



CERTIFICATE OF ANALYSIS

REPORTED TO	Prince George, City of - Pump Station 1100 Patricia Boulevard Prince George, BC V2L 3v9	WORK ORDER	24D3225
ATTENTION	Cheyenne Magee	RECEIVED / TEMP REPORTED	2024-04-25 08:50 / 8.2°C 2024-05-10 16:22
PO NUMBER		COC NUMBER	No #
PROJECT	Raw Water - PW 624		
PROJECT INFO	[info]		

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.

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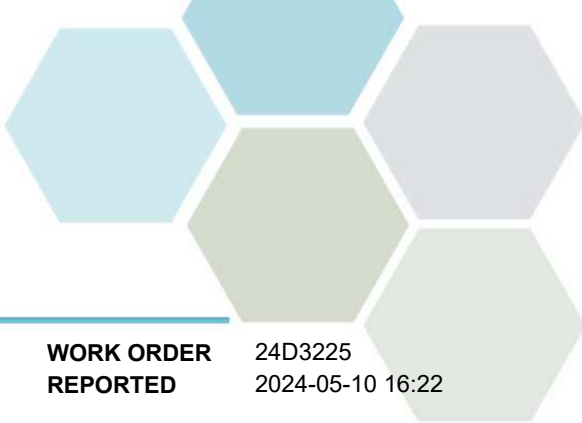
If you have any questions or concerns, please contact me at hhannaoui@caro.ca

Authorized By:

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TEST RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
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PW 624 (24D3225-01) | Matrix: Water | Sampled: 2024-04-24 10:00

Anions

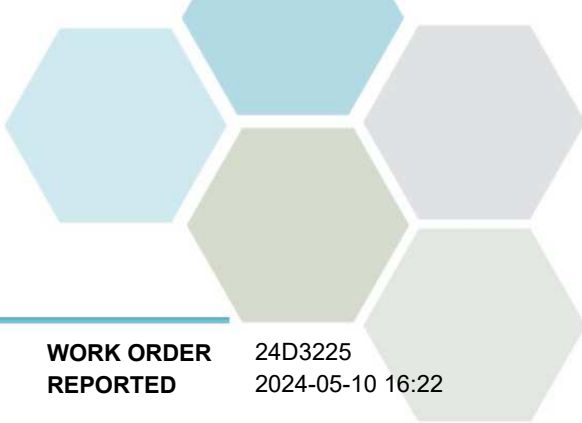
Bromide	< 0.1	0.1	mg/L	2024-04-25	
Chloride	11.4	0.10	mg/L	2024-04-25	
Fluoride	< 0.10	0.10	mg/L	2024-04-25	
Nitrate (as N)	0.060	0.010	mg/L	2024-04-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2024-04-25	
Sulfate	14.2	1.0	mg/L	2024-04-25	

Calculated Parameters

Total Trihalomethanes	< 0.00400	0.00400	mg/L	N/A	
Hardness, Dissolved (as CaCO3)	186	0.500	mg/L	N/A	
Nitrate+Nitrite (as N)	0.0597	0.0100	mg/L	N/A	
Nitrogen, Total	0.189	0.0500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2024-04-29	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2024-04-29	
Arsenic, dissolved	0.00109	0.00050	mg/L	2024-04-29	
Barium, dissolved	0.0511	0.0050	mg/L	2024-04-29	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2024-04-29	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2024-04-29	
Boron, dissolved	< 0.0500	0.0500	mg/L	2024-04-29	
Cadmium, dissolved	0.000015	0.000010	mg/L	2024-04-29	
Calcium, dissolved	48.7	0.20	mg/L	2024-04-29	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2024-04-29	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2024-04-29	
Copper, dissolved	0.0256	0.00040	mg/L	2024-05-01	RE2
Iron, dissolved	< 0.010	0.010	mg/L	2024-04-29	
Lead, dissolved	0.00114	0.00020	mg/L	2024-04-29	
Lithium, dissolved	0.00347	0.00010	mg/L	2024-04-29	
Magnesium, dissolved	15.7	0.010	mg/L	2024-04-29	
Manganese, dissolved	0.0387	0.00020	mg/L	2024-04-29	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2024-04-27	
Molybdenum, dissolved	0.00137	0.00010	mg/L	2024-04-29	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2024-04-29	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2024-04-29	
Potassium, dissolved	2.94	0.10	mg/L	2024-04-29	
Selenium, dissolved	0.00065	0.00050	mg/L	2024-04-29	
Silicon, dissolved	7.7	1.0	mg/L	2024-04-29	
Silver, dissolved	< 0.000050	0.000050	mg/L	2024-04-29	
Sodium, dissolved	7.84	0.10	mg/L	2024-04-29	
Strontium, dissolved	0.387	0.0010	mg/L	2024-04-29	
Sulfur, dissolved	5.2	3.0	mg/L	2024-04-29	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2024-04-29	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2024-04-29	



