



CERTIFICATE OF ANALYSIS

<p>Work Order : FC2300934</p> <p>Client : Regional Municipality of Wood Buffalo</p> <p>Contact : Water Treatment Plant</p> <p>Address : 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1</p> <p>Telephone : 780-762-5863</p> <p>Project : Fort Chipewyan Imperial Release</p> <p>PO : 4500049712</p> <p>C-O-C number : ----</p> <p>Sampler : WC</p> <p>Site :</p> <p>Quote number : Q61323 (Fort chip)</p> <p>No. of samples received : 7</p> <p>No. of samples analysed : 7</p>	<p>Page : 1 of 16</p> <p>Laboratory : Fort McMurray - Environmental</p> <p>Account Manager : Megan Trydal</p> <p>Address : #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8</p> <p>Telephone : +1 780 791 1524</p> <p>Date Samples Received : 18-Apr-2023 16:00</p> <p>Date Analysis Commenced : 19-Apr-2023</p> <p>Issue Date : 21-Apr-2023 17:38</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
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Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
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General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

<i>Unit</i>	<i>Description</i>
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water-Lake Intake	Raw Water-Lake Intake (FIELD PRESERVED. P)	Raw Water-Lake Intake (FIELD FILTERED AND PRESERVED)	Raw Water Chamber Tap	Raw Water Chamber Tap (FIELD PRESERVED)
Client sampling date / time					18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 11:10	18-Apr-2023 11:10	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-001	FC2300934-002	FC2300934-003	FC2300934-004	FC2300934-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Hardness (as CaCO3), dissolved	----	EC100	0.50	mg/L	30.6	----	----	32.5	----	
Salinity	----	EC100S	1.0	psu	<1.0	----	----	<1.0	----	
Conductivity	----	E100	2.0	µS/cm	73.7	----	----	78.3	----	
pH	----	E108	0.10	pH units	7.57	----	----	7.33	----	
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290	1.0	mg/L	33.3	----	----	34.0	----	
Alkalinity, carbonate (as CO3)	3812-32-6	E290	1.0	mg/L	<1.0	----	----	<1.0	----	
Alkalinity, hydroxide (as OH)	14280-30-9	E290	1.0	mg/L	<1.0	----	----	<1.0	----	
Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	27.3	----	----	27.9	----	
Solids, total dissolved [TDS], calculated	----	EC103	1.0	mg/L	42.2	----	----	45.7	----	
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl	0.50	mg/L	2.88	----	----	3.44	----	
Fluoride	16984-48-8	E235.F	0.020	mg/L	0.060	----	----	0.079	----	
Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.074	----	----	0.079	----	
Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	----	----	<0.010	----	
Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	2.64	----	----	3.19	----	
Nitrate + Nitrite (as N)	----	EC235.N+N	0.0500	mg/L	0.0740	----	----	0.0790	----	
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----	----	<0.0015	----	
Ion Balance										
Anion sum	----	EC101	0.10	meq/L	0.69	----	----	0.73	----	
Cation sum	----	EC101	0.10	meq/L	0.75	----	----	0.81	----	
Ion balance (APHA)	----	EC101	0.01	%	4.17	----	----	5.19	----	
Ion balance (cations/anions)	----	EC101	0.010	%	109	----	----	111	----	
Total Metals										
Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.256	0.162	----	0.185	0.163	
Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	----	<0.00010	<0.00010	



Analytical Results

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Analyte	CAS Number	Method	LOR	Unit	FC2300934-001	FC2300934-002	FC2300934-003	FC2300934-004	FC2300934-005	
					Result	Result	Result	Result	Result	
Total Metals										
Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00030	0.00027	----	0.00026	0.00027	
Barium, total	7440-39-3	E420	0.00010	mg/L	0.0194	0.0185	----	0.0178	0.0178	
Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	----	<0.000020	<0.000020	
Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	----	<0.000050	<0.000050	
Boron, total	7440-42-8	E420	0.010	mg/L	0.013	0.013	----	0.015	0.014	
Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000063	0.0000073	----	<0.0000050	<0.0000050	
Calcium, total	7440-70-2	E420	0.050	mg/L	8.49	8.47	----	8.78	8.67	
Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000046	0.000028	----	0.000019	0.000020	
Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	0.00056	----	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00011	<0.00010	----	<0.00010	<0.00010	
Copper, total	7440-50-8	E420	0.00050	mg/L	0.00080	0.00074	----	0.00118	0.00121	
Iron, total	7439-89-6	E420	0.010	mg/L	0.293	0.208	----	0.147	0.148	
Lead, total	7439-92-1	E420	0.000050	mg/L	0.000297	0.000254	----	0.000092	0.000096	
Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0028	0.0026	----	0.0030	0.0029	
Magnesium, total	7439-95-4	E420	0.0050	mg/L	2.51	2.51	----	2.61	2.65	
Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00821	0.00761	----	0.00557	0.00572	
Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000238	0.000204	----	0.000238	0.000240	
Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00066	0.00102	----	<0.00050	0.00055	
Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	----	<0.050	<0.050	
Potassium, total	7440-09-7	E420	0.050	mg/L	0.986	0.950	----	1.10	1.12	
Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00152	0.00120	----	0.00136	0.00128	
Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000056	0.000050	----	0.000053	0.000065	
Silicon, total	7440-21-3	E420	0.10	mg/L	2.48	2.34	----	2.73	2.71	
Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	----	<0.000010	<0.000010	
Sodium, total	7440-23-5	E420	0.050	mg/L	2.71	2.72	----	3.11	3.16	
Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0574	0.0575	----	0.0620	0.0609	
Sulfur, total	7704-34-9	E420	0.50	mg/L	1.04	1.13	----	1.38	1.49	



