

CERTIFICATE OF ANALYSIS

Work Order	: FC2502406	Laboratory	: ALS Environmental - Fort McMurray
Client	: Regional Municipality of Wood Buffalo	Account Manager	: Megha Walia
Contact	: Water Treatment Plant	Address	: #4, 340 Macalpine Crescent
Address	: 1 Silin Forest Road Fort McMurray Alberta Canada T9H 5A1		: 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	: 29-Aug-2025 09:19
C-O-C number	: ----	Date Analysis Commenced	: 29-Aug-2025
Sampler	: AP	Issue Date	: 08-Sep-2025 17:23
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>
Alex Drake		Metals, Edmonton, Alberta
Alex Drake		Inorganics, Edmonton, Alberta
Anthony Calero		Inorganics, Calgary, Alberta
Dan Nguyen		Metals, Edmonton, Alberta
Daniel Nguyen		Metals, Edmonton, Alberta
Geoff Berg		Organics, Edmonton, Alberta
John Tang		Inorganics, Waterloo, Ontario
Kari Mulroy		Organics, Edmonton, Alberta
Miles Gropen		Inorganics, Burnaby, British Columbia
Ping Yeung		Inorganics, Edmonton, Alberta
Shruti Mudliar		Inorganics, Edmonton, Alberta
Yan Zhang		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
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.

Workorder Comments

CORRECTIONS MADE TO SAMPLE DATES / DUE DATE UPDATED



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Client sample ID					Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time					27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----
					Result	Result	----	----	----
Physical Tests									
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/EO	1.2	mg/L	55.9	52.8	----	----	----
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	1.0	mg/L	45.8	43.3	----	----	----
Conductivity	----	E100/EO	1.0	µS/cm	159	106	----	----	----
Hardness (as CaCO ₃), dissolved	----	EC100/EO	0.50	mg/L	53.0	48.1	----	----	----
pH	----	E108/EO	0.10	pH units	7.91	8.01	----	----	----
Salinity	----	EC100S/VA	1.0	psu	<1.0	<1.0	----	----	----
Solids, total dissolved [TDS], calculated	----	EC103/EO	1.0	mg/L	92.5	62.7	----	----	----
Anions and Nutrients									
Chloride	16887-00-6	E235.Cl/EO	0.50	mg/L	20.4	4.17	----	----	----
Fluoride	16984-48-8	E235.F/EO	0.020	mg/L	0.022	0.069	----	----	----
Nitrate (as N)	14797-55-8	E235.NO ₃ /EO	0.020	mg/L	<0.020	<0.020	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/EO	0.0032	mg/L	<0.0224	<0.0224	----	----	----
Nitrite (as N)	14797-65-0	E235.NO ₂ /EO	0.010	mg/L	<0.010	<0.010	----	----	----
Sulfate (as SO ₄)	14808-79-8	E235.SO ₄ /EO	0.30	mg/L	6.19	6.55	----	----	----
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	----	----	----
Metals									
Sodium adsorption ratio [SAR]	----	EC102A/EO	0.10	-	0.94	0.30	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Client sample ID					Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time					27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----
					Result	Result	----	----	----
Ion Balance									
Ion balance (cations/anions)	----	EC101/EO	0.010	%	109	106	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/EO	0.0030	mg/L	0.0282	0.109	----	----	----
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	0.00036	0.00052	----	----	----
Barium, total	7440-39-3	E420/EO	0.00010	mg/L	0.0267	0.0264	----	----	----
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	0.014	0.014	----	----	----
Cadmium, total	7440-43-9	E420/EO	0.0000050	mg/L	<0.0000050	0.0000085	----	----	----
Calcium, total	7440-70-2	E420/EO	0.050	mg/L	13.6	12.2	----	----	----
Cesium, total	7440-46-2	E420/EO	0.000010	mg/L	<0.000010	0.000016	----	----	----
Chromium, total	7440-47-3	E420/EO	0.00050	mg/L	0.00060	<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	0.00193	0.00180	----	----	----
Iron, total	7439-89-6	E420/EO	0.010	mg/L	<0.010	0.150	----	----	----
Lead, total	7439-92-1	E420/EO	0.050	µg/L	<0.050	0.064	----	----	----
Lithium, total	7439-93-2	E420/EO	0.0010	mg/L	0.0037	0.0035	----	----	----
Magnesium, total	7439-95-4	E420/EO	0.0050	mg/L	3.94	3.81	----	----	----
Manganese, total	7439-96-5	E420/EO	0.00010	mg/L	0.00344	0.0120	----	----	----
Molybdenum, total	7439-98-7	E420/EO	0.000050	mg/L	0.000252	0.000327	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time						27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2502406-001	FC2502406-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Nickel, total	7440-02-0	E420/EO	0.00050	mg/L		0.00056	0.00063	----	----	----
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		1.07	1.03	----	----	----
Rubidium, total	7440-17-7	E420/EO	0.00020	mg/L		0.00116	0.00125	----	----	----
Selenium, total	7782-49-2	E420/EO	0.000050	mg/L		<0.000050	0.000090	----	----	----
Silicon, total	7440-21-3	E420/EO	0.10	mg/L		1.14	1.53	----	----	----
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		14.9	4.44	----	----	----
Strontium, total	7440-24-6	E420/EO	0.00020	mg/L		0.0852	0.0845	----	----	----
Sulfur, total	7704-34-9	E420/EO	0.50	mg/L		2.70	2.78	----	----	----
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		0.00018	0.00058	----	----	----
Titanium, total	7440-32-6	E420/EO	0.00030	mg/L		<0.00030	0.00284	----	----	----
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	0.000097	----	----	----
Vanadium, total	7440-62-2	E420/EO	0.00050	mg/L		<0.00050	0.00076	----	----	----
Zinc, total	7440-66-6	E420/EO	0.0030	mg/L		<0.0030	<0.0030	----	----	----
Zirconium, total	7440-67-7	E420/EO	0.00020	mg/L		<0.00020	<0.00020	----	----	----