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Analyte	Result	RL	Units	Analyzed	Qualifier
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PW 624 (24D3225-01) | Matrix: Water | Sampled: 2024-04-24 10:00, Continued

Dissolved Metals, Continued

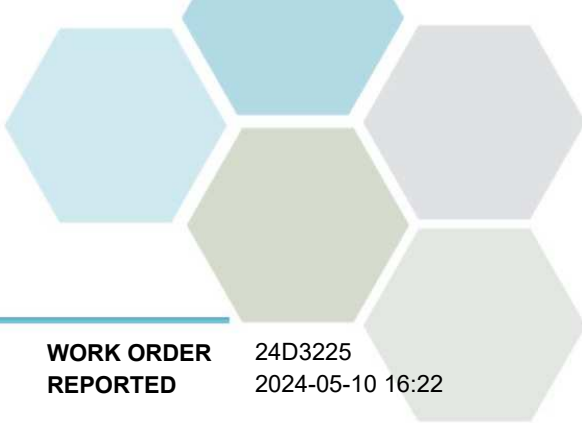
Thorium, dissolved	< 0.00010	0.00010	mg/L	2024-04-29	
Tin, dissolved	< 0.00020	0.00020	mg/L	2024-04-29	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2024-04-29	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2024-04-29	
Uranium, dissolved	0.00145	0.000020	mg/L	2024-04-29	
Vanadium, dissolved	< 0.0050	0.0050	mg/L	2024-04-29	
Zinc, dissolved	0.0382	0.0040	mg/L	2024-05-01	RE2
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2024-04-29	

General Parameters

Adsorbable Organic Halides	< 50	50	µg/L	2024-05-10	
Alkalinity, Total (as CaCO3)	173	1.0	mg/L	2024-05-01	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2024-05-01	
Alkalinity, Bicarbonate (as CaCO3)	173	1.0	mg/L	2024-05-01	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2024-05-01	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2024-05-01	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2024-04-26	
Carbon, Total Organic	2.86	0.50	mg/L	2024-04-28	
Nitrogen, Total Kjeldahl	0.129	0.050	mg/L	2024-04-29	
Phosphate (as P)	0.0136	0.0050	mg/L	2024-04-26	
Solids, Total Suspended	< 2.0	2.0	mg/L	2024-04-30	

Total Metals

Aluminum, total	< 0.0050	0.0050	mg/L	2024-04-30	
Antimony, total	< 0.00020	0.00020	mg/L	2024-04-30	
Arsenic, total	0.00111	0.00050	mg/L	2024-04-30	
Barium, total	0.0480	0.0050	mg/L	2024-04-30	
Beryllium, total	< 0.00010	0.00010	mg/L	2024-04-30	
Bismuth, total	< 0.00010	0.00010	mg/L	2024-04-30	
Boron, total	< 0.0500	0.0500	mg/L	2024-04-30	
Cadmium, total	0.000014	0.000010	mg/L	2024-04-30	
Calcium, total	47.8	0.20	mg/L	2024-04-30	
Chromium, total	< 0.00050	0.00050	mg/L	2024-04-30	
Cobalt, total	< 0.00010	0.00010	mg/L	2024-04-30	
Copper, total	0.0181	0.00040	mg/L	2024-04-30	
Iron, total	< 0.010	0.010	mg/L	2024-04-30	
Lead, total	0.00073	0.00020	mg/L	2024-04-30	
Lithium, total	0.00327	0.00010	mg/L	2024-04-30	
Magnesium, total	15.5	0.010	mg/L	2024-04-30	
Manganese, total	0.0418	0.00020	mg/L	2024-04-30	
Mercury, total	< 0.000010	0.000010	mg/L	2024-04-27	
Molybdenum, total	0.00161	0.00010	mg/L	2024-04-30	
Nickel, total	< 0.00040	0.00040	mg/L	2024-04-30	
Phosphorus, total	< 0.050	0.050	mg/L	2024-04-30	



