg/L	0.0400	0.000014	102	70-130			
Calcium, dissolved, dis	solved	44.4	0.20	mg/L	4.00	41.3	76	70-130			
Chromium, dissolved		0.0406	0.00050		0.0400	< 0.00050	101	70-130			
Cobalt, dissolved		0.0384	0.00010		0.0400	< 0.00010	96	70-130			
Copper, dissolved		0.0586	0.00040		0.0400	0.0204	96	70-130			
Iron, dissolved		3.94	0.010		4.00	< 0.010	99	70-130			
Lead, dissolved		0.0407	0.00020		0.0400	0.00091	99	70-130			
Lithium, dissolved		0.0447	0.00010		0.0400	0.00338	103	70-130			
	dissolved	18.9	0.010		4.00	15.4	86	70-130			
Magnesium, dissolved,		0.0656	0.00020	ma/L	0.0400	0.0263	98	70-130			
Manganese, dissolved	J					0.00407	400	70 400			
	j	0.0030 0.0418 0.0386	0.00010 0.00040	mg/L	0.0400 0.0400	0.00187	100 96	70-130 70-130			



REPORTED TO Prince George Raw Water - P	e, City of - Pump St PW 624	ation			WORK REPOR	ORDER RTED	22J2 2022	2666 2-11-01	17:46
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B2J3633, C	Continued								
Matrix Spike (B2J3633-MS1), Contin	nued So	urce: 22J2666-01	Prepared	I: 2022-10-3	1, Analyze	ed: 2022-1	0-31		
Potassium, dissolved	6.33	0.10 mg/L	4.00	2.50	96	70-130			
Selenium, dissolved	0.0414	0.00050 mg/L	0.0400	< 0.00050	102	70-130			
Silicon, dissolved	10.5	1.0 mg/L	4.00	7.0	86	70-130			
Silver, dissolved	0.0329	0.000050 mg/L	0.0400	< 0.000050	82	70-130			
Sodium, dissolved	11.1	0.10 mg/L	4.00	7.22	98	70-130			
Strontium, dissolved	0.348	0.0010 mg/L	0.0400	0.306	103	70-130			
Sulfur, dissolved	42.8	3.0 mg/L	40.0	3.8	98	70-130			
Tellurium, dissolved	0.0430 0.0395	0.00050 mg/L 0.000020 mg/L	0.0400	< 0.00050	107	70-130 70-130			
Thallium, dissolved Thorium, dissolved	0.0395	0.000020 mg/L	0.0400	< 0.000020 < 0.00010	99	70-130			
Tin, dissolved	0.0404	0.00010 Hig/L 0.00020 mg/L	0.0400	< 0.00010	107	70-130			
Titanium, dissolved	0.0379	0.0050 mg/L	0.0400	< 0.0050	95	70-130			
Tungsten, dissolved	0.0398	0.0010 mg/L	0.0400	< 0.0010	100	70-130			
Uranium, dissolved	0.0413	0.000020 mg/L	0.0400	0.00169	99	70-130			
Vanadium, dissolved	0.0416	0.0050 mg/L	0.0400	< 0.0050	101	70-130			
Zinc, dissolved	0.0703	0.0040 mg/L	0.0400	0.0307	99	70-130			
Zirconium, dissolved	0.0418	0.00010 mg/L	0.0400	< 0.00010	104	70-130			
Carbon, Total Organic	< 0.50	0.50 mg/L							
Blank (B2J2399-BLK2)			Prepared	I: 2022-10-2	4, Analyze	ed: 2022-1	0-24		
Carbon, Total Organic	< 0.50	0.50 mg/L							
Blank (B2J2399-BLK3)	< 0.50	0.50 mg/L	Prepared	l: 2022-10-2	4, Analyze	ed: 2022-1	0-24		
Carbon, Total Organic	< 0.30	0.50 Hig/L	Duamanad	. 2022 40 2	4. A = 1. ==	٠	0.04		
Blank (B2J2399-BLK4) Carbon, Total Organic	< 0.50	0.50 mg/L	Prepared	I: 2022-10-2	4, Anaiyze	ea: 2022-1	0-24		
	1 0.00	0.00 mg/L	Drenared	I: 2022-10-2	A Analyze	d: 2022_1	n_2/		
LCS (B2J2399-BS1) Carbon, Total Organic	9.01	0.50 mg/L	10.0	1. 2022-10-2	90	78-116	0-24		
LCS (B2J2399-BS2)	0.0.	0.00g/_		I: 2022-10-2			0.24		
Carbon, Total Organic	9.12	0.50 mg/L	10.0	1. 2022-10-2	4, Analyze 91	78-116	0-24		
				I: 2022-10-2			0.24		
LCS (B2J2399-BS3) Carbon, Total Organic	9.34	0.50 mg/L	10.0	1. 2022-10-2	93	78-116	0-24		
LCS (B2J2399-BS4)				I: 2022-10-2			0-24		
Carbon, Total Organic	9.27	0.50 mg/L	10.0	1. 2022-10-2	93	78-116	0-24		
General Parameters, Batch B2J2525 Blank (B2J2525-BLK1)		0.00 mg 2		I: 2022-10-2			0-21		
Ammonia, Total (as N)	< 0.050	0.050 mg/L	· · · · · · · · · · · · · · · · · · ·						
Blank (B2J2525-BLK2)			Prepared	I: 2022-10-2	1, Analyze	ed: 2022-1	0-21		
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B2J2525-BLK3)			Prepared	I: 2022-10-2	1, Analyze	ed: 2022-1	0-21		
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B2J2525-BS1)			Prepared	I: 2022-10-2	1, Analyze	ed: 2022-1	0-21		
Ammonia, Total (as N)	0.949	0.050 mg/L	1.00		95	90-115		Do	ne 10 of