Analytical Results

					Client sample ID	Treated Water ----	Raw Water Chamber Tap ----	----	----	----
					Client sampling date / time	27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----	----
					Result	Result	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/EO	0.0010	mg/L	0.0273	0.0082	----	----	----	----
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	0.00030	0.00047	----	----	----	----
Barium, dissolved	7440-39-3	E421/EO	0.00010	mg/L	0.0257	0.0241	----	----	----	----
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	0.015	0.015	----	----	----	----
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	14.6	12.8	----	----	----	----
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	0.00090	0.00082	----	----	----	----
Iron, dissolved	7439-89-6	E421/EO	0.010	mg/L	<0.010	0.017	----	----	----	----
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	0.0039	0.0034	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/EO	0.0050	mg/L	4.01	3.91	----	----	----	----
Manganese, dissolved	7439-96-5	E421/EO	0.00010	mg/L	<0.00010	0.00023	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/EO	0.000050	mg/L	0.000267	0.000314	----	----	----	----
Nickel, dissolved	7440-02-0	E421/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/EO	0.050	mg/L	<0.050	<0.050	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Client sample ID					Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time					27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----
					Result	Result	----	----	----
Dissolved Metals									
Potassium, dissolved	7440-09-7	E421/EO	0.050	mg/L	1.07	1.00	----	----	----
Rubidium, dissolved	7440-17-7	E421/EO	0.00020	mg/L	0.00120	0.00107	----	----	----
Selenium, dissolved	7782-49-2	E421/EO	0.000050	mg/L	<0.000050	0.000101	----	----	----
Silicon, dissolved	7440-21-3	E421/EO	0.050	mg/L	1.11	1.27	----	----	----
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	15.7	4.77	----	----	----
Strontium, dissolved	7440-24-6	E421/EO	0.00020	mg/L	0.0876	0.0833	----	----	----
Sulfur, dissolved	7704-34-9	E421/EO	0.50	mg/L	2.55	2.56	----	----	----
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	<0.00030	----	----	----
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	0.000093	----	----	----
Vanadium, dissolved	7440-62-2	E421/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----
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	-	-	Laboratory	Laboratory	----	----	----
Aggregate Organics									
Naphthenic acids	----	E565/EO	1.0	mg/L	<1.0	<1.0	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Client sample ID					Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time					27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----
					Result	Result	----	----	----
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	%	101	98.0	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/EO	1.0	%	121	120	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/EO	1.0	%	113	110	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/EO	1.0	%	121	100	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

