



## CERTIFICATE OF ANALYSIS

<p><b>Work Order</b> : <b>FC2302084</b></p> <p><b>Client</b> : <b>Regional Municipality of Wood Buffalo</b></p> <p><b>Contact</b> : Water Treatment Plant</p> <p><b>Address</b> : 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1</p> <p><b>Telephone</b> : 780-762-5863</p> <p><b>Project</b> : Fort Chipewyan Imperial Release</p> <p><b>PO</b> : 4500051416</p> <p><b>C-O-C number</b> : ----</p> <p><b>Sampler</b> : Darwin M / Desmond F.</p> <p><b>Site</b> : Schedule 4: Fort Chip</p> <p><b>Quote number</b> : Q61323 (Fort chip)</p> <p><b>No. of samples received</b> : 1</p> <p><b>No. of samples analysed</b> : 1</p>	<p><b>Page</b> : 1 of 8</p> <p><b>Laboratory</b> : ALS Environmental - Fort McMurray</p> <p><b>Account Manager</b> : Megan Trydal</p> <p><b>Address</b> : #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8</p> <p><b>Telephone</b> : +1 780 791 1524</p> <p><b>Date Samples Received</b> : 31-Jul-2023 15:15</p> <p><b>Date Analysis Commenced</b> : 01-Aug-2023</p> <p><b>Issue Date</b> : 03-Aug-2023 16:19</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

### Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Archana Neupane	Lab Assistant	Metals, Calgary, Alberta
George Huang	Supervisor - Inorganic	Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sorina Motea	Laboratory Analyst	Organics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



## General Comments

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

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

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

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

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

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

<: less than.

>: greater than.

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

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

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

## Accreditation

Accreditation	Description	Laboratory	Address
A	CALA ISO/IEC 17025:2017	CG ALS Environmental - Calgary	2559 29th Street NE, Calgary, AB
B	CALA ISO/IEC 17025:2017	VA ALS Environmental - Vancouver	8081 Lougheed Highway, Burnaby, BC
C	CALA ISO/IEC 17025:2017	EO ALS Environmental - Edmonton	9450 - 17 Avenue NW, Edmonton, AB

Applicable accreditations are indicated in the Method/Lab column as superscripts.



## Analytical Results

Sub-Matrix: Water						Client sample ID	Treated Water	---	---	---	---
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	---	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2302084-001	Result	---	---	---	---	
<b>Physical Tests</b>											
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/CG	A	1.0	mg/L	122	---	---	---	---	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/CG	A	1.0	mg/L	2.9	---	---	---	---	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/CG	A	1.0	mg/L	<1.0	---	---	---	---	
Alkalinity, total (as CaCO3)	---	E290/CG	A	1.0	mg/L	105	---	---	---	---	
Conductivity	---	E100/CG	A	1.0	µS/cm	385	---	---	---	---	
Hardness (as CaCO3), dissolved	---	EC100/CG		0.50	mg/L	90.7	---	---	---	---	
Hardness (as CaCO3), from total Ca/Mg	---	EC100A/CG		0.50	mg/L	93.7	---	---	---	---	
pH	---	E108/CG	A	0.10	pH units	8.31	---	---	---	---	
Salinity	---	EC100S/VA		1.0	psu	<1.0	---	---	---	---	
Solids, total dissolved [TDS], calculated	---	EC103/CG		1.0	mg/L	211	---	---	---	---	
<b>Anions and Nutrients</b>											
Chloride	16887-00-6	E235.Cl/CG	A	0.50	mg/L	50.5	---	---	---	---	
Fluoride	16984-48-8	E235.F/CG	A	0.020	mg/L	<0.020	---	---	---	---	
Nitrate (as N)	14797-55-8	E235.NO3/CG	A	0.020	mg/L	0.069	---	---	---	---	
Nitrate + Nitrite (as N)	---	EC235.N+N/C G		0.0300	mg/L	0.0690	---	---	---	---	
Nitrite (as N)	14797-65-0	E235.NO2/CG	A	0.010	mg/L	<0.010	---	---	---	---	
Sulfate (as SO4)	14808-79-8	E235.SO4/CG	A	0.30	mg/L	12.6	---	---	---	---	
<b>Total Sulfides</b>											
Sulfide, total (as S)	18496-25-8	E395/VA	B	0.0015	mg/L	<0.0015	---	---	---	---	
<b>Ion Balance</b>											
Anion sum	---	EC101/CG		0.10	meq/L	3.79	---	---	---	---	
Cation sum	---	EC101/CG		0.10	meq/L	3.83	---	---	---	---	
Ion balance (APHA)	---	EC101/CG		0.01	%	0.52	---	---	---	---	
Ion balance (cations/anions)	---	EC101/CG		0.010	%	101	---	---	---	---	
<b>Total Metals</b>											
Aluminum, total	7429-90-5	E420/CG	A	0.0030	mg/L	0.0183	---	---	---	---	
Antimony, total	7440-36-0	E420/CG	A	0.00010	mg/L	0.00014	---	---	---	---	
Arsenic, total	7440-38-2	E420/CG	A	0.00010	mg/L	0.00044	---	---	---	---	
Barium, total	7440-39-3	E420/CG	A	0.00010	mg/L	0.0555	---	---	---	---	