	rince George, City of aw Water - PW 624	- Pump St	ation			WORK REPOR	ORDER TED	22J2 2022	666 2-11-01	17:46
Analyte		Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, I	Batch B2J2525, Contin	ued								
LCS (B2J2525-BS2)				Prepared	: 2022-10-21	, Analyze	d: 2022-10)-21		
Ammonia, Total (as N)		0.942	0.050 mg/L	1.00		94	90-115			
LCS (B2J2525-BS3)				Prepared	: 2022-10-21	, Analyze	d: 2022-10)-21		
Ammonia, Total (as N)		0.965	0.050 mg/L	1.00		96	90-115			
Duplicate (B2J2525-D	LIP2)	Soi	urce: 22J2666-01	Prepared	: 2022-10-21	Analyze	d· 2022-10)-21		
Ammonia, Total (as N)	01 2)	< 0.050	0.050 mg/L	1 Toparoa	< 0.050	, 7 tridiy20	G. 2022 10		15	
				D		A I	-1. 0000 40	. 04		
Matrix Spike (B2J252	5-MS2)		urce: 22J2666-01		: 2022-10-21			1-21		
Ammonia, Total (as N)		0.271	0.050 mg/L	0.250	< 0.050	108	75-125			
General Parameters, I	Batch B2J2879									
Blank (B2J2879-BLK1)			Prepared	: 2022-10-25	i, Analyze	d: 2022-10)-26		
Nitrogen, Total Kjeldahl		< 0.050	0.050 mg/L							
Blank (B2J2879-BLK2	2)			Prepared	: 2022-10-25	. Analvze	d: 2022-10)-26		
Nitrogen, Total Kjeldahl	,	< 0.050	0.050 mg/L			, <u>,</u>				
LCS (B2J2879-BS1)				Prenared	: 2022-10-25	Analyze	d. 2022 - 10)-26		
Nitrogen, Total Kjeldahl		1.08	0.050 mg/L	1.00	. 2022 10 20	108	85-115			
		1.00	0.000 mg/L		. 2022 40 25					
LCS (B2J2879-BS2) Nitrogen, Total Kjeldahl		1.08	0.050 mg/L	1.00	: 2022-10-25	108	85-115	-20		
General Parameters, I	Batch B2J2956									
Blank (B2J2956-BLK1				Prepared	: 2022-10-26	i, Analyze	d: 2022 - 10)-26		
Solids, Total Suspended		< 2.0	2.0 mg/L							
LCS (B2J2956-BS1)				Prepared	: 2022-10-26	, Analyze	d: 2022-10)-26		
Solids, Total Suspended		90.0	10.0 mg/L	100		90	85-115			
General Parameters, I				Droparad	. 2022 40 26	: Analyzo	d. 2022 10) 26		
Blank (B2J2999-BLK1		< 1.0	1.0 mg/l	Fiepaied	: 2022-10-26	, Analyze	u. 2022-10	-20		
Alkalinity, Total (as CaCC Alkalinity, Phenolphthalei	•	< 1.0	1.0 mg/L 1.0 mg/L							
Alkalinity, Bicarbonate (as	s CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as		< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as 0	CaCO3)	< 1.0	1.0 mg/L							
Blank (B2J2999-BLK2	2)			Prepared	: 2022-10-26	, Analyze	d: 2022-10)-26		
Alkalinity, Total (as CaCC	,	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalei		< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as Alkalinity, Carbonate (as		< 1.0 < 1.0	1.0 mg/L 1.0 mg/L							
Alkalinity, Hydroxide (as		< 1.0	1.0 mg/L 1.0 mg/L							
		- 1.0	1.0 mg/L	Dronors	. 2022 40 22	: Analyz-	4. 2022 40	. 26		
LCS (B2J2999-BS1)	3)	104	1.0 mg/L	100	: 2022-10-26	o, Anaiyze 104	80-120	-20		
Alkalinity, Total (as CaCC	· ·)	104	1.0 Hig/L		. 0000 10 00					
LCS (B2J2999-BS2)	0)		4.6 "	· ·	: 2022-10-26	• •		-26		
Alkalinity, Total (as CaCC	(3)	104	1.0 mg/L	100		104	80-120			



