ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **GP2202211**	Page	: 1 of 19
Amendment	: **3**		
Client	: **Aquatera Utilities Inc.**	Laboratory	: Grande Prairie - Environmental
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-Jan-2023 15:30
PO	: 28097	Date Analysis Commenced	: 05-Jan-2023
C-O-C number	: ----	Issue Date	: 30-Jan-2023 10:46
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
- Guideline Comparison

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*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Organics, Waterloo, Ontario
Anthony Calero	Supervisor - Inorganic	Inorganics, Calgary, Alberta
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Elke Tabora		Inorganics, Calgary, Alberta
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Jeremy Byrnes	Senior Analyst	Limnology, Winnipeg, Manitoba
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Organics, Waterloo, Ontario
Jon Fisher	Department Manager - Inorganics	Inorganics, Waterloo, Ontario
Katrina Zwambag	Business Manager - Environmental	LCMS, Waterloo, Ontario
Kevin Baxter	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kevin Baxter	Team Leader - Inorganics	Metals, Calgary, Alberta
Leanne Lawrence	Admin Officer	Organics, Waterloo, Ontario
Leanne Lawrence	Analyst	Inorganics, Calgary, Alberta
Leanne Lawrence	Analyst	Metals, Calgary, Alberta
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Parker Sgarbossa	Laboratory Analyst	Metals, Calgary, Alberta
Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Wanda Chapella	Account Manager	External Subcontracting, Saskatoon, Saskatchewan

No Breaches Found

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

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.
Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Sample Comments

Sample	Client Id	Comment
GP2202211-001	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
PEHR	Parameter exceeded recommended holding time on receipt: Proceeded with analysis as requested.
PEHT	Parameter exceeded recommended holding time prior to analysis.
SUR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Physical Tests									
Alkalinity, bicarbonate (as HCO3)	71-52-3	mg/L	221	----	----	----	----	----	----
Alkalinity, carbonate (as CO3)	3812-32-6	mg/L	<2.0	----	----	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	mg/L	<2.0	----	----	----	----	----	----
Alkalinity, total (as CaCO3)	----	mg/L	181	----	----	----	----	----	----
Colour, true	----	CU	<5.0	----	----	----	----	----	----
Conductivity	----	µS/cm	406	----	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	mg/L	212	----	----	----	----	----	----
pH	----	pH units	7.90	----	----	----	----	----	----
Solids, total dissolved [TDS]	----	mg/L	227	----	----	----	----	----	----
Turbidity	----	NTU	<0.10	----	----	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	mg/L	<0.0050	----	----	----	----	----	----
Chloride	16887-00-6	mg/L	11.1	----	----	----	----	----	----
Fluoride	16984-48-8	mg/L	0.576	----	----	----	----	----	----
Nitrate (as N)	14797-55-8	mg/L	0.082	----	----	----	----	----	----
Nitrate + Nitrite (as N)	----	mg/L	0.0820	----	----	----	----	----	----
Nitrite (as N)	14797-65-0	mg/L	<0.010	----	----	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	mg/L	<0.0030 PEHT	----	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	mg/L	45.5	----	----	----	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	mg/L	<0.0050	----	----	----	----	----	----