Analytical Results

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Client sampling date / time					18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 11:10	18-Apr-2023 11:10	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-001	FC2300934-002	FC2300934-003	FC2300934-004	FC2300934-005	
					Result	Result	Result	Result	Result	
Total Metals										
Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	----	<0.00020	<0.00020	
Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	----	<0.000010	<0.000010	
Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	----	<0.00010	<0.00010	
Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	----	<0.00010	<0.00010	
Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00560	0.00389	----	0.00447	0.00423	
Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	----	<0.00010	<0.00010	
Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000127	0.000123	----	0.000092	0.000100	
Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00071	0.00053	----	0.00054	0.00055	
Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0051	0.0050	----	<0.0030	0.0031	
Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	----	<0.00020	<0.00020	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0191	----	0.0169	0.0216	----	
Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	----	<0.00010	<0.00010	----	
Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00016	----	0.00016	0.00019	----	
Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0167	----	0.0166	0.0165	----	
Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	----	<0.000020	<0.000020	----	
Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	----	<0.000050	<0.000050	----	
Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.013	----	0.013	0.015	----	
Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	----	<0.0000050	<0.0000050	----	
Calcium, dissolved	7440-70-2	E421	0.050	mg/L	8.24	----	8.41	8.53	----	
Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	----	<0.000010	<0.000010	----	
Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	----	<0.00050	<0.00050	----	
Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	----	<0.00010	<0.00010	----	
Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00046	----	0.00047	0.00089	----	
Iron, dissolved	7439-89-6	E421	0.010	mg/L	----	----	0.024	----	----	
Iron, dissolved	7439-89-6	E421	0.030	mg/L	<0.030	----	----	<0.030	----	
Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	----	<0.000050	<0.000050	----	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water-Lake Intake	Raw Water-Lake Intake (FIELD PRESERVED. P)	Raw Water-Lake Intake (FIELD FILTERED AND PRESERVED)	Raw Water Chamber Tap	Raw Water Chamber Tap (FIELD PRESERVED)
Client sampling date / time					18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 11:10	18-Apr-2023 11:10	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-001	FC2300934-002	FC2300934-003	FC2300934-004	FC2300934-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0023	----	0.0032	0.0032	----	
Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	2.43	----	2.51	2.73	----	
Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	----	----	0.00337	----	----	
Manganese, dissolved	7439-96-5	E421	0.00500	mg/L	<0.00500	----	----	<0.00500	----	
Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000192	----	0.000195	0.000212	----	
Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	----	<0.00050	<0.00050	----	
Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	----	<0.050	<0.050	----	
Potassium, dissolved	7440-09-7	E421	0.050	mg/L	0.852	----	0.980	1.02	----	
Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00091	----	0.00097	0.00096	----	
Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	----	<0.000050	0.000055	----	
Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.12	----	2.10	2.42	----	
Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	----	<0.000010	<0.000010	----	
Sodium, dissolved	7440-23-5	E421	0.050	mg/L	2.67	----	2.86	3.09	----	
Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0542	----	0.0583	0.0638	----	
Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	0.86	----	1.00	1.10	----	
Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	----	<0.00020	<0.00020	----	
Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	----	<0.000010	<0.000010	----	
Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	----	<0.00010	<0.00010	----	
Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	----	<0.00010	<0.00010	----	
Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00033	----	<0.00030	0.00048	----	
Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	----	<0.00010	<0.00010	----	
Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000108	----	0.000112	0.000083	----	
Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	----	<0.00050	<0.00050	----	
Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0018	----	0.0033	0.0011	----	
Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	----	<0.00030	<0.00030	----	
Dissolved metals filtration location	----	EP421	-	-	Laboratory	----	Field	Laboratory	----	
Aggregate Organics										



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water-Lake Intake	Raw Water-Lake Intake (FIELD PRESERVED. P)	Raw Water-Lake Intake (FIELD FILTERED AND PRESERVED)	Raw Water Chamber Tap	Raw Water Chamber Tap (FIELD PRESERVED)
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					Result	Result	Result	Result	Result	
Aggregate Organics										
Naphthenic acids	----	E565-L	0.10	mg/L	<0.10	----	----	<0.10	----	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A	0.50	µg/L	<0.50	----	----	<0.50	----	
Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	----	----	<0.50	----	
Styrene	100-42-5	E611A	0.50	µg/L	<0.50	----	----	<0.50	----	
Toluene	108-88-3	E611A	0.50	µg/L	<0.50	----	----	<0.50	----	
Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	----	----	<0.40	----	
Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	----	----	<0.30	----	
Xylenes, total	1330-20-7	E611A	0.50	µg/L	<0.50	----	----	<0.50	----	
BTEX, total	----	E611A	1.0	µg/L	<1.0	----	----	<1.0	----	
Hydrocarbons										
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----	----	<100	----	
F1-BTEX	----	EC580	25	µg/L	<100	----	----	<100	----	
F2 (C10-C16)	----	E601	100	µg/L	<100	----	----	<100	----	
F3 (C16-C34)	----	E601	250	µg/L	<250	----	----	<250	----	
F4 (C34-C50)	----	E601	250	µg/L	<250	----	----	<250	----	
Hydrocarbons, total (C6-C50)	----	EC581	370	µg/L	<380	----	----	<380	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601	1.0	%	91.6	----	----	90.3	----	
Dichlorotoluene, 3,4-	95-75-0	E581.F1	1.0	%	121	----	----	123	----	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A	1.0	%	90.1	----	----	93.8	----	
Difluorobenzene, 1,4-	540-36-3	E611A	1.0	%	105	----	----	107	----	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Acenaphthylene	208-96-8	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Acridine	260-94-6	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	