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Sub-Matrix: Water						Client sample ID	Treated Water	----	----	----	----
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2302084-001	-----	-----	-----	-----	
						Result	----	----	----	----	
<b>Total Metals</b>											
Beryllium, total	7440-41-7	E420/CG	A	0.000020	mg/L	<0.000020	----	----	----	----	
Bismuth, total	7440-69-9	E420/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Boron, total	7440-42-8	E420/CG	A	0.010	mg/L	0.024	----	----	----	----	
Cadmium, total	7440-43-9	E420/CG	A	0.0000050	mg/L	0.0000060	----	----	----	----	
Calcium, total	7440-70-2	E420/CG	A	0.050	mg/L	26.7	----	----	----	----	
Cesium, total	7440-46-2	E420/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Chromium, total	7440-47-3	E420/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Cobalt, total	7440-48-4	E420/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Copper, total	7440-50-8	E420/CG	A	0.000050	mg/L	0.00185	----	----	----	----	
Iron, total	7439-89-6	E420/CG	A	0.010	mg/L	<0.010	----	----	----	----	
Lead, total	7439-92-1	E420/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Lithium, total	7439-93-2	E420/CG	A	0.0010	mg/L	0.0047	----	----	----	----	
Magnesium, total	7439-95-4	E420/CG	A	0.0050	mg/L	6.57	----	----	----	----	
Manganese, total	7439-96-5	E420/CG	A	0.00010	mg/L	0.0250	----	----	----	----	
Molybdenum, total	7439-98-7	E420/CG	A	0.000050	mg/L	0.000440	----	----	----	----	
Nickel, total	7440-02-0	E420/CG	A	0.000050	mg/L	0.00099	----	----	----	----	
Phosphorus, total	7723-14-0	E420/CG	A	0.050	mg/L	<0.050	----	----	----	----	
Potassium, total	7440-09-7	E420/CG	A	0.050	mg/L	1.54	----	----	----	----	
Rubidium, total	7440-17-7	E420/CG	A	0.00020	mg/L	0.00160	----	----	----	----	
Selenium, total	7782-49-2	E420/CG	A	0.000050	mg/L	0.000071	----	----	----	----	
Silicon, total	7440-21-3	E420/CG	A	0.10	mg/L	1.86	----	----	----	----	
Silver, total	7440-22-4	E420/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Sodium, total	7440-23-5	E420/CG	A	0.050	mg/L	43.9	----	----	----	----	
Strontium, total	7440-24-6	E420/CG	A	0.00020	mg/L	0.149	----	----	----	----	
Sulfur, total	7704-34-9	E420/CG	A	0.50	mg/L	4.67	----	----	----	----	
Tellurium, total	13494-80-9	E420/CG	A	0.00020	mg/L	<0.00020	----	----	----	----	
Thallium, total	7440-28-0	E420/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Thorium, total	7440-29-1	E420/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Tin, total	7440-31-5	E420/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Titanium, total	7440-32-6	E420/CG	A	0.00030	mg/L	<0.00030	----	----	----	----	
Tungsten, total	7440-33-7	E420/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	