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	mg/L	0.68	----	----	----	----	----	----
Inorganics									
Chloramines, total (as Cl2)	----	mg/L	<0.20	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Inorganics									
Chlorine, free	7782-50-5	mg/L	1.03 PEHR	----	----	----	----	----	----
Chlorine, total	7782-50-5	mg/L	1.07 PEHR	----	----	----	----	----	----
Chlorite	14998-27-7	mg/L	<0.010	----	----	----	----	----	----
Total Sulfides									
Sulfide, total (as S)	18496-25-8	mg/L	<0.0015	----	----	----	----	----	----
Sulfide, total (as H2S)	7783-06-4	mg/L	<0.0016	----	----	----	----	----	----
Taxonomy									
Blue-green algae cell count, total	----	cells/mL	<1 BGHT	----	----	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	µg/L	51.6	----	----	----	----	----	----
Antimony, total	7440-36-0	mg/L	<0.00010	----	----	----	----	----	----
Arsenic, total	7440-38-2	mg/L	0.00011	----	----	----	----	----	----
Barium, total	7440-39-3	mg/L	0.0994	----	----	----	----	----	----
Boron, total	7440-42-8	mg/L	<0.010	----	----	----	----	----	----
Cadmium, total	7440-43-9	mg/L	<0.0000050	----	----	----	----	----	----
Calcium, total	7440-70-2	mg/L	60.8	----	----	----	----	----	----
Chromium, total	7440-47-3	mg/L	<0.00050	----	----	----	----	----	----
Copper, total	7440-50-8	mg/L	<0.00050	----	----	----	----	----	----
Iron, total	7439-89-6	mg/L	<0.010	----	----	----	----	----	----
Lead, total	7439-92-1	mg/L	<0.000050	----	----	----	----	----	----
Magnesium, total	7439-95-4	mg/L	14.6	----	----	----	----	----	----
Manganese, total	7439-96-5	mg/L	0.00052	----	----	----	----	----	----
Mercury, total	7439-97-6	µg/L	<0.0050	----	----	----	----	----	----
Selenium, total	7782-49-2	mg/L	0.000458	----	----	----	----	----	----
Silver, total	7440-22-4	mg/L	<0.000010	----	----	----	----	----	----
Sodium, total	7440-23-5	mg/L	7.15	----	----	----	----	----	----
Strontium, total	7440-24-6	mg/L	0.276	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Total Metals									
Uranium, total	7440-61-1	mg/L	0.000200	----	----	----	----	----	----
Zinc, total	7440-66-6	mg/L	<0.0030	----	----	----	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	mg/L	0.0331	----	----	----	----	----	----
Antimony, dissolved	7440-36-0	mg/L	<0.00010	----	----	----	----	----	----
Arsenic, dissolved	7440-38-2	mg/L	<0.00010	----	----	----	----	----	----
Barium, dissolved	7440-39-3	mg/L	0.105	----	----	----	----	----	----
Beryllium, dissolved	7440-41-7	mg/L	<0.000020	----	----	----	----	----	----
Bismuth, dissolved	7440-69-9	mg/L	<0.000050	----	----	----	----	----	----
Boron, dissolved	7440-42-8	mg/L	<0.010	----	----	----	----	----	----
Cadmium, dissolved	7440-43-9	mg/L	<0.0000050	----	----	----	----	----	----
Calcium, dissolved	7440-70-2	mg/L	64.0	----	----	----	----	----	----
Cesium, dissolved	7440-46-2	mg/L	<0.000010	----	----	----	----	----	----
Chromium, dissolved	7440-47-3	mg/L	<0.00050	----	----	----	----	----	----
Cobalt, dissolved	7440-48-4	mg/L	<0.00010	----	----	----	----	----	----
Copper, dissolved	7440-50-8	mg/L	0.00031	----	----	----	----	----	----
Iron, dissolved	7439-89-6	mg/L	<0.010	----	----	----	----	----	----
Lead, dissolved	7439-92-1	mg/L	<0.000050	----	----	----	----	----	----
Lithium, dissolved	7439-93-2	mg/L	0.0052	----	----	----	----	----	----