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					Result	Result	Result	Result	Result	
Polycyclic Aromatic Hydrocarbons										
Anthracene	120-12-7	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Benz(a)anthracene	56-55-3	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Benzo(a)pyrene	50-32-8	E641A	0.0050	µg/L	<0.0050	----	----	<0.0050	----	
Benzo(b+j)fluoranthene	n/a	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Benzo(b+j+k)fluoranthene	n/a	E641A	0.015	µg/L	<0.015	----	----	<0.015	----	
Benzo(g,h,i)perylene	191-24-2	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Benzo(k)fluoranthene	207-08-9	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Chrysene	218-01-9	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Dibenz(a,h)anthracene	53-70-3	E641A	0.0050	µg/L	<0.0050	----	----	<0.0050	----	
Fluoranthene	206-44-0	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Fluorene	86-73-7	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Methylnaphthalene, 1-	90-12-0	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Methylnaphthalene, 1+2-	----	E641A	0.015	µg/L	<0.015	----	----	<0.015	----	
Methylnaphthalene, 2-	91-57-6	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Naphthalene	91-20-3	E641A	0.050	µg/L	<0.050	----	----	<0.050	----	
Phenanthrene	85-01-8	E641A	0.020	µg/L	<0.020	----	----	<0.020	----	
Pyrene	129-00-0	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
Quinoline	91-22-5	E641A	0.050	µg/L	<0.050	----	----	<0.050	----	
B(a)P total potency equivalents [B(a)P TPE]	----	E641A	0.010	µg/L	<0.010	----	----	<0.010	----	
PAHs, high molecular weight (BC AWQ)	n/a	E641A	0.030	µg/L	<0.030	----	----	<0.030	----	
PAHs, low molecular weight (BC AWQ)	n/a	E641A	0.060	µg/L	<0.060	----	----	<0.060	----	
PAHs, total (CCME sewer 18)	n/a	E641A	0.070	µg/L	<0.070	----	----	<0.070	----	
PAHs, total (EPA 16)	n/a	E641A	0.065	µg/L	<0.065	----	----	<0.065	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A	0.1	%	81.4	----	----	76.6	----	
Naphthalene-d8	1146-65-2	E641A	0.1	%	92.4	----	----	87.3	----	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water-Lake Intake	Raw Water-Lake Intake (FIELD PRESERVED. P)	Raw Water-Lake Intake (FIELD FILTERED AND PRESERVED)	Raw Water Chamber Tap	Raw Water Chamber Tap (FIELD PRESERVED)
Client sampling date / time					18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 13:15	18-Apr-2023 11:10	18-Apr-2023 11:10	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-001	FC2300934-002	FC2300934-003	FC2300934-004	FC2300934-005	
Polycyclic Aromatic Hydrocarbons Surrogates					Result	Result	Result	Result	Result	
Phenanthrene-d10	1517-22-2	E641A	0.1	%	106	----	----	99.2	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	---	---	---
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006	FC2300934-007	-----	-----	-----	
					Result	Result	---	---	---	
Physical Tests										
Hardness (as CaCO3), dissolved	---	EC100	0.50	mg/L	---	35.4	---	---	---	
Salinity	---	EC100S	1.0	psu	---	<1.0	---	---	---	
Conductivity	---	E100	2.0	µS/cm	---	140	---	---	---	
pH	---	E108	0.10	pH units	---	8.43	---	---	---	
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290	1.0	mg/L	---	50.6	---	---	---	
Alkalinity, carbonate (as CO3)	3812-32-6	E290	1.0	mg/L	---	1.6	---	---	---	
Alkalinity, hydroxide (as OH)	14280-30-9	E290	1.0	mg/L	---	<1.0	---	---	---	
Alkalinity, total (as CaCO3)	---	E290	2.0	mg/L	---	44.1	---	---	---	
Solids, total dissolved [TDS], calculated	---	EC103	1.0	mg/L	---	79.0	---	---	---	
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl	0.50	mg/L	---	13.6	---	---	---	
Fluoride	16984-48-8	E235.F	0.020	mg/L	---	0.027	---	---	---	
Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	---	0.078	---	---	---	
Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	---	<0.010	---	---	---	
Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	---	2.76	---	---	---	
Nitrate + Nitrite (as N)	---	EC235.N+N	0.0500	mg/L	---	0.0780	---	---	---	
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	---	<0.0015	---	---	---	
Ion Balance										
Anion sum	---	EC101	0.10	meq/L	---	1.33	---	---	---	
Cation sum	---	EC101	0.10	meq/L	---	1.43	---	---	---	
Ion balance (APHA)	---	EC101	0.01	%	---	3.62	---	---	---	
Ion balance (cations/anions)	---	EC101	0.010	%	---	108	---	---	---	
Total Metals										
Aluminum, total	7429-90-5	E420	0.0030	mg/L	---	0.0354	---	---	---	
Antimony, total	7440-36-0	E420	0.00010	mg/L	---	<0.00010	---	---	---	
Arsenic, total	7440-38-2	E420	0.00010	mg/L	---	0.00016	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	---	---	---
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006	FC2300934-007	-----	-----	-----	
					Result	Result	---	---	---	
Total Metals										
Barium, total	7440-39-3	E420	0.00010	mg/L	---	0.0172	---	---	---	
Beryllium, total	7440-41-7	E420	0.000020	mg/L	---	<0.000020	---	---	---	
Bismuth, total	7440-69-9	E420	0.000050	mg/L	---	<0.000050	---	---	---	
Boron, total	7440-42-8	E420	0.010	mg/L	---	0.015	---	---	---	
Cadmium, total	7440-43-9	E420	0.0000050	mg/L	---	<0.0000050	---	---	---	
Calcium, total	7440-70-2	E420	0.050	mg/L	---	9.97	---	---	---	
Cesium, total	7440-46-2	E420	0.000010	mg/L	---	<0.000010	---	---	---	
Chromium, total	7440-47-3	E420	0.00050	mg/L	---	<0.00050	---	---	---	
Cobalt, total	7440-48-4	E420	0.00010	mg/L	---	<0.00010	---	---	---	
Copper, total	7440-50-8	E420	0.00050	mg/L	---	0.00052	---	---	---	
Iron, total	7439-89-6	E420	0.010	mg/L	---	<0.010	---	---	---	
Lead, total	7439-92-1	E420	0.000050	mg/L	---	<0.000050	---	---	---	
Lithium, total	7439-93-2	E420	0.0010	mg/L	---	0.0031	---	---	---	
Magnesium, total	7439-95-4	E420	0.0050	mg/L	---	2.62	---	---	---	
Manganese, total	7439-96-5	E420	0.00010	mg/L	---	0.00381	---	---	---	
Molybdenum, total	7439-98-7	E420	0.000050	mg/L	---	0.000203	---	---	---	
Nickel, total	7440-02-0	E420	0.00050	mg/L	---	<0.00050	---	---	---	
Phosphorus, total	7723-14-0	E420	0.050	mg/L	---	<0.050	---	---	---	
Potassium, total	7440-09-7	E420	0.050	mg/L	---	1.07	---	---	---	
Rubidium, total	7440-17-7	E420	0.00020	mg/L	---	0.00097	---	---	---	
Selenium, total	7782-49-2	E420	0.000050	mg/L	---	<0.000050	---	---	---	
Silicon, total	7440-21-3	E420	0.10	mg/L	---	2.30	---	---	---	
Silver, total	7440-22-4	E420	0.000010	mg/L	---	<0.000010	---	---	---	
Sodium, total	7440-23-5	E420	0.050	mg/L	---	16.3	---	---	---	
Strontium, total	7440-24-6	E420	0.00020	mg/L	---	0.0618	---	---	---	
Sulfur, total	7704-34-9	E420	0.50	mg/L	---	1.33	---	---	---	
Tellurium, total	13494-80-9	E420	0.00020	mg/L	---	<0.00020	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	---	---	---
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006	FC2300934-007	-----	-----	-----	
					Result	Result	---	---	---	
Total Metals										
Thallium, total	7440-28-0	E420	0.000010	mg/L	---	<0.000010	---	---	---	