## Analytical Results

Sub-Matrix: Water						Client sample ID	Treated Water	----	----	----	----
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2302084-001	-----	-----	-----	-----	
						Result	----	----	----	----	
<b>Total Metals</b>											
Uranium, total	7440-61-1	E420/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Vanadium, total	7440-62-2	E420/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Zinc, total	7440-66-6	E420/CG	A	0.0030	mg/L	<0.0030	----	----	----	----	
Zirconium, total	7440-67-7	E420/CG	A	0.00020	mg/L	<0.00020	----	----	----	----	
<b>Dissolved Metals</b>											
Aluminum, dissolved	7429-90-5	E421/CG	A	0.0010	mg/L	0.0160	----	----	----	----	
Antimony, dissolved	7440-36-0	E421/CG	A	0.00010	mg/L	0.00012	----	----	----	----	
Arsenic, dissolved	7440-38-2	E421/CG	A	0.00010	mg/L	0.00043	----	----	----	----	
Barium, dissolved	7440-39-3	E421/CG	A	0.00010	mg/L	0.0574	----	----	----	----	
Beryllium, dissolved	7440-41-7	E421/CG	A	0.000020	mg/L	<0.000020	----	----	----	----	
Bismuth, dissolved	7440-69-9	E421/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Boron, dissolved	7440-42-8	E421/CG	A	0.010	mg/L	0.023	----	----	----	----	
Cadmium, dissolved	7440-43-9	E421/CG	A	0.0000050	mg/L	<0.0000050	----	----	----	----	
Calcium, dissolved	7440-70-2	E421/CG	A	0.050	mg/L	25.4	----	----	----	----	
Cesium, dissolved	7440-46-2	E421/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Chromium, dissolved	7440-47-3	E421/CG	A	0.00050	mg/L	<0.00050	----	----	----	----	
Cobalt, dissolved	7440-48-4	E421/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Copper, dissolved	7440-50-8	E421/CG	A	0.00020	mg/L	0.00128	----	----	----	----	
Iron, dissolved	7439-89-6	E421/CG	A	0.030	mg/L	<0.030	----	----	----	----	
Lead, dissolved	7439-92-1	E421/CG	A	0.000050	mg/L	<0.000050	----	----	----	----	
Lithium, dissolved	7439-93-2	E421/CG	A	0.0010	mg/L	0.0048	----	----	----	----	
Magnesium, dissolved	7439-95-4	E421/CG	A	0.0050	mg/L	6.63	----	----	----	----	
Manganese, dissolved	7439-96-5	E421/CG	A	0.00500	mg/L	<0.00500	----	----	----	----	
Molybdenum, dissolved	7439-98-7	E421/CG	A	0.000050	mg/L	0.000468	----	----	----	----	
Nickel, dissolved	7440-02-0	E421/CG	A	0.00050	mg/L	0.00086	----	----	----	----	
Phosphorus, dissolved	7723-14-0	E421/CG	A	0.050	mg/L	<0.050	----	----	----	----	
Potassium, dissolved	7440-09-7	E421/CG	A	0.050	mg/L	1.64	----	----	----	----	
Rubidium, dissolved	7440-17-7	E421/CG	A	0.00020	mg/L	0.00173	----	----	----	----	
Selenium, dissolved	7782-49-2	E421/CG	A	0.000050	mg/L	0.000096	----	----	----	----	
Silicon, dissolved	7440-21-3	E421/CG	A	0.050	mg/L	1.91	----	----	----	----	
Silver, dissolved	7440-22-4	E421/CG	A	0.000010	mg/L	0.000018	----	----	----	----	