Magnesium, dissolved	7439-95-4	mg/L	14.4	----	----	----	----	----	----
Manganese, dissolved	7439-96-5	mg/L	0.00053	----	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	mg/L	0.000842	----	----	----	----	----	----
Nickel, dissolved	7440-02-0	mg/L	<0.00050	----	----	----	----	----	----
Phosphorus, dissolved	7723-14-0	mg/L	<0.050	----	----	----	----	----	----
Potassium, dissolved	7440-09-7	mg/L	0.631	----	----	----	----	----	----
Rubidium, dissolved	7440-17-7	mg/L	0.00030	----	----	----	----	----	----
Selenium, dissolved	7782-49-2	mg/L	0.000590	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Dissolved Metals									
Silicon, dissolved	7440-21-3	mg/L	1.88	----	----	----	----	----	----
Silver, dissolved	7440-22-4	mg/L	<0.000010	----	----	----	----	----	----
Sodium, dissolved	7440-23-5	mg/L	7.09	----	----	----	----	----	----
Strontium, dissolved	7440-24-6	mg/L	0.299	----	----	----	----	----	----
Sulfur, dissolved	7704-34-9	mg/L	17.4	----	----	----	----	----	----
Tellurium, dissolved	13494-80-9	mg/L	<0.00020	----	----	----	----	----	----
Thallium, dissolved	7440-28-0	mg/L	<0.000010	----	----	----	----	----	----
Thorium, dissolved	7440-29-1	mg/L	<0.00010	----	----	----	----	----	----
Tin, dissolved	7440-31-5	mg/L	<0.00010	----	----	----	----	----	----
Titanium, dissolved	7440-32-6	mg/L	<0.00030	----	----	----	----	----	----
Tungsten, dissolved	7440-33-7	mg/L	<0.00010	----	----	----	----	----	----
Uranium, dissolved	7440-61-1	mg/L	0.000215	----	----	----	----	----	----
Vanadium, dissolved	7440-62-2	mg/L	<0.00050	----	----	----	----	----	----
Zinc, dissolved	7440-66-6	mg/L	<0.0010	----	----	----	----	----	----
Zirconium, dissolved	7440-67-7	mg/L	<0.00030	----	----	----	----	----	----
Dissolved metals filtration location	----	-	Laboratory	----	----	----	----	----	----
Aggregate Organics									
Nitrilotriacetic acid [NTA]	139-13-9	mg/L	<0.20	----	----	----	----	----	----
Volatile Organic Compounds									
Benzene	71-43-2	mg/L	<0.00050	----	----	----	----	----	----
Carbon tetrachloride	56-23-5	mg/L	<0.00050	----	----	----	----	----	----
Chlorobenzene	108-90-7	mg/L	<0.0010	----	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	mg/L	<0.00050	----	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	mg/L	<0.0010	----	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	mg/L	<0.0010	----	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	mg/L	<0.0010	----	----	----	----	----	----
Dichloromethane	75-09-2	mg/L	<0.0010	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Volatile Organic Compounds									
Dioxane, 1,4-	123-91-1	mg/L	<0.020	----	----	----	----	----	----
Ethylbenzene	100-41-4	mg/L	<0.00050	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	mg/L	<0.0010	----	----	----	----	----	----
Toluene	108-88-3	mg/L	<0.00050	----	----	----	----	----	----
Trichloroethylene	79-01-6	mg/L	<0.0010	----	----	----	----	----	----
Vinyl chloride	75-01-4	mg/L	<0.0010	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	mg/L	<0.00040	----	----	----	----	----	----
Xylene, o-	95-47-6	mg/L	<0.00030	----	----	----	----	----	----
Xylenes, total	1330-20-7	mg/L	<0.00050	----	----	----	----	----	----
Trihalomethanes [THMs], total	----	mg/L	0.0109	----	----	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	%	89.0	----	----	----	----	----	----