TEST RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL	Units	Analyzed	Qualifier
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PW 624 (24D3225-01) | Matrix: Water | Sampled: 2024-04-24 10:00, Continued

Total Metals, Continued

Potassium, total	2.81	0.10	mg/L	2024-04-30	
Selenium, total	0.00068	0.00050	mg/L	2024-04-30	
Silicon, total	7.3	1.0	mg/L	2024-04-30	
Silver, total	< 0.000050	0.000050	mg/L	2024-04-30	
Sodium, total	7.67	0.10	mg/L	2024-04-30	
Strontium, total	0.354	0.0010	mg/L	2024-04-30	
Sulfur, total	4.9	3.0	mg/L	2024-04-30	
Tellurium, total	< 0.00050	0.00050	mg/L	2024-04-30	
Thallium, total	< 0.000020	0.000020	mg/L	2024-04-30	
Thorium, total	< 0.00010	0.00010	mg/L	2024-04-30	
Tin, total	< 0.00020	0.00020	mg/L	2024-04-30	
Titanium, total	< 0.0050	0.0050	mg/L	2024-04-30	
Tungsten, total	< 0.0010	0.0010	mg/L	2024-04-30	
Uranium, total	0.00200	0.000020	mg/L	2024-04-30	
Vanadium, total	< 0.0050	0.0050	mg/L	2024-04-30	
Zinc, total	0.0214	0.0040	mg/L	2024-04-30	
Zirconium, total	< 0.00010	0.00010	mg/L	2024-04-30	

Volatile Organic Compounds (VOC)

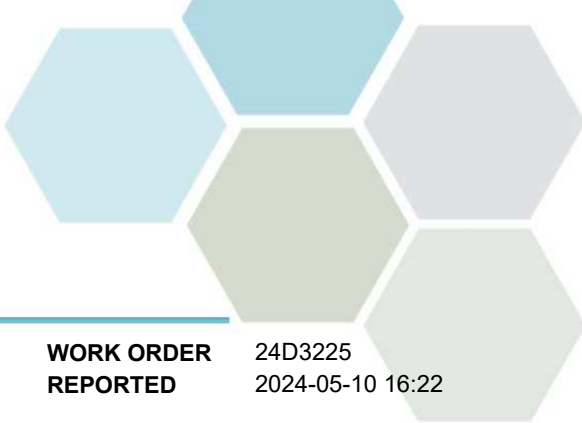
Bromodichloromethane	< 0.0010	0.0010	mg/L	2024-04-28	
Bromoform	< 0.0010	0.0010	mg/L	2024-04-28	
Chloroform	< 0.0010	0.0010	mg/L	2024-04-28	
Dibromochloromethane	< 0.0010	0.0010	mg/L	2024-04-28	
Surrogate: Toluene-d8	76	70-130	%	2024-04-28	
Surrogate: 4-Bromofluorobenzene	68	70-130	%	2024-04-28	S02

Microbiological Parameters

Coliforms, Total	<1	1	CFU/100 mL	2024-04-25	
Coliforms, Fecal	<1	1	CFU/100 mL	2024-04-25	
E. coli	<1	1	CFU/100 mL	2024-04-25	

Sample Qualifiers:

- RE2 Result was confirmed by re-analysis prior to reporting.
- S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