## Analytical Results

Sub-Matrix: Water						Client sample ID	Treated Water	----	----	----	----
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2302084-001	-----	-----	-----	-----	
						Result	----	----	----	----	
<b>Dissolved Metals</b>											
Sodium, dissolved	7440-23-5	E421/CG	A	0.050	mg/L	45.4	----	----	----	----	
Strontium, dissolved	7440-24-6	E421/CG	A	0.00020	mg/L	0.148	----	----	----	----	
Sulfur, dissolved	7704-34-9	E421/CG	A	0.50	mg/L	5.09	----	----	----	----	
Tellurium, dissolved	13494-80-9	E421/CG	A	0.00020	mg/L	<0.00020	----	----	----	----	
Thallium, dissolved	7440-28-0	E421/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Thorium, dissolved	7440-29-1	E421/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Tin, dissolved	7440-31-5	E421/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Titanium, dissolved	7440-32-6	E421/CG	A	0.00030	mg/L	<0.00030	----	----	----	----	
Tungsten, dissolved	7440-33-7	E421/CG	A	0.00010	mg/L	<0.00010	----	----	----	----	
Uranium, dissolved	7440-61-1	E421/CG	A	0.000010	mg/L	<0.000010	----	----	----	----	
Vanadium, dissolved	7440-62-2	E421/CG	A	0.00050	mg/L	<0.00050	----	----	----	----	
Zinc, dissolved	7440-66-6	E421/CG	A	0.0010	mg/L	<0.0010	----	----	----	----	
Zirconium, dissolved	7440-67-7	E421/CG	A	0.00030	mg/L	<0.00030	----	----	----	----	
Dissolved metals filtration location	----	EP421/CG		-	-	Laboratory	----	----	----	----	
<b>Aggregate Organics</b>											
Naphthenic acids	----	E565-L/EO	C	0.10	mg/L	<0.10	----	----	----	----	
<b>Volatile Organic Compounds [BTEXS+MTBE]</b>											
Benzene	71-43-2	E611A/CG	A	0.50	µg/L	<0.50	----	----	----	----	
Ethylbenzene	100-41-4	E611A/CG	A	0.50	µg/L	<0.50	----	----	----	----	
Toluene	108-88-3	E611A/CG	A	0.50	µg/L	<0.50	----	----	----	----	
Xylene, m+p-	179601-23-1	E611A/CG	A	0.50	µg/L	<0.50	----	----	----	----	
Xylene, o-	95-47-6	E611A/CG	A	0.50	µg/L	<0.50	----	----	----	----	
Xylenes, total	1330-20-7	E611A/CG	A	0.75	µg/L	<0.75	----	----	----	----	
BTEX, total	----	E611A/CG	A	1.2	µg/L	<1.2	----	----	----	----	
<b>Hydrocarbons</b>											
F1 (C6-C10)	----	E581.F1/CG	A	100	µg/L	<100	----	----	----	----	
F1-BTEX	----	EC580/CG		100	µg/L	<100	----	----	----	----	
F2 (C10-C16)	----	E601/CG	A	100	µg/L	<100	----	----	----	----	
F3 (C16-C34)	----	E601/CG	A	250	µg/L	<250	----	----	----	----	
F4 (C34-C50)	----	E601/CG	A	250	µg/L	<250	----	----	----	----	
Hydrocarbons, total (C6-C50)	----	EC581/CG		400	µg/L	<400	----	----	----	----	



## Analytical Results

Sub-Matrix: Water						Client sample ID	Treated Water	----	----	----	----
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2302084-001	-----	-----	-----	-----	
						Result	----	----	----	----	
<b>Hydrocarbons Surrogates</b>											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/CG	A	1.0	%	104	----	----	----	----	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/CG	A	1.0	%	75.3	----	----	----	----	
<b>Volatile Organic Compounds Surrogates</b>											
Bromofluorobenzene, 4-	460-00-4	E611A/CG	A	1.0	%	70.9	----	----	----	----	
Difluorobenzene, 1,4-	540-36-3	E611A/CG	A	1.0	%	92.8	----	----	----	----	
<b>Polycyclic Aromatic Hydrocarbons</b>											
Acenaphthene	83-32-9	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Acenaphthylene	208-96-8	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Acridine	260-94-6	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Anthracene	120-12-7	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Benz(a)anthracene	56-55-3	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Benzo(a)pyrene	50-32-8	E641A/CG	A	0.0050	µg/L	<0.0050	----	----	----	----	
Benzo(b+j)fluoranthene	n/a	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Benzo(b+j+k)fluoranthene	n/a	E641A/CG	A	0.015	µg/L	<0.015	----	----	----	----	
Benzo(g,h,i)perylene	191-24-2	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Benzo(k)fluoranthene	207-08-9	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Chrysene	218-01-9	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Dibenz(a,h)anthracene	53-70-3	E641A/CG	A	0.0050	µg/L	<0.0050	----	----	----	----	
Fluoranthene	206-44-0	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Fluorene	86-73-7	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Methylnaphthalene, 1-	90-12-0	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Methylnaphthalene, 1+2-	----	E641A/CG	A	0.015	µg/L	<0.015	----	----	----	----	
Methylnaphthalene, 2-	91-57-6	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Naphthalene	91-20-3	E641A/CG	A	0.050	µg/L	<0.050	----	----	----	----	
Phenanthrene	85-01-8	E641A/CG	A	0.020	µg/L	<0.020	----	----	----	----	
Pyrene	129-00-0	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
Quinoline	91-22-5	E641A/CG	A	0.050	µg/L	<0.050	----	----	----	----	
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/CG	A	0.010	µg/L	<0.010	----	----	----	----	
PAHs, high molecular weight (BC AWQ)	n/a	E641A/CG	A	0.030	µg/L	<0.030	----	----	----	----	
PAHs, low molecular weight (BC AWQ)	n/a	E641A/CG	A	0.060	µg/L	<0.060	----	----	----	----	