Bromofluorobenzene, 4-	460-00-4	%	89.0	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	%	102	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	%	102	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	mg/L	<0.0000050	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	%	102	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	%	96.9	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	%	111	----	----	----	----	----	----
Disinfectant By-Products									
Bromate	15541-45-4	mg/L	<0.00030	----	----	----	----	----	----
Chlorate	14866-68-3	mg/L	<0.010	----	----	----	----	----	----
Haloacetic Acids									
Dibromoacetic acid	631-64-1	mg/L	<0.00100	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Haloacetic Acids									
Dichloroacetic acid	79-43-6	mg/L	0.00246	----	----	----	----	----	----
Monobromoacetic acid	79-08-3	mg/L	<0.00100	----	----	----	----	----	----
Monochloroacetic acid	79-11-8	mg/L	<0.00100	----	----	----	----	----	----
Trichloroacetic acid	76-03-9	mg/L	0.00299	----	----	----	----	----	----
Haloacetic acids, total [HAA5]	----	mg/L	0.00545	----	----	----	----	----	----
Perfluoroalkyl Substances (PFAS)									
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	mg/L	<0.000010	----	----	----	----	----	----
Perfluorooctanoic acid [PFOA]	335-67-1	mg/L	<0.000010	----	----	----	----	----	----
Perfluoroalkyl Substances (PFAS) Surrogates									
Perfluorooctanesulfonic acid [13C8-PFOS]	265893-05-6	%	93.6	----	----	----	----	----	----
Chlorinated Phenolics									
Dichlorophenol, 2,4-	120-83-2	mg/L	<0.00020	----	----	----	----	----	----
Pentachlorophenol [PCP]	87-86-5	mg/L	<0.00050	----	----	----	----	----	----
Tetrachlorophenol, 2,3,4,6-	58-90-2	mg/L	<0.00050	----	----	----	----	----	----
Trichlorophenol, 2,4,5-	95-95-4	mg/L	<0.00050	----	----	----	----	----	----
Trichlorophenol, 2,4,6-	88-06-2	mg/L	<0.00050	----	----	----	----	----	----
Phenolics Surrogates									
Tribromophenol, 2,4,6-	118-79-6	%	80.5	----	----	----	----	----	----
Carbamate Pesticides									
Aldicarb	116-06-3	mg/L	<0.0010	----	----	----	----	----	----
Diuron	330-54-1	mg/L	<0.0010	----	----	----	----	----	----
Organochlorine Pesticides									
Chlordane, cis- (alpha)	5103-71-9	µg/L	<0.0080	----	----	----	----	----	----
Chlordane, total	57-74-9	µg/L	<0.011	----	----	----	----	----	----
Chlordane, trans- (gamma)	5103-74-2	µg/L	<0.0080	----	----	----	----	----	----
DDD, 2,4'-	53-19-0	µg/L	<0.0040	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Organochlorine Pesticides									
DDD, 4,4'-	72-54-8	µg/L	<0.0040	----	----	----	----	----	----
DDD, total	----	µg/L	<0.0060	----	----	----	----	----	----
DDE, 2,4'-	3424-82-6	µg/L	<0.0040	----	----	----	----	----	----
DDE, 4,4'-	72-55-9	µg/L	<0.0040	----	----	----	----	----	----
DDE, total	----	µg/L	<0.0060	----	----	----	----	----	----
DDT, 2,4'-	789-02-6	µg/L	<0.0040	----	----	----	----	----	----
DDT, 4,4'-	50-29-3	µg/L	<0.0040	----	----	----	----	----	----
DDT, total	----	µg/L	<0.0060	----	----	----	----	----	----
Methoxychlor	72-43-5	µg/L	<0.0080	----	----	----	----	----	----
Oxychlordane	27304-13-8	µg/L	0.0086	----	----	----	----	----	----
DDT + metabolites, total	----	µg/L	<0.010	----	----	----	----	----	----
Organochlorine Pesticides Surrogates									
Decachlorobiphenyl	2051-24-3	%	174 SUR-ND	----	----	----	----	----	----
Tetrachloro-m-xylene	877-09-8	%	110	----	----	----	----	----	----
Herbicides									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	mg/L	<0.000050	----	----	----	----	----	----