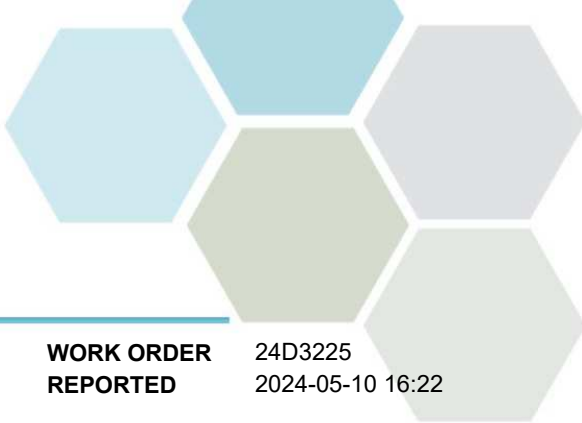
WORK ORDER REPORTED 24D3225
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Analysis Description	Method Ref.	Technique	Accredited	Location
Adsorbable Organic Halides in Water	PAPTAC/ISO - low level	Adsorption, Coulometric Titration		Sublet
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2021)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Richmond
Carbon, Total Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	Kelowna
Coliforms, Fecal in Water	SM 9222 (2015)	Membrane Filtration		Sublet
Coliforms, Total in Water	SM 9222 (2015)	Membrane Filtration	✓	Sublet
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* (2015)	Chromocult Agar	✓	Sublet
Hardness in Water	SM 2340 B (2021)	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* (2021)	Block Digestion and Flow Injection Analysis	✓	Kelowna
Orthophosphate in Water	SM 4500-P E (2021)	Colorimetry (Ascorbic Acid)	✓	Richmond
Solids, Total Suspended in Water	SM 2540 D* (2020)	Gravimetry (Dried at 103-105C)	✓	Richmond
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
<1	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
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
PROJECT Raw Water - PW 624

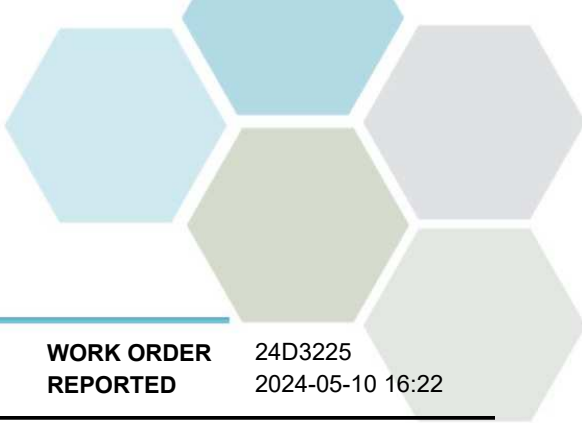
WORK ORDER 24D3225
REPORTED 2024-05-10 16:22

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

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APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

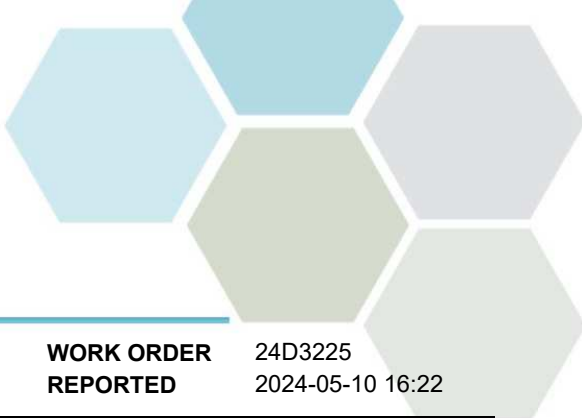
- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected 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 B4D3933									
Blank (B4D3933-BLK1)			Prepared: 2024-04-25, Analyzed: 2024-04-25						
Bromide	< 0.1	0.1 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)	< 0.002	0.002 mg/L							
Sulfate	< 1.0	1.0 mg/L							
Blank (B4D3933-BLK2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Bromide	< 0.1	0.1 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)	< 0.002	0.002 mg/L							
Sulfate	< 1.0	1.0 mg/L							
LCS (B4D3933-BS1)			Prepared: 2024-04-25, Analyzed: 2024-04-25						
Bromide	9.7	0.1 mg/L	10.0		97	85-115			
Chloride	2.75	0.10 mg/L	3.00		92	85-115			
Fluoride	2.00	0.10 mg/L	2.00		100	85-115			
Nitrate (as N)	2.90	0.010 mg/L	3.00		97	85-115			
Nitrite (as N)	2.81	0.002 mg/L	3.00		94	85-115			
Sulfate	15.0	1.0 mg/L	15.0		100	85-115			
LCS (B4D3933-BS2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Bromide	10.2	0.1 mg/L	10.0		102	85-115			
Chloride	2.97	0.10 mg/L	3.00		99	85-115			
Fluoride	2.12	0.10 mg/L	2.00		106	85-115			
Nitrate (as N)	3.08	0.010 mg/L	3.00		103	85-115			
Nitrite (as N)	2.99	0.002 mg/L	3.00		100	85-115			
Sulfate	15.8	1.0 mg/L	15.0		105	85-115			

