CERTIFICATE OF ANALYSIS

REPORTED TO	Keats Island Construction & Services PO Box 1342 Gibsons, BC V0N 1V0		
ATTENTION	Andrew Nadler	**WORK ORDER**	23G3780
PO NUMBER	7959	**RECEIVED / TEMP**	2023-07-28 18:00 / 12.0°C
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28
PROJECT INFO		**COC NUMBER**	eCOC#00005746

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 TeamCaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Treated Water - 4293D (23G3780-01) | Matrix: Potable Water | Sampled: 2023-07-28 14:00					
Anions					
Chloride	**47.6**	0.10	mg/L	2023-08-01	
Fluoride	< 0.10	0.10	mg/L	2023-08-01	
Nitrate+Nitrite (as N)	**0.0102**	0.0050	mg/L	2023-08-01	
Nitrite (as N)	< 0.0050	0.0050	mg/L	2023-07-29	
Sulfate	< 1.0	1.0	mg/L	2023-08-01	
BCMOE Aggregate Hydrocarbons					
VHw (6-10)	< 100	100	µg/L	2023-07-31	
VPHw	< 100	100	µg/L	N/A	
EPHw10-19	< 250	250	µg/L	2023-08-01	
EPHw19-32	< 250	250	µg/L	2023-08-01	
Surrogate: 2-Methylnonane (EPH/F2-4)	*140*	*60-140*	%	*2023-08-01*	
Calculated Parameters					
Total Trihalomethanes	< 0.00400	0.00400	mg/L	N/A	
Hardness, Total (as CaCO3)	**8.97**	0.500	mg/L	N/A	
Nitrate (as N)	**0.0102**	0.0100	mg/L	N/A	
Solids, Total Dissolved	**88.4**	1.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**8.4**	1.0	mg/L	2023-08-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Alkalinity, Bicarbonate (as CaCO3)	**8.4**	1.0	mg/L	2023-08-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Carbon, Total Organic	**2.38**	0.50	mg/L	2023-08-01	
Conductivity (EC)	**190**	2.0	µS/cm	2023-08-02	
Cyanide, Total	< 0.0020	0.0020	mg/L	2023-08-02	
pH	**6.45**	0.10	pH units	2023-08-02	HT2
Tannin and Lignin	< 0.20	0.20	mg/L	2023-08-02	
Turbidity	**0.64**	0.10	NTU	2023-07-29	
UV Transmittance @ 254nm	**88.3**	0.10	% T	2023-08-02	HT1
Haloacetic Acids					
Monochloroacetic Acid	< 0.0020	0.0020	mg/L	2023-08-03	
Monobromoacetic Acid	< 0.0020	0.0020	mg/L	2023-08-03	
Dichloroacetic Acid	**0.0171**	0.0020	mg/L	2023-08-03	
Trichloroacetic Acid	**0.0096**	0.0020	mg/L	2023-08-03	
Dibromoacetic Acid	< 0.0020	0.0020	mg/L	2023-08-03	
Total Haloacetic Acids (HAA5)	**0.0267**	0.00200	mg/L	N/A	
Surrogate: 2-Bromopropionic Acid	*106*	*70-130*	%	*2023-08-03*	
Total Metals					
Aluminum, total	**0.0233**	0.0050	mg/L	2023-08-03	
Antimony, total	< 0.00020	0.00020	mg/L	2023-08-03	