Bromoxynil	1689-84-5	mg/L	<0.000050	----	----	----	----	----	----
Dicamba	1918-00-9	mg/L	<0.00010	----	----	----	----	----	----
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	mg/L	<0.000050	----	----	----	----	----	----
Dinoseb	88-85-7	mg/L	<0.000050	----	----	----	----	----	----
Diquat (ion)	2764-72-9	mg/L	<0.0010	----	----	----	----	----	----
Glyphosate	1071-83-6	mg/L	<0.00020	----	----	----	----	----	----
Picloram	1918-02-1	mg/L	<0.00010	----	----	----	----	----	----
Paraquat (as dichloride)	1910-42-5	mg/L	<0.0010	----	----	----	----	----	----
Herbicides Surrogates									
Dichlorophenylacetic acid, 2,4-	19719-28-9	%	126	----	----	----	----	----	----
Pesticides									

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Pesticides									
Alachlor	15972-60-8	mg/L	<0.00010	----	----	----	----	----	----
Ametryn	834-12-8	mg/L	<0.00010	----	----	----	----	----	----
Atrazine	1912-24-9	mg/L	<0.00010	----	----	----	----	----	----
Atrazine-desethyl	6190-65-4	mg/L	<0.00010	----	----	----	----	----	----
Azinphos-methyl	86-50-0	mg/L	<0.00010	----	----	----	----	----	----
Bendiocarb	22781-23-3	mg/L	<0.00050	----	----	----	----	----	----
Carbaryl	63-25-2	mg/L	<0.00020	----	----	----	----	----	----
Carbofuran	1563-66-2	mg/L	<0.00020	----	----	----	----	----	----
Chlorpyrifos	2921-88-2	mg/L	<0.00010	----	----	----	----	----	----
Cyanazine	21725-46-2	mg/L	<0.00010	----	----	----	----	----	----
Diazinon	333-41-5	mg/L	<0.00010	----	----	----	----	----	----
Diclofop-methyl	51338-27-3	mg/L	<0.00010	----	----	----	----	----	----
Dimethoate	60-51-5	mg/L	<0.00010	----	----	----	----	----	----
Malathion	121-75-5	mg/L	<0.00010	----	----	----	----	----	----
Metolachlor	51218-45-2	mg/L	<0.00010	----	----	----	----	----	----
Metribuzin	21087-64-9	mg/L	<0.00010	----	----	----	----	----	----
Parathion	56-38-2	mg/L	<0.00010	----	----	----	----	----	----
Parathion-methyl	298-00-0	mg/L	<0.00010	----	----	----	----	----	----
Phorate	298-02-2	mg/L	<0.00010	----	----	----	----	----	----
Prometon	1610-18-0	mg/L	<0.00010	----	----	----	----	----	----
Prometryn	7287-19-6	mg/L	<0.00010	----	----	----	----	----	----
Propazine	139-40-2	mg/L	<0.00010	----	----	----	----	----	----
Simazine	122-34-9	mg/L	<0.00010	----	----	----	----	----	----
Temephos	3383-96-8	mg/L	<0.0010	----	----	----	----	----	----
Terbufos	13071-79-9	mg/L	<0.00010	----	----	----	----	----	----
Terbutryn	886-50-0	mg/L	<0.00010	----	----	----	----	----	----
Triallate	2303-17-5	mg/L	<0.00010	----	----	----	----	----	----
Trifluralin	1582-09-8	mg/L	<0.00010	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID: Treated Water Entering The Distribution System	----	----	----	----	----	----
			Sampling date/time: 04-Jan-2023 12:10	----	----	----	----	----	----
			Sub-Matrix: Water	----	----	----	----	----	----
			GP2202211-001	--------	--------	--------	--------	--------	--------
Pesticides									
Atrazine + N-dealkylated metabolites	----	mg/L	<0.00020	----	----	----	----	----	----
Pesticides Surrogates									
Fluorobiphenyl, 2-	321-60-8	%	91.9	----	----	----	----	----	----
Terphenyl-d14, p-	1718-51-0	%	110	----	----	----	----	----	----
Nitrosamines									
Nitrosodimethylamine, N- [NDMA]	62-75-9	mg/L	<0.000030	----	----	----	----	----	----
Nitrosamines Surrogates									
Nitrosodimethylamine-d6, N-	17829-05-9	%	99.6	----	----	----	----	----	----