Client sample ID					Treated Water ----	Raw Water Chamber Tap ----	----	----	----
Client sampling date / time					27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----
					Result	Result	----	----	----
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(e)pyrene	192-97-2	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----
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	----	----	----
Naphthalene	91-20-3	E641A/EO	0.050	µg/L	<0.050	<0.050	----	----	----
Perylene	198-55-0	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						27-Aug-2025 14:00	27-Aug-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2502406-001	FC2502406-002	----	----	----	----
					Result	Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
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	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/EO	0.1	%	104	97.5	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/EO	0.1	%	100	86.3	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/EO	0.1	%	108	97.1	----	----	----	----
Disinfectant By-Products										
Chlorate	14866-68-3	E409.CLO3/WT	0.010	mg/L	0.075	<0.010	----	----	----	----
Chlorite	14998-27-7	E409.CLO2/WT	0.010	mg/L	<0.010	<0.010	----	----	----	----

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

CERTIFICATE OF ANALYSIS

Work Order	: FC2502406	Page	: 1 of 10
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	: 29-Aug-2025 09:19
PO	: 4500060925	Date Analysis	: 29-Aug-2025
		Commenced	
		Issue Date	: 08-Sep-2025 17:28
C-O-C number	: ----		
Sampler	: AP		
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>
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Alex Drake	Lab Analyst	Metals, Edmonton, Alberta
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
Daniel Nguyen	Laboratory Analyst	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
John Tang	Lab Analyst	Inorganics, Waterloo, Ontario
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
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.

Unit	Description
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
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.

Workorder Comments

CORRECTIONS MADE TO SAMPLE DATES / DUE DATE UPDATED



Analytical Results

FC2502406-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 27-Aug-2025 14:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	55.9	1.2	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, carbonate (as CO ₃)	3812-32-6	<0.6	0.6	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, hydroxide (as OH)	14280-30-9	<0.3	0.3	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, total (as CaCO ₃)	----	45.8	1.0	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Conductivity	----	159	1.0	µS/cm	E100/EO	30-Aug-2025	30-Aug-2025	2191387
Hardness (as CaCO ₃), dissolved	----	53.0	0.50	mg/L	EC100/EO	-	06-Sep-2025	-
pH	----	7.91	0.10	pH units	E108/EO	30-Aug-2025	30-Aug-2025	2191386
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	07-Sep-2025	-
Solids, total dissolved [TDS], calculated	----	92.5	1.0	mg/L	EC103/EO	-	30-Aug-2025	-
Anions and Nutrients								
Chloride	16887-00-6	20.4	0.50	mg/L	E235.Cl/EO	29-Aug-2025	29-Aug-2025	2191339
Fluoride	16984-48-8	0.022	0.020	mg/L	E235.F/EO	29-Aug-2025	29-Aug-2025	2191342
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO ₃ /EO	29-Aug-2025	29-Aug-2025	2191343
Nitrate + Nitrite (as N)	----	<0.0224	0.0224	mg/L	EC235.N+N/EO	-	30-Aug-2025	-
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO ₂ /EO	29-Aug-2025	29-Aug-2025	2191344
Sulfate (as SO ₄)	14808-79-8	6.19	0.30	mg/L	E235.SO ₄ /EO	29-Aug-2025	29-Aug-2025	2191338
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/CG	-	30-Aug-2025	2192546
Sulfide, total (as H ₂ S)	7783-06-4	<0.0016	0.0016	mg/L	E395/CG	-	30-Aug-2025	2192546
Metals								
Sodium adsorption ratio [SAR]	----	0.94	0.10	-	EC102A/EO	-	06-Sep-2025	-
Ion Balance								
Ion balance (cations/anions)	----	109	0.010	%	EC101/EO	-	30-Aug-2025	-
Total Metals								
Aluminum, total	7429-90-5	0.0282	0.0030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Arsenic, total	7440-38-2	0.00036	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Barium, total	7440-39-3	0.0267	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Boron, total	7440-42-8	0.014	0.010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Calcium, total	7440-70-2	13.6	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Chromium, total	7440-47-3	0.00060	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Copper, total	7440-50-8	0.00193	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Lead, total	7439-92-1	<0.050	0.050	µg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Lithium, total	7439-93-2	0.0037	0.0010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Magnesium, total	7439-95-4	3.94	0.0050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Manganese, total	7439-96-5	0.00344	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Molybdenum, total	7439-98-7	0.000252	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Nickel, total	7440-02-0	0.00056	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353