TEST RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Treated Water - 4293D (23G3780-01) | Matrix: Potable Water | Sampled: 2023-07-28 14:00, Continued					
Total Metals, Continued					
Arsenic, total	< 0.00050	0.00050	mg/L	2023-08-03	
Barium, total	**0.0088**	0.0050	mg/L	2023-08-03	
Boron, total	< 0.0500	0.0500	mg/L	2023-08-03	
Cadmium, total	< 0.000010	0.000010	mg/L	2023-08-03	
Calcium, total	**2.10**	0.20	mg/L	2023-08-03	
Chromium, total	< 0.00050	0.00050	mg/L	2023-08-03	
Copper, total	**0.0119**	0.00040	mg/L	2023-08-03	
Iron, total	**0.232**	0.010	mg/L	2023-08-03	
Lead, total	< 0.00020	0.00020	mg/L	2023-08-03	
Magnesium, total	**0.904**	0.010	mg/L	2023-08-03	
Manganese, total	**0.118**	0.00020	mg/L	2023-08-03	
Potassium, total	**0.47**	0.10	mg/L	2023-08-03	
Selenium, total	< 0.00050	0.00050	mg/L	2023-08-03	
Sodium, total	**32.2**	0.10	mg/L	2023-08-03	
Strontium, total	**0.0241**	0.0010	mg/L	2023-08-03	
Uranium, total	< 0.000020	0.000020	mg/L	2023-08-03	
Zinc, total	**0.0061**	0.0040	mg/L	2023-08-03	
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2023-07-31	
Bromodichloromethane	< 0.0010	0.0010	mg/L	2023-07-31	
Bromoform	< 0.0010	0.0010	mg/L	2023-07-31	
Chloroform	**0.0037**	0.0010	mg/L	2023-07-31	
Dibromochloromethane	< 0.0010	0.0010	mg/L	2023-07-31	
Ethylbenzene	< 1.0	1.0	µg/L	2023-07-31	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2023-07-31	
Styrene	< 1.0	1.0	µg/L	2023-07-31	
Toluene	< 1.0	1.0	µg/L	2023-07-31	
Xylenes (total)	< 2.0	2.0	µg/L	2023-07-31	
Surrogate: Toluene-d8	*104*	*70-130*	%	*2023-07-31*	
Surrogate: 4-Bromofluorobenzene	*100*	*70-130*	%	*2023-07-31*	
Raw Water - 42939 (23G3780-02) | Matrix: Potable Water | Sampled: 2023-07-28 14:30					
Anions					
Chloride	**46.5**	0.10	mg/L	2023-08-01	
Fluoride	< 0.10	0.10	mg/L	2023-08-01	
Nitrate+Nitrite (as N)	**0.0113**	0.0050	mg/L	2023-08-01	
Nitrite (as N)	< 0.0050	0.0050	mg/L	2023-07-29	
Sulfate	< 1.0	1.0	mg/L	2023-08-01	
BCMOE Aggregate Hydrocarbons					
VHw (6-10)	< 100	100	µg/L	2023-07-31	