Organic Parameters									
Microcystin	101043-37-2	µg/L	<0.20	----	----	----	----	----	----
Radiological Parameters									
Cesium-137	----	Bq/L	See Attached	----	----	----	----	----	----
Iodine-131	----	Bq/L	See Attached	----	----	----	----	----	----
Lead-210	14255-04-0	Bq/L	See Attached	----	----	----	----	----	----
Radium-226	13982-63-3	Bq/L	See Attached	----	----	----	----	----	----
Strontium-90	----	Bq/L	See Attached	----	----	----	----	----	----
Tritium	10028-17-8	Bq/L	See Attached	----	----	----	----	----	----

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

Summary of Guideline Limits

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Physical Tests									
Alkalinity, bicarbonate (as HCO3)	71-52-3	mg/L							
Alkalinity, carbonate (as CO3)	3812-32-6	mg/L							
Alkalinity, hydroxide (as OH)	14280-30-9	mg/L							
Alkalinity, total (as CaCO3)	----	mg/L							
Colour, true	----	CU	**15 CU**						
Conductivity	----	µS/cm							
Hardness (as CaCO3), from total Ca/Mg	----	mg/L							
pH	----	pH units	**7 - 10.5 pH units**						
Solids, total dissolved [TDS]	----	mg/L	**500 mg/L**						
Turbidity	----	NTU	**1 NTU**						
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	mg/L							
Chloride	16887-00-6	mg/L	**250 mg/L**						
Fluoride	16984-48-8	mg/L		**1.5 mg/L**					
Nitrate (as N)	14797-55-8	mg/L		**10 mg/L**					
Nitrate + Nitrite (as N)	----	mg/L		**10 mg/L**					
Nitrite (as N)	14797-65-0	mg/L		**1 mg/L**					
Phosphate, ortho-, dissolved (as P)	14265-44-2	mg/L							
Sulfate (as SO4)	14808-79-8	mg/L							
Cyanides									
Cyanide, strong acid dissociable (Total)	----	mg/L							
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	mg/L							
Inorganics									
Chloramines, total (as Cl2)	----	mg/L							
Chlorine, free	7782-50-5	mg/L							
Chlorine, total	7782-50-5	mg/L							
Chlorite	14998-27-7	mg/L		**1 mg/L**					
Total Sulfides									
Sulfide, total (as H2S)	7783-06-4	mg/L	**0.05 mg/L**						
Sulfide, total (as S)	18496-25-8	mg/L							
Taxonomy									
Blue-green algae cell count, total	----	cells/mL							
Total Metals									
Aluminum, total	7429-90-5	µg/L	**100 µg/L**	**2900 µg/L**					
Antimony, total	7440-36-0	mg/L		**0.006 mg/L**					

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Total Metals - Continued									
Arsenic, total	7440-38-2	mg/L		**0.01 mg/L**					
Barium, total	7440-39-3	mg/L		**2 mg/L**					
Boron, total	7440-42-8	mg/L		**5 mg/L**					
Cadmium, total	7440-43-9	mg/L		**0.007 mg/L**					
Calcium, total	7440-70-2	mg/L							
Chromium, total	7440-47-3	mg/L		**0.05 mg/L**					
Copper, total	7440-50-8	mg/L	**1 mg/L**	**2 mg/L**					
Iron, total	7439-89-6	mg/L	**0.3 mg/L**						
Lead, total	7439-92-1	mg/L		**0.005 mg/L**					
Magnesium, total	7439-95-4	mg/L							
Manganese, total	7439-96-5	mg/L	**0.02 mg/L**	**0.12 mg/L**					
Mercury, total	7439-97-6	µg/L		**1 µg/L**					
Selenium, total	7782-49-2	mg/L		**0.05 mg/L**					
Silver, total	7440-22-4	mg/L							
Sodium, total	7440-23-5	mg/L	**200 mg/L**						
Strontium, total	7440-24-6	mg/L		**7 mg/L**					
Uranium, total	7440-61-1	mg/L		**0.02 mg/L**					
Zinc, total	7440-66-6	mg/L	**5 mg/L**						
Dissolved Metals									
Aluminum, dissolved	7429-90-5	mg/L	**0.1 mg/L**	**2.9 mg/L**					
Antimony, dissolved	7440-36-0	mg/L		**0.006 mg/L**					
Arsenic, dissolved	7440-38-2	mg/L		**0.01 mg/L**					