Analytical Results

FC2502406-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 27-Aug-2025 14:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
Total Metals								
Potassium, total	7440-09-7	1.07	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Rubidium, total	7440-17-7	0.00116	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Selenium, total	7782-49-2	<0.000050	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Silicon, total	7440-21-3	1.14	0.10	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Sodium, total	7440-23-5	14.9	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Strontium, total	7440-24-6	0.0852	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Sulfur, total	7704-34-9	2.70	0.50	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tin, total	7440-31-5	0.00018	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Titanium, total	7440-32-6	<0.00030	0.00030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Uranium, total	7440-61-1	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Vanadium, total	7440-62-2	<0.00050	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0273	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Arsenic, dissolved	7440-38-2	0.00030	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Barium, dissolved	7440-39-3	0.0257	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Boron, dissolved	7440-42-8	0.015	0.010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Calcium, dissolved	7440-70-2	14.6	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Copper, dissolved	7440-50-8	0.00090	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Iron, dissolved	7439-89-6	<0.010	0.010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Lithium, dissolved	7439-93-2	0.0039	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Magnesium, dissolved	7439-95-4	4.01	0.0050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Manganese, dissolved	7439-96-5	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Molybdenum, dissolved	7439-98-7	0.000267	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Potassium, dissolved	7440-09-7	1.07	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Rubidium, dissolved	7440-17-7	0.00120	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Silicon, dissolved	7440-21-3	1.11	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631



Analytical Results

FC2502406-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 27-Aug-2025 14:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
Dissolved Metals								
Sodium, dissolved	7440-23-5	15.7	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Strontium, dissolved	7440-24-6	0.0876	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Sulfur, dissolved	7704-34-9	2.55	0.50	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Uranium, dissolved	7440-61-1	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Zirconium, dissolved	7440-67-7	<0.00020	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Dissolved metals filtration location	----	Laboratory	-	-	EP421/EO	-	05-Sep-2025	2199631
Aggregate Organics								
Naphthenic acids	----	<1.0	1.0	mg/L	E565/EO	29-Aug-2025	05-Sep-2025	2190461
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Styrene	100-42-5	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
BTEX, total	----	<1.0	1.0	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	30-Aug-2025	30-Aug-2025	2192126
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	02-Sep-2025	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
Hydrocarbons, total (C6-C50)	n/a	<380	380	µg/L	EC581/EO	-	02-Sep-2025	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	101	1.0	%	E601/EO	02-Sep-2025	02-Sep-2025	2192701
Dichlorotoluene, 3,4-	95-75-0	121	1.0	%	E581.F1/EO	30-Aug-2025	30-Aug-2025	2192126
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	113	1.0	%	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Difluorobenzene, 1,4-	540-36-3	121	1.0	%	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700