TEST RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Water - 42939 (23G3780-02) | Matrix: Potable Water | Sampled: 2023-07-28 14:30, Continued					
BCMOE Aggregate Hydrocarbons, Continued					
VPHw	< 100	100	µg/L	N/A	
EPHw10-19	< 250	250	µg/L	2023-08-01	
EPHw19-32	< 250	250	µg/L	2023-08-01	
Surrogate: 2-Methylnonane (EPH/F2-4)	*107*	*60-140*	%	*2023-08-01*	
Calculated Parameters					
Hardness, Total (as CaCO3)	**9.15**	0.500	mg/L	N/A	
Nitrate (as N)	**0.0113**	0.0100	mg/L	N/A	
Solids, Total Dissolved	**87.1**	1.00	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	**7.9**	1.0	mg/L	2023-08-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Alkalinity, Bicarbonate (as CaCO3)	**7.9**	1.0	mg/L	2023-08-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2023-08-02	
Carbon, Total Organic	**2.49**	0.50	mg/L	2023-08-01	
Conductivity (EC)	**187**	2.0	µS/cm	2023-08-02	
Cyanide, Total	< 0.0020	0.0020	mg/L	2023-08-02	
pH	**6.48**	0.10	pH units	2023-08-02	HT2
Tannin and Lignin	< 0.20	0.20	mg/L	2023-08-02	
Turbidity	**0.55**	0.10	NTU	2023-07-29	
Total Metals					
Aluminum, total	**0.0225**	0.0050	mg/L	2023-08-03	
Antimony, total	< 0.00020	0.00020	mg/L	2023-08-03	
Arsenic, total	< 0.00050	0.00050	mg/L	2023-08-03	
Barium, total	**0.0079**	0.0050	mg/L	2023-08-03	
Boron, total	< 0.0500	0.0500	mg/L	2023-08-03	
Cadmium, total	**0.000018**	0.000010	mg/L	2023-08-03	
Calcium, total	**2.17**	0.20	mg/L	2023-08-03	
Chromium, total	< 0.00050	0.00050	mg/L	2023-08-03	
Copper, total	**0.0296**	0.00040	mg/L	2023-08-03	
Iron, total	**0.362**	0.010	mg/L	2023-08-03	
Lead, total	**0.805**	0.00020	mg/L	2023-08-03	
Magnesium, total	**0.901**	0.010	mg/L	2023-08-03	
Manganese, total	**0.0622**	0.00020	mg/L	2023-08-03	
Potassium, total	**0.48**	0.10	mg/L	2023-08-03	
Selenium, total	< 0.00050	0.00050	mg/L	2023-08-03	
Sodium, total	**32.2**	0.10	mg/L	2023-08-03	
Strontium, total	**0.0234**	0.0010	mg/L	2023-08-03	
Uranium, total	< 0.000020	0.000020	mg/L	2023-08-03	
Zinc, total	**0.0880**	0.0040	mg/L	2023-08-03	

TEST RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Analyzed	Qualifier
Raw Water - 42939 (23G3780-02) | Matrix: Potable Water | Sampled: 2023-07-28 14:30, Continued					
Volatile Organic Compounds (VOC)					
Benzene	< 0.5	0.5	µg/L	2023-07-31	
Ethylbenzene	< 1.0	1.0	µg/L	2023-07-31	
Methyl tert-butyl ether	< 1.0	1.0	µg/L	2023-07-31	
Styrene	< 1.0	1.0	µg/L	2023-07-31	
Toluene	< 1.0	1.0	µg/L	2023-07-31	
Xylenes (total)	< 2.0	2.0	µg/L	2023-07-31	
Surrogate: Toluene-d8	*122*	*70-130*	%	*2023-07-31*	
Surrogate: 4-Bromofluorobenzene	*108*	*70-130*	%	*2023-07-31*	

Sample Qualifiers:

HT1 The sample was prepared and/or analyzed past the recommended holding time.

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Kelowna
BTEX in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Richmond
Carbon, Total Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	Kelowna
Conductivity in Water	SM 2510 B (2021)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
EPH in Water	EPA 3511* / BCMOE EPHw	Hexane MicroExtraction (Base/Neutral) / Gas Chromatography (GC-FID)	✓	Richmond
Haloacetic Acids in Water	EPA 552.3*	Liquid-Liquid Microextraction, Derivatization and GC-ECD	✓	Richmond
Hardness in Water	SM 2340 B* (2021)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Nitrate+Nitrite in Water	SM 4500-NO3- F (2019)	Automated Colorimetry (Cadmium Reduction)	✓	Kelowna
Nitrite in Water	SM 4500-NO2 B (2021)	Colorimetry	✓	Richmond
pH in Water	SM 4500-H+ B (2021)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2021)	SM 1030 E		N/A
Tannin and Lignin in Water	SM 5550 B (2021)	Colorimetry	✓	Edmonton
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Transmittance at 254 nm in Water	SM 5910 B* (2021)	Ultraviolet Absorption	✓	Kelowna
Trihalomethanes in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)	✓	Richmond
Turbidity in Water	SM 2130 B (2020)	Nephelometry	✓	Kelowna
VH in Water	EPA 5030B / BCMOE VHw	Purge&Trap / Gas Chromatography (GC-FID)	✓	Richmond
VPHw in Water	BCMOE VPH	Calculation: VH - (Benzene + Toluene + Ethylbenzene + Xylenes + Styrene)		N/A