Thorium, total	7440-29-1	E420	0.00010	mg/L	---	<0.00010	---	---	---	
Tin, total	7440-31-5	E420	0.00010	mg/L	---	<0.00010	---	---	---	
Titanium, total	7440-32-6	E420	0.00030	mg/L	---	<0.00030	---	---	---	
Tungsten, total	7440-33-7	E420	0.00010	mg/L	---	<0.00010	---	---	---	
Uranium, total	7440-61-1	E420	0.000010	mg/L	---	<0.000010	---	---	---	
Vanadium, total	7440-62-2	E420	0.00050	mg/L	---	<0.00050	---	---	---	
Zinc, total	7440-66-6	E420	0.0030	mg/L	---	<0.0030	---	---	---	
Zirconium, total	7440-67-7	E420	0.00020	mg/L	---	<0.00020	---	---	---	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0210	0.0349	---	---	---	
Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00019	0.00012	---	---	---	
Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0164	0.0175	---	---	---	
Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	---	---	---	
Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.015	0.015	---	---	---	
Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	---	---	---	
Calcium, dissolved	7440-70-2	E421	0.050	mg/L	8.46	9.80	---	---	---	
Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00090	0.00043	---	---	---	
Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.021	---	---	---	---	
Iron, dissolved	7439-89-6	E421	0.030	mg/L	---	<0.030	---	---	---	
Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0028	0.0033	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	---	---	---
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006 Result	FC2300934-007 Result	-----	-----	-----	
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	2.59	2.65	---	---	---	
Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00366	---	---	---	---	
Manganese, dissolved	7439-96-5	E421	0.00500	mg/L	---	<0.00500	---	---	---	
Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000240	0.000205	---	---	---	
Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	---	---	---	
Potassium, dissolved	7440-09-7	E421	0.050	mg/L	1.03	1.02	---	---	---	
Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00103	0.00099	---	---	---	
Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.42	2.32	---	---	---	
Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Sodium, dissolved	7440-23-5	E421	0.050	mg/L	3.15	16.0	---	---	---	
Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0613	0.0638	---	---	---	
Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	1.24	0.99	---	---	---	
Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	---	---	---	
Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00040	<0.00030	---	---	---	
Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000086	<0.000010	---	---	---	
Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0024	<0.0010	---	---	---	
Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	---	---	---	
Dissolved metals filtration location	---	EP421	-	-	Field	Laboratory	---	---	---	
Aggregate Organics										
Naphthenic acids	---	E565-L	0.10	mg/L	---	<0.10	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	---	---	---
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	---	---	---	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006	FC2300934-007	-----	-----	-----	
					Result	Result	---	---	---	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A	0.50	µg/L	---	<0.50	---	---	---	
Ethylbenzene	100-41-4	E611A	0.50	µg/L	---	<0.50	---	---	---	
Styrene	100-42-5	E611A	0.50	µg/L	---	<0.50	---	---	---	
Toluene	108-88-3	E611A	0.50	µg/L	---	<0.50	---	---	---	
Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	---	<0.40	---	---	---	
Xylene, o-	95-47-6	E611A	0.30	µg/L	---	<0.30	---	---	---	
Xylenes, total	1330-20-7	E611A	0.50	µg/L	---	<0.50	---	---	---	
BTEX, total	---	E611A	1.0	µg/L	---	<1.0	---	---	---	
Hydrocarbons										
F1 (C6-C10)	---	E581.F1	100	µg/L	---	<100	---	---	---	
F1-BTEX	---	EC580	25	µg/L	---	<100	---	---	---	
F2 (C10-C16)	---	E601	100	µg/L	---	<100	---	---	---	
F3 (C16-C34)	---	E601	250	µg/L	---	<250	---	---	---	
F4 (C34-C50)	---	E601	250	µg/L	---	<250	---	---	---	
Hydrocarbons, total (C6-C50)	---	EC581	370	µg/L	---	<380	---	---	---	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601	1.0	%	---	88.0	---	---	---	
Dichlorotoluene, 3,4-	95-75-0	E581.F1	1.0	%	---	122	---	---	---	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A	1.0	%	---	96.0	---	---	---	
Difluorobenzene, 1,4-	540-36-3	E611A	1.0	%	---	107	---	---	---	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A	0.010	µg/L	---	<0.010	---	---	---	
Acenaphthylene	208-96-8	E641A	0.010	µg/L	---	<0.010	---	---	---	
Acridine	260-94-6	E641A	0.010	µg/L	---	<0.010	---	---	---	
Anthracene	120-12-7	E641A	0.010	µg/L	---	<0.010	---	---	---	
Benz(a)anthracene	56-55-3	E641A	0.010	µg/L	---	<0.010	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)	Treated Water	----	----	----
Client sampling date / time					18-Apr-2023 11:10	18-Apr-2023 11:00	----	----	----	
Analyte	CAS Number	Method	LOR	Unit	FC2300934-006 Result	FC2300934-007 Result	-----	-----	-----	
Polycyclic Aromatic Hydrocarbons										
Benzo(a)pyrene	50-32-8	E641A	0.0050	µg/L	----	<0.0050	----	----	----	
Benzo(b+j)fluoranthene	n/a	E641A	0.010	µg/L	----	<0.010	----	----	----	
Benzo(b+j+k)fluoranthene	n/a	E641A	0.015	µg/L	----	<0.015	----	----	----	
Benzo(g,h,i)perylene	191-24-2	E641A	0.010	µg/L	----	<0.010	----	----	----	
Benzo(k)fluoranthene	207-08-9	E641A	0.010	µg/L	----	<0.010	----	----	----	
Chrysene	218-01-9	E641A	0.010	µg/L	----	<0.010	----	----	----	
Dibenz(a,h)anthracene	53-70-3	E641A	0.0050	µg/L	----	<0.0050	----	----	----	
Fluoranthene	206-44-0	E641A	0.010	µg/L	----	<0.010	----	----	----	
Fluorene	86-73-7	E641A	0.010	µg/L	----	<0.010	----	----	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.010	µg/L	----	<0.010	----	----	----	
Methylnaphthalene, 1-	90-12-0	E641A	0.010	µg/L	----	<0.010	----	----	----	
Methylnaphthalene, 1+2-	----	E641A	0.015	µg/L	----	<0.015	----	----	----	
Methylnaphthalene, 2-	91-57-6	E641A	0.010	µg/L	----	<0.010	----	----	----	
Naphthalene	91-20-3	E641A	0.050	µg/L	----	<0.050	----	----	----	
Phenanthrene	85-01-8	E641A	0.020	µg/L	----	<0.020	----	----	----	
Pyrene	129-00-0	E641A	0.010	µg/L	----	<0.010	----	----	----	
Quinoline	91-22-5	E641A	0.050	µg/L	----	<0.050	----	----	----	
B(a)P total potency equivalents [B(a)P TPE]	----	E641A	0.010	µg/L	----	<0.010	----	----	----	
PAHs, high molecular weight (BC AWQ)	n/a	E641A	0.030	µg/L	----	<0.030	----	----	----	
PAHs, low molecular weight (BC AWQ)	n/a	E641A	0.060	µg/L	----	<0.060	----	----	----	
PAHs, total (CCME sewer 18)	n/a	E641A	0.070	µg/L	----	<0.070	----	----	----	
PAHs, total (EPA 16)	n/a	E641A	0.065	µg/L	----	<0.065	----	----	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A	0.1	%	----	81.1	----	----	----	
Naphthalene-d8	1146-65-2	E641A	0.1	%	----	96.0	----	----	----	
Phenanthrene-d10	1517-22-2	E641A	0.1	%	----	106	----	----	----	



