

CERTIFICATE OF ANALYSIS

Work Order	: FC2501061		
Amendment	: 1		
Client	: Regional Municipality of Wood Buffalo	Laboratory	: ALS Environmental - Fort McMurray
Contact	: Water Treatment Plant	Account Manager	: Megha Walia
Address	: 1 Silin Forest Road Fort McMurray Alberta Canada T9H 5A1	Address	: #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8
Telephone	: 780-762-5863	E-mail	: Megha.Walia@alsglobal.com
Project	: Fort Chipewyan Table 1	Telephone	: +1 780 791 1524
PO	: 4500060925	Date Samples Received	: 08-May-2025 15:00
C-O-C number	: ----	Date Analysis Commenced	: 09-May-2025
Sampler	: TSP	Issue Date	: 22-May-2025 10:07
Site	: ----		
Quote number	: Water Treatment Plant		
No. of samples received	: 2		
No. of samples analysed	: 2		

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>
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Daniel Nguyen	Laboratory Analyst	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Metals, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Yan Zhang	Team Leader - Organics	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).

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

<: 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	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Physical Tests										
Hardness (as CaCO ₃), dissolved	----	EC100/EO	0.50	mg/L	32.6	30.6	----	----	----	----
Salinity	----	EC100S/VA	1.0	psu	<1.0	<1.0	----	----	----	----
Conductivity	----	E100/EO	2.0	µS/cm	120	78.2	----	----	----	----
pH	----	E108/EO	0.10	pH units	8.27	7.73	----	----	----	----
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/EO	1.2	mg/L	49.3	37.9	----	----	----	----
Alkalinity, carbonate (as CO ₃)	3812-32-6	E290/EO	1.0	mg/L	<0.6	<0.6	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/EO	1.0	mg/L	<0.3	<0.3	----	----	----	----
Alkalinity, total (as CaCO ₃)	----	E290/EO	2.0	mg/L	40.4	31.1	----	----	----	----
Solids, total dissolved [TDS], calculated	----	EC103/EO	1.0	mg/L	68.8	46.1	----	----	----	----
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/EO	0.50	mg/L	12.5	3.97	----	----	----	----
Fluoride	16984-48-8	E235.F/EO	0.020	mg/L	0.032	0.058	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/EO	0.020	mg/L	<0.020	<0.020	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/EO	0.010	mg/L	<0.010	<0.010	----	----	----	----
Sulfate (as SO ₄)	14808-79-8	E235.SO4/EO	0.30	mg/L	4.00	4.24	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/EO	0.0500	mg/L	<0.0500	<0.0500	----	----	----	----
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/CG	0.0015	mg/L	<0.0015	<0.0015	----	----	----	----
Sulfide, total (as H ₂ S)	7783-06-4	E395/CG	0.0016	mg/L	<0.0016	<0.0016	----	----	----	----
Ion Balance										
Anion sum	----	EC101/EO	0.10	meq/L	1.24	0.82	----	----	----	----



