CERTIFICATE OF ANALYSIS

Work Order	: **GP2301107**	Page	: 1 of 9
Client	: **Aquatera Utilities Inc.**	Laboratory	: ALS Environmental - Grande Prairie
Contact	: Sarah Ball	Account Manager	: Wanda Chapella
Address	: Water Treatment Plant 11101 104 Avenue Grande Prairie AB Canada T8V 8H6	Address	: 9505 111 Street Grande Prairie AB Canada T8V 5W1
Telephone	: 780 532 3996	Telephone	: 780-539-5196
Project	: WT-GP	Date Samples Received	: 04-Jul-2023 11:10
PO	: 30657	Date Analysis Commenced	: 05-Jul-2023
C-O-C number	: ----	Issue Date	: 27-Jul-2023 13:36
Sampler	: Mike Boyce		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Elke Tabora		Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Jon Fisher	Production Manager, Environmental	Inorganics, Waterloo, Ontario
Katrina Zwambag	Supervisor - HPLC	LCMS, Waterloo, Ontario
Kevin Baxter	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Metals, Calgary, Alberta
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Natalia Bobretsova		Limnology, Winnipeg, Manitoba
Parker Sgarbossa	Laboratory Analyst	Metals, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Sanja Risticevic	Department Manager - LCMS	LCMS, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	VOC, Waterloo, Ontario
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wanda Chapella	Account Manager	External Subcontracting, Saskatoon, Saskatchewan
Wayne Smith	Client Services Specialist	LCMS, Waterloo, Ontario

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
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
Bq/L	becquerels per litre
cells/mL	cells per millilitre
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH 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	WT ALS Environmental - Waterloo	60 Northland Road, Unit 1, Waterloo, ON
C	CALA ISO/IEC 17025:2017	VA ALS Environmental - Vancouver	8081 Lougheed Highway, Burnaby, BC
D	CALA ISO/IEC 17025:2017	WP ALS Environmental - Winnipeg	1329 Niakwa Road East, Unit 12, Winnipeg, MB

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

Sample Comments

Sample	Client Id	*Comment*
GP2301107-001	Treated Water	No blue-green algae observed.

Qualifiers

Qualifier	*Description*
BGHT	*5-day hold time for preserved samples is considered best practice to prevent population density change. For identification and quantitation purposes, preserved samples are stable for at least 6 months as per APHA 10200B*

DTSE	*Dissolved Se concentration exceeds total. Positive bias on D-Se suspected due to signal enhancement from volatile selenium species. Contact ALS if an alternative test to address this interference is needed.*
PEHR	*Parameter exceeded recommended holding time on receipt: Proceeded with analysis as requested.*

Analytical Results

GP2301107-001

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Alkalinity, bicarbonate (as HCO3)	71-52-3	112	2.0	mg/L	E290/CG A	05-Jul-2023	05-Jul-2023	1023847
Alkalinity, carbonate (as CO3)	3812-32-6	<2.0	2.0	mg/L	E290/CG A	05-Jul-2023	05-Jul-2023	1023847
Alkalinity, hydroxide (as OH)	14280-30-9	<2.0	2.0	mg/L	E290/CG A	05-Jul-2023	05-Jul-2023	1023847
Alkalinity, total (as CaCO3)	----	91.6	2.0	mg/L	E290/CG A	05-Jul-2023	05-Jul-2023	1023847
Colour, true	----	<5.0	5.0	CU	E329/CG A	05-Jul-2023	05-Jul-2023	1023064
Conductivity	----	274	2.0	µS/cm	E100/CG A	05-Jul-2023	05-Jul-2023	1023845
Hardness (as CaCO3), from total Ca/Mg	----	125	0.50	mg/L	EC100A/CG	-	10-Jul-2023	-
pH	----	7.84	0.10	pH units	E108/CG A	05-Jul-2023	05-Jul-2023	1023846
Solids, total dissolved [TDS]	----	150	20	mg/L	E162/CG A	-	10-Jul-2023	1029301
Turbidity	----	<0.10	0.10	NTU	E121/CG A	-	05-Jul-2023	1023729
Anions and Nutrients								
Ammonia, total (as N)	7664-41-7	<0.0050	0.0050	mg/L	E298/CG A	05-Jul-2023	05-Jul-2023	1023569
Chloride	16887-00-6	19.7	0.50	mg/L	E235.Cl/CG A	05-Jul-2023	05-Jul-2023	1024163
Fluoride	16984-48-8	0.681	0.020	mg/L	E235.F/CG A	05-Jul-2023	05-Jul-2023	1024167
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO3/CG A	05-Jul-2023	05-Jul-2023	1024165
Nitrate + Nitrite (as N)	----	<0.0224	0.0224	mg/L	EC235.N+N/CG	-	10-Jul-2023	1031349
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/CG A	05-Jul-2023	05-Jul-2023	1024166
Phosphate, ortho-, dissolved (as P)	14265-44-2	<0.0030	0.0030	mg/L	E378-T/WT B	-	11-Jul-2023	1032118
Sulfate (as SO4)	14808-79-8	17.7	0.30	mg/L	E235.SO4/CG A	05-Jul-2023	05-Jul-2023	1024164
Cyanides								
Cyanide, strong acid dissociable (Total)	----	<0.0050	0.0050	mg/L	E333/WT B	10-Jul-2023	10-Jul-2023	1031708
Organic / Inorganic Carbon								
Carbon, total organic [TOC]	----	3.04	0.50	mg/L	E355-L/CG A	05-Jul-2023	05-Jul-2023	1023968
Inorganics								
Chloramines, total (as Cl2)	----	<0.20	0.20	mg/L	EC326/CG	-	10-Jul-2023	-
Chlorine, free	7782-50-5	0.790 PEHR,	0.050	mg/L	E327/WT B	-	10-Jul-2023	1030447
Chlorine, total	7782-50-5	0.900 PEHR,	0.050	mg/L	E326/WT B	-	10-Jul-2023	1030446
Chlorite	14998-27-7	<0.010	0.010	mg/L	E409.CLO2/WT B	07-Jul-2023	07-Jul-2023	1028438
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/VA C	-	07-Jul-2023	1028349
Sulfide, total (as H2S)	7783-06-4	<0.0016	0.0016	mg/L	E395/VA C	-	07-Jul-2023	1028349
Taxonomy								
Blue-green algae cell count, total	----	<1 BGHT,	1	cells/mL	E921A/WP D	-	20-Jul-2023	-
Total Metals								
Aluminum, total	7429-90-5	0.0450	0.0030	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Arsenic, total	7440-38-2	<0.00010	0.00010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Barium, total	7440-39-3	0.0874	0.00010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Boron, total	7440-42-8	<0.010	0.010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Cadmium, total	7440-43-9	0.0000079	0.0000050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Calcium, total	7440-70-2	35.9	0.050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424

Analytical Results

GP2301107-001

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Total Metals								
Copper, total	7440-50-8	0.00121	0.00050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Magnesium, total	7439-95-4	8.66	0.0050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Manganese, total	7439-96-5	0.00181	0.00010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Mercury, total	7439-97-6	<0.0000050	0.0000050	mg/L	E508/CG A	11-Jul-2023	11-Jul-2023	1030873
Selenium, total	7782-49-2	0.000423	0.000050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Sodium, total	7440-23-5	3.22	0.050	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Strontium, total	7440-24-6	0.150	0.00020	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Uranium, total	7440-61-1	0.000022	0.000010	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/CG A	06-Jul-2023	07-Jul-2023	1025424
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0400	0.0010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Arsenic, dissolved	7440-38-2	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Barium, dissolved	7440-39-3	0.0799	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Boron, dissolved	7440-42-8	<0.010	0.010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Cadmium, dissolved	7440-43-9	0.0000136	0.0000050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Calcium, dissolved	7440-70-2	31.5	0.050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Copper, dissolved	7440-50-8	0.00101	0.00020	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Iron, dissolved	7439-89-6	<0.010	0.010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Lithium, dissolved	7439-93-2	0.0021	0.0010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Magnesium, dissolved	7439-95-4	8.06	0.0050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Manganese, dissolved	7439-96-5	0.00153	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Molybdenum, dissolved	7439-98-7	0.000682	0.000050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Nickel, dissolved	7440-02-0	0.00060	0.00050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Potassium, dissolved	7440-09-7	0.526	0.050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Rubidium, dissolved	7440-17-7	0.00038	0.00020	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Selenium, dissolved	7782-49-2	0.000658 DTSE	0.000050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Silicon, dissolved	7440-21-3	1.66	0.050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Sodium, dissolved	7440-23-5	2.89	0.050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Strontium, dissolved	7440-24-6	0.134	0.00020	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Sulfur, dissolved	7704-34-9	6.45	0.50	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422

Analytical Results

GP2301107-001
Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Dissolved Metals								
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Uranium, dissolved	7440-61-1	0.000020	0.000010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421/CG A	06-Jul-2023	07-Jul-2023	1025422
Dissolved metals filtration location	----	Field	-	-	EP421/CG	-	06-Jul-2023	1025422
Aggregate Organics								
Nitrilotriacetic acid [NTA]	139-13-9	<0.20	0.20	mg/L	E394/WT B	-	06-Jul-2023	1025625
Volatile Organic Compounds								
Benzene	71-43-2	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Carbon tetrachloride	56-23-5	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Chlorobenzene	108-90-7	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dichlorobenzene, 1,2-	95-50-1	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dichlorobenzene, 1,4-	106-46-7	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dichloroethane, 1,2-	107-06-2	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dichloroethylene, 1,1-	75-35-4	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dichloromethane	75-09-2	0.0217	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Dioxane, 1,4-	123-91-1	<0.020	0.020	mg/L	E611I/WT B	10-Jul-2023	10-Jul-2023	1031043
Ethylbenzene	100-41-4	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Tetrachloroethylene	127-18-4	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Toluene	108-88-3	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Trichloroethylene	79-01-6	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Vinyl chloride	75-01-4	<0.0010	0.0010	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Xylene, m+p-	179601-23-1	<0.00040	0.00040	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Xylene, o-	95-47-6	<0.00030	0.00030	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Xylenes, total	1330-20-7	<0.00050	0.00050	mg/L	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Trihalomethanes [THMs], total	----	0.0344	0.0020	mg/L	E611E/WT	10-Jul-2023	10-Jul-2023	1031042
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	91.7	1.0	%	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Bromofluorobenzene, 4-	460-00-4	91.7	1.0	%	E611I/WT	10-Jul-2023	10-Jul-2023	1031043
Difluorobenzene, 1,4-	540-36-3	96.0	1.0	%	E611E/WT B	10-Jul-2023	10-Jul-2023	1031042
Difluorobenzene, 1,4-	540-36-3	96.0	1.0	%	E611I/WT	10-Jul-2023	10-Jul-2023	1031043
Polycyclic Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	<0.0000050	0.0000050	mg/L	E641A/WT B	07-Jul-2023	12-Jul-2023	1027076
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	112	0.1	%	E641A/WT B	07-Jul-2023	12-Jul-2023	1027076
DIsinfectant By-Products								
Bromate	15541-45-4	<0.00030	0.00030	mg/L	E722A/WT B	14-Jul-2023	17-Jul-2023	1038413
Chlorate	14866-68-3	<0.010	0.010	mg/L	E409.CLO3 /WT B	07-Jul-2023	07-Jul-2023	1028437
Haloacetic Acids								
Dibromoacetic acid	631-64-1	<0.00100	0.00100	mg/L	E750/WT B	13-Jul-2023	14-Jul-2023	1037626
Dichloroacetic acid	79-43-6	0.0143	0.00100	mg/L	E750/WT	13-Jul-2023	14-Jul-2023	1037626
Monobromoacetic acid	79-08-3	<0.00100	0.00100	mg/L	E750/WT B	13-Jul-2023	14-Jul-2023	1037626