Barium, dissolved	7440-39-3	mg/L		**2 mg/L**					
Beryllium, dissolved	7440-41-7	mg/L							
Bismuth, dissolved	7440-69-9	mg/L							
Boron, dissolved	7440-42-8	mg/L		**5 mg/L**					
Cadmium, dissolved	7440-43-9	mg/L		**0.007 mg/L**					
Calcium, dissolved	7440-70-2	mg/L							
Cesium, dissolved	7440-46-2	mg/L							
Chromium, dissolved	7440-47-3	mg/L		**0.05 mg/L**					
Cobalt, dissolved	7440-48-4	mg/L							
Copper, dissolved	7440-50-8	mg/L	**1 mg/L**	**2 mg/L**					
Dissolved metals filtration location	----	-							
Iron, dissolved	7439-89-6	mg/L	**0.3 mg/L**						
Lead, dissolved	7439-92-1	mg/L		**0.005 mg/L**					
Lithium, dissolved	7439-93-2	mg/L							
Magnesium, dissolved	7439-95-4	mg/L							
Manganese, dissolved	7439-96-5	mg/L	**0.02 mg/L**	**0.12 mg/L**					
Molybdenum, dissolved	7439-98-7	mg/L							

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Dissolved Metals - Continued									
Nickel, dissolved	7440-02-0	mg/L							
Phosphorus, dissolved	7723-14-0	mg/L							
Potassium, dissolved	7440-09-7	mg/L							
Rubidium, dissolved	7440-17-7	mg/L							
Selenium, dissolved	7782-49-2	mg/L		**0.05 mg/L**					
Silicon, dissolved	7440-21-3	mg/L							
Silver, dissolved	7440-22-4	mg/L							
Sodium, dissolved	7440-23-5	mg/L	**200 mg/L**						
Strontium, dissolved	7440-24-6	mg/L		**7 mg/L**					
Sulfur, dissolved	7704-34-9	mg/L							
Tellurium, dissolved	13494-80-9	mg/L							
Thallium, dissolved	7440-28-0	mg/L							
Thorium, dissolved	7440-29-1	mg/L							
Tin, dissolved	7440-31-5	mg/L							
Titanium, dissolved	7440-32-6	mg/L							
Tungsten, dissolved	7440-33-7	mg/L							
Uranium, dissolved	7440-61-1	mg/L		**0.02 mg/L**					
Vanadium, dissolved	7440-62-2	mg/L							
Zinc, dissolved	7440-66-6	mg/L	**5 mg/L**						
Zirconium, dissolved	7440-67-7	mg/L							
Aggregate Organics									
Nitrilotriacetic acid [NTA]	139-13-9	mg/L		**0.4 mg/L**					
Volatile Organic Compounds									
Benzene	71-43-2	mg/L		**0.005 mg/L**					
Carbon tetrachloride	56-23-5	mg/L		**0.005 mg/L**					
Chlorobenzene	108-90-7	mg/L	**0.03 mg/L**						
Dichlorobenzene, 1,2-	95-50-1	mg/L	**0.003 mg/L**						
Dichlorobenzene, 1,4-	106-46-7	mg/L	**0.001 mg/L**	**0.005 mg/L**					
Dichloroethane, 1,2-	107-06-2	mg/L		**0.005 mg/L**					
Dichloroethylene, 1,1-	75-35-4	mg/L		**0.014 mg/L**					
Dichloromethane	75-09-2	mg/L		**0.05 mg/L**					
Dioxane, 1,4-	123-91-1	mg/L		**0.05 mg/L**					
Ethylbenzene	100-41-4	mg/L	**0.0016 mg/L**	**0.14 mg/L**					
Tetrachloroethylene	127-18-4	mg/L		**0.01 mg/L**					
Toluene	108-88-3	mg/L	**0.024 mg/L**	**0.06 mg/L**					
Trichloroethylene	79-01-6	mg/L		**0.005 mg/L**					
Trihalomethanes [THMs], total	----	mg/L		**0.1 mg/L**					
Vinyl chloride	75-01-4	mg/L		**0.002 mg/L**					
Xylene, m+p-	179601-23-1	mg/L							

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Volatile Organic Compounds - Continued									
Xylene, o-	95-47-6	mg/L							
Xylenes, total	1330-20-7	mg/L	**0.02 mg/L**	**0.09 mg/L**					
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	mg/L		**4E-05 mg/L**					
DIsinfectant By-Products									
Bromate	15541-45-4	mg/L		**0.01 mg/L**					
Chlorate	14866-68-3	mg/L		**1 mg/L**					
Haloacetic Acids									
Dibromoacetic acid	631-64-1	mg/L							
Dichloroacetic acid	79-43-6	mg/L							
Haloacetic acids, total [HAA5]	----	mg/L		**0.08 mg/L**					
Monobromoacetic acid	79-08