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Ion Balance										
Cation sum	----	EC101/EO	0.10	meq/L	1.19	0.79	----	----	----	----
Ion balance (APHA)	----	EC101/EO	0.01	%	-2.06	-1.86	----	----	----	----
Ion balance (cations/anions)	----	EC101/EO	0.010	%	96.0	96.3	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/EO	0.0030	mg/L	0.0159	0.0353	----	----	----	----
Antimony, total	7440-36-0	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/EO	0.00010	mg/L	0.00019	0.00029	----	----	----	----
Barium, total	7440-39-3	E420/EO	0.00010	mg/L	0.0150	0.0157	----	----	----	----
Beryllium, total	7440-41-7	E420/EO	0.000020	mg/L	<0.000020	<0.000020	----	----	----	----
Bismuth, total	7440-69-9	E420/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/EO	0.010	mg/L	0.012	0.012	----	----	----	----
Cadmium, total	7440-43-9	E420/EO	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/EO	0.050	mg/L	9.22	8.40	----	----	----	----
Cesium, total	7440-46-2	E420/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Chromium, total	7440-47-3	E420/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/EO	0.00050	mg/L	0.00052	0.00112	----	----	----	----
Iron, total	7439-89-6	E420/EO	0.010	mg/L	<0.010	0.095	----	----	----	----
Lead, total	7439-92-1	E420/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/EO	0.0010	mg/L	0.0027	0.0027	----	----	----	----
Magnesium, total	7439-95-4	E420/EO	0.0050	mg/L	2.57	2.58	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Manganese, total	7439-96-5	E420/EO	0.00010	mg/L	0.00253	0.00586	----	----	----	----
Molybdenum, total	7439-98-7	E420/EO	0.000050	mg/L	0.000191	0.000220	----	----	----	----
Nickel, total	7440-02-0	E420/EO	0.00050	mg/L	0.00082	0.00093	----	----	----	----
Phosphorus, total	7723-14-0	E420/EO	0.050	mg/L	<0.050	<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/EO	0.050	mg/L	0.906	0.918	----	----	----	----
Rubidium, total	7440-17-7	E420/EO	0.00020	mg/L	0.00087	0.00084	----	----	----	----
Selenium, total	7782-49-2	E420/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Silicon, total	7440-21-3	E420/EO	0.10	mg/L	1.43	1.56	----	----	----	----
Silver, total	7440-22-4	E420/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/EO	0.050	mg/L	11.9	3.53	----	----	----	----
Strontium, total	7440-24-6	E420/EO	0.00020	mg/L	0.0584	0.0580	----	----	----	----
Sulfur, total	7704-34-9	E420/EO	0.50	mg/L	1.05	1.28	----	----	----	----
Tellurium, total	13494-80-9	E420/EO	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/EO	0.00030	mg/L	<0.00030	0.00092	----	----	----	----
Tungsten, total	7440-33-7	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/EO	0.000010	mg/L	<0.000010	0.000087	----	----	----	----
Vanadium, total	7440-62-2	E420/EO	0.00050	mg/L	0.00114	0.00132	----	----	----	----
Zinc, total	7440-66-6	E420/EO	0.0030	mg/L	<0.0030	<0.0030	----	----	----	----



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Zirconium, total	7440-67-7	E420/EO	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/EO	0.0010	mg/L	0.0142	0.0316	----	----	----	----
Antimony, dissolved	7440-36-0	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/EO	0.00010	mg/L	0.00015	0.00022	----	----	----	----
Barium, dissolved	7440-39-3	E421/EO	0.00010	mg/L	0.0146	0.0155	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/EO	0.000020	mg/L	<0.000020	<0.000020	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Boron, dissolved	7440-42-8	E421/EO	0.010	mg/L	0.013	0.013	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/EO	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	----
Calcium, dissolved	7440-70-2	E421/EO	0.050	mg/L	8.94	8.22	----	----	----	----
Cesium, dissolved	7440-46-2	E421/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Chromium, dissolved	7440-47-3	E421/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Copper, dissolved	7440-50-8	E421/EO	0.00020	mg/L	0.00048	0.00107	----	----	----	----
Iron, dissolved	7439-89-6	E421/EO	0.010	mg/L	<0.010	0.086	----	----	----	----
Lead, dissolved	7439-92-1	E421/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Lithium, dissolved	7439-93-2	E421/EO	0.0010	mg/L	0.0028	0.0027	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/EO	0.0050	mg/L	2.50	2.46	----	----	----	----
Manganese, dissolved	7439-96-5	E421/EO	0.00010	mg/L	0.00231	0.00584	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/EO	0.000050	mg/L	0.000207	0.000197	----	----	----	----



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Dissolved Metals										
Nickel, dissolved	7440-02-0	E421/EO	0.00050	mg/L	<0.00050	0.00056	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/EO	0.050	mg/L	<0.050	<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/EO	0.050	mg/L	0.924	0.892	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/EO	0.00020	mg/L	0.00081	0.00074	----	----	----	----
Selenium, dissolved	7782-49-2	E421/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Silicon, dissolved	7440-21-3	E421/EO	0.050	mg/L	1.42	1.49	----	----	----	----
Silver, dissolved	7440-22-4	E421/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/EO	0.050	mg/L	11.8	3.42	----	----	----	----
Strontium, dissolved	7440-24-6	E421/EO	0.00020	mg/L	0.0572	0.0565	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/EO	0.50	mg/L	0.94	1.16	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/EO	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Thallium, dissolved	7440-28-0	E421/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Thorium, dissolved	7440-29-1	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Tin, dissolved	7440-31-5	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Titanium, dissolved	7440-32-6	E421/EO	0.00030	mg/L	<0.00030	0.00092	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Uranium, dissolved	7440-61-1	E421/EO	0.000010	mg/L	<0.000010	0.000089	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/EO	0.00050	mg/L	0.00053	0.00067	----	----	----	----
Zinc, dissolved	7440-66-6	E421/EO	0.0010	mg/L	<0.0010	<0.0010	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/EO	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Dissolved metals filtration location	----	EP421/EO	-	-	Field	Field	----	----	----	----