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)
% T	Percent Transmittance
<	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
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, ph > 7 = basic
µg/L	Micrograms per litre
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
BCMOE	British Columbia Environmental Laboratory Manual, British Columbia Ministry of Environment
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	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

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: TeamCaro@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	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

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 B3G3068										
Blank (B3G3068-BLK1)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Nitrite (as N)	< 0.0050	0.0050	mg/L							
LCS (B3G3068-BS1)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Nitrite (as N)	0.0490	0.0050	mg/L	0.0500		98	90-110			
Duplicate (B3G3068-DUP1)		**Source: 23G3780-01**		Prepared: 2023-07-29, Analyzed: 2023-07-29						
Nitrite (as N)	< 0.0050	0.0050	mg/L		< 0.0050				10	
Matrix Spike (B3G3068-MS1)		**Source: 23G3780-01**		Prepared: 2023-07-29, Analyzed: 2023-07-29						
Nitrite (as N)	0.0460	0.0050	mg/L	0.0500	< 0.0050	90	80-120			
Anions, Batch B3G3221										
Blank (B3G3221-BLK1)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Nitrate+Nitrite (as N)	< 0.0050	0.0050	mg/L							
Blank (B3G3221-BLK2)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Nitrate+Nitrite (as N)	< 0.0050	0.0050	mg/L							
LCS (B3G3221-BS1)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Nitrate+Nitrite (as N)	0.497	0.0050	mg/L	0.500		99	91-108			
LCS (B3G3221-BS2)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Nitrate+Nitrite (as N)	0.500	0.0050	mg/L	0.500		100	91-108			
Anions, Batch B3H0055										
Blank (B3H0055-BLK1)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Chloride	< 0.10	0.10	mg/L							
Fluoride	< 0.10	0.10	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (B3H0055-BS1)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Chloride	16.1	0.10	mg/L	16.0		101	90-110			
Fluoride	3.91	0.10	mg/L	4.00		98	88-108			
Sulfate	16.0	1.0	mg/L	16.0		100	90-110			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
BCMOE Aggregate Hydrocarbons, Batch B3G3100										
Blank (B3G3100-BLK1)				Prepared: 2023-07-30, Analyzed: 2023-07-30						
VHw (6-10)	< 100	100	µg/L							
LCS (B3G3100-BS2)				Prepared: 2023-07-30, Analyzed: 2023-07-30						
VHw (6-10)	2050	100	µg/L	2190		94	70-130			
BCMOE Aggregate Hydrocarbons, Batch B3G3237										
Blank (B3G3237-BLK1)				Prepared: 2023-07-31, Analyzed: 2023-08-01						
EPHw10-19	< 250	250	µg/L							
EPHw19-32	< 250	250	µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	*2910*		*µg/L*	2200		*132*	*60-140*			
LCS (B3G3237-BS2)				Prepared: 2023-07-31, Analyzed: 2023-08-01						
EPHw10-19	20000	250	µg/L	15400		129	70-130			
EPHw19-32	28000	250	µg/L	22200		126	70-130			
Surrogate: 2-Methylnonane (EPH/F2-4)	*40.0*		*µg/L*	2200		*2*	*60-140*			*S09*
General Parameters, Batch B3G3054										
Blank (B3G3054-BLK1)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
Blank (B3G3054-BLK2)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
Blank (B3G3054-BLK3)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
Blank (B3G3054-BLK4)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
Blank (B3G3054-BLK5)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
Blank (B3G3054-BLK6)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	< 0.10	0.10	NTU							
LCS (B3G3054-BS1)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
LCS (B3G3054-BS2)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
LCS (B3G3054-BS3)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
LCS (B3G3054-BS4)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
LCS (B3G3054-BS5)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
LCS (B3G3054-BS6)				Prepared: 2023-07-29, Analyzed: 2023-07-29						
Turbidity	145	0.10	NTU	140		104	90-110			
General Parameters, Batch B3G3139										