Dissolved Metals, Batch B4D4104

Blank (B4D4104-BLK1)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

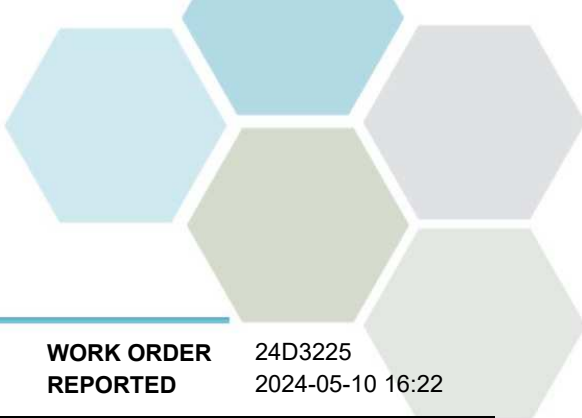
REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B4D4104, Continued									
Blank (B4D4104-BLK2)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK3)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK4)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK5)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK6)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
LCS (B4D4104-BS1)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS2)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00245	0.000010 mg/L	0.00250		98	80-120			
LCS (B4D4104-BS3)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00253	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS4)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS5)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS6)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, dissolved	0.00260	0.000010 mg/L	0.00250		104	80-120			
Matrix Spike (B4D4104-MS3)			Source: 24D3225-01		Prepared: 2024-04-27, Analyzed: 2024-04-27				
Mercury, dissolved	0.00263	0.000010 mg/L	0.00250	< 0.000010	105	70-130			

Dissolved Metals, Batch B4D4241

Blank (B4D4241-BLK1)			Prepared: 2024-04-29, Analyzed: 2024-04-29						
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							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B4D4241, Continued

Blank (B4D4241-BLK1), Continued

Prepared: 2024-04-29, Analyzed: 2024-04-29

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	< 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 (B4D4241-BS1)