Analytical Results

GP2301107-001
Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab		Prep Date	Analysis Date	QCLot
Haloacetic Acids									
Monochloroacetic acid	79-11-8	0.00109	0.00100	mg/L	E750/WT	B	13-Jul-2023	14-Jul-2023	1037626
Trichloroacetic acid	76-03-9	0.0147	0.00100	mg/L	E750/WT	B	13-Jul-2023	14-Jul-2023	1037626
Haloacetic acids, total [HAA5]	----	0.0301	0.005	mg/L	E750/WT		13-Jul-2023	14-Jul-2023	1037626
Perfluoroalkyl Substances (PFAS)									
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	<0.000010	0.000010	mg/L	E745B/WT	B	12-Jul-2023	12-Jul-2023	1034521
Perfluorooctanoic acid [PFOA]	335-67-1	<0.000010	0.000010	mg/L	E745B/WT	B	12-Jul-2023	12-Jul-2023	1034521
Perfluoroalkyl Substances (PFAS) Surrogates									
Perfluorooctanesulfonic acid [13C8-PFOS]	2265893-05-6	129	1.00	%	E745B/WT	B	12-Jul-2023	12-Jul-2023	1034521
Chlorinated Phenolics									
Dichlorophenol, 2,4-	120-83-2	<0.00020	0.00020	mg/L	E651C/WT	B	12-Jul-2023	14-Jul-2023	1035179
Pentachlorophenol [PCP]	87-86-5	<0.00050	0.00050	mg/L	E651C/WT	B	12-Jul-2023	14-Jul-2023	1035179
Tetrachlorophenol, 2,3,4,6-	58-90-2	<0.00050	0.00050	mg/L	E651C/WT	B	12-Jul-2023	14-Jul-2023	1035179
Trichlorophenol, 2,4,5-	95-95-4	<0.00050	0.00050	mg/L	E651C/WT	B	12-Jul-2023	14-Jul-2023	1035179
Trichlorophenol, 2,4,6-	88-06-2	<0.00050	0.00050	mg/L	E651C/WT	B	12-Jul-2023	14-Jul-2023	1035179
Phenolics Surrogates									
Tribromophenol, 2,4,6-	118-79-6	105	1.0	%	E651C/WT		12-Jul-2023	14-Jul-2023	1035179
Carbamate Pesticides									
Aldicarb	116-06-3	<0.0010	0.0010	mg/L	E712B/WT	B	13-Jul-2023	17-Jul-2023	1037153
Diuron	330-54-1	<0.0010	0.0010	mg/L	E712B/WT	B	13-Jul-2023	17-Jul-2023	1037153
Organochlorine Pesticides									
Chlordane, cis- (alpha)	5103-71-9	<0.0000080	0.0000080	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
Chlordane, total	57-74-9	<0.000011	0.000011	mg/L	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
Chlordane, trans- (gamma)	5103-74-2	<0.0000080	0.0000080	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDD, 2,4'-	53-19-0	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDD, 4,4'-	72-54-8	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDD, total	----	<0.0000060	0.000006	mg/L	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
DDE, 2,4'-	3424-82-6	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDE, 4,4'-	72-55-9	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDE, total	----	<0.0000060	0.000006	mg/L	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
DDT, 2,4'-	789-02-6	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDT, 4,4'-	50-29-3	<0.0000040	0.0000040	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDT, total	----	<0.0000060	0.000006	mg/L	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
Methoxychlor	72-43-5	<0.0000080	0.0000080	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
Oxychlordane	27304-13-8	<0.0000080	0.0000080	mg/L	E660F/WT	B	07-Jul-2023	10-Jul-2023	1027931
DDT + metabolites, total	----	<0.000010	0.00001	mg/L	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
Organochlorine Pesticides Surrogates									
Decachlorobiphenyl	2051-24-3	134	0.10	%	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
Tetrachloro-m-xylene	877-09-8	97.5	0.10	%	E660F/WT		07-Jul-2023	10-Jul-2023	1027931
Organophosphate Insecticides									
Dimethoate	60-51-5	<0.000050	0.000050	mg/L	E755/WT	B	11-Jul-2023	25-Jul-2023	1032932
Omethoate	1113-02-6	<0.000050	0.000050	mg/L	E755/WT	B	11-Jul-2023	25-Jul-2023	1032932
Omethoate (as dimethoate)	n/a	<0.00020	0.0002	mg/L	E755/WT	B	11-Jul-2023	25-Jul-2023	1032932
Herbicides									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	<0.000050	0.000050	mg/L	E706A/WT	B	07-Jul-2023	07-Jul-2023	1027168
Bromoxynil	1689-84-5	<0.000050	0.000050	mg/L	E706A/WT	B	07-Jul-2023	07-Jul-2023	1027168

Analytical Results

GP2301107-001

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Herbicides								
Dicamba	1918-00-9	<0.00010	0.00010	mg/L	E706A/WT B	07-Jul-2023	07-Jul-2023	1027168
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	<0.000050	0.000050	mg/L	E706A/WT B	07-Jul-2023	07-Jul-2023	1027168
Dinoseb	88-85-7	<0.000050	0.000050	mg/L	E706A/WT B	07-Jul-2023	07-Jul-2023	1027168
Diquat (ion)	2764-72-9	<0.0010	0.0010	mg/L	E723A/WT B	11-Jul-2023	19-Jul-2023	1033633
Glyphosate	1071-83-6	<0.00020	0.00020	mg/L	E716A/WT B	10-Jul-2023	11-Jul-2023	1030404
Picloram	1918-02-1	<0.00010	0.00010	mg/L	E706A/WT B	07-Jul-2023	07-Jul-2023	1027168
Paraquat (as dichloride)	1910-42-5	<0.0010	0.0010	mg/L	E723A/WT B	11-Jul-2023	19-Jul-2023	1033633
Herbicides Surrogates								
Dichlorophenylacetic acid, 2,4-	19719-28-9	123	1.0	%	E706A/WT	07-Jul-2023	07-Jul-2023	1027168
Pesticides								
Bendiocarb	22781-23-3	<0.00050	0.00050	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Alachlor	15972-60-8	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Ametryn	834-12-8	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Atrazine	1912-24-9	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Atrazine-desethyl	6190-65-4	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Azinphos-methyl	86-50-0	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Carbaryl	63-25-2	<0.00020	0.00020	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Carbofuran	1563-66-2	<0.00020	0.00020	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Chlorpyrifos	2921-88-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Cyanazine	21725-46-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Diazinon	333-41-5	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Diclofop-methyl	51338-27-3	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Malathion	121-75-5	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Metolachlor	51218-45-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Metribuzin	21087-64-9	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Parathion	56-38-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Parathion-methyl	298-00-0	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Phorate	298-02-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Prometon	1610-18-0	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Prometryn	7287-19-6	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009

Analytical Results

GP2301107-001

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Treated Water - Entering The Distribution System
Client sampling date / time: 04-Jul-2023 09:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Pesticides								
Propazine	139-40-2	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Simazine	122-34-9	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Temephos	3383-96-8	<0.0010	0.0010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Terbufos	13071-79-9	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Terbutryn	886-50-0	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Triallate	2303-17-5	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Trifluralin	1582-09-8	<0.00010	0.00010	mg/L	E660E-H/WT B	10-Jul-2023	12-Jul-2023	1031009
Atrazine + N-dealkylated metabolites	----	<0.00020	0.0002	mg/L	E660E-H/WT	10-Jul-2023	12-Jul-2023	1031009
Pesticides Surrogates								
Fluorobiphenyl, 2-	321-60-8	86.8	0.10	%	E660E-H/WT	10-Jul-2023	12-Jul-2023	1031009
Terphenyl-d14, p-	1718-51-0	105	0.10	%	E660E-H/WT	10-Jul-2023	12-Jul-2023	1031009
Nitrosamines								
Nitrosodimethylamine, N- [NDMA]	62-75-9	<0.000033	0.000033	mg/L	E725A/WT B	24-Jul-2023	24-Jul-2023	1052586
Nitrosamines Surrogates								
Nitrosodimethylamine-d6, N-	17829-05-9	102	0.10	%	E725A/WT	24-Jul-2023	24-Jul-2023	1052586
Organic Parameters								
Microcystin	101043-37-2	<0.20	0.20	µg/L	E576/WP D	-	12-Jul-2023	1034154
Radiological Parameters								
Cesium-137	----	See Attached	-	Bq/L	I131+Cs137/2I	-	27-Jul-2023	-
Iodine-131	----	See Attached	-	Bq/L	I131+Cs137/2I	-	27-Jul-2023	-
Lead-210	14255-04-0	See Attached	0.037	Bq/L	Pb-210/2I	-	27-Jul-2023	-
Radium-226	13982-63-3	See Attached	0.005	Bq/L	Ra-226/2I	-	27-Jul-2023	-
Strontium-90	----	See Attached	-	Bq/L	Sr90/2I	-	27-Jul-2023	-
Tritium	10028-17-8	See Attached	-	Bq/L	TRITIUM/2I	-	27-Jul-2023	-

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **GP2301107**	Page	: 1 of 21
Client	: **Aquatera Utilities Inc.**	Laboratory	: ALS Environmental - Grande Prairie
Contact	: Sarah Ball	Account Manager	: Wanda Chapella
Address	: Water Treatment Plant 11101 104 Avenue Grande Prairie AB Canada T8V 8H6	Address	: 9505 111 Street Grande Prairie, Alberta Canada T8V 5W1
Telephone	: 780 532 3996	Telephone	: 780-539-5196
Project	: WT-GP	Date Samples Received	: 04-Jul-2023 11:10
PO	: 30657	Issue Date	: 27-Jul-2023 13:36
C-O-C number	: ----		
Sampler	: Mike Boyce		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Chlorinated Phenolics	QC-MRG2-1035178 002	----	Tetrachlorophenol, 2,3,4,6-	58-90-2	E651C	132 % LCS-H	60.0-130%	Recovery greater than upper control limit

Result Qualifiers

Qualifier	Description
LCS-H	*Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.*

Regular Sample Surrogates

Sub-Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Organochlorine Pesticides Surrogates	GP2301107-001	Treated Water Entering The Distribution System	Decachlorobiphenyl	2051-24-3	134 %	50.0-130 %	Recovery greater than upper data quality objective