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
Client sampling date / time					08-May-2025 08:26	08-May-2025 08:23	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	
					Result	Result	----	----	----	
Aggregate Organics										
Naphthenic acids	----	E565-L/EO	0.10	mg/L	<0.10	<0.10	----	----	----	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/EO	0.50	µg/L	<0.50	<0.50	----	----	----	
Ethylbenzene	100-41-4	E611A/EO	0.50	µg/L	<0.50	<0.50	----	----	----	
Styrene	100-42-5	E611A/EO	0.50	µg/L	<0.50	<0.50	----	----	----	
Toluene	108-88-3	E611A/EO	0.50	µg/L	<0.50	<0.50	----	----	----	
Xylene, m+p-	179601-23-1	E611A/EO	0.40	µg/L	<0.40	<0.40	----	----	----	
Xylene, o-	95-47-6	E611A/EO	0.30	µg/L	<0.30	<0.30	----	----	----	
Xylenes, total	1330-20-7	E611A/EO	0.50	µg/L	<0.50	<0.50	----	----	----	
BTEX, total	----	E611A/EO	1.0	µg/L	<1.0	<1.0	----	----	----	
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/EO	100	µg/L	<100	<100	----	----	----	
F1-BTEX	----	EC580/EO	25	µg/L	<100	<100	----	----	----	
F2 (C10-C16)	----	E601/EO	100	µg/L	<100	<100	----	----	----	
F3 (C16-C34)	----	E601/EO	250	µg/L	<250	<250	----	----	----	
F4 (C34-C50)	----	E601/EO	250	µg/L	<250	<250	----	----	----	
Hydrocarbons, total (C6-C50)	n/a	EC581/EO	370	µg/L	<380	<380	----	----	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/EO	1.0	%	98.0	97.5	----	----	----	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/EO	1.0	%	114	114	----	----	----	



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Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/EO	1.0	%	109	102	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/EO	1.0	%	106	107	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Acridine	260-94-6	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Anthracene	120-12-7	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/EO	0.0050	µg/L	<0.0050	<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/EO	0.015	µg/L	<0.015	<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Chrysene	218-01-9	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/EO	0.0050	µg/L	<0.0050	<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Fluorene	86-73-7	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/EO	0.015	µg/L	<0.015	<0.015	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

					Client sample ID	Treated Water	Raw Water Chamber Tap	----	----	----
					Client sampling date / time	08-May-2025 08:26	08-May-2025 08:23	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2501061-001	FC2501061-002	----	----	----	----
					Result	Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Naphthalene	91-20-3	E641A/EO	0.050	µg/L	<0.050	<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/EO	0.020	µg/L	<0.020	<0.020	----	----	----	----
Pyrene	129-00-0	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
Quinoline	91-22-5	E641A/EO	0.050	µg/L	<0.050	<0.050	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/EO	0.030	µg/L	<0.030	<0.030	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/EO	0.060	µg/L	<0.060	<0.060	----	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/EO	0.070	µg/L	<0.070	<0.070	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/EO	0.065	µg/L	<0.065	<0.065	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/EO	0.1	%	83.9	87.1	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/EO	0.1	%	72.3	88.8	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/EO	0.1	%	93.2	94.7	----	----	----	----

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

CERTIFICATE OF ANALYSIS

Work Order	: FC2501061	Page	: 1 of 10
Amendment	: 1		
Client	: Regional Municipality of Wood Buffalo	Laboratory	: ALS Environmental - Fort McMurray
Contact	: Water Treatment Plant	Account Manager	: Megha Walia
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 Table 1	Date Samples Received	: 08-May-2025 15:00
PO	: 4500060925	Date Analysis	: 09-May-2025
		Commenced	
		Issue Date	: 22-May-2025 10:05
C-O-C number	: ----		
Sampler	: TSP		
Site	: ----		
Quote number	: Water Treatment Plant		
No. of samples received	: 2		
No. of samples analysed	: 2		