Prepared: 2024-04-29, Analyzed: 2024-04-29

Aluminum, dissolved	4.05	0.0050 mg/L	4.00		101	80-120			
Antimony, dissolved	0.0400	0.00020 mg/L	0.0400		100	80-120			
Arsenic, dissolved	0.403	0.00050 mg/L	0.400		101	80-120			
Barium, dissolved	0.0405	0.0050 mg/L	0.0400		101	80-120			
Beryllium, dissolved	0.0404	0.00010 mg/L	0.0400		101	80-120			
Bismuth, dissolved	0.0409	0.00010 mg/L	0.0400		102	80-120			
Boron, dissolved	0.400	0.0500 mg/L	0.400		100	80-120			
Cadmium, dissolved	0.0400	0.000010 mg/L	0.0400		100	80-120			
Calcium, dissolved	4.08	0.20 mg/L	4.00		102	80-120			
Chromium, dissolved	0.0406	0.00050 mg/L	0.0400		101	80-120			
Cobalt, dissolved	0.0398	0.00010 mg/L	0.0400		100	80-120			
Copper, dissolved	0.0399	0.00040 mg/L	0.0400		100	80-120			
Iron, dissolved	3.93	0.010 mg/L	4.00		98	80-120			
Lead, dissolved	0.0402	0.00020 mg/L	0.0400		100	80-120			
Lithium, dissolved	0.0401	0.00010 mg/L	0.0400		100	80-120			
Magnesium, dissolved	4.01	0.010 mg/L	4.00		100	80-120			
Manganese, dissolved	0.0401	0.00020 mg/L	0.0400		100	80-120			
Molybdenum, dissolved	0.0403	0.00010 mg/L	0.0400		101	80-120			
Nickel, dissolved	0.0391	0.00040 mg/L	0.0400		98	80-120			
Phosphorus, dissolved	4.04	0.050 mg/L	4.00		101	80-120			
Potassium, dissolved	3.91	0.10 mg/L	4.00		98	80-120			
Selenium, dissolved	0.406	0.00050 mg/L	0.400		102	80-120			
Silicon, dissolved	4.0	1.0 mg/L	4.00		100	80-120			
Silver, dissolved	0.0396	0.000050 mg/L	0.0400		99	80-120			
Sodium, dissolved	4.05	0.10 mg/L	4.00		101	80-120			
Strontium, dissolved	0.0407	0.0010 mg/L	0.0400		102	80-120			
Sulfur, dissolved	41.5	3.0 mg/L	40.0		104	80-120			
Tellurium, dissolved	0.0405	0.00050 mg/L	0.0400		101	80-120			
Thallium, dissolved	0.0403	0.000020 mg/L	0.0400		101	80-120			
Thorium, dissolved	0.0471	0.00010 mg/L	0.0400		118	80-120			
Tin, dissolved	0.0405	0.00020 mg/L	0.0400		101	80-120			
Titanium, dissolved	0.0393	0.0050 mg/L	0.0400		98	80-120			
Tungsten, dissolved	0.0414	0.0010 mg/L	0.0400		103	80-120			
Uranium, dissolved	0.0393	0.000020 mg/L	0.0400		98	80-120			
Vanadium, dissolved	0.0392	0.0050 mg/L	0.0400		98	80-120			
Zinc, dissolved	0.398	0.0040 mg/L	0.400		100	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B4D4241, Continued									
LCS (B4D4241-BS1), Continued			Prepared: 2024-04-29, Analyzed: 2024-04-29						
Zirconium, dissolved	0.0405	0.00010 mg/L	0.0400		101	80-120			
General Parameters, Batch B4D3959									
Blank (B4D3959-BLK1)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B4D3959-BLK2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B4D3959-BLK3)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B4D3959-BLK4)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B4D3959-BS1)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	1.05	0.050 mg/L	1.00		105	85-115			
LCS (B4D3959-BS2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	1.09	0.050 mg/L	1.00		109	85-115			
LCS (B4D3959-BS3)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	1.14	0.050 mg/L	1.00		114	85-115			
LCS (B4D3959-BS4)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Ammonia, Total (as N)	1.14	0.050 mg/L	1.00		114	85-115			
General Parameters, Batch B4D4051									
Blank (B4D4051-BLK1)			Prepared: 2024-04-26, Analyzed: 2024-04-29						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B4D4051-BLK2)			Prepared: 2024-04-26, Analyzed: 2024-04-29						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B4D4051-BS1)			Prepared: 2024-04-26, Analyzed: 2024-04-29						
Nitrogen, Total Kjeldahl	0.980	0.050 mg/L	1.00		98	85-115			
LCS (B4D4051-BS2)			Prepared: 2024-04-26, Analyzed: 2024-04-29						
Nitrogen, Total Kjeldahl	0.978	0.050 mg/L	1.00		98	85-115			
General Parameters, Batch B4D4058									
Blank (B4D4058-BLK1)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	< 0.50	0.50 mg/L							
Blank (B4D4058-BLK2)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	< 0.50	0.50 mg/L							
Blank (B4D4058-BLK3)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	< 0.50	0.50 mg/L							
LCS (B4D4058-BS1)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	9.18	0.50 mg/L	10.0		92	78-116			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4D4058, Continued									
LCS (B4D4058-BS2)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	9.96	0.50 mg/L	10.0		100	78-116			
LCS (B4D4058-BS3)			Prepared: 2024-04-28, Analyzed: 2024-04-28						
Carbon, Total Organic	9.09	0.50 mg/L	10.0		91	78-116			
General Parameters, Batch B4D4072									
Blank (B4D4072-BLK1)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Phosphate (as P)	< 0.0050	0.0050 mg/L							
Blank (B4D4072-BLK2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Phosphate (as P)	< 0.0050	0.0050 mg/L							
LCS (B4D4072-BS1)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Phosphate (as P)	0.0295	0.0050 mg/L	0.0320		92	75-125			
LCS (B4D4072-BS2)			Prepared: 2024-04-26, Analyzed: 2024-04-26						
Phosphate (as P)	0.0307	0.0050 mg/L	0.0320		96	75-125			
General Parameters, Batch B4D4303									
Blank (B4D4303-BLK1)			Prepared: 2024-04-30, Analyzed: 2024-04-30						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B4D4303-BLK2)			Prepared: 2024-04-30, Analyzed: 2024-04-30						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B4D4303-BS1)			Prepared: 2024-04-30, Analyzed: 2024-04-30						
Solids, Total Suspended	99.0	5.0 mg/L	100		99	83-107			
LCS (B4D4303-BS2)			Prepared: 2024-04-30, Analyzed: 2024-04-30						
Solids, Total Suspended	105	5.0 mg/L	100		105	83-107			
General Parameters, Batch B4E1243									
Blank (B4E1243-BLK1)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							
Blank (B4E1243-BLK2)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							
Blank (B4E1243-BLK3)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B4E1243, Continued