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B3G3139, Continued										
Blank (B3G3139-BLK1)				Prepared: 2023-07-31, Analyzed: 2023-08-03						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B3G3139-BLK2)				Prepared: 2023-07-31, Analyzed: 2023-08-03						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B3G3139-BLK3)				Prepared: 2023-08-01, Analyzed: 2023-08-03						
Carbon, Total Organic	< 0.50	0.50	mg/L							
Blank (B3G3139-BLK4)				Prepared: 2023-08-01, Analyzed: 2023-08-03						
Carbon, Total Organic	< 0.50	0.50	mg/L							
LCS (B3G3139-BS1)				Prepared: 2023-07-31, Analyzed: 2023-08-03						
Carbon, Total Organic	9.43	0.50	mg/L	10.0		94	78-116			
LCS (B3G3139-BS2)				Prepared: 2023-07-31, Analyzed: 2023-08-03						
Carbon, Total Organic	9.64	0.50	mg/L	10.0		96	78-116			
LCS (B3G3139-BS3)				Prepared: 2023-08-01, Analyzed: 2023-08-03						
Carbon, Total Organic	10.4	0.50	mg/L	10.0		104	78-116			
LCS (B3G3139-BS4)				Prepared: 2023-08-01, Analyzed: 2023-08-01						
Carbon, Total Organic	9.65	0.50	mg/L	10.0		97	78-116			
General Parameters, Batch B3H0113										
Blank (B3H0113-BLK1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Tannin and Lignin	< 0.20	0.20	mg/L							
LCS (B3H0113-BS1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Tannin and Lignin	4.99	0.20	mg/L	5.00		100	90-110			
Duplicate (B3H0113-DUP1)		**Source: 23G3780-01**		Prepared: 2023-08-02, Analyzed: 2023-08-02						
Tannin and Lignin	< 0.20	0.20	mg/L		< 0.20				8	
Matrix Spike (B3H0113-MS1)		**Source: 23G3780-02**		Prepared: 2023-08-02, Analyzed: 2023-08-02						
Tannin and Lignin	2.14	0.20	mg/L	2.00	< 0.20	101	70-120			
General Parameters, Batch B3H0146										
Blank (B3H0146-BLK1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	< 0.0020	0.0020	mg/L							
Blank (B3H0146-BLK2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	< 0.0020	0.0020	mg/L							
LCS (B3H0146-BS1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	0.0176	0.0020	mg/L	0.0200		88	82-120			
LCS (B3H0146-BS2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	0.0238	0.0020	mg/L	0.0200		119	82-120			
LCS Dup (B3H0146-BSD1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	0.0182	0.0020	mg/L	0.0200		91	82-120	3	10	
LCS Dup (B3H0146-BSD2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Cyanide, Total	0.0216	0.0020	mg/L	0.0200		108	82-120	10	10	