Analytical Results

FC2502406-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 27-Aug-2025 14:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(e)pyrene	192-97-2	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Perylene	198-55-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	104	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Naphthalene-d8	1146-65-2	100	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Phenanthrene-d10	1517-22-2	108	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Disinfectant By-Products								
Chlorate	14866-68-3	0.075	0.010	mg/L	E409.CLO3/WT	03-Sep-2025	03-Sep-2025	2196444
Chlorite	14998-27-7	<0.010	0.010	mg/L	E409.CLO2/WT	03-Sep-2025	03-Sep-2025	2196443

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

Analytical Results

FC2502406-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 27-Aug-2025 14:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	52.8	1.2	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, carbonate (as CO ₃)	3812-32-6	<0.6	0.6	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, hydroxide (as OH)	14280-30-9	<0.3	0.3	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Alkalinity, total (as CaCO ₃)	----	43.3	1.0	mg/L	E290/EO	30-Aug-2025	30-Aug-2025	2191388
Conductivity	----	106	1.0	µS/cm	E100/EO	30-Aug-2025	30-Aug-2025	2191387
Hardness (as CaCO ₃), dissolved	----	48.1	0.50	mg/L	EC100/EO	-	06-Sep-2025	-
pH	----	8.01	0.10	pH units	E108/EO	30-Aug-2025	30-Aug-2025	2191386
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	07-Sep-2025	-
Solids, total dissolved [TDS], calculated	----	62.7	1.0	mg/L	EC103/EO	-	30-Aug-2025	-



Analytical Results

FC2502406-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 27-Aug-2025 14:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Anions and Nutrients								
Chloride	16887-00-6	4.17	0.50	mg/L	E235.Cl/EO	29-Aug-2025	29-Aug-2025	2191339
Fluoride	16984-48-8	0.069	0.020	mg/L	E235.F/EO	29-Aug-2025	29-Aug-2025	2191342
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO3/EO	29-Aug-2025	29-Aug-2025	2191343
Nitrate + Nitrite (as N)	----	<0.0224	0.0224	mg/L	EC235.N+N/EO	-	30-Aug-2025	-
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/EO	29-Aug-2025	29-Aug-2025	2191344
Sulfate (as SO4)	14808-79-8	6.55	0.30	mg/L	E235.SO4/EO	29-Aug-2025	29-Aug-2025	2191338
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/CG	-	30-Aug-2025	2192546
Sulfide, total (as H2S)	7783-06-4	<0.0016	0.0016	mg/L	E395/CG	-	30-Aug-2025	2192546
Metals								
Sodium adsorption ratio [SAR]	----	0.30	0.10	-	EC102A/EO	-	06-Sep-2025	-
Ion Balance								
Ion balance (cations/anions)	----	106	0.010	%	EC101/EO	-	30-Aug-2025	-
Total Metals								
Aluminum, total	7429-90-5	0.109	0.0030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Arsenic, total	7440-38-2	0.00052	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Barium, total	7440-39-3	0.0264	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Boron, total	7440-42-8	0.014	0.010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cadmium, total	7440-43-9	0.0000085	0.0000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Calcium, total	7440-70-2	12.2	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cesium, total	7440-46-2	0.000016	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Copper, total	7440-50-8	0.00180	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Iron, total	7439-89-6	0.150	0.010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Lead, total	7439-92-1	0.064	0.050	µg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Lithium, total	7439-93-2	0.0035	0.0010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Magnesium, total	7439-95-4	3.81	0.0050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Manganese, total	7439-96-5	0.0120	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Molybdenum, total	7439-98-7	0.000327	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Nickel, total	7440-02-0	0.00063	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Potassium, total	7440-09-7	1.03	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Rubidium, total	7440-17-7	0.00125	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Selenium, total	7782-49-2	0.000090	0.000050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Silicon, total	7440-21-3	1.53	0.10	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Sodium, total	7440-23-5	4.44	0.050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Strontium, total	7440-24-6	0.0845	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Sulfur, total	7704-34-9	2.78	0.50	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353