## Analytical Results

Sub-Matrix: Water						Client sample ID	Treated Water	----	----	----	----
(Matrix: Water)						Client sampling date / time	31-Jul-2023 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FC2302084-001	-----	-----	-----	-----	
						Result	----	----	----	----	
<b>Polycyclic Aromatic Hydrocarbons</b>											
PAHs, total (CCME sewer 18)	n/a	E641A/CG	A	0.070	µg/L	<0.070	----	----	----	----	
PAHs, total (EPA 16)	n/a	E641A/CG	A	0.065	µg/L	<0.065	----	----	----	----	
<b>Polycyclic Aromatic Hydrocarbons Surrogates</b>											
Chrysene-d12	1719-03-5	E641A/CG	A	0.1	%	117	----	----	----	----	
Naphthalene-d8	1146-65-2	E641A/CG	A	0.1	%	121	----	----	----	----	
Phenanthrene-d10	1517-22-2	E641A/CG	A	0.1	%	121	----	----	----	----	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.





**CERTIFICATE OF ANALYSIS**

<b>Work Order</b>	: <b>FC2302084</b>	<b>Page</b>	: 1 of 6
<b>Client</b>	: <b>Regional Municipality of Wood Buffalo</b>	<b>Laboratory</b>	: ALS Environmental - Fort McMurray
<b>Contact</b>	: Water Treatment Plant	<b>Account Manager</b>	: Megan Trydal
<b>Address</b>	: 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1	<b>Address</b>	: #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8
<b>Telephone</b>	: 780-762-5863	<b>Telephone</b>	: +1 780 791 1524
<b>Project</b>	: Fort Chipewyan Imperial Release	<b>Date Samples Received</b>	: 31-Jul-2023 15:15
<b>PO</b>	: 4500051416	<b>Date Analysis</b>	: 01-Aug-2023
<b>C-O-C number</b>	: ----	<b>Commenced</b>	
<b>Sampler</b>	: Darwin M / Desmond F.	<b>Issue Date</b>	: 03-Aug-2023 16:19
<b>Site</b>	: Schedule 4: Fort Chip		
<b>Quote number</b>	: Q61323 (Fort chip)		
<b>No. of samples received</b>	: 1		
<b>No. of samples analysed</b>	: 1		

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>
Archana Neupane	Lab Assistant	Metals, Calgary, Alberta
George Huang	Supervisor - Inorganic	Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Shirley Li	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Sorina Motea	Laboratory Analyst	Organics, Calgary, Alberta
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



## General Comments

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

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

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

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

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

LOR: Limit of Reporting (detection limit).

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

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

Unit	Description
-	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.

## Accreditation

Accreditation	Description	Laboratory	Address
A	CALA ISO/IEC 17025:2017	CG ALS Environmental - Calgary	2559 29th Street NE, Calgary, AB
B	CALA ISO/IEC 17025:2017	VA ALS Environmental - Vancouver	8081 Lougheed Highway, Burnaby, BC
C	CALA ISO/IEC 17025:2017	EO ALS Environmental - Edmonton	9450 - 17 Avenue NW, Edmonton, AB

Applicable accreditations are indicated in the Method/Lab column as superscripts.