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Nitrilotriacetic Acid (NTA) in Water										
HDPE Treated Water - Entering The Distribution System	E394	04-Jul-2023	----	----	----		06-Jul-2023	24 hrs	50 hrs	× EHTL
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Treated Water - Entering The Distribution System	E298	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.Cl	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (0.003 mg/L)										
HDPE Treated Water - Entering The Distribution System	E378-T	04-Jul-2023	----	----	----		11-Jul-2023	3 days	7 days	× EHT
Anions and Nutrients : Fluoride in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.F	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.NO3	04-Jul-2023	05-Jul-2023	3 days	1 days	✓	05-Jul-2023	2 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.NO2	04-Jul-2023	05-Jul-2023	3 days	1 days	✓	05-Jul-2023	2 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
Treated Water - Entering The Distribution System	E235.SO4	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Carbamate Pesticides : Aldicarb and Diuron in Water by LC-MS/MS										
Amber glass/Teflon lined cap (sodium thiosulfate)										
Treated Water - Entering The Distribution System	E712B	04-Jul-2023	13-Jul-2023	20 days	9 days	✓	17-Jul-2023	7 days	4 days	✓
Chlorinated Phenolics : Phenolics (Eastern Canada List with Nitro-Phenols) by GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
Treated Water - Entering The Distribution System	E651C	04-Jul-2023	12-Jul-2023	14 days	8 days	✓	14-Jul-2023	40 days	2 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)										
Treated Water - Entering The Distribution System	E333	04-Jul-2023	10-Jul-2023	14 days	6 days	✓	10-Jul-2023	8 days	0 days	✓
Disinfectant By-Products : Bromate and Perchlorate in Water by LC-MS-MS										
Opaque HDPE (EDA)										
Treated Water - Entering The Distribution System	E722A	04-Jul-2023	14-Jul-2023	28 days	10 days	✓	17-Jul-2023	28 days	3 days	✓
Disinfectant By-Products : Chlorate (CLO3) in Waters by Ion Chromatography										
Opaque HDPE (EDA)										
Treated Water - Entering The Distribution System	E409.CLO3	04-Jul-2023	07-Jul-2023	28 days	3 days	✓	07-Jul-2023	25 days	0 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
Treated Water - Entering The Distribution System	E421	04-Jul-2023	06-Jul-2023	180 days	2 days	✓	07-Jul-2023	178 days	1 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride)										
Treated Water - Entering The Distribution System	E750	04-Jul-2023	13-Jul-2023	14 days	9 days	✓	14-Jul-2023	14 days	1 days	✓
Herbicides : Diquat and Paraquat in Water by LC-MS-MS										
HDPE (sodium thiosulfate)										
Treated Water - Entering The Distribution System	E723A	04-Jul-2023	11-Jul-2023	7 days	7 days	✓	19-Jul-2023	21 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Herbicides : Glyphosate and AMPA in Water										
HDPE (sodium thiosulfate)										
Treated Water - Entering The Distribution System	E716A	04-Jul-2023	10-Jul-2023	20 days	6 days	✓	11-Jul-2023	40 days	1 days	✓
Herbicides : Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS										
Amber glass/Teflon lined cap										
Treated Water - Entering The Distribution System	E706A	04-Jul-2023	07-Jul-2023	7 days	3 days	✓	07-Jul-2023	7 days	0 days	✓
Inorganics : Chlorite (CLO2) in Waters by Ion Chromatography										
Opaque HDPE (EDA)										
Treated Water - Entering The Distribution System	E409.CLO2	04-Jul-2023	07-Jul-2023	14 days	3 days	✓	07-Jul-2023	11 days	0 days	✓
Inorganics : Free Chlorine (Residual) by DPD Colourimetry										
HDPE										
Treated Water - Entering The Distribution System	E327	04-Jul-2023	----	----	----		10-Jul-2023	0.25 hrs	142 hrs	× UCP
Inorganics : Total Chlorine (Residual) by DPD Colourimetry										
HDPE										
Treated Water - Entering The Distribution System	E326	04-Jul-2023	----	----	----		10-Jul-2023	0.25 hrs	142 hrs	× UCP
Nitrosamines : Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)										
Amber glass/Teflon lined cap (sodium thiosulfate)										
Treated Water - Entering The Distribution System	E725A	04-Jul-2023	24-Jul-2023	28 days	20 days	✓	24-Jul-2023	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
Treated Water - Entering The Distribution System	E355-L	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Organic Parameters : Microcystin by ELISA (Extraction by Sonication)										
Amber glass vial										
Treated Water - Entering The Distribution System	E576	04-Jul-2023	----	----	----		12-Jul-2023	14 days	8 days	✓
Organochlorine Pesticides : OCP Analysis by GC-MS-MS or GC-MS										
Amber glass/Teflon lined cap										
Treated Water - Entering The Distribution System	E660F	04-Jul-2023	07-Jul-2023	7 days	3 days	✓	10-Jul-2023	40 days	3 days	✓

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organophosphate Insecticides : Pesticides in Water by LC-MS-MS (Routine Level)										
Amber glass/Teflon lined cap (sodium thiosulfate) Treated Water - Entering The Distribution System	E755	04-Jul-2023	11-Jul-2023	7 days	7 days	✓	25-Jul-2023	0 days	14 days	✗ UCP
Perfluoroalkyl Substances (PFAS) : PFAS in Water by LC-MS-MS										
HDPE (teflon free) Treated Water - Entering The Distribution System	E745B	04-Jul-2023	12-Jul-2023	28 days	8 days	✓	12-Jul-2023	28 days	0 days	✓
Pesticides : Miscellaneous Pesticides by GC-MS										
Amber glass/Teflon lined cap Treated Water - Entering The Distribution System	E660E-H	04-Jul-2023	10-Jul-2023	14 days	6 days	✓	12-Jul-2023	40 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Treated Water - Entering The Distribution System	E290	04-Jul-2023	05-Jul-2023	14 days	1 days	✓	05-Jul-2023	13 days	0 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE Treated Water - Entering The Distribution System	E329	04-Jul-2023	05-Jul-2023	3 days	1 days	✓	05-Jul-2023	2 days	0 days	✓
Physical Tests : Conductivity in Water										
HDPE Treated Water - Entering The Distribution System	E100	04-Jul-2023	05-Jul-2023	28 days	1 days	✓	05-Jul-2023	27 days	0 days	✓
Physical Tests : pH by Meter										
HDPE Treated Water - Entering The Distribution System	E108	04-Jul-2023	05-Jul-2023	0.01 hrs	0.25 hrs	✗ EHTR-FM	05-Jul-2023	-28.25 hrs	0.01 hrs	✗ UCP
Physical Tests : TDS by Gravimetry										
HDPE Treated Water - Entering The Distribution System	E162	04-Jul-2023	----	----	----		10-Jul-2023	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE Treated Water - Entering The Distribution System	E121	04-Jul-2023	----	----	----		05-Jul-2023	3 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
Treated Water - Entering The Distribution System	E641A	04-Jul-2023	07-Jul-2023	14 days	3 days	✓	12-Jul-2023	40 days	5 days	✓
Radiological Parameters : Iodine-131 and Cesium-137 in Water by Gamma Spectroscopy										
HDPE total (nitric acid)										
Treated Water - Entering The Distribution System	I131+Cs137	04-Jul-2023	----	----	----		27-Jul-2023	----	----	
Radiological Parameters : Lead 210 in Water by Gas Flow Proportional Counting										
HDPE total (nitric acid)										
Treated Water - Entering The Distribution System	Pb-210	04-Jul-2023	----	----	----		27-Jul-2023	----	----	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)										
HDPE total (nitric acid)										
Treated Water - Entering The Distribution System	Ra-226	04-Jul-2023	----	----	----		27-Jul-2023	----	----	
Radiological Parameters : Strontium-90 in Water by Gas Flow Proportional Counting										
HDPE total (nitric acid)										
Treated Water - Entering The Distribution System	Sr90	04-Jul-2023	----	----	----		27-Jul-2023	----	----	
Radiological Parameters : Tritium (H-3) in Water by Liquid Scintillation Counting										
HDPE										
Treated Water - Entering The Distribution System	TRITIUM	04-Jul-2023	----	----	----		27-Jul-2023	180 days	23 days	✓
Taxonomy : Blue-Green Algae										
HDPE (Lugol's Solution)										
Treated Water - Entering The Distribution System	E921A	04-Jul-2023	----	----	----		20-Jul-2023	5 days	16 days	× EHT
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
Treated Water - Entering The Distribution System	E508	04-Jul-2023	11-Jul-2023	28 days	7 days	✓	11-Jul-2023	21 days	0 days	✓
Total Metals : Total metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
Treated Water - Entering The Distribution System	E420	04-Jul-2023	06-Jul-2023	180 days	2 days	✓	07-Jul-2023	178 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
Treated Water - Entering The Distribution System	E395	04-Jul-2023	----	----	----		07-Jul-2023	7 days	3 days	✓
Volatile Organic Compounds : VOCs (Dioxane) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
Treated Water - Entering The Distribution System	E611I	04-Jul-2023	10-Jul-2023	14 days	6 days	✓	10-Jul-2023	8 days	0 days	✓
Volatile Organic Compounds : VOCs (Prairies List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
Treated Water - Entering The Distribution System	E611E	04-Jul-2023	10-Jul-2023	14 days	6 days	✓	10-Jul-2023	8 days	0 days	✓

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	1037153	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	1023847	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1023569	1	19	5.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	1038413	1	20	5.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	1028437	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1024163	1	15	6.6	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	1028438	1	13	7.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1023064	1	4	25.0	5.0	✓
Conductivity in Water	E100	1023845	1	7	14.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	1033633	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1025422	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1032118	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	1024167	1	10	10.0	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	1030447	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	1030404	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	1037626	1	20	5.0	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	1034154	1	14	7.1	5.0	✓
Nitrate in Water by IC	E235.NO3	1024165	1	12	8.3	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	1025625	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1024166	1	11	9.0	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	1052586	1	20	5.0	5.0	✓
Pesticides in Water by LC-MS-MS (Routine Level)	E755	1032932	1	2	50.0	5.0	✓
PFAS in Water by LC-MS-MS	E745B	1034521	1	14	7.1	5.0	✓
pH by Meter	E108	1023846	1	11	9.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	1027168	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1024164	1	11	9.0	5.0	✓
TDS by Gravimetry	E162	1029301	1	13	7.6	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	1030446	1	2	50.0	5.0	✓
Total Cyanide	E333	1031708	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1030873	1	14	7.1	5.0	✓
Total metals in Water by CRC ICPMS	E420	1025424	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1023968	1	8	12.5	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1028349	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1023729	1	20	5.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	1031043	1	2	50.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP) - Continued							
VOCs (Prairies List) by Headspace GC-MS	E611E	1031042	1	2	50.0	5.0	✓
Laboratory Control Samples (LCS)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	1037153	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	1023847	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1023569	1	19	5.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	1038413	1	20	5.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	1028437	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1024163	1	15	6.6	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	1028438	1	13	7.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1023064	1	4	25.0	5.0	✓
Conductivity in Water	E100	1023845	1	7	14.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	1033633	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1025422	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1032118	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	1024167	1	10	10.0	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	1030447	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	1030404	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	1037626	1	20	5.0	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	1034154	1	14	7.1	5.0	✓
Miscellaneous Pesticides by GC-MS	E660E-H	1031009	1	11	9.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1024165	1	12	8.3	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	1025625	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1024166	1	11	9.0	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	1052586	1	20	5.0	5.0	✓
OCP Analysis by GC-MS-MS or GC-MS	E660F	1027931	1	5	20.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	1027076	1	9	11.1	5.0	✓
Pesticides in Water by LC-MS-MS (Routine Level)	E755	1032932	1	2	50.0	5.0	✓
PFAS in Water by LC-MS-MS	E745B	1034521	1	14	7.1	5.0	✓
pH by Meter	E108	1023846	1	11	9.0	5.0	✓
Phenolics (Eastern Canada List with Nitro-Phenols) by GC-MS	E651C	1035179	1	2	50.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	1027168	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1024164	1	11	9.0	5.0	✓
TDS by Gravimetry	E162	1029301	1	13	7.6	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	1030446	1	2	50.0	5.0	✓
Total Cyanide	E333	1031708	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1030873	1	14	7.1	5.0	✓
Total metals in Water by CRC ICPMS	E420	1025424	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1023968	1	8	12.5	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1028349	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1023729	1	20	5.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	1031043	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	1031042	1	2	50.0	5.0	✓
Method Blanks (MB)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	1037153	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	1023847	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1023569	1	19	5.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	1038413	1	20	5.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	1028437	1	17	5.8	5.0	✓
Chloride in Water by IC	E235.Cl	1024163	1	15	6.6	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	1028438	1	13	7.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1023064	1	4	25.0	5.0	✓
Conductivity in Water	E100	1023845	1	7	14.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	1033633	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1025422	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1032118	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	1024167	1	10	10.0	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	1030447	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	1030404	1	12	8.3	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	1037626	1	20	5.0	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	1034154	1	14	7.1	5.0	✓
Miscellaneous Pesticides by GC-MS	E660E-H	1031009	1	11	9.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1024165	1	12	8.3	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	1025625	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1024166	1	11	9.0	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	1052586	1	20	5.0	5.0	✓
OCP Analysis by GC-MS-MS or GC-MS	E660F	1027931	1	5	20.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	1027076	1	9	11.1	5.0	✓
Pesticides in Water by LC-MS-MS (Routine Level)	E755	1032932	1	2	50.0	5.0	✓
PFAS in Water by LC-MS-MS	E745B	1034521	1	14	7.1	5.0	✓
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Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	1027168	1	7	14.2	5.0	✓
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Total Cyanide	E333	1031708	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1030873	1	14	7.1	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Total metals in Water by CRC ICPMS	E420	1025424	1	20	5.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1023968	1	8	12.5	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1028349	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1023729	1	20	5.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	1031043	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	1031042	1	2	50.0	5.0	✓
Matrix Spikes (MS)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	1037153	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1023569	1	19	5.2	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	1038413	1	20	5.0	5.0	✓
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Chloride in Water by IC	E235.Cl	1024163	1	15	6.6	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	1028438	1	13	7.6	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	1033633	1	10	10.0	5.0	✓
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Haloacetic Acids in Water by LC-MS/MS	E750	1037626	1	20	5.0	4.7	✓
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Nitrilotriacetic Acid (NTA) in Water	E394	1025625	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1024166	1	11	9.0	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	1052586	1	20	5.0	5.0	✓
Pesticides in Water by LC-MS-MS (Routine Level)	E755	1032932	1	2	50.0	5.0	✓
PFAS in Water by LC-MS-MS	E745B	1034521	1	14	7.1	5.0	✓
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VOCs (Dioxane) by Headspace GC-MS	E611I	1031043	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	1031042	1	2	50.0	5.0	✓

Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Calgary	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Calgary	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Calgary	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry	E162 ALS Environmental - Calgary	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Calgary	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Calgary	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Ammonia by Fluorescence	E298 ALS Environmental - Calgary	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Chlorine (Residual) by DPD Colourimetry	E326 ALS Environmental - Waterloo	Water	APHA 4500-Cl G (mod)	Chlorine (residual), as free or total, is analyzed using the DPD colourimetric method. The recommended hold time for this test is 15 minutes and field testing is recommended when determining Chlorine concentrations at the time of sampling. Chlorine if present in a sample container after sampling can be rapidly consumed by any inorganic or organic matter in the sample and dissipates rapidly into headspace. Laboratory results may be requested when chlorine concentrations that may be present at the time of laboratory analysis are required for the interpretation of other laboratory analysis where the presence of Chlorine may affect results. e.g. laboratory toxicity testing
Free Chlorine (Residual) by DPD Colourimetry	E327 ALS Environmental - Waterloo	Water	APHA 4500-Cl G (mod)	Chlorine (residual), as free or total, is analyzed using the DPD colourimetric method. The recommended hold time for this test is 15 minutes and field testing is recommended when determining Chlorine concentrations at the time of sampling. Chlorine if present in a sample container after sampling can be rapidly consumed by any inorganic or organic matter in the sample and dissipates rapidly into headspace. Laboratory results may be requested when chlorine concentrations that may be present at the time of laboratory analysis are required for the interpretation of other laboratory analysis where the presence of Chlorine may affect results. e.g. laboratory toxicity testing
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Calgary	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Cyanide	E333 ALS Environmental - Waterloo	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Calgary	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T ALS Environmental - Waterloo	Water	APHA 4500-P E (mod)	Dissolved Orthophosphate is determined colourimetrically on a water sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Nitrilotriacetic Acid (NTA) in Water	E394 ALS Environmental - Waterloo	Water	EPA 430.1 (mod)	NTA refers to the tri-sodium salt of nitrilotriacetic acid, N(CH2COONa)3. Zinc forms a blue-coloured complex with 2 carboxy-2-hydroxy-5-sulfoformazylbenzene (Zincon) in a solution buffered to pH 9.2. When NTA is added to the sample, the Zinc-Zincon complex is broken which reduces the absorbance in proportion to the amount of NTA present. Samples are filtered with a 0.45 um membrane before analysis.
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Total metals in Water by CRC ICPMS	E420 ALS Environmental - Calgary	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Calgary	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Calgary	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Microcystin by ELISA (Extraction by Sonication)	E576 ALS Environmental - Winnipeg	Water	ENVIROLOGIX QUANTIPLATE KIT CAT. EP022	Total Microcystins (intraceller and extraceller) in aqueous matrices is determined by the Enzyme-Linked ImmunoSorbent Assay (ELISA) method. Extraction is by sonication
VOCs (Prairies List) by Headspace GC-MS	E611E ALS Environmental - Waterloo	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs (Dioxane) by Headspace GC-MS	E611I ALS Environmental - Waterloo	Water	EPA 8260D/1624C (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by Hexane LVI GC-MS	E641A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Phenolics (Eastern Canada List with Nitro-Phenols) by GC-MS	E651C ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Phenolics are analyzed by GC-MS.
Miscellaneous Pesticides by GC-MS	E660E-H ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Pesticides are analyzed by GC-MS.
OCP Analysis by GC-MS-MS or GC-MS	E660F ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Pesticides are analyzed by GC-MS-MS or GC-MS
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A ALS Environmental - Waterloo	Water	MOE E3552	Water samples are subjected to 0.2 µM RC filtration and analyzed by direct injection using liquid chromatography tandem mass spectrometry (LC-MS/MS).
Aldicarb and Diuron in Water by LC-MS/MS	E712B ALS Environmental - Waterloo	Water	E3501	An aliquot of water sample is diluted 1:1 using acetonitrile and analyzed using LC/MS/MS
Glyphosate and AMPA in Water	E716A ALS Environmental - Waterloo	Water	E3505	An aliquot of 4.0 ± 0.1 mL of a water sample is spiked with an Internal Standard, Glyphosate-13C2,15N, and derivatized to FMOC-Glyphosate and FMOC-AMPA, then analyzed by LC-MS/MS.
Bromate and Perchlorate in Water by LC-MS-MS	E722A ALS Environmental - Waterloo	Water	EPA 6850	A aliquot of the water sample is filtered and an internal standard is added. The sample is then analyzed by LC/MS/MS.
Diquat and Paraquat in Water by LC-MS-MS	E723A ALS Environmental - Waterloo	Water	EPA 549.2	If the sample is not clear filter a portion of the sample using a RC filter. An aliquot of the sample is taken and internal standard is added. The sample is analyzed by LC/MS/MS.
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A ALS Environmental - Waterloo	Water	QWI-ORG/WP239	An aliquot of sample is injected directly using liquid chromatgraphy tandem mass spectrometry.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PFAS in Water by LC-MS-MS	E745B ALS Environmental - Waterloo	Water	MECP E3533	An aliquot of water is analyzed for PFAs by direct injection LC/MS/MS
Haloacetic Acids in Water by LC-MS/MS	E750 ALS Environmental - Waterloo	Water	MOE E3478	An aliquot of sample is fortified with formic acid and internal standards and analyzed via direct injection by LCMSMS
Pesticides in Water by LC-MS-MS (Routine Level)	E755 ALS Environmental - Waterloo	Water	MECP E3553	Pesticides are extracted from an aqueous sample. An aliquot of sample containing 5% organic is injected directly.
Blue-Green Algae	E921A ALS Environmental - Winnipeg	Water	APHA 10200 (mod)	Following sedimentation, microscopic techniques are used to identify and enumerate blue-green algae.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Calgary	Water	APHA 2340B	“Hardness (as CaCO3), from total Ca/Mg” is calculated from the sum of total Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. “Total Hardness” refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Calgary	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Total Chloramines (Calculated)	EC326 ALS Environmental - Calgary	Water	BC MOE Lab Manual (2009)	Total Chloramines, as Chlorine, is determined by calculation. Total Chloramines (as Chlorine) = Total Chlorine - Free Chlorine. This calculation comes from the BCMOE lab manual (2009) "Total Residual Chlorine and Chloramines in water by DPD Colorimetric-PBM"
Iodine-131 and Cesium-137 in Water by Gamma Spectroscopy	I131+Cs137 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water	EPA 901.1	Gamma emissions from radionuclides are detected by a semiconductor germanium crystal.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Lead 210 in Water by Gas Flow Proportional Counting	Pb-210 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water	See attached report.	See attached report.
Radium 226 in Water by Alpha Spectrometry (0.005 Bq/L)	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.
Strontium-90 in Water by Gas Flow Proportional Counting	Sr90 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water	See attached report	See attached report.
Tritium (H-3) in Water by Liquid Scintillation Counting	TRITIUM Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Calgary	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Calgary	Water		Preparation for Total Organic Carbon by Combustion
Dissolved Metals Water Filtration	EP421	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Calgary			
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Phenolics Extraction	EP651 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Phenolics are extracted from acidic aqueous sample using DCM liquid-liquid extraction.
Pesticides, PCB, and Neutral Extractable Chlorinated Hydrocarbons Extraction	EP660 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Samples are extracted from aqueous sample using an organic solvent liquid-liquid extraction.
Pesticides & Toxaphene Extraction by DCM	EP660D ALS Environmental - Waterloo	Water	EPA 1699 (mod)	Samples are extracted from aqueous sample using DCM liquid-liquid extraction.
Preparation of Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	EP706 ALS Environmental - Waterloo	Water	MOE E3552	Water samples are subjected to 0.2 µM RC filtration (drinking water samples are not filtered) and analyzed by direct injection using liquid chromatography tandem mass spectrometry (LC-MS/MS).
Preparation of Aldicarb and Diuron in Water by LC-MS/MS	EP712B ALS Environmental - Waterloo	Water	E3501	An aliquot of water sample is diluted 1:1 using acetonitrile and analyzed using LC/MS/MS
Preparation of Glyphosate and AMPA in Water	EP716 ALS Environmental - Waterloo	Water	MOE E3500	Preparation of Glyphosate and AMPA in Water
Preparation of Bromate and Perchlorate in Water by LC-MS-MS	EP722 ALS Environmental - Waterloo	Water	EPA 6850	An aliquot of the water sample is filtered if required and internal standard is added.
Preparation of Diquat and Paraquat in Water	EP723 ALS Environmental - Waterloo	Water	EPA 549.2	If the sample is not clear filter a portion of the sample using a RC filter. An aliquot of the sample is taken and internal standard is added. The sample is analyzed by LC/MS/MS.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation of Nitrosamines for Direct Injection LC-MS-MS	EP725A ALS Environmental - Waterloo	Water	QWI-ORG/WP239	Preparation of Nitrosamines in Water for Direct Injection LC-MS-MS
Preparation of PFAS in Water by Direct Injection	EP745 ALS Environmental - Waterloo	Water	MECP E3533	An aliquot of water is analyzed for PFAs by direct injection LC/MS/MS
Preparation of Haloacetic acid in Water for LCMSMS	EP750 ALS Environmental - Waterloo	Water	E3478	An aliquot of samples is fortified with formic acid and internal standard to be analyzed by direct injection LCMSMS
Preparation of Pesticides for Direct Injection in Water by LC-MS-MS	EP755 ALS Environmental - Waterloo	Water	E3501	An aliquot of filtered sample containing 5% organic is injected directly. Each compound is separated by reversed phase HPLC.