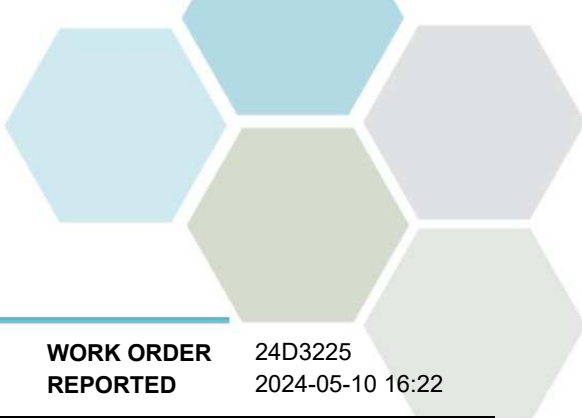
LCS (B4E1243-BS1)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	96.0	1.0 mg/L	100		96	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	62.0	1.0 mg/L	50.0		124	0-200			
LCS (B4E1243-BS2)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	100	1.0 mg/L	100		100	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	43.9	1.0 mg/L	50.0		88	0-200			
LCS (B4E1243-BS3)			Prepared: 2024-05-01, Analyzed: 2024-05-01						
Alkalinity, Total (as CaCO3)	99.3	1.0 mg/L	100		99	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	56.1	1.0 mg/L	50.0		112	0-200			

Total Metals, Batch B4D4104

Blank (B4D4104-BLK1)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK2)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK3)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK4)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK5)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4D4104-BLK6)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B4D4104-BS1)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS2)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00245	0.000010 mg/L	0.00250		98	80-120			
LCS (B4D4104-BS3)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00253	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS4)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS5)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00252	0.000010 mg/L	0.00250		101	80-120			
LCS (B4D4104-BS6)			Prepared: 2024-04-27, Analyzed: 2024-04-27						
Mercury, total	0.00260	0.000010 mg/L	0.00250		104	80-120			

Total Metals, Batch B4D4322

Blank (B4D4322-BLK1)			Prepared: 2024-04-30, Analyzed: 2024-04-30						
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	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B4D4322, Continued

Blank (B4D4322-BLK1), Continued

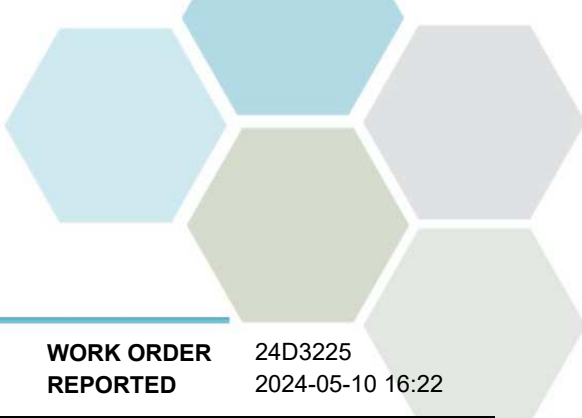
Prepared: 2024-04-30, Analyzed: 2024-04-30

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 (B4D4322-BS1)