## Analytical Results

FC2302084-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 31-Jul-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot	
<b>Physical Tests</b>									
Alkalinity, bicarbonate (as HCO <sub>3</sub> )	71-52-3	122	1.0	mg/L	E290/CG	A	01-Aug-2023	01-Aug-2023	1065131
Alkalinity, carbonate (as CO <sub>3</sub> )	3812-32-6	2.9	1.0	mg/L	E290/CG	A	01-Aug-2023	01-Aug-2023	1065131
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290/CG	A	01-Aug-2023	01-Aug-2023	1065131
Alkalinity, total (as CaCO <sub>3</sub> )	----	105	1.0	mg/L	E290/CG	A	01-Aug-2023	01-Aug-2023	1065131
Conductivity	----	385	1.0	µS/cm	E100/CG	A	01-Aug-2023	01-Aug-2023	1065129
Hardness (as CaCO <sub>3</sub> ), dissolved	----	90.7	0.50	mg/L	EC100/CG	-	-	02-Aug-2023	-
Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg	----	93.7	0.50	mg/L	EC100A/CG	-	-	02-Aug-2023	-
pH	----	8.31	0.10	pH units	E108/CG	A	01-Aug-2023	01-Aug-2023	1065130
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	-	02-Aug-2023	-
Solids, total dissolved [TDS], calculated	----	211	1.0	mg/L	EC103/CG	-	-	02-Aug-2023	-
<b>Anions and Nutrients</b>									
Chloride	16887-00-6	50.5	0.50	mg/L	E235.Cl/CG	A	01-Aug-2023	01-Aug-2023	1065686
Fluoride	16984-48-8	<0.020	0.020	mg/L	E235.F/CG	A	01-Aug-2023	01-Aug-2023	1065678
Nitrate (as N)	14797-55-8	0.069	0.020	mg/L	E235.NO3/CG	A	01-Aug-2023	01-Aug-2023	1065684
Nitrate + Nitrite (as N)	----	0.0690	0.03	mg/L	EC235.N+N/CG	-	-	02-Aug-2023	1067468
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/CG	A	01-Aug-2023	01-Aug-2023	1065685
Sulfate (as SO <sub>4</sub> )	14808-79-8	12.6	0.30	mg/L	E235.SO4/CG	A	01-Aug-2023	01-Aug-2023	1065683
<b>Total Sulfides</b>									
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/VA	B	-	02-Aug-2023	1068334
<b>Ion Balance</b>									
Anion sum	----	3.79	0.10	meq/L	EC101/CG	-	-	02-Aug-2023	-
Cation sum	----	3.83	0.10	meq/L	EC101/CG	-	-	02-Aug-2023	-
Ion balance (APHA)	----	0.52	0.01	%	EC101/CG	-	-	02-Aug-2023	-
Ion balance (cations/anions)	----	101	0.010	%	EC101/CG	-	-	02-Aug-2023	-
<b>Total Metals</b>									
Aluminum, total	7429-90-5	0.0183	0.0030	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Antimony, total	7440-36-0	0.00014	0.00010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Arsenic, total	7440-38-2	0.00044	0.00010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Barium, total	7440-39-3	0.0555	0.00010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Boron, total	7440-42-8	0.024	0.010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Cadmium, total	7440-43-9	0.0000060	0.0000050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Calcium, total	7440-70-2	26.7	0.050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Chromium, total	7440-47-3	<0.000050	0.000050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Copper, total	7440-50-8	0.00185	0.00050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Lithium, total	7439-93-2	0.0047	0.0010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Magnesium, total	7439-95-4	6.57	0.0050	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907
Manganese, total	7439-96-5	0.0250	0.00010	mg/L	E420/CG	A	02-Aug-2023	02-Aug-2023	1065907