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QUALITY CONTROL REPORT

Work Order	: **GP2301107**	Page	: 1 of 26
Client	: Aquatera Utilities Inc.	Laboratory	: ALS Environmental - Grande Prairie
Contact	: Sarah Ball	Account Manager	: Wanda Chapella
Address	: Water Treatment Plant 11101 104 Avenue Grande Prairie AB Canada T8V 8H6	Address	: 9505 111 Street Grande Prairie, Alberta Canada T8V 5W1
Telephone	:	Telephone	: 780-539-5196
Project	: WT-GP	Date Samples Received	: 04-Jul-2023 11:10
PO	: 30657	Date Analysis Commenced	: 05-Jul-2023
C-O-C number	: ----	Issue Date	: 27-Jul-2023 13:35
Sampler	: Mike Boyce 780 532 3996		
Site	: ----		
Quote number	: ----		
No. of samples received	: 1		
No. of samples analysed	: 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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Elke Tabora		Calgary Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Calgary Inorganics, Calgary, Alberta
George Huang	Supervisor - Inorganic	Calgary Metals, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Jon Fisher	Production Manager, Environmental	Waterloo Inorganics, Waterloo, Ontario
Katrina Zwambag	Supervisor - HPLC	Waterloo LCMS, Waterloo, Ontario
Kevin Baxter	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Calgary Metals, Calgary, Alberta
Michelle Michalchuk	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Natalia Bobretsova		Winnipeg Limnology, Winnipeg, Manitoba
Parker Sgarbossa	Laboratory Analyst	Calgary Metals, Calgary, Alberta
Ruifang Zheng	Analyst	Calgary Inorganics, Calgary, Alberta
Sanja Risticevic	Department Manager - LCMS	Waterloo LCMS, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario

Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wanda Chapella	Account Manager	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan
Wayne Smith	Client Services Specialist	Waterloo LCMS, Waterloo, Ontario