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>
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Daniel Nguyen	Laboratory Analyst	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Metals, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Yan Zhang	Team Leader - Organics	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

FC2501061-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 08-May-2025 08:26

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Hardness (as CaCO ₃), dissolved	----	32.6	0.50	mg/L	EC100/EO	-	12-May-2025	-
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	15-May-2025	-
Conductivity	----	120	2.0	µS/cm	E100/EO	09-May-2025	09-May-2025	1988505
pH	----	8.27	0.10	pH units	E108/EO	09-May-2025	09-May-2025	1988504
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	49.3	1.2	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, carbonate (as CO ₃)	3812-32-6	<0.6	0.6	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, hydroxide (as OH)	14280-30-9	<0.3	0.3	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, total (as CaCO ₃)	----	40.4	2.0	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Solids, total dissolved [TDS], calculated	----	68.8	1.0	mg/L	EC103/EO	-	11-May-2025	-
Anions and Nutrients								
Chloride	16887-00-6	12.5	0.50	mg/L	E235.Cl/EO	09-May-2025	10-May-2025	1988298
Fluoride	16984-48-8	0.032	0.020	mg/L	E235.F/EO	09-May-2025	10-May-2025	1988301
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO3/EO	09-May-2025	10-May-2025	1988302
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/EO	09-May-2025	10-May-2025	1988303
Sulfate (as SO ₄)	14808-79-8	4.00	0.30	mg/L	E235.SO4/EO	09-May-2025	10-May-2025	1988297
Nitrate + Nitrite (as N)	----	<0.0500	0.05	mg/L	EC235.N+N/EO	-	11-May-2025	-
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/CG	-	10-May-2025	1990024
Sulfide, total (as H ₂ S)	7783-06-4	<0.0016	0.0016	mg/L	E395/CG	-	10-May-2025	1990024
Ion Balance								
Anion sum	----	1.24	0.10	meq/L	EC101/EO	-	11-May-2025	-
Cation sum	----	1.19	0.10	meq/L	EC101/EO	-	11-May-2025	-
Ion balance (APHA)	----	-2.06	0.01	%	EC101/EO	-	11-May-2025	-
Ion balance (cations/anions)	----	96.0	0.010	%	EC101/EO	-	11-May-2025	-
Total Metals								
Aluminum, total	7429-90-5	0.0159	0.0030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Arsenic, total	7440-38-2	0.00019	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Barium, total	7440-39-3	0.0150	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Boron, total	7440-42-8	0.012	0.010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Calcium, total	7440-70-2	9.22	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Copper, total	7440-50-8	0.00052	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Lithium, total	7439-93-2	0.0027	0.0010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Magnesium, total	7439-95-4	2.57	0.0050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Manganese, total	7439-96-5	0.00253	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Molybdenum, total	7439-98-7	0.000191	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Nickel, total	7440-02-0	0.00082	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916



Analytical Results

FC2501061-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 08-May-2025 08:26

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Total Metals								
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Potassium, total	7440-09-7	0.906	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Rubidium, total	7440-17-7	0.00087	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Selenium, total	7782-49-2	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Silicon, total	7440-21-3	1.43	0.10	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Sodium, total	7440-23-5	11.9	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Strontium, total	7440-24-6	0.0584	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Sulfur, total	7704-34-9	1.05	0.50	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Titanium, total	7440-32-6	<0.00030	0.00030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Uranium, total	7440-61-1	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Vanadium, total	7440-62-2	0.00114	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0142	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Arsenic, dissolved	7440-38-2	0.00015	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Barium, dissolved	7440-39-3	0.0146	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Boron, dissolved	7440-42-8	0.013	0.010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Calcium, dissolved	7440-70-2	8.94	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Copper, dissolved	7440-50-8	0.00048	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Iron, dissolved	7439-89-6	<0.010	0.010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Lithium, dissolved	7439-93-2	0.0028	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Magnesium, dissolved	7439-95-4	2.50	0.0050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Manganese, dissolved	7439-96-5	0.00231	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Molybdenum, dissolved	7439-98-7	0.000207	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Potassium, dissolved	7440-09-7	0.924	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Rubidium, dissolved	7440-17-7	0.00081	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Silicon, dissolved	7440-21-3	1.42	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549