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B3H0147										
Blank (B3H0147-BLK1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
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							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B3H0147-BLK2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
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							
Conductivity (EC)	< 2.0	2.0	µS/cm							
Blank (B3H0147-BLK3)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
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							
Conductivity (EC)	< 2.0	2.0	µS/cm							
LCS (B3H0147-BS1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Alkalinity, Total (as CaCO3)	105	1.0	mg/L	100		105	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	43.3	1.0	mg/L	50.0		87	0-200			
LCS (B3H0147-BS2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	100		106	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	39.9	1.0	mg/L	50.0		80	0-200			
LCS (B3H0147-BS3)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	100		107	80-120			
Alkalinity, Phenolphthalein (as CaCO3)	33.6	1.0	mg/L	50.0		67	0-200			
LCS (B3H0147-BS4)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Conductivity (EC)	1400	2.0	µS/cm	1410		100	95-105			
LCS (B3H0147-BS5)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Conductivity (EC)	1400	2.0	µS/cm	1410		99	95-105			
LCS (B3H0147-BS6)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
Conductivity (EC)	1410	2.0	µS/cm	1410		100	95-105			
Reference (B3H0147-SRM1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
pH	7.05	0.10	pH units	7.01		101	98-102			
Reference (B3H0147-SRM2)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
pH	7.05	0.10	pH units	7.01		101	98-102			
Reference (B3H0147-SRM3)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
pH	7.05	0.10	pH units	7.01		101	98-102			
General Parameters, Batch B3H0176										
Blank (B3H0176-BLK1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
UV Transmittance @ 254nm	< 0.10	0.10	% T							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B3H0176, Continued										
LCS (B3H0176-BS1)				Prepared: 2023-08-02, Analyzed: 2023-08-02						
UV Transmittance @ 254nm	34.4	0.10	% T	35.4		97	95-105			
Haloacetic Acids, Batch B3H0285										
Blank (B3H0285-BLK1)				Prepared: 2023-08-02, Analyzed: 2023-08-03						
Monochloroacetic Acid	< 0.0020	0.0020	mg/L							
Monobromoacetic Acid	< 0.0020	0.0020	mg/L							
Dichloroacetic Acid	< 0.0020	0.0020	mg/L							
Trichloroacetic Acid	< 0.0020	0.0020	mg/L							
Dibromoacetic Acid	< 0.0020	0.0020	mg/L							
Surrogate: 2-Bromopropionic Acid	*0.0120*		*mg/L*	0.0116		*103*	*70-130*			
LCS (B3H0285-BS1)				Prepared: 2023-08-02, Analyzed: 2023-08-03						
Monochloroacetic Acid	0.0556	0.0020	mg/L	0.0564		99	75-117			
Monobromoacetic Acid	0.0366	0.0020	mg/L	0.0374		98	83-113			
Dichloroacetic Acid	0.0547	0.0020	mg/L	0.0558		98	78-112			
Trichloroacetic Acid	0.0181	0.0020	mg/L	0.0186		97	81-110			
Dibromoacetic Acid	0.0186	0.0020	mg/L	0.0187		99	89-112			
Surrogate: 2-Bromopropionic Acid	*0.0115*		*mg/L*	0.0116		*99*	*70-130*			
LCS Dup (B3H0285-BSD1)				Prepared: 2023-08-02, Analyzed: 2023-08-03						
Monochloroacetic Acid	0.0569	0.0020	mg/L	0.0564		101	75-117	2	30	
Monobromoacetic Acid	0.0386	0.0020	mg/L	0.0374		103	83-113	5	30	
Dichloroacetic Acid	0.0575	0.0020	mg/L	0.0558		103	78-112	5	30	
Trichloroacetic Acid	0.0193	0.0020	mg/L	0.0186		104	81-110	6	30	
Dibromoacetic Acid	0.0190	0.0020	mg/L	0.0187		102	89-112	2	30	
Surrogate: 2-Bromopropionic Acid	*0.0118*		*mg/L*	0.0116		*101*	*70-130*			
Total Metals, Batch B3H0310										
Blank (B3H0310-BLK1)				Prepared: 2023-08-03, Analyzed: 2023-08-03						
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							
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							
Copper, total	< 0.00040	0.00040	mg/L							
Iron, total	< 0.010	0.010	mg/L							
Lead, total	< 0.00020	0.00020	mg/L							
Magnesium, total	< 0.010	0.010	mg/L							
Manganese, total	< 0.00020	0.00020	mg/L							
Potassium, total	< 0.10	0.10	mg/L							
Selenium, total	< 0.00050	0.00050	mg/L							
Sodium, total	< 0.10	0.10	mg/L							
Strontium, total	< 0.0010	0.0010	mg/L							
Uranium, total	< 0.000020	0.000020	mg/L							
Zinc, total	< 0.0040	0.0040	mg/L							
LCS (B3H0310-BS1)				Prepared: 2023-08-03, Analyzed: 2023-08-03						
Aluminum, total	4.07	0.0050	mg/L	4.00		102	80-120			
Antimony, total	0.0398	0.00020	mg/L	0.0400		99	80-120			
Arsenic, total	0.407	0.00050	mg/L	0.400		102	80-120			
Barium, total	0.0408	0.0050	mg/L	0.0400		102	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO	Keats Island Construction & Services	**WORK ORDER**	23G3780
PROJECT	60027-PCE-W	**REPORTED**	2023-08-04 14:28