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1023064)											
CG2308899-005	Anonymous	Colour, true	----	E329	5.0	CU	8.1	8.0	0.07	Diff <2x LOR	----
Physical Tests (QC Lot: 1023729)											
CG2308875-001	Anonymous	Turbidity	----	E121	0.10	NTU	8.50	8.11	4.70%	15%	----
Physical Tests (QC Lot: 1023845)											
CG2308950-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	1940	1930	0.671%	10%	----
Physical Tests (QC Lot: 1023846)											
CG2308950-001	Anonymous	pH	----	E108	0.10	pH units	8.27	8.29	0.242%	4%	----
Physical Tests (QC Lot: 1023847)											
CG2308950-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	294	288	2.03%	20%	----
Physical Tests (QC Lot: 1029301)											
CG2308914-013	Anonymous	Solids, total dissolved [TDS]	----	E162	40	mg/L	1240	1310	5.01%	20%	----
Anions and Nutrients (QC Lot: 1023569)											
GP2301106-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0114	0.0104	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1024163)											
CG2308937-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	5.12	5.12	0.145%	20%	----
Anions and Nutrients (QC Lot: 1024164)											
CG2308937-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	83.9	83.9	0.0219%	20%	----
Anions and Nutrients (QC Lot: 1024165)											
CG2308937-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.807	0.804	0.335%	20%	----
Anions and Nutrients (QC Lot: 1024166)											
CG2308937-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1024167)											
CG2308937-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.047	0.049	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1032118)											
GP2301106-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
Cyanides (QC Lot: 1031708)											
FC2301790-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1023968)											
SK2303258-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	4.58	4.62	0.04	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Inorganics (QC Lot: 1030446)											
GP2301106-001	Anonymous	Chlorine, total	7782-50-5	E326	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Inorganics (QC Lot: 1030447)											
GP2301106-001	Anonymous	Chlorine, free	7782-50-5	E327	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 1028349)											
FJ2301616-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0075	mg/L	0.104	0.102	2.46%	20%	----
Total Metals (QC Lot: 1025424)											
CG2308982-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0211	0.0189	0.0022	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00033	0.00035	0.00002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0382	0.0364	4.80%	20%	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	29.1	28.8	0.883%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.016	0.015	0.002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.59	8.47	1.40%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00111	0.00104	5.82%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.889 µg/L	0.000989	10.7%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	2.29	2.16	5.79%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.111	0.107	3.51%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000604	0.000594	1.67%	20%	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
Total Metals (QC Lot: 1030873)											
CG2308988-015	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1025422)											
CG2308982-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0037	0.0035	0.0002	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00033	0.00028	0.00005	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0353	0.0363	2.90%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.020 µg/L	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 1025422) - continued											
CG2308982-001	Anonymous	Boron, dissolved	7440-42-8	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	26.4	26.6	0.735%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00027	0.00027	0.000005	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0010	<0.0010	0.00002	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	8.00	7.86	1.66%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000572	0.000576	0.826%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	0.419	0.397	0.021	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00041	0.00048	0.00008	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	1.20 µg/L	0.00113	5.72%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.55	1.54	0.366%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	1.96	1.89	3.46%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.101	0.103	1.75%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	7.49	7.19	4.12%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000520	0.000535	2.80%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1025625)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Aggregate Organics (QC Lot: 1025625) - continued											
CG2308587-001	Anonymous	Nitrilotriacetic acid [NTA]	139-13-9	E394	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1034154)											
CG2308981-001	Anonymous	Microcystin	101043-37-2	E576	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1031042)											
GP2301106-001	Anonymous	Benzene	71-43-2	E611E	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611E	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611E	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611E	1.0	µg/L	0.0289 mg/L	28.2	2.52%	30%	----
		Ethylbenzene	100-41-4	E611E	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Toluene	108-88-3	E611E	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611E	1.0	µg/L	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611E	0.40	µg/L	<0.00040 mg/L	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611E	0.30	µg/L	<0.00030 mg/L	<0.30	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1031043)											
GP2301106-001	Anonymous	Dioxane, 1,4-	123-91-1	E611I	20	µg/L	<0.020 mg/L	<20	0	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 1028437)											
CG2308823-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 1028438)											
CG2308823-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 1038413)											
CG2308819-001	Anonymous	Bromate	15541-45-4	E722A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Haloacetic Acids (QC Lot: 1037626)											
CG2308755-002	Anonymous	Dibromoacetic acid	631-64-1	E750	1.00	µg/L	<0.00100 mg/L	<1.00	0	Diff <2x LOR	----
		Dichloroacetic acid	79-43-6	E750	1.00	µg/L	0.00335 mg/L	3.12	0.23	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Haloacetic Acids (QC Lot: 1037626) - continued											
CG2308755-002	Anonymous	Monobromoacetic acid	79-08-3	E750	1.00	µg/L	<0.00100 mg/L	<1.00	0	Diff <2x LOR	----
		Monochloroacetic acid	79-11-8	E750	1.00	µg/L	<0.00100 mg/L	<1.00	0	Diff <2x LOR	----
		Trichloroacetic acid	76-03-9	E750	1.00	µg/L	0.00254 mg/L	2.55	0.008	Diff <2x LOR	----
Perfluoroalkyl Substances (PFAS) (QC Lot: 1034521)											
EO2305813-001	Anonymous	Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.010	µg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.010	µg/L	<0.010	<0.010	0	Diff <2x LOR	----
Carbamate Pesticides (QC Lot: 1037153)											
CG2308767-001	Anonymous	Aldicarb	116-06-3	E712B	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Diuron	330-54-1	E712B	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
Herbicides (QC Lot: 1027168)											
GP2301106-001	Anonymous	Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
		Bromoxynil	1689-84-5	E706A	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
		Dicamba	1918-00-9	E706A	0.10	µg/L	<0.00010 mg/L	<0.10	0	Diff <2x LOR	----
		Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
		Dinoseb	88-85-7	E706A	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
		Picloram	1918-02-1	E706A	0.10	µg/L	<0.00010 mg/L	<0.10	0	Diff <2x LOR	----
Herbicides (QC Lot: 1030404)											
CG2308960-001	Anonymous	Glyphosate	1071-83-6	E716A	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
Herbicides (QC Lot: 1033633)											
CG2308981-001	Anonymous	Diquat (ion)	2764-72-9	E723A	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Paraquat (as dichloride)	1910-42-5	E723A	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
Insecticides (QC Lot: 1032932)											
GP2301106-001	Anonymous	Dimethoate	60-51-5	E755	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
		Omethoate	1113-02-6	E755	0.050	µg/L	<0.000050 mg/L	<0.050	0	Diff <2x LOR	----
Nitrosamines (QC Lot: 1052586)											
CG2308981-001	Anonymous	Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.034	µg/L	<0.034	<0.034	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1023064)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 1023729)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1023845)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1023847)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1029301)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1023569)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1024163)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1024164)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1024165)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1024166)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1024167)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1032118)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.003	mg/L	<0.0030	----
Cyanides (QCLot: 1031708)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1023968)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Inorganics (QCLot: 1030446)						
Chlorine, total	7782-50-5	E326	0.05	mg/L	<0.050	----
Inorganics (QCLot: 1030447)						
Chlorine, free	7782-50-5	E327	0.05	mg/L	<0.050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Sulfides (QCLot: 1028349)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1025424)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Total Metals (QCLot: 1030873)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1025422)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1025422) - continued						
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Aggregate Organics (QCLot: 1025625)						
Nitrilotriacetic acid [NTA]	139-13-9	E394	0.2	mg/L	<0.20	----
Aggregate Organics (QCLot: 1034154)						
Microcystin	101043-37-2	E576	0.2	µg/L	<0.20	----
Volatile Organic Compounds (QCLot: 1031042)						
Benzene	71-43-2	E611E	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611E	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1031042) - continued						
Chlorobenzene	108-90-7	E611E	1	µg/L	<1.0	----
Dichlorobenzene, 1,2-	95-50-1	E611E	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611E	1	µg/L	<1.0	----
Dichloroethane, 1,2-	107-06-2	E611E	1	µg/L	<1.0	----
Dichloroethylene, 1,1-	75-35-4	E611E	1	µg/L	<1.0	----
Dichloromethane	75-09-2	E611E	1	µg/L	<1.0	----
Ethylbenzene	100-41-4	E611E	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611E	1	µg/L	<1.0	----
Toluene	108-88-3	E611E	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611E	1	µg/L	<1.0	----
Vinyl chloride	75-01-4	E611E	1	µg/L	<1.0	----
Xylene, m+p-	179601-23-1	E611E	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611E	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 1031043)						
Dioxane, 1,4-	123-91-1	E611I	20	µg/L	<20	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1027076)						
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
DIsinfectant By-Products (QCLot: 1028437)						
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	<0.010	----
DIsinfectant By-Products (QCLot: 1028438)						
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	<0.010	----
DIsinfectant By-Products (QCLot: 1038413)						
Bromate	15541-45-4	E722A	0.3	µg/L	<0.30	----
Haloacetic Acids (QCLot: 1037626)						
Dibromoacetic acid	631-64-1	E750	1	µg/L	<1.00	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	<1.00	----
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	<0.20	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	<0.50	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	<1.00	----
Perfluoroalkyl Substances (PFAS) (QCLot: 1034521)						
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.01	µg/L	<0.010	----
Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.01	µg/L	<0.010	----
Chlorinated Phenolics (QCLot: 1035179)						
Dichlorophenol, 2,4-	120-83-2	E651C	0.2	µg/L	<0.20	----
Pentachlorophenol [PCP]	87-86-5	E651C	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Chlorinated Phenolics (QCLot: 1035179) - continued						
Tetrachlorophenol, 2,3,4,6-	58-90-2	E651C	0.5	µg/L	<0.50	----
Trichlorophenol, 2,4,5-	95-95-4	E651C	0.5	µg/L	<0.50	----
Trichlorophenol, 2,4,6-	88-06-2	E651C	0.5	µg/L	<0.50	----
Carbamate Pesticides (QCLot: 1037153)						
Aldicarb	116-06-3	E712B	1	µg/L	<1.0	----
Diuron	330-54-1	E712B	1	µg/L	<1.0	----
Organochlorine Pesticides (QCLot: 1027931)						
Chlordane, cis- (alpha)	5103-71-9	E660F	0.008	µg/L	<0.0080	----
Chlordane, trans- (gamma)	5103-74-2	E660F	0.008	µg/L	<0.0080	----
DDD, 2,4'-	53-19-0	E660F	0.004	µg/L	<0.0040	----
DDD, 4,4'-	72-54-8	E660F	0.004	µg/L	<0.0040	----
DDE, 2,4'-	3424-82-6	E660F	0.004	µg/L	<0.0040	----
DDE, 4,4'-	72-55-9	E660F	0.004	µg/L	<0.0040	----
DDT, 2,4'-	789-02-6	E660F	0.004	µg/L	<0.0040	----