## Analytical Results

FC2302084-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 31-Jul-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
<b>Total Metals</b>								
Molybdenum, total	7439-98-7	0.000440	0.000050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Nickel, total	7440-02-0	0.00099	0.00050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Potassium, total	7440-09-7	1.54	0.050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Rubidium, total	7440-17-7	0.00160	0.00020	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Selenium, total	7782-49-2	0.000071	0.000050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Silicon, total	7440-21-3	1.86	0.10	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Sodium, total	7440-23-5	43.9	0.050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Strontium, total	7440-24-6	0.149	0.00020	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Sulfur, total	7704-34-9	4.67	0.50	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Tellurium, total	13494-80-9	<0.00020	0.00020	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Titanium, total	7440-32-6	<0.00030	0.00030	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Uranium, total	7440-61-1	<0.000010	0.000010	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Vanadium, total	7440-62-2	<0.00050	0.00050	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/CG	A 02-Aug-2023	02-Aug-2023	1065907
<b>Dissolved Metals</b>								
Aluminum, dissolved	7429-90-5	0.0160	0.0010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Antimony, dissolved	7440-36-0	0.00012	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Arsenic, dissolved	7440-38-2	0.00043	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Barium, dissolved	7440-39-3	0.0574	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Boron, dissolved	7440-42-8	0.023	0.010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Calcium, dissolved	7440-70-2	25.4	0.050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Copper, dissolved	7440-50-8	0.00128	0.00020	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Iron, dissolved	7439-89-6	<0.030	0.030	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Lithium, dissolved	7439-93-2	0.0048	0.0010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Magnesium, dissolved	7439-95-4	6.63	0.0050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Manganese, dissolved	7439-96-5	<0.00500	0.00500	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Molybdenum, dissolved	7439-98-7	0.000468	0.000050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Nickel, dissolved	7440-02-0	0.00086	0.00050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Potassium, dissolved	7440-09-7	1.64	0.050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Rubidium, dissolved	7440-17-7	0.00173	0.00020	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905



## Analytical Results

FC2302084-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 31-Jul-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/Lot
<b>Dissolved Metals</b>								
Selenium, dissolved	7782-49-2	0.000096	0.000050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Silicon, dissolved	7440-21-3	1.91	0.050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Silver, dissolved	7440-22-4	0.000018	0.000010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Sodium, dissolved	7440-23-5	45.4	0.050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Strontium, dissolved	7440-24-6	0.148	0.00020	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Sulfur, dissolved	7704-34-9	5.09	0.50	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Uranium, dissolved	7440-61-1	<0.000010	0.000010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421/CG	A 02-Aug-2023	02-Aug-2023	1065905
Dissolved metals filtration location	----	Laboratory	-	-	EP421/CG	-	02-Aug-2023	1065905
<b>Aggregate Organics</b>								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L/EO	C 02-Aug-2023	03-Aug-2023	1067410
<b>Volatile Organic Compounds [BTEXS+MTBE]</b>								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Xylene, m+p-	179601-23-1	<0.50	0.50	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Xylene, o-	95-47-6	<0.50	0.50	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Xylenes, total	1330-20-7	<0.75	0.75	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
BTEX, total	----	<1.2	1.2	µg/L	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
<b>Hydrocarbons</b>								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/C	A 01-Aug-2023	01-Aug-2023	1065064
F1-BTEX	----	<100	100	µg/L	EC580/CG	-	01-Aug-2023	-
F2 (C10-C16)	----	<100	100	µg/L	E601/CG	A 01-Aug-2023	02-Aug-2023	1065171
F3 (C16-C34)	----	<250	250	µg/L	E601/CG	A 01-Aug-2023	02-Aug-2023	1065171
F4 (C34-C50)	----	<250	250	µg/L	E601/CG	A 01-Aug-2023	02-Aug-2023	1065171
Hydrocarbons, total (C6-C50)	----	<400	400	µg/L	EC581/CG	-	01-Aug-2023	-
<b>Hydrocarbons Surrogates</b>								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	104	1.0	%	E601/CG	A 01-Aug-2023	02-Aug-2023	1065171
Dichlorotoluene, 3,4-	95-75-0	75.3	1.0	%	E581.F1/C	A 01-Aug-2023	01-Aug-2023	1065064
<b>Volatile Organic Compounds Surrogates</b>								
Bromofluorobenzene, 4-	460-00-4	70.9	1.0	%	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
Difluorobenzene, 1,4-	540-36-3	92.8	1.0	%	E611A/CG	A 01-Aug-2023	01-Aug-2023	1065063
<b>Polycyclic Aromatic Hydrocarbons</b>								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172



## Analytical Results

FC2302084-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: Treated Water

Client sampling date / time: 31-Jul-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
<b>Polycyclic Aromatic Hydrocarbons</b>								
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
<b>Polycyclic Aromatic Hydrocarbons Surrogates</b>								
Chrysene-d12	1719-03-5	117	0.1	%	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Naphthalene-d8	1146-65-2	121	0.1	%	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172
Phenanthrene-d10	1517-22-2	121	0.1	%	E641A/CG	A 01-Aug-2023	01-Aug-2023	1065172

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

Please refer to the Accreditation section for an explanation of analyte accreditations.