Analytical Results

FC2501061-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 08-May-2025 08:26

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
Dissolved Metals								
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Sodium, dissolved	7440-23-5	11.8	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Strontium, dissolved	7440-24-6	0.0572	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Sulfur, dissolved	7704-34-9	0.94	0.50	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Uranium, dissolved	7440-61-1	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Vanadium, dissolved	7440-62-2	0.00053	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Zirconium, dissolved	7440-67-7	<0.00020	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Dissolved metals filtration location	----	Field	-	-	EP421/EO	-	10-May-2025	1988549
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L/EO	15-May-2025	16-May-2025	1998474
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Styrene	100-42-5	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
BTEX, total	----	<1.0	1.0	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	09-May-2025	09-May-2025	1988042
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	11-May-2025	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
Hydrocarbons, total (C6-C50)	n/a	<380	380	µg/L	EC581/EO	-	11-May-2025	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	98.0	1.0	%	E601/EO	09-May-2025	09-May-2025	1989478
Dichlorotoluene, 3,4-	95-75-0	114	1.0	%	E581.F1/EO	09-May-2025	09-May-2025	1988042
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	109	1.0	%	E611A/EO	09-May-2025	09-May-2025	1988041
Difluorobenzene, 1,4-	540-36-3	106	1.0	%	E611A/EO	09-May-2025	09-May-2025	1988041
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479



Analytical Results

FC2501061-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 08-May-2025 08:26

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	83.9	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479
Naphthalene-d8	1146-65-2	72.3	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479
Phenanthrene-d10	1517-22-2	93.2	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479

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

Analytical Results

FC2501061-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 08-May-2025 08:23

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Hardness (as CaCO ₃), dissolved	----	30.6	0.50	mg/L	EC100/EO	-	12-May-2025	-
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	15-May-2025	-
Conductivity	----	78.2	2.0	µS/cm	E100/EO	09-May-2025	09-May-2025	1988505
pH	----	7.73	0.10	pH units	E108/EO	09-May-2025	09-May-2025	1988504
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	37.9	1.2	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, carbonate (as CO ₃)	3812-32-6	<0.6	0.6	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, hydroxide (as OH)	14280-30-9	<0.3	0.3	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Alkalinity, total (as CaCO ₃)	----	31.1	2.0	mg/L	E290/EO	09-May-2025	09-May-2025	1988506
Solids, total dissolved [TDS], calculated	----	46.1	1.0	mg/L	EC103/EO	-	11-May-2025	-



Analytical Results

FC2501061-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 08-May-2025 08:23

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
Anions and Nutrients								
Chloride	16887-00-6	3.97	0.50	mg/L	E235.Cl/EO	09-May-2025	10-May-2025	1988298
Fluoride	16984-48-8	0.058	0.020	mg/L	E235.F/EO	09-May-2025	10-May-2025	1988301
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO3/EO	09-May-2025	10-May-2025	1988302
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/EO	09-May-2025	10-May-2025	1988303
Sulfate (as SO4)	14808-79-8	4.24	0.30	mg/L	E235.SO4/EO	09-May-2025	10-May-2025	1988297
Nitrate + Nitrite (as N)	----	<0.0500	0.05	mg/L	EC235.N+N/EO	-	11-May-2025	-
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/CG	-	10-May-2025	1990024
Sulfide, total (as H2S)	7783-06-4	<0.0016	0.0016	mg/L	E395/CG	-	10-May-2025	1990024
Ion Balance								
Anion sum	----	0.82	0.10	meq/L	EC101/EO	-	11-May-2025	-
Cation sum	----	0.79	0.10	meq/L	EC101/EO	-	11-May-2025	-
Ion balance (APHA)	----	-1.86	0.01	%	EC101/EO	-	11-May-2025	-
Ion balance (cations/anions)	----	96.3	0.010	%	EC101/EO	-	11-May-2025	-
Total Metals								
Aluminum, total	7429-90-5	0.0353	0.0030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Arsenic, total	7440-38-2	0.00029	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Barium, total	7440-39-3	0.0157	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Boron, total	7440-42-8	0.012	0.010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Calcium, total	7440-70-2	8.40	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Copper, total	7440-50-8	0.00112	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Iron, total	7439-89-6	0.095	0.010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Lithium, total	7439-93-2	0.0027	0.0010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Magnesium, total	7439-95-4	2.58	0.0050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Manganese, total	7439-96-5	0.00586	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Molybdenum, total	7439-98-7	0.000220	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Nickel, total	7440-02-0	0.00093	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Potassium, total	7440-09-7	0.918	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Rubidium, total	7440-17-7	0.00084	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Selenium, total	7782-49-2	<0.000050	0.000050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Silicon, total	7440-21-3	1.56	0.10	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Sodium, total	7440-23-5	3.53	0.050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Strontium, total	7440-24-6	0.0580	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Sulfur, total	7704-34-9	1.28	0.50	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916