Please refer to the General Comments section for an explanation of any qualifiers detected.



CERTIFICATE OF ANALYSIS

Work Order	: FC2300934	Page	: 1 of 18
Client	: Regional Municipality of Wood Buffalo	Laboratory	: Fort McMurray - Environmental
Contact	: Water Treatment Plant	Account Manager	: Megan Trydal
Address	: 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1	Address	: #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8
Telephone	: 780-762-5863	Telephone	: +1 780 791 1524
Project	: Fort Chipewyan Imperial Release	Date Samples Received	: 18-Apr-2023 16:00
PO	: 4500049712	Date Analysis	: 19-Apr-2023
C-O-C number	: ----	Commenced	
Sampler	: WC	Issue Date	: 21-Apr-2023 17:31
Site	:		
Quote number	: Q61323 (Fort chip)		
No. of samples received	: 7		
No. of samples analysed	: 7		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Alex Drake	Lab Analyst	Metals, Edmonton, Alberta
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Christian Murera	Lab Analyst	Organics, Edmonton, Alberta
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
Daniel Nguyen	Lab Assistant	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

<i>Unit</i>	<i>Description</i>
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
psu	practical salinity units

>: greater than.

<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

FC2300934-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
Hardness (as CaCO3), dissolved	----	30.6	0.50	mg/L	EC100	-	19-Apr-2023	-
Salinity	----	<1.0	1.0	psu	EC100S	-	21-Apr-2023	-
Conductivity	----	73.7	2.0	µS/cm	E100	19-Apr-2023	20-Apr-2023	903550
pH	----	7.57	0.10	pH units	E108	19-Apr-2023	20-Apr-2023	903549
Alkalinity, bicarbonate (as HCO3)	71-52-3	33.3	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, carbonate (as CO3)	3812-32-6	<1.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, total (as CaCO3)	----	27.3	2.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Solids, total dissolved [TDS], calculated	----	42.2	1.0	mg/L	EC103	-	19-Apr-2023	-
Anions and Nutrients								
Chloride	16887-00-6	2.88	0.50	mg/L	E235.Cl	19-Apr-2023	19-Apr-2023	903623
Fluoride	16984-48-8	0.060	0.020	mg/L	E235.F	19-Apr-2023	19-Apr-2023	903619
Nitrate (as N)	14797-55-8	0.074	0.020	mg/L	E235.NO3	19-Apr-2023	19-Apr-2023	903621
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2	19-Apr-2023	19-Apr-2023	903622
Sulfate (as SO4)	14808-79-8	2.64	0.30	mg/L	E235.SO4	19-Apr-2023	19-Apr-2023	903624
Nitrate + Nitrite (as N)	----	0.0740	0.05	mg/L	EC235.N+N	-	20-Apr-2023	-
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395	-	20-Apr-2023	905011
Ion Balance								
Anion sum	----	0.69	0.10	meq/L	EC101	-	19-Apr-2023	-
Cation sum	----	0.75	0.10	meq/L	EC101	-	19-Apr-2023	-
Ion balance (APHA)	----	4.17	0.01	%	EC101	-	19-Apr-2023	-
Ion balance (cations/anions)	----	109	0.010	%	EC101	-	19-Apr-2023	-
Total Metals								
Aluminum, total	7429-90-5	0.256	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Arsenic, total	7440-38-2	0.00030	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Barium, total	7440-39-3	0.0194	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Boron, total	7440-42-8	0.013	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cadmium, total	7440-43-9	0.0000063	0.0000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Calcium, total	7440-70-2	8.49	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cesium, total	7440-46-2	0.000046	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cobalt, total	7440-48-4	0.00011	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Copper, total	7440-50-8	0.00080	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Iron, total	7439-89-6	0.293	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lead, total	7439-92-1	0.000297	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lithium, total	7439-93-2	0.0028	0.0010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Magnesium, total	7439-95-4	2.51	0.0050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Manganese, total	7439-96-5	0.00821	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Molybdenum, total	7439-98-7	0.000238	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Nickel, total	7440-02-0	0.00066	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Potassium, total	7440-09-7	0.986	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205



Analytical Results

FC2300934-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Rubidium, total	7440-17-7	0.00152	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Selenium, total	7782-49-2	0.000056	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silicon, total	7440-21-3	2.48	0.10	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sodium, total	7440-23-5	2.71	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Strontium, total	7440-24-6	0.0574	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sulfur, total	7704-34-9	1.04	0.50	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Titanium, total	7440-32-6	0.00560	0.00030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Uranium, total	7440-61-1	0.000127	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Vanadium, total	7440-62-2	0.00071	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zinc, total	7440-66-6	0.0051	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0191	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Arsenic, dissolved	7440-38-2	0.00016	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Barium, dissolved	7440-39-3	0.0167	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Boron, dissolved	7440-42-8	0.013	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Calcium, dissolved	7440-70-2	8.24	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Copper, dissolved	7440-50-8	0.00046	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Iron, dissolved	7439-89-6	<0.030	0.030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lithium, dissolved	7439-93-2	0.0023	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Magnesium, dissolved	7439-95-4	2.43	0.0050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Manganese, dissolved	7439-96-5	<0.00500	0.00500	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Molybdenum, dissolved	7439-98-7	0.000192	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Potassium, dissolved	7440-09-7	0.852	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Rubidium, dissolved	7440-17-7	0.00091	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silicon, dissolved	7440-21-3	2.12	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sodium, dissolved	7440-23-5	2.67	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Strontium, dissolved	7440-24-6	0.0542	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877