Analytical Results

FC2502406-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap
Client sampling date / time: 27-Aug-2025 14:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC Lot
Total Metals								
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tin, total	7440-31-5	0.00058	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Titanium, total	7440-32-6	0.00284	0.00030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Uranium, total	7440-61-1	0.000097	0.000010	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Vanadium, total	7440-62-2	0.00076	0.00050	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	03-Sep-2025	03-Sep-2025	2196353
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0082	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Arsenic, dissolved	7440-38-2	0.00047	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Barium, dissolved	7440-39-3	0.0241	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Boron, dissolved	7440-42-8	0.015	0.010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Calcium, dissolved	7440-70-2	12.8	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Copper, dissolved	7440-50-8	0.00082	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Iron, dissolved	7439-89-6	0.017	0.010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Lithium, dissolved	7439-93-2	0.0034	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Magnesium, dissolved	7439-95-4	3.91	0.0050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Manganese, dissolved	7439-96-5	0.00023	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Molybdenum, dissolved	7439-98-7	0.000314	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Potassium, dissolved	7440-09-7	1.00	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Rubidium, dissolved	7440-17-7	0.00107	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Selenium, dissolved	7782-49-2	0.000101	0.000050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Silicon, dissolved	7440-21-3	1.27	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Sodium, dissolved	7440-23-5	4.77	0.050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Strontium, dissolved	7440-24-6	0.0833	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Sulfur, dissolved	7704-34-9	2.56	0.50	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Uranium, dissolved	7440-61-1	0.000093	0.000010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631



Analytical Results

FC2502406-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 27-Aug-2025 14:05

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Zirconium, dissolved	7440-67-7	<0.00020	0.00020	mg/L	E421/EO	05-Sep-2025	05-Sep-2025	2199631
Dissolved metals filtration location	----	Laboratory	-	-	EP421/EO	-	05-Sep-2025	2199631
Aggregate Organics								
Naphthenic acids	----	<1.0	1.0	mg/L	E565/EO	29-Aug-2025	05-Sep-2025	2190461
Volatile Organic Compounds [Fuels]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Styrene	100-42-5	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylene, m+p-	179601-23-1	<0.40	0.40	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylene, o-	95-47-6	<0.30	0.30	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Xylenes, total	1330-20-7	<0.50	0.50	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
BTEX, total	----	<1.0	1.0	µg/L	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	30-Aug-2025	30-Aug-2025	2192126
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	02-Sep-2025	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	02-Sep-2025	02-Sep-2025	2192701
Hydrocarbons, total (C6-C50)	n/a	<380	380	µg/L	EC581/EO	-	02-Sep-2025	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	98.0	1.0	%	E601/EO	02-Sep-2025	02-Sep-2025	2192701
Dichlorotoluene, 3,4-	95-75-0	120	1.0	%	E581.F1/EO	30-Aug-2025	30-Aug-2025	2192126
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	110	1.0	%	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Difluorobenzene, 1,4-	540-36-3	100	1.0	%	E611A/EO	30-Aug-2025	30-Aug-2025	2192127
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(e)pyrene	192-97-2	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700



Analytical Results

FC2502406-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Raw Water Chamber Tap

Client sampling date / time: 27-Aug-2025 14:05

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	02-Sep-2025	02-Sep-2025	2192700
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Perylene	198-55-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	97.5	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Naphthalene-d8	1146-65-2	86.3	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Phenanthrene-d10	1517-22-2	97.1	0.1	%	E641A/EO	02-Sep-2025	02-Sep-2025	2192700
Disinfectant By-Products								
Chlorate	14866-68-3	<0.010	0.010	mg/L	E409.CLO3/WT	03-Sep-2025	03-Sep-2025	2196444
Chlorite	14998-27-7	<0.010	0.010	mg/L	E409.CLO2/WT	03-Sep-2025	03-Sep-2025	2196443

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