Analyte	Result	RL	Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B3H0310, Continued										
LCS (B3H0310-BS1), Continued				Prepared: 2023-08-03, Analyzed: 2023-08-03						
Boron, total	0.398	0.0500	mg/L	0.400		99	80-120			
Cadmium, total	0.0395	0.000010	mg/L	0.0400		99	80-120			
Calcium, total	4.08	0.20	mg/L	4.00		102	80-120			
Chromium, total	0.0411	0.00050	mg/L	0.0400		103	80-120			
Copper, total	0.0406	0.00040	mg/L	0.0400		102	80-120			
Iron, total	4.09	0.010	mg/L	4.00		102	80-120			
Lead, total	0.0402	0.00020	mg/L	0.0400		100	80-120			
Magnesium, total	4.09	0.010	mg/L	4.00		102	80-120			
Manganese, total	0.0412	0.00020	mg/L	0.0400		103	80-120			
Potassium, total	4.05	0.10	mg/L	4.00		101	80-120			
Selenium, total	0.395	0.00050	mg/L	0.400		99	80-120			
Sodium, total	4.11	0.10	mg/L	4.00		103	80-120			
Strontium, total	0.0404	0.0010	mg/L	0.0400		101	80-120			
Uranium, total	0.0408	0.000020	mg/L	0.0400		102	80-120			
Zinc, total	0.396	0.0040	mg/L	0.400		99	80-120			
Volatile Organic Compounds (VOC), Batch B3G3100										
Blank (B3G3100-BLK1)				Prepared: 2023-07-30, Analyzed: 2023-07-30						
Benzene	< 0.5	0.5	µg/L							
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							
Ethylbenzene	< 1.0	1.0	µg/L							
Methyl tert-butyl ether	< 1.0	1.0	µg/L							
Styrene	< 1.0	1.0	µg/L							
Toluene	< 1.0	1.0	µg/L							
Xylenes (total)	< 2.0	2.0	µg/L							
Surrogate: Toluene-d8	*0.0220*		*mg/L*	0.0250		*88*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*19.4*		*µg/L*	24.9		*78*	*70-130*			
LCS (B3G3100-BS1)				Prepared: 2023-07-30, Analyzed: 2023-07-30						
Benzene	20.5	0.5	µg/L	20.1		102	70-130			
Bromodichloromethane	0.0198	0.0010	mg/L	0.0200		99	70-130			
Bromoform	0.0221	0.0010	mg/L	0.0201		110	70-130			
Chloroform	0.0206	0.0010	mg/L	0.0201		103	70-130			
Dibromochloromethane	0.0205	0.0010	mg/L	0.0201		102	70-130			
Ethylbenzene	18.5	1.0	µg/L	20.1		92	70-130			
Methyl tert-butyl ether	20.0	1.0	µg/L	20.0		100	70-130			
Styrene	18.4	1.0	µg/L	20.1		91	70-130			
Toluene	20.4	1.0	µg/L	20.1		101	70-130			
Xylenes (total)	57.0	2.0	µg/L	60.2		95	70-130			
Surrogate: Toluene-d8	*20.8*		*µg/L*	25.0		*83*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*0.0202*		*mg/L*	0.0249		*81*	*70-130*			

QC Qualifiers:

S09 The surrogate recovery for this sample is outside of established control limits Lower due to wide-mouth bottle