Analytical Results

FC2501061-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 08-May-2025 08:23

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Total Metals								
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Titanium, total	7440-32-6	0.00092	0.00030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Uranium, total	7440-61-1	0.000087	0.000010	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Vanadium, total	7440-62-2	0.00132	0.00050	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	10-May-2025	10-May-2025	1989916
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0316	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Arsenic, dissolved	7440-38-2	0.00022	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Barium, dissolved	7440-39-3	0.0155	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Boron, dissolved	7440-42-8	0.013	0.010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Calcium, dissolved	7440-70-2	8.22	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Copper, dissolved	7440-50-8	0.00107	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Iron, dissolved	7439-89-6	0.086	0.010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Lithium, dissolved	7439-93-2	0.0027	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Magnesium, dissolved	7439-95-4	2.46	0.0050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Manganese, dissolved	7439-96-5	0.00584	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Molybdenum, dissolved	7439-98-7	0.000197	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Nickel, dissolved	7440-02-0	0.00056	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Potassium, dissolved	7440-09-7	0.892	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Rubidium, dissolved	7440-17-7	0.00074	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Silicon, dissolved	7440-21-3	1.49	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Sodium, dissolved	7440-23-5	3.42	0.050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Strontium, dissolved	7440-24-6	0.0565	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Sulfur, dissolved	7704-34-9	1.16	0.50	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Titanium, dissolved	7440-32-6	0.00092	0.00030	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549



Analytical Results

FC2501061-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 08-May-2025 08:23

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
Dissolved Metals								
Uranium, dissolved	7440-61-1	0.000089	0.000010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Vanadium, dissolved	7440-62-2	0.00067	0.00050	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Zirconium, dissolved	7440-67-7	<0.00020	0.00020	mg/L	E421/EO	10-May-2025	10-May-2025	1988549
Dissolved metals filtration location	----	Field	-	-	EP421/EO	-	10-May-2025	1988549
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L/EO	15-May-2025	16-May-2025	1998474
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Styrene	100-42-5	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
BTEX, total	----	<1.0	1.0	µg/L	E611A/EO	09-May-2025	09-May-2025	1988041
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	09-May-2025	09-May-2025	1988042
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	11-May-2025	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	09-May-2025	09-May-2025	1989478
Hydrocarbons, total (C6-C50)	n/a	<380	380	µg/L	EC581/EO	-	11-May-2025	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	97.5	1.0	%	E601/EO	09-May-2025	09-May-2025	1989478
Dichlorotoluene, 3,4-	95-75-0	114	1.0	%	E581.F1/EO	09-May-2025	09-May-2025	1988042
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	102	1.0	%	E611A/EO	09-May-2025	09-May-2025	1988041
Difluorobenzene, 1,4-	540-36-3	107	1.0	%	E611A/EO	09-May-2025	09-May-2025	1988041
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479



Analytical Results

FC2501061-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 08-May-2025 08:23

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A/EO	09-May-2025	09-May-2025	1989479
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	87.1	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479
Naphthalene-d8	1146-65-2	88.8	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479
Phenanthrene-d10	1517-22-2	94.7	0.1	%	E641A/EO	09-May-2025	09-May-2025	1989479

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