Analytical Results

FC2300934-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLOT
Dissolved Metals								
Sulfur, dissolved	7704-34-9	0.86	0.50	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Titanium, dissolved	7440-32-6	0.00033	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Uranium, dissolved	7440-61-1	0.000108	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zinc, dissolved	7440-66-6	0.0018	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Dissolved metals filtration location	----	Laboratory	-	-	EP421	-	19-Apr-2023	902877
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L	19-Apr-2023	21-Apr-2023	902792
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Styrene	100-42-5	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Toluene	108-88-3	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
BTEX, total	----	<1.0	1.0	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1	19-Apr-2023	19-Apr-2023	902672
F1-BTEX	----	<100	100	µg/L	EC580	-	19-Apr-2023	-
F2 (C10-C16)	----	<100	100	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F3 (C16-C34)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F4 (C34-C50)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
Hydrocarbons, total (C6-C50)	----	<380	380	µg/L	EC581	-	19-Apr-2023	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	91.6	1.0	%	E601	19-Apr-2023	19-Apr-2023	902856
Dichlorotoluene, 3,4-	95-75-0	121	1.0	%	E581.F1	19-Apr-2023	19-Apr-2023	902672
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	90.1	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Diffluorobenzene, 1,4-	540-36-3	105	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acridine	260-94-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855



Analytical Results

FC2300934-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	81.4	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene-d8	1146-65-2	92.4	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene-d10	1517-22-2	106	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake (FIELD PRESERVED. P)

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Aluminum, total	7429-90-5	0.162	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Arsenic, total	7440-38-2	0.00027	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Barium, total	7440-39-3	0.0185	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Boron, total	7440-42-8	0.013	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cadmium, total	7440-43-9	0.0000073	0.0000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Calcium, total	7440-70-2	8.47	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cesium, total	7440-46-2	0.000028	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Chromium, total	7440-47-3	0.00056	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Copper, total	7440-50-8	0.00074	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205



Analytical Results

FC2300934-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake (FIELD PRESERVED. P)

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Iron, total	7439-89-6	0.208	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lead, total	7439-92-1	0.000254	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lithium, total	7439-93-2	0.0026	0.0010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Magnesium, total	7439-95-4	2.51	0.0050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Manganese, total	7439-96-5	0.00761	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Molybdenum, total	7439-98-7	0.000204	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Nickel, total	7440-02-0	0.00102	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Potassium, total	7440-09-7	0.950	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Rubidium, total	7440-17-7	0.00120	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Selenium, total	7782-49-2	0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silicon, total	7440-21-3	2.34	0.10	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sodium, total	7440-23-5	2.72	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Strontium, total	7440-24-6	0.0575	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sulfur, total	7704-34-9	1.13	0.50	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Titanium, total	7440-32-6	0.00389	0.00030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Uranium, total	7440-61-1	0.000123	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Vanadium, total	7440-62-2	0.00053	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zinc, total	7440-66-6	0.0050	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake (FIELD FILTERED AND PRESERVED)

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0169	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Arsenic, dissolved	7440-38-2	0.00016	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Barium, dissolved	7440-39-3	0.0166	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Boron, dissolved	7440-42-8	0.013	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Calcium, dissolved	7440-70-2	8.41	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877



Analytical Results

FC2300934-003

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water-Lake Intake (FIELD FILTERED AND

PRESERVED)

Client sampling date / time: 18-Apr-2023 13:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Copper, dissolved	7440-50-8	0.00047	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Iron, dissolved	7439-89-6	0.024	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lithium, dissolved	7439-93-2	0.0032	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Magnesium, dissolved	7439-95-4	2.51	0.0050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Manganese, dissolved	7439-96-5	0.00337	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Molybdenum, dissolved	7439-98-7	0.000195	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Potassium, dissolved	7440-09-7	0.980	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Rubidium, dissolved	7440-17-7	0.00097	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silicon, dissolved	7440-21-3	2.10	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sodium, dissolved	7440-23-5	2.86	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Strontium, dissolved	7440-24-6	0.0583	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sulfur, dissolved	7704-34-9	1.00	0.50	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Uranium, dissolved	7440-61-1	0.000112	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zinc, dissolved	7440-66-6	0.0033	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Dissolved metals filtration location	----	Field	-	-	EP421	-	19-Apr-2023	902877

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
Hardness (as CaCO ₃), dissolved	----	32.5	0.50	mg/L	EC100	-	19-Apr-2023	-
Salinity	----	<1.0	1.0	psu	EC100S	-	21-Apr-2023	-
Conductivity	----	78.3	2.0	µS/cm	E100	19-Apr-2023	20-Apr-2023	903550
pH	----	7.33	0.10	pH units	E108	19-Apr-2023	20-Apr-2023	903549



Analytical Results

FC2300934-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLOT
Physical Tests								
Alkalinity, bicarbonate (as HCO3)	71-52-3	34.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, carbonate (as CO3)	3812-32-6	<1.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, total (as CaCO3)	----	27.9	2.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Solids, total dissolved [TDS], calculated	----	45.7	1.0	mg/L	EC103	-	19-Apr-2023	-
Anions and Nutrients								
Chloride	16887-00-6	3.44	0.50	mg/L	E235.Cl	19-Apr-2023	19-Apr-2023	903623
Fluoride	16984-48-8	0.079	0.020	mg/L	E235.F	19-Apr-2023	19-Apr-2023	903619
Nitrate (as N)	14797-55-8	0.079	0.020	mg/L	E235.NO3	19-Apr-2023	19-Apr-2023	903621
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2	19-Apr-2023	19-Apr-2023	903622
Sulfate (as SO4)	14808-79-8	3.19	0.30	mg/L	E235.SO4	19-Apr-2023	19-Apr-2023	903624
Nitrate + Nitrite (as N)	----	0.0790	0.05	mg/L	EC235.N+N	-	20-Apr-2023	-
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395	-	20-Apr-2023	905011
Ion Balance								
Anion sum	----	0.73	0.10	meq/L	EC101	-	19-Apr-2023	-
Cation sum	----	0.81	0.10	meq/L	EC101	-	19-Apr-2023	-
Ion balance (APHA)	----	5.19	0.01	%	EC101	-	19-Apr-2023	-
Ion balance (cations/anions)	----	111	0.010	%	EC101	-	19-Apr-2023	-
Total Metals								
Aluminum, total	7429-90-5	0.185	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Arsenic, total	7440-38-2	0.00026	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Barium, total	7440-39-3	0.0178	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Boron, total	7440-42-8	0.015	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cadmium, total	7440-43-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Calcium, total	7440-70-2	8.78	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cesium, total	7440-46-2	0.000019	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Copper, total	7440-50-8	0.00118	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Iron, total	7439-89-6	0.147	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lead, total	7439-92-1	0.000092	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lithium, total	7439-93-2	0.0030	0.0010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Magnesium, total	7439-95-4	2.61	0.0050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Manganese, total	7439-96-5	0.00557	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Molybdenum, total	7439-98-7	0.000238	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Nickel, total	7440-02-0	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Potassium, total	7440-09-7	1.10	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Rubidium, total	7440-17-7	0.00136	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Selenium, total	7782-49-2	0.000053	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silicon, total	7440-21-3	2.73	0.10	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205