Chromium, total

Cobalt, total

APPENDIX 2: QUALITY CONTROL RESULTS

	ce George, City of - Pump S	tation			WORK REPOR	ORDER RTED	22J2666 2022-11-01		1 17:46	
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifie	
Microbiological Paramete	ers, Batch B2J2336									
Blank (B2J2336-BLK1)			Prepared	d: 2022-10-2	20, Analyze	ed: 2022-1	10-20			
Coliforms, Total	< 1	1 CFU/100	mL							
E. coli	< 1	1 CFU/100	mL							
Blank (B2J2336-BLK2)			Prepared	d: 2022-10-2	20, Analyze	ed: 2022-1	10-20			
Coliforms, Total	<1	1 CFU/100			-, ,					
E. coli	< 1	1 CFU/100								
Plank (P2 12226 Pl K2)			Droparo	d: 2022-10-2	20 Analyzo	d. 2022 1	10.20			
Blank (B2J2336-BLK3)	. 4	4 OFU/400		a. 2022-10-2	Lo, AllalyZe	u. 2022-	10-20			
Coliforms, Total E. coli	<u> </u>	1 CFU/100 1 CFU/100								
	<u>``</u>	1 01 0/100								
Blank (B2J2336-BLK4)			•	d: 2022-10-2	20, Analyze	ed: 2022-1	10-20			
Coliforms, Total	<1	1 CFU/100								
E. coli	<1	1 CFU/100	mL							
Blank (B2J2336-BLK5)			Prepared	d: 2022-10-2	20, Analyze	ed: 2022-1	10-20			
Coliforms, Total	< 1	1 CFU/100	mL							
E. coli	< 1	1 CFU/100	mL							
Blank (B2J2336-BLK6)			Prepared	d: 2022-10-2	20. Analyze	ed: 2022-1	10-20			
Coliforms, Total	<1	1 CFU/100			-0,7					
E. coli	<1	1 CFU/100								
Blank (B2J2417-BLK1) Coliforms, Fecal	<1	1 CFU/100		d: 2022-10-2	20, Analyze	ed: 2022-1	10-20			
Total Metals, Batch B2J3	3252									
Blank (B2J3252-BLK1)			Prepared	d: 2022-10-2	27. Analvze	ed: 2022-1	10-27			
Mercury, total	< 0.000010	0.000010 mg/L			, ,					
Blank (B2J3252-BLK2)			Prenareo	d: 2022-10-2	7 Analyze	rd: 2022-1	10-27			
Mercury, total	< 0.000010	0.000010 mg/L	Tropulot	4. LOLL 10 L	-1, 7 thaiy 20	G. LOLL				
			Proparo	d: 2022-10-2	27 Analyza	M: 2022 1	10.27			
LCS (B2J3252-BS1) Mercury, total	0.000500	0.000010 mg/L	0.000500		100	80-120	10-27			
•	0.000300	0.000010 Hig/L					10.07			
LCS (B2J3252-BS2) Mercury, total	0.000491	0.000010 mg/L	0.000500	d: 2022-10-2	98	80-120	10-27			
Mercury, total	0.000431	0.000010 Hig/L	0.000300		90	00-120				
Total Metals, Batch B2J3	8638									
Blank (B2J3638-BLK1)			Prepared	d: 2022-10-3	31, Analyze	ed: 2022-1	10-31			
Aluminum, total	< 0.0050	0.0050 mg/L								
Antimony, total	< 0.00020	0.00020 mg/L								
Arsenic, total	< 0.00050	0.00050 mg/L								
Barium, total Beryllium, total	< 0.0050 < 0.00010	0.0050 mg/L 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								