Prepared: 2024-04-30, Analyzed: 2024-04-30

Aluminum, total	4.10	0.0050 mg/L	4.00		103	80-120			
Antimony, total	0.0405	0.00020 mg/L	0.0400		101	80-120			
Arsenic, total	0.410	0.00050 mg/L	0.400		103	80-120			
Barium, total	0.0426	0.0050 mg/L	0.0400		106	80-120			
Beryllium, total	0.0408	0.00010 mg/L	0.0400		102	80-120			
Bismuth, total	0.0421	0.00010 mg/L	0.0400		105	80-120			
Boron, total	0.412	0.0500 mg/L	0.400		103	80-120			
Cadmium, total	0.0414	0.000010 mg/L	0.0400		104	80-120			
Calcium, total	4.20	0.20 mg/L	4.00		105	80-120			
Chromium, total	0.0416	0.00050 mg/L	0.0400		104	80-120			
Cobalt, total	0.0416	0.00010 mg/L	0.0400		104	80-120			
Copper, total	0.0417	0.00040 mg/L	0.0400		104	80-120			
Iron, total	4.13	0.010 mg/L	4.00		103	80-120			
Lead, total	0.0431	0.00020 mg/L	0.0400		108	80-120			
Lithium, total	0.0423	0.00010 mg/L	0.0400		106	80-120			
Magnesium, total	4.16	0.010 mg/L	4.00		104	80-120			
Manganese, total	0.0414	0.00020 mg/L	0.0400		104	80-120			
Molybdenum, total	0.0426	0.00010 mg/L	0.0400		107	80-120			
Nickel, total	0.0420	0.00040 mg/L	0.0400		105	80-120			
Phosphorus, total	4.03	0.050 mg/L	4.00		101	80-120			
Potassium, total	4.26	0.10 mg/L	4.00		107	80-120			
Selenium, total	0.421	0.00050 mg/L	0.400		105	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Prince George, City of - Pump Station
Raw Water - PW 624

WORK ORDER REPORTED 24D3225
2024-05-10 16:22

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B4D4322, Continued									
LCS (B4D4322-BS1), Continued					Prepared: 2024-04-30, Analyzed: 2024-04-30				
Silicon, total	4.2	1.0 mg/L	4.00		106	80-120			
Silver, total	0.0417	0.000050 mg/L	0.0400		104	80-120			
Sodium, total	4.10	0.10 mg/L	4.00		102	80-120			
Strontium, total	0.0411	0.0010 mg/L	0.0400		103	80-120			
Sulfur, total	42.6	3.0 mg/L	40.0		106	80-120			
Tellurium, total	0.0399	0.00050 mg/L	0.0400		100	80-120			
Thallium, total	0.0443	0.000020 mg/L	0.0400		111	80-120			
Thorium, total	0.0413	0.00010 mg/L	0.0400		103	80-120			
Tin, total	0.0427	0.00020 mg/L	0.0400		107	80-120			
Titanium, total	0.0416	0.0050 mg/L	0.0400		104	80-120			
Tungsten, total	0.0436	0.0010 mg/L	0.0400		109	80-120			
Uranium, total	0.0436	0.000020 mg/L	0.0400		109	80-120			
Vanadium, total	0.0415	0.0050 mg/L	0.0400		104	80-120			
Zinc, total	0.407	0.0040 mg/L	0.400		102	80-120			
Zirconium, total	0.0409	0.00010 mg/L	0.0400		102	80-120			

Volatile Organic Compounds (VOC), Batch B4D4131

Blank (B4D4131-BLK1)					Prepared: 2024-04-28, Analyzed: 2024-04-28				
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	0.0194	mg/L	0.0250		77	70-130			
Surrogate: 4-Bromofluorobenzene	0.0179	mg/L	0.0249		72	70-130			
LCS (B4D4131-BS1)					Prepared: 2024-04-28, Analyzed: 2024-04-28				
Bromodichloromethane	0.0246	0.0010 mg/L	0.0201		123	70-130			
Bromoform	0.0218	0.0010 mg/L	0.0201		109	70-130			
Chloroform	0.0251	0.0010 mg/L	0.0201		125	70-130			
Dibromochloromethane	0.0238	0.0010 mg/L	0.0201		118	70-130			
Surrogate: Toluene-d8	0.0241	mg/L	0.0250		96	70-130			
Surrogate: 4-Bromofluorobenzene	0.0249	mg/L	0.0249		100	70-130			