Analytical Results

FC2300934-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Sodium, total	7440-23-5	3.11	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Strontium, total	7440-24-6	0.0620	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sulfur, total	7704-34-9	1.38	0.50	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Titanium, total	7440-32-6	0.00447	0.00030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Uranium, total	7440-61-1	0.000092	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Vanadium, total	7440-62-2	0.00054	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0216	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Arsenic, dissolved	7440-38-2	0.00019	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Barium, dissolved	7440-39-3	0.0165	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Boron, dissolved	7440-42-8	0.015	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Calcium, dissolved	7440-70-2	8.53	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Copper, dissolved	7440-50-8	0.00089	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Iron, dissolved	7439-89-6	<0.030	0.030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lithium, dissolved	7439-93-2	0.0032	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Magnesium, dissolved	7439-95-4	2.73	0.0050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Manganese, dissolved	7439-96-5	<0.00500	0.00500	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Molybdenum, dissolved	7439-98-7	0.000212	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Potassium, dissolved	7440-09-7	1.02	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Rubidium, dissolved	7440-17-7	0.00096	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Selenium, dissolved	7782-49-2	0.000055	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silicon, dissolved	7440-21-3	2.42	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sodium, dissolved	7440-23-5	3.09	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Strontium, dissolved	7440-24-6	0.0638	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sulfur, dissolved	7704-34-9	1.10	0.50	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877



Analytical Results

FC2300934-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLOT
Dissolved Metals								
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Titanium, dissolved	7440-32-6	0.00048	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Uranium, dissolved	7440-61-1	0.000083	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zinc, dissolved	7440-66-6	0.0011	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Dissolved metals filtration location	----	Laboratory	-	-	EP421	-	19-Apr-2023	902877
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L	19-Apr-2023	21-Apr-2023	902792
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Styrene	100-42-5	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Toluene	108-88-3	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
BTEX, total	----	<1.0	1.0	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1	19-Apr-2023	19-Apr-2023	902672
F1-BTEX	----	<100	100	µg/L	EC580	-	19-Apr-2023	-
F2 (C10-C16)	----	<100	100	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F3 (C16-C34)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F4 (C34-C50)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
Hydrocarbons, total (C6-C50)	----	<380	380	µg/L	EC581	-	19-Apr-2023	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	90.3	1.0	%	E601	19-Apr-2023	19-Apr-2023	902856
Dichlorotoluene, 3,4-	95-75-0	123	1.0	%	E581.F1	19-Apr-2023	19-Apr-2023	902672
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	93.8	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Diffluorobenzene, 1,4-	540-36-3	107	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acridine	260-94-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855



Analytical Results

FC2300934-004

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	76.6	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene-d8	1146-65-2	87.3	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene-d10	1517-22-2	99.2	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-005

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap (FIELD PRESERVED)

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Aluminum, total	7429-90-5	0.163	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Arsenic, total	7440-38-2	0.00027	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Barium, total	7440-39-3	0.0178	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Boron, total	7440-42-8	0.014	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cadmium, total	7440-43-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Calcium, total	7440-70-2	8.67	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cesium, total	7440-46-2	0.000020	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Copper, total	7440-50-8	0.00121	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Iron, total	7439-89-6	0.148	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lead, total	7439-92-1	0.000096	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lithium, total	7439-93-2	0.0029	0.0010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Magnesium, total	7439-95-4	2.65	0.0050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205



Analytical Results

FC2300934-005

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap (FIELD PRESERVED)

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Manganese, total	7439-96-5	0.00572	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Molybdenum, total	7439-98-7	0.000240	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Nickel, total	7440-02-0	0.00055	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Potassium, total	7440-09-7	1.12	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Rubidium, total	7440-17-7	0.00128	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Selenium, total	7782-49-2	0.000065	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silicon, total	7440-21-3	2.71	0.10	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sodium, total	7440-23-5	3.16	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Strontium, total	7440-24-6	0.0609	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sulfur, total	7704-34-9	1.49	0.50	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Titanium, total	7440-32-6	0.00423	0.00030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Uranium, total	7440-61-1	0.000100	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Vanadium, total	7440-62-2	0.00055	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zinc, total	7440-66-6	0.0031	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-006

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap (FIELD FILTERED AND PRESERVED)

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0210	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Arsenic, dissolved	7440-38-2	0.00019	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Barium, dissolved	7440-39-3	0.0164	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Boron, dissolved	7440-42-8	0.015	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Calcium, dissolved	7440-70-2	8.46	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Copper, dissolved	7440-50-8	0.00090	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877



Analytical Results

FC2300934-006

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap (FIELD FILTERED AND

PRESERVED)

Client sampling date / time: 18-Apr-2023 11:10

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Iron, dissolved	7439-89-6	0.021	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lithium, dissolved	7439-93-2	0.0028	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Magnesium, dissolved	7439-95-4	2.59	0.0050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Manganese, dissolved	7439-96-5	0.00366	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Molybdenum, dissolved	7439-98-7	0.000240	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Potassium, dissolved	7440-09-7	1.03	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Rubidium, dissolved	7440-17-7	0.00103	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silicon, dissolved	7440-21-3	2.42	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sodium, dissolved	7440-23-5	3.15	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Strontium, dissolved	7440-24-6	0.0613	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sulfur, dissolved	7704-34-9	1.24	0.50	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Titanium, dissolved	7440-32-6	0.00040	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Uranium, dissolved	7440-61-1	0.000086	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zinc, dissolved	7440-66-6	0.0024	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Dissolved metals filtration location	----	Field	-	-	EP421	-	19-Apr-2023	902877