DDT, 4,4'-	50-29-3	E660F	0.004	µg/L	<0.0040	----
Methoxychlor	72-43-5	E660F	0.008	µg/L	<0.0080	----
Oxychlordane	27304-13-8	E660F	0.008	µg/L	<0.0080	----
Herbicides (QCLot: 1027168)						
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	0.05	µg/L	<0.050	----
Bromoxynil	1689-84-5	E706A	0.05	µg/L	<0.050	----
Dicamba	1918-00-9	E706A	0.1	µg/L	<0.10	----
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.05	µg/L	<0.050	----
Dinoseb	88-85-7	E706A	0.05	µg/L	<0.050	----
Picloram	1918-02-1	E706A	0.1	µg/L	<0.10	----
Herbicides (QCLot: 1030404)						
Glyphosate	1071-83-6	E716A	0.2	µg/L	<0.20	----
Herbicides (QCLot: 1033633)						
Diquat (ion)	2764-72-9	E723A	1	µg/L	<1.0	----
Paraquat (as dichloride)	1910-42-5	E723A	1	µg/L	<1.0	----
Insecticides (QCLot: 1032932)						
Dimethoate	60-51-5	E755	0.05	µg/L	<0.050	----
Omethoate	1113-02-6	E755	0.05	µg/L	<0.050	----
Pesticides (QCLot: 1031009)						
Alachlor	15972-60-8	E660E-H	0.1	µg/L	<0.10	----
Ametryn	834-12-8	E660E-H	0.1	µg/L	<0.10	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Pesticides (QCLot: 1031009) - continued						
Atrazine	1912-24-9	E660E-H	0.1	µg/L	<0.10	----
Atrazine-desethyl	6190-65-4	E660E-H	0.1	µg/L	<0.10	----
Azinphos-methyl	86-50-0	E660E-H	0.1	µg/L	<0.10	----
Bendiocarb	22781-23-3	E660E-H	0.5	µg/L	<0.50	----
Carbaryl	63-25-2	E660E-H	0.2	µg/L	<0.20	----
Carbofuran	1563-66-2	E660E-H	0.2	µg/L	<0.20	----
Chlorpyrifos	2921-88-2	E660E-H	0.1	µg/L	<0.10	----
Cyanazine	21725-46-2	E660E-H	0.1	µg/L	<0.10	----
Diazinon	333-41-5	E660E-H	0.1	µg/L	<0.10	----
Diclofop-methyl	51338-27-3	E660E-H	0.1	µg/L	<0.10	----
Malathion	121-75-5	E660E-H	0.1	µg/L	<0.10	----
Metolachlor	51218-45-2	E660E-H	0.1	µg/L	<0.10	----
Metribuzin	21087-64-9	E660E-H	0.1	µg/L	<0.10	----
Parathion	56-38-2	E660E-H	0.1	µg/L	<0.10	----
Parathion-methyl	298-00-0	E660E-H	0.1	µg/L	<0.10	----
Phorate	298-02-2	E660E-H	0.1	µg/L	<0.10	----
Prometon	1610-18-0	E660E-H	0.1	µg/L	<0.10	----
Prometryn	7287-19-6	E660E-H	0.1	µg/L	<0.10	----
Propazine	139-40-2	E660E-H	0.1	µg/L	<0.10	----
Simazine	122-34-9	E660E-H	0.1	µg/L	<0.10	----
Temephos	3383-96-8	E660E-H	1	µg/L	<1.0	----
Terbufos	13071-79-9	E660E-H	0.1	µg/L	<0.10	----
Terbutryn	886-50-0	E660E-H	0.1	µg/L	<0.10	----
Triallate	2303-17-5	E660E-H	0.1	µg/L	<0.10	----
Trifluralin	1582-09-8	E660E-H	0.1	µg/L	<0.10	----
Nitrosamines (QCLot: 1052586)						
Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.034	µg/L	<0.034	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1023064)									
Colour, true	----	E329	5	CU	100 CU	102	85.0	115	----
Physical Tests (QCLot: 1023729)									
Turbidity	----	E121	0.1	NTU	200 NTU	101	85.0	115	----
Physical Tests (QCLot: 1023845)									
Conductivity	----	E100	1	µS/cm	146.9 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1023846)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 1023847)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	106	85.0	115	----
Physical Tests (QCLot: 1029301)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	95.4	85.0	115	----
Anions and Nutrients (QCLot: 1023569)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1024163)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1024164)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1024165)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1024166)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1024167)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	105	90.0	110	----
Anions and Nutrients (QCLot: 1032118)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.003	mg/L	0.0212 mg/L	92.7	80.0	120	----
Cyanides (QCLot: 1031708)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	91.4	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1023968)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	113	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Inorganics (QCLot: 1030446)									
Chlorine, total	7782-50-5	E326	0.05	mg/L	0.28861 mg/L	107	75.0	125	----
Inorganics (QCLot: 1030447)									
Chlorine, free	7782-50-5	E327	0.05	mg/L	0.28861 mg/L	97.0	75.0	125	----
Total Sulfides (QCLot: 1028349)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	104	80.0	120	----
Total Metals (QCLot: 1025424)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	108	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.1	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	118	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.8	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	95.4	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.5	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	93.9	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	97.2	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.8	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
Total Metals (QCLot: 1030873)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	108	80.0	120	----
Dissolved Metals (QCLot: 1025422)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	98.9	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1025422) - continued									
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	95.7	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	98.8	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.2	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.5	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	118	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	96.7	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.0	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	95.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.9	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	98.3	70.0	130	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.2	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	102	60.0	140	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.7	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	95.1	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	93.5	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	94.5	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.0	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	96.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	95.1	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	94.3	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Aggregate Organics (QCLot: 1025625)									
Nitrilotriacetic acid [NTA]	139-13-9	E394	0.2	mg/L	1 mg/L	106	75.0	125	----
Aggregate Organics (QCLot: 1034154)									
Microcystin	101043-37-2	E576	0.2	µg/L	0.5 µg/L	109	70.0	130	----
Volatile Organic Compounds (QCLot: 1031042)									
Benzene	71-43-2	E611E	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Carbon tetrachloride	56-23-5	E611E	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Chlorobenzene	108-90-7	E611E	1	µg/L	100 µg/L	97.2	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611E	0.5	µg/L	100 µg/L	97.8	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611E	1	µg/L	100 µg/L	100	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611E	1	µg/L	100 µg/L	108	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611E	1	µg/L	100 µg/L	105	70.0	130	----
Dichloromethane	75-09-2	E611E	1	µg/L	100 µg/L	103	70.0	130	----
Ethylbenzene	100-41-4	E611E	0.5	µg/L	100 µg/L	99.8	70.0	130	----
Tetrachloroethylene	127-18-4	E611E	1	µg/L	100 µg/L	95.1	70.0	130	----
Toluene	108-88-3	E611E	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Trichloroethylene	79-01-6	E611E	1	µg/L	100 µg/L	95.9	70.0	130	----
Vinyl chloride	75-01-4	E611E	1	µg/L	100 µg/L	101	60.0	140	----
Xylene, m+p-	179601-23-1	E611E	0.4	µg/L	200 µg/L	103	70.0	130	----
Xylene, o-	95-47-6	E611E	0.3	µg/L	100 µg/L	102	70.0	130	----
Volatile Organic Compounds (QCLot: 1031043)									
Dioxane, 1,4-	123-91-1	E611I	20	µg/L	100 µg/L	94.2	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1027076)									
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5263 µg/L	105	50.0	140	----
DIsinfectant By-Products (QCLot: 1028437)									
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	1 mg/L	105	85.0	115	----
DIsinfectant By-Products (QCLot: 1028438)									
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	1 mg/L	106	85.0	115	----
DIsinfectant By-Products (QCLot: 1038413)									
Bromate	15541-45-4	E722A	0.3	µg/L	4 µg/L	97.5	70.0	130	----
Haloacetic Acids (QCLot: 1037626)									
Dibromoacetic acid	631-64-1	E750	1	µg/L	5 µg/L	103	70.0	130	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	5 µg/L	104	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Haloacetic Acids (QCLot: 1037626) - continued									
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	1 µg/L	109	70.0	130	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	2.5 µg/L	119	70.0	130	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	5 µg/L	109	70.0	130	----
Perfluoroalkyl Substances (PFAS) (QCLot: 1034521)									
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.01	µg/L	0.3 µg/L	116	50.0	150	----
Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.01	µg/L	0.3 µg/L	103	50.0	150	----
Chlorinated Phenolics (QCLot: 1035179)									
Dichlorophenol, 2,4-	120-83-2	E651C	0.2	µg/L	4.8 µg/L	98.2	50.0	130	----
Pentachlorophenol [PCP]	87-86-5	E651C	0.5	µg/L	4.8 µg/L	99.2	40.0	140	----
Tetrachlorophenol, 2,3,4,6-	58-90-2	E651C	0.5	µg/L	4.8 µg/L	# 132	60.0	130	LCS-H
Trichlorophenol, 2,4,5-	95-95-4	E651C	0.5	µg/L	4.8 µg/L	107	50.0	130	----
Trichlorophenol, 2,4,6-	88-06-2	E651C	0.5	µg/L	4.8 µg/L	97.4	50.0	130	----
Carbamate Pesticides (QCLot: 1037153)									
Aldicarb	116-06-3	E712B	1	µg/L	10 µg/L	97.6	80.0	120	----
Diuron	330-54-1	E712B	1	µg/L	10 µg/L	119	80.0	120	----
Organochlorine Pesticides (QCLot: 1027931)									
Chlordane, cis- (alpha)	5103-71-9	E660F	0.008	µg/L	0.2 µg/L	90.8	50.0	150	----
Chlordane, trans- (gamma)	5103-74-2	E660F	0.008	µg/L	0.2 µg/L	100	50.0	150	----
DDD, 2,4'-	53-19-0	E660F	0.004	µg/L	0.2 µg/L	102	50.0	150	----
DDD, 4,4'-	72-54-8	E660F	0.004	µg/L	0.2 µg/L	105	50.0	150	----
DDE, 2,4'-	3424-82-6	E660F	0.004	µg/L	0.2 µg/L	102	50.0	150	----
DDE, 4,4'-	72-55-9	E660F	0.004	µg/L	0.2 µg/L	97.5	50.0	150	----
DDT, 2,4'-	789-02-6	E660F	0.004	µg/L	0.2 µg/L	96.6	50.0	150	----
DDT, 4,4'-	50-29-3	E660F	0.004	µg/L	0.2 µg/L	83.6	50.0	150	----
Methoxychlor	72-43-5	E660F	0.008	µg/L	0.2 µg/L	78.9	50.0	150	----
Oxychlordane	27304-13-8	E660F	0.008	µg/L	0.2 µg/L	95.9	50.0	150	----
Herbicides (QCLot: 1027168)									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	0.05	µg/L	1 µg/L	125	65.0	130	----
Bromoxynil	1689-84-5	E706A	0.05	µg/L	1 µg/L	119	65.0	130	----
Dicamba	1918-00-9	E706A	0.1	µg/L	2 µg/L	114	50.0	150	----
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.05	µg/L	1 µg/L	112	65.0	130	----
Dinoseb	88-85-7	E706A	0.05	µg/L	1 µg/L	122	65.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Herbicides (QCLot: 1027168) - continued									
Picloram	1918-02-1	E706A	0.1	µg/L	2 µg/L	110	50.0	150	----
Herbicides (QCLot: 1030404)									
Glyphosate	1071-83-6	E716A	0.2	µg/L	5 µg/L	79.6	70.0	130	----
Herbicides (QCLot: 1033633)									
Diquat (ion)	2764-72-9	E723A	1	µg/L	25 µg/L	108	70.0	130	----
Paraquat (as dichloride)	1910-42-5	E723A	1	µg/L	25 µg/L	108	70.0	130	----
Insecticides (QCLot: 1032932)									
Dimethoate	60-51-5	E755	0.05	µg/L	0.5 µg/L	103	70.0	130	----
Omethoate	1113-02-6	E755	0.05	µg/L	0.5 µg/L	101	70.0	130	----
Pesticides (QCLot: 1031009)									
Alachlor	15972-60-8	E660E-H	0.1	µg/L	0.4 µg/L	106	60.0	130	----
Ametryn	834-12-8	E660E-H	0.1	µg/L	0.4 µg/L	93.8	60.0	130	----
Atrazine	1912-24-9	E660E-H	0.1	µg/L	0.4 µg/L	108	60.0	130	----
Atrazine-desethyl	6190-65-4	E660E-H	0.1	µg/L	0.4 µg/L	60.5	50.0	130	----
Azinphos-methyl	86-50-0	E660E-H	0.1	µg/L	0.4 µg/L	118	60.0	140	----
Bendiocarb	22781-23-3	E660E-H	0.5	µg/L	0.4 µg/L	106	50.0	140	----
Carbaryl	63-25-2	E660E-H	0.2	µg/L	0.4 µg/L	105	50.0	140	----
Carbofuran	1563-66-2	E660E-H	0.2	µg/L	0.4 µg/L	108	60.0	140	----
Chlorpyrifos	2921-88-2	E660E-H	0.1	µg/L	0.4 µg/L	93.5	60.0	130	----
Cyanazine	21725-46-2	E660E-H	0.1	µg/L	0.4 µg/L	105	50.0	140	----
Diazinon	333-41-5	E660E-H	0.1	µg/L	0.4 µg/L	94.4	60.0	130	----
Diclofop-methyl	51338-27-3	E660E-H	0.1	µg/L	0.4 µg/L	103	60.0	140	----
Malathion	121-75-5	E660E-H	0.1	µg/L	0.4 µg/L	111	60.0	130	----
Metolachlor	51218-45-2	E660E-H	0.1	µg/L	0.4 µg/L	113	60.0	130	----
Metribuzin	21087-64-9	E660E-H	0.1	µg/L	0.4 µg/L	110	60.0	130	----
Parathion	56-38-2	E660E-H	0.1	µg/L	0.4 µg/L	99.8	60.0	140	----
Parathion-methyl	298-00-0	E660E-H	0.1	µg/L	0.4 µg/L	103	60.0	130	----
Phorate	298-02-2	E660E-H	0.1	µg/L	0.4 µg/L	104	60.0	140	----
Prometon	1610-18-0	E660E-H	0.1	µg/L	0.4 µg/L	79.8	60.0	130	----
Prometryn	7287-19-6	E660E-H	0.1	µg/L	0.4 µg/L	98.0	60.0	130	----
Propazine	139-40-2	E660E-H	0.1	µg/L	0.4 µg/L	101	60.0	130	----
Simazine	122-34-9	E660E-H	0.1	µg/L	0.4 µg/L	96.8	60.0	130	----
Temephos	3383-96-8	E660E-H	1	µg/L	0.4 µg/L	89.2	50.0	140	----
Terbufos	13071-79-9	E660E-H	0.1	µg/L	0.4 µg/L	97.5	60.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Pesticides (QCLot: 1031009) - continued									
Terbutryn	886-50-0	E660E-H	0.1	µg/L	0.4 µg/L	97.5	60.0	130	----
Triallate	2303-17-5	E660E-H	0.1	µg/L	0.4 µg/L	111	60.0	130	----
Trifluralin	1582-09-8	E660E-H	0.1	µg/L	0.4 µg/L	100	60.0	130	----
Nitrosamines (QCLot: 1052586)									
Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.034	µg/L	0.25 µg/L	103	50.0	150	----