0.00050 mg/L 0.00010 mg/L

< 0.00050

< 0.00010



REPORTED TO PROJECT	Prince George, City of - Pump S Raw Water - PW 624			WORK ORDER REPORTED		22J2666 2022-11-01 17:46			
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batc	h B2J3638, Continued								
Blank (B2J3638-B	LK1), Continued		Prepared	d: 2022-10-3	1, Analyze	ed: 2022-1	0-31		
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 Sodium, total	< 0.000050 < 0.10	0.000050 mg/L							
Strontium, total	< 0.0010	0.10 mg/L 0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.00030	0.00000 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	< 0.0002	0.0002 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 (B2J3638-BS	1)		Prepared	d: 2022-10-3	1, Analyze	ed: 2022-1	0-31		
Aluminum, total	4.00	0.0050 mg/L	4.00		100	80-120			
Antimony, total	0.0389	0.00020 mg/L	0.0400		97	80-120			
Arsenic, total	0.0411	0.00050 mg/L	0.0400		103	80-120			
Barium, total	0.0372	0.0050 mg/L	0.0400		93	80-120			
Beryllium, total	0.0395	0.00010 mg/L	0.0400		99	80-120			
Bismuth, total	0.0390	0.00010 mg/L	0.0400		98	80-120			
Boron, total	< 0.0500	0.0500 mg/L 0.000010 mg/L	0.0400		101	80-120 80-120			
Cadmium, total	0.0390 4.04	0.000010 mg/L 0.20 mg/L	4.00		98 101	80-120			
Calcium, total Chromium, total	0.0404	0.00050 mg/L	0.0400		101	80-120			
Cobalt, total	0.0404	0.00030 mg/L	0.0400		100	80-120			
Copper, total	0.0399	0.00040 mg/L	0.0400		100	80-120			
Iron, total	3.97	0.010 mg/L	4.00		99	80-120			
Lead, total	0.0394	0.00020 mg/L	0.0400		99	80-120			
Lithium, total	0.0390	0.00010 mg/L	0.0400		97	80-120			
Magnesium, total	4.02	0.010 mg/L	4.00		100	80-120			
Manganese, total	0.0404	0.00020 mg/L	0.0400		101	80-120			
Molybdenum, total	0.0390	0.00010 mg/L	0.0400		97	80-120			
Nickel, total	0.0394	0.00040 mg/L	0.0400		98	80-120			
Phosphorus, total	4.08	0.050 mg/L	4.00		102	80-120			
Potassium, total	3.96	0.10 mg/L	4.00		99	80-120			
Selenium, total	0.0389	0.00050 mg/L	0.0400		97	80-120			
Silicon, total	4.1	1.0 mg/L	4.00		103	80-120			
Silver, total	0.0401	0.000050 mg/L	0.0400		100	80-120			
Sodium, total	4.14	0.10 mg/L	4.00		104	80-120			
Strontium, total	0.0393	0.0010 mg/L	0.0400		98	80-120			
Sulfur, total	39.7	3.0 mg/L	40.0		99	80-120			
Tellurium, total	0.0376	0.00050 mg/L	0.0400		94	80-120			



REPORTED TO	Prince George, City of - Pump Station	WORK ORDER	22J2666
PROJECT	Raw Water - PW 624	REPORTED	2022-11-01 17:46

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B2J3638, Continued									
LCS (B2J3638-BS1), Continued			Prepared	l: 2022-10-3	31, Analyze	d: 2022-1	10-31		
Thallium, total	0.0391	0.000020 mg/L	0.0400		98	80-120			
Thorium, total	0.0400	0.00010 mg/L	0.0400		100	80-120			
Tin, total	0.0392	0.00020 mg/L	0.0400		98	80-120			
Titanium, total	0.0390	0.0050 mg/L	0.0400		97	80-120			
Tungsten, total	0.0397	0.0002 mg/L	0.0400		99	80-120			
Uranium, total	0.0393	0.000020 mg/L	0.0400		98	80-120			
Vanadium, total	0.0411	0.0050 mg/L	0.0400		103	80-120			
Zinc, total	0.0389	0.0040 mg/L	0.0400		97	80-120			
Zirconium, total	0.0387	0.00010 mg/L	0.0400		97	80-120			

Volatile Organic Compounds (VOC), Batch B2J3019

Blank (B2J3019-BLK1)	Prepared: 2022-10-26, Analyzed: 2022-10-27					
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	0.0215	mg/L	0.0250	86	70-130	
Surrogate: 4-Bromofluorobenzene	0.0223	mg/L	0.0249	90	70-130	
LCS (B2J3019-BS1)			Prepared: 2022	2-10-26, Analyze	ed: 2022-10-27	
Bromodichloromethane	0.0162	0.0010 mg/L	0.0201	81	70-130	
Bromoform	0.0113	0.0010 mg/L	0.0200	57	70-130	SPK
Chloroform	0.0198	0.0010 mg/L	0.0201	99	70-130	
Dibromochloromethane	0.0140	0.0010 mg/L	0.0200	70	70-130	
Surrogate: Toluene-d8	0.0242	mg/L	0.0250	97	70-130	
Surrogate: 4-Bromofluorobenzene	0.0251	mg/L	0.0249	101	70-130	

QC Qualifiers:

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