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

FC2300934-007

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 18-Apr-2023 11:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
Hardness (as CaCO3), dissolved	----	35.4	0.50	mg/L	EC100	-	19-Apr-2023	-
Salinity	----	<1.0	1.0	psu	EC100S	-	21-Apr-2023	-
Conductivity	----	140	2.0	µS/cm	E100	19-Apr-2023	20-Apr-2023	903550
pH	----	8.43	0.10	pH units	E108	19-Apr-2023	20-Apr-2023	903549
Alkalinity, bicarbonate (as HCO3)	71-52-3	50.6	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, carbonate (as CO3)	3812-32-6	1.6	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551
Alkalinity, total (as CaCO3)	----	44.1	2.0	mg/L	E290	19-Apr-2023	20-Apr-2023	903551



Analytical Results

FC2300934-007

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 18-Apr-2023 11:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
Solids, total dissolved [TDS], calculated	----	79.0	1.0	mg/L	EC103	-	19-Apr-2023	-
Anions and Nutrients								
Chloride	16887-00-6	13.6	0.50	mg/L	E235.Cl	19-Apr-2023	19-Apr-2023	903623
Fluoride	16984-48-8	0.027	0.020	mg/L	E235.F	19-Apr-2023	19-Apr-2023	903619
Nitrate (as N)	14797-55-8	0.078	0.020	mg/L	E235.NO3	19-Apr-2023	19-Apr-2023	903621
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2	19-Apr-2023	19-Apr-2023	903622
Sulfate (as SO4)	14808-79-8	2.76	0.30	mg/L	E235.SO4	19-Apr-2023	19-Apr-2023	903624
Nitrate + Nitrite (as N)	----	0.0780	0.05	mg/L	EC235.N+N	-	20-Apr-2023	-
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395	-	20-Apr-2023	905011
Ion Balance								
Anion sum	----	1.33	0.10	meq/L	EC101	-	19-Apr-2023	-
Cation sum	----	1.43	0.10	meq/L	EC101	-	19-Apr-2023	-
Ion balance (APHA)	----	3.62	0.01	%	EC101	-	19-Apr-2023	-
Ion balance (cations/anions)	----	108	0.010	%	EC101	-	19-Apr-2023	-
Total Metals								
Aluminum, total	7429-90-5	0.0354	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Arsenic, total	7440-38-2	0.00016	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Barium, total	7440-39-3	0.0172	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Boron, total	7440-42-8	0.015	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Calcium, total	7440-70-2	9.97	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Copper, total	7440-50-8	0.00052	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Lithium, total	7439-93-2	0.0031	0.0010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Magnesium, total	7439-95-4	2.62	0.0050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Manganese, total	7439-96-5	0.00381	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Molybdenum, total	7439-98-7	0.000203	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Nickel, total	7440-02-0	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Potassium, total	7440-09-7	1.07	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Rubidium, total	7440-17-7	0.00097	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Selenium, total	7782-49-2	<0.000050	0.000050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silicon, total	7440-21-3	2.30	0.10	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sodium, total	7440-23-5	16.3	0.050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Strontium, total	7440-24-6	0.0618	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Sulfur, total	7704-34-9	1.33	0.50	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205



Analytical Results

FC2300934-007

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 18-Apr-2023 11:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Total Metals								
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Titanium, total	7440-32-6	<0.00030	0.00030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Uranium, total	7440-61-1	<0.000010	0.000010	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Vanadium, total	7440-62-2	<0.00050	0.00050	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420	20-Apr-2023	20-Apr-2023	904205
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0349	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Arsenic, dissolved	7440-38-2	0.00012	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Barium, dissolved	7440-39-3	0.0175	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Boron, dissolved	7440-42-8	0.015	0.010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Calcium, dissolved	7440-70-2	9.80	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Copper, dissolved	7440-50-8	0.00043	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Iron, dissolved	7439-89-6	<0.030	0.030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Lithium, dissolved	7439-93-2	0.0033	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Magnesium, dissolved	7439-95-4	2.65	0.0050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Manganese, dissolved	7439-96-5	<0.00500	0.00500	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Molybdenum, dissolved	7439-98-7	0.000205	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Potassium, dissolved	7440-09-7	1.02	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Rubidium, dissolved	7440-17-7	0.00099	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silicon, dissolved	7440-21-3	2.32	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sodium, dissolved	7440-23-5	16.0	0.050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Strontium, dissolved	7440-24-6	0.0638	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Sulfur, dissolved	7704-34-9	0.99	0.50	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Uranium, dissolved	7440-61-1	<0.000010	0.000010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877



Analytical Results

FC2300934-007

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 18-Apr-2023 11:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421	19-Apr-2023	19-Apr-2023	902877
Dissolved metals filtration location	----	Laboratory	-	-	EP421	-	19-Apr-2023	902877
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L	19-Apr-2023	21-Apr-2023	902792
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Styrene	100-42-5	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Toluene	108-88-3	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
BTEX, total	----	<1.0	1.0	µg/L	E611A	19-Apr-2023	19-Apr-2023	902671
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1	19-Apr-2023	19-Apr-2023	902672
F1-BTEX	----	<100	100	µg/L	EC580	-	19-Apr-2023	-
F2 (C10-C16)	----	<100	100	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F3 (C16-C34)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
F4 (C34-C50)	----	<250	250	µg/L	E601	19-Apr-2023	19-Apr-2023	902856
Hydrocarbons, total (C6-C50)	----	<380	380	µg/L	EC581	-	19-Apr-2023	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	88.0	1.0	%	E601	19-Apr-2023	19-Apr-2023	902856
Dichlorotoluene, 3,4-	95-75-0	122	1.0	%	E581.F1	19-Apr-2023	19-Apr-2023	902672
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	96.0	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Difluorobenzene, 1,4-	540-36-3	107	1.0	%	E611A	19-Apr-2023	19-Apr-2023	902671
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Acridine	260-94-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855



Analytical Results

FC2300934-007

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 18-Apr-2023 11:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A	19-Apr-2023	19-Apr-2023	902855
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	81.1	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Naphthalene-d8	1146-65-2	96.0	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855
Phenanthrene-d10	1517-22-2	106	0.1	%	E641A	19-Apr-2023	19-Apr-2023	902855

Please refer to the General Comments section for an explanation of any qualifiers detected.