Qualifiers

Qualifier	Description
LCS-H	Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1023569)										
GP2301107-001	Treated Water Entering The Distribution System	Ammonia, total (as N)	7664-41-7	E298	0.0925 mg/L	0.1 mg/L	92.5	75.0	125	----
Anions and Nutrients (QCLot: 1024163)										
CG2308955-002	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1024164)										
CG2308955-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1024165)										
CG2308955-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.58 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1024166)										
CG2308955-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.504 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1024167)										
CG2308955-002	Anonymous	Fluoride	16984-48-8	E235.F	1.05 mg/L	1 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1032118)										
GP2301106-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.0206 mg/L	0.0196 mg/L	105	70.0	130	----
Cyanides (QCLot: 1031708)										
FC2301790-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.234 mg/L	0.25 mg/L	93.5	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1023968)										
SK2303258-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.98 mg/L	5 mg/L	99.5	70.0	130	----
Inorganics (QCLot: 1030446)										
GP2301106-001	Anonymous	Chlorine, total	7782-50-5	E326	0.250 mg/L	0.28861 mg/L	86.6	70.0	130	----
Inorganics (QCLot: 1030447)										
GP2301106-001	Anonymous	Chlorine, free	7782-50-5	E327	0.240 mg/L	0.28861 mg/L	83.2	70.0	130	----
Total Sulfides (QCLot: 1028349)										
FJ2301616-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395	1.15 mg/L	1 mg/L	115	75.0	125	----
Total Metals (QCLot: 1025424)										
CG2308982-002	Anonymous	Aluminum, total	7429-90-5	E420	1.92 mg/L	2 mg/L	95.8	70.0	130	----
		Antimony, total	7440-36-0	E420	0.197 mg/L	0.2 mg/L	98.7	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.195 mg/L	0.2 mg/L	97.5	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1025424) - continued										
CG2308982-002	Anonymous	Barium, total	7440-39-3	E420	0.193 mg/L	0.2 mg/L	96.5	70.0	130	----
		Boron, total	7440-42-8	E420	0.993 mg/L	1 mg/L	99.3	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
		Calcium, total	7440-70-2	E420	40.3 mg/L	40 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E420	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.195 mg/L	0.2 mg/L	97.5	70.0	130	----
		Iron, total	7439-89-6	E420	19.4 mg/L	20 mg/L	96.8	70.0	130	----
		Lead, total	7439-92-1	E420	0.189 mg/L	0.2 mg/L	94.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	8.83 mg/L	10 mg/L	88.3	70.0	130	----
		Manganese, total	7439-96-5	E420	0.199 mg/L	0.2 mg/L	99.6	70.0	130	----
		Selenium, total	7782-49-2	E420	0.386 mg/L	0.4 mg/L	96.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Sodium, total	7440-23-5	E420	19.0 mg/L	20 mg/L	95.2	70.0	130	----
		Strontium, total	7440-24-6	E420	0.200 mg/L	0.2 mg/L	100	70.0	130	----
		Uranium, total	7440-61-1	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
		Zinc, total	7440-66-6	E420	4.21 mg/L	4 mg/L	105	70.0	130	----
Total Metals (QCLot: 1030873)										
FJ2301608-001	Anonymous	Mercury, total	7439-97-6	E508	0.000100 mg/L	0.0001 mg/L	100	70.0	130	----
Dissolved Metals (QCLot: 1025422)										
CG2308982-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	1.90 mg/L	2 mg/L	94.8	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.196 mg/L	0.2 mg/L	98.1	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.190 mg/L	0.2 mg/L	95.2	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.201 mg/L	0.2 mg/L	100	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0907 mg/L	0.1 mg/L	90.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.984 mg/L	1 mg/L	98.4	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0410 mg/L	0.04 mg/L	102	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	43.6 mg/L	40 mg/L	109	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0998 mg/L	0.1 mg/L	99.8	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.378 mg/L	0.4 mg/L	94.5	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.194 mg/L	0.2 mg/L	97.2	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.190 mg/L	0.2 mg/L	94.8	70.0	130	----
		Iron, dissolved	7439-89-6	E421	19.4 mg/L	20 mg/L	96.8	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.178 mg/L	0.2 mg/L	89.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	1.04 mg/L	1 mg/L	104	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1025422) - continued										
CG2308982-002	Anonymous	Magnesium, dissolved	7439-95-4	E421	9.91 mg/L	10 mg/L	99.1	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.193 mg/L	0.2 mg/L	96.4	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.190 mg/L	0.2 mg/L	94.8	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.386 mg/L	0.4 mg/L	96.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	97.0 mg/L	100 mg/L	97.0	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	38.6 mg/L	40 mg/L	96.4	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.198 mg/L	0.2 mg/L	99.2	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.397 mg/L	0.4 mg/L	99.2	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	96.8 mg/L	100 mg/L	96.8	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	18.7 mg/L	20 mg/L	93.3	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	0.213 mg/L	0.2 mg/L	106	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	185 mg/L	200 mg/L	92.4	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.394 mg/L	0.4 mg/L	98.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0352 mg/L	0.04 mg/L	87.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.200 mg/L	0.2 mg/L	99.9	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.191 mg/L	0.2 mg/L	95.6	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.403 mg/L	0.4 mg/L	101	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.178 mg/L	0.2 mg/L	89.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.0360 mg/L	0.04 mg/L	90.1	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.963 mg/L	1 mg/L	96.3	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	4.07 mg/L	4 mg/L	102	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
Aggregate Organics (QCLot: 1025625)										
CG2308587-001	Anonymous	Nitrilotriacetic acid [NTA]	139-13-9	E394	0.88 mg/L	1 mg/L	87.8	50.0	150	----
Aggregate Organics (QCLot: 1034154)										
CG2308981-001	Anonymous	Microcystin	101043-37-2	E576	0.64 µg/L	1 µg/L	64.5	50.0	150	----
Volatile Organic Compounds (QCLot: 1031042)										
GP2301106-001	Anonymous	Benzene	71-43-2	E611E	99.3 µg/L	100 µg/L	99.3	60.0	140	----
		Carbon tetrachloride	56-23-5	E611E	95.1 µg/L	100 µg/L	95.1	60.0	140	----
		Chlorobenzene	108-90-7	E611E	96.5 µg/L	100 µg/L	96.5	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611E	95.7 µg/L	100 µg/L	95.7	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611E	93.8 µg/L	100 µg/L	93.8	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611E	112 µg/L	100 µg/L	112	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1031042) - continued										
GP2301106-001	Anonymous	Dichloroethylene, 1,1-	75-35-4	E611E	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloromethane	75-09-2	E611E	100 µg/L	100 µg/L	100	60.0	140	----
		Ethylbenzene	100-41-4	E611E	97.3 µg/L	100 µg/L	97.3	60.0	140	----
		Tetrachloroethylene	127-18-4	E611E	86.6 µg/L	100 µg/L	86.6	60.0	140	----
		Toluene	108-88-3	E611E	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		Trichloroethylene	79-01-6	E611E	92.2 µg/L	100 µg/L	92.2	60.0	140	----
		Vinyl chloride	75-01-4	E611E	94.8 µg/L	100 µg/L	94.8	60.0	140	----
		Xylene, m+p-	179601-23-1	E611E	197 µg/L	200 µg/L	98.5	60.0	140	----
		Xylene, o-	95-47-6	E611E	102 µg/L	100 µg/L	102	60.0	140	----
Volatile Organic Compounds (QCLot: 1031043)										
GP2301106-001	Anonymous	Dioxane, 1,4-	123-91-1	E611I	100 µg/L	100 µg/L	100	60.0	140	----
DIsinfectant By-Products (QCLot: 1028437)										
CG2308823-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	4.81 mg/L	5 mg/L	96.2	75.0	125	----
DIsinfectant By-Products (QCLot: 1028438)										
CG2308823-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	4.98 mg/L	5 mg/L	99.6	75.0	125	----
DIsinfectant By-Products (QCLot: 1038413)										
CG2308819-001	Anonymous	Bromate	15541-45-4	E722A	3.01 µg/L	4 µg/L	75.3	70.0	130	----
Haloacetic Acids (QCLot: 1037626)										
CG2308755-002	Anonymous	Dibromoacetic acid	631-64-1	E750	5.82 µg/L	5 µg/L	116	70.0	130	----
		Dichloroacetic acid	79-43-6	E750	5.99 µg/L	5 µg/L	120	70.0	130	----
		Monobromoacetic acid	79-08-3	E750	1.07 µg/L	1 µg/L	107	70.0	130	----
		Monochloroacetic acid	79-11-8	E750	2.49 µg/L	2.5 µg/L	99.6	70.0	130	----
		Trichloroacetic acid	76-03-9	E750	5.86 µg/L	5 µg/L	117	70.0	130	----
Perfluoroalkyl Substances (PFAS) (QCLot: 1034521)										
EO2305813-001	Anonymous	Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.356 µg/L	0.3 µg/L	119	50.0	150	----
		Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.350 µg/L	0.3 µg/L	117	50.0	150	----
Carbamate Pesticides (QCLot: 1037153)										
CG2308767-001	Anonymous	Aldicarb	116-06-3	E712B	8.3 µg/L	10 µg/L	83.4	70.0	130	----
		Diuron	330-54-1	E712B	8.2 µg/L	10 µg/L	82.4	70.0	130	----
Herbicides (QCLot: 1027168)										
GP2301106-001	Anonymous	Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	1.30 µg/L	1 µg/L	130	50.0	130	----
		Bromoxynil	1689-84-5	E706A	1.13 µg/L	1 µg/L	113	50.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Herbicides (QCLot: 1027168) - continued										
GP2301106-001	Anonymous	Dicamba	1918-00-9	E706A	2.57 µg/L	2 µg/L	129	50.0	150	----
		Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	1.15 µg/L	1 µg/L	115	50.0	130	----
		Dinoseb	88-85-7	E706A	1.18 µg/L	1 µg/L	118	50.0	130	----
		Picloram	1918-02-1	E706A	2.40 µg/L	2 µg/L	120	50.0	150	----
Herbicides (QCLot: 1030404)										
CG2308960-001	Anonymous	Glyphosate	1071-83-6	E716A	4.62 µg/L	5 µg/L	92.4	70.0	130	----
Herbicides (QCLot: 1033633)										
CG2308981-001	Anonymous	Diquat (ion)	2764-72-9	E723A	25.2 µg/L	25 µg/L	101	70.0	130	----
		Paraquat (as dichloride)	1910-42-5	E723A	26.1 µg/L	25 µg/L	104	70.0	130	----
Insecticides (QCLot: 1032932)										
GP2301106-001	Anonymous	Dimethoate	60-51-5	E755	1.22 µg/L	0.5 µg/L	97.6	50.0	150	----
		Omethoate	1113-02-6	E755	1.17 µg/L	0.5 µg/L	93.8	50.0	150	----
Nitrosamines (QCLot: 1052586)										
CG2308981-001	Anonymous	Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.283 µg/L	0.25 µg/L	102	50.0	150	----

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

SRC Group # 2023-8436

Jul 27, 2023

ALS Laboratory Group
9505 111 Street
Grande Prairie, AB T8V 5W1
Attn: Wanda Chapella

Date Samples Received: Jul-07-2023 Client P.O.: GP2301107

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Snook, Vicky

---

* Test methods and data are validated by the laboratory's Quality Assurance Program.

* Routine methods follow recognized procedures from sources such as
    * Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
    * Environment Canada
    * US EPA
    * CANMET

* The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

* Data marked as "by Client" has been provided by the client and may affect the validity of results.

* Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

* Additional information is available upon request.

* Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

This is a final report.

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SRC Group # 2023-8436

Jul 27, 2023

ALS Laboratory Group

9505 111 Street
Grande Prairie, AB T8V 5W1
Attn: Wanda Chapella

Sample #: **2023021603**
Date Sampled: **Jul 04, 2023**
Sample Matrix: **WATER**
Description: **07/04/2023 10:15 TREATED WATER GP2301107-001**

Client PO #: **GP2301107**
Date Received: **Jul 07, 2023**

Analyte	Units	Result
Lab Section 4		
Cesium-137	Bq/L	<0.2
Iodine-131	Bq/L	<0.2
Lead-210	Bq/L	<0.04
Radium-226	Bq/L	<0.01
Strontium-90	Bq/L	<0.1
Tritium	Bq/L	<40

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 8.4 °C upon receipt.

Gamma spectroscopy (Rad-300)detection limits are influenced by several factors. "Less than" values reported above represent the lowest detection limits achievable for the sample.

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ALS Laboratory Group

Analyte Methods

Name	Units	Method
Cesium-137	Bq/L	Rad-300
Iodine-131	Bq/L	Rad-300
Lead-210	Bq/L	Rad-101
Radium-226	Bq/L	Rad-105
Strontium-90	Bq/L	Rad-112
Tritium	Bq/L	Rad-122

Environmental Division
Grande Prairie
Work Order Reference
GP2301107

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC Number: 21 -

Page 1 of 2

Telephone : - 1 780 539 5190

Report To	Contact and company name below will appear on the final report
Company:	AQUATERA UTILITIES INC
Contact:	Sarah Ball
Phone:	780-532-3996
	Company address below will appear on the final report
Street:	11101-104 Ave
City/Province:	Grande Prairie, Alberta
Postal Code:	T8V 8H6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	AQUATERA UTILITIES INC
Contact:	Sandy Hadwen 780-538-0457

Project Information

ALS Account #	18728
Job #: Circle one	(DC-GP) (DC-SX) (DC-CL) (DC-CO) (DC-WB) (WT-GP) (WWT-GP) (LAG-WBLY) (LAG-GP-AIRPORT) (LAG - SEXSMITH) (LAG - CLAIRMONT) (WWT-JASPER) (WWT-HINTON)
PO #	30657

Reports / Recipients

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax	arowney@aquatera.ca
Email 2	qpippus@aquatera.ca
Email 3	sball@aquatera.ca
Email 4	mboyce@aquatera.ca
Email 5	

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax	purchasing@aquatera.ca
Email 2	

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge

Additional fees may apply to rush requests on weekends, statutor
Date and Time Required for all E&P TATs: dd-n
For all tests with rush TATs requested, please contact your A... in availability.

ALS Lab Work Order # (ALS use only):

ALS Contact:

Sampler: Mike B

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BAP-WT	BROMATE-ONT-DW-WT	CHLORAMINES-WT	CN-TOT-WT	GENCHEM1-GW-P-WT	HG-ONT-DW-WT	MET-DW-WT	NTA-ONT-DW-WT	PEST-CDWP-P-WT	SULPHIDE-WT	TOC-WT	VOC-ROU-WT	ALGAE-CYANO-BACT-WP	CHLORATE+CHLORITE-KL	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	Treated Water Entering the Distribution System	04-07-23	0915	Water	22	X	X	X	X	X	X	X	X	X	X	X	X	X	X			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System?
☐ YES ☐ NO

Are samples for human consumption/ use?
☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

PLEASE RUN THE PARAMETERS AGAINST THE CGDWQ WHEN SUBMITTING THE ANALYTICAL RESULTS TO AQUATERA.

Please ensure all preservatives required, are provided, if a pre-charged bottle is not included.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☒ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
16.9							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
CDJ	04 JUL 23	11:10

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
AM		

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2008 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC Number: 21 -

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Contact:	Sarah Ball
Phone:	780-532-3996
	Company address below will appear on the final report
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Postal Code:	T8V 8H6
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
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PO #	30657

Reports / Recipients

Select Report Format:	☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	arowney@aquatera.ca
Email 2	gpippus@aquatera.ca
Email 3	sball@aquatera.ca
Email 4	mboyce@aquatera.ca
Email 5	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	purchasing@aquatera.ca
Email 2	

Turnaround Time (TAT) Requested

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AFFIX ALS BARCODE LABEL HERE (ALS use only)

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For all tests with rush TATs requested, please contact your AM to confirm availability.

Analysis Request

ALS Lab Work Order # (ALS use only):	ALS Contact:	Sampler: Mike B

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	HAA-CDWQ-WT	MICROCYSTIN-WP	NDMA-ONTDW-HRMS-BU	CESIUM-137	IODINE-131	LEAD-210	STRONTIUM-90	TRITIUM	PFAS-DI-LCMS-WT	CYANOBACTERIA	OMETHOATE	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
						P													
	Treated Water Entering the Distribution System	04-07-23	0915	Water	~~28~~ 32	X	X	X	X	X	X	X	X	X	X	X			

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

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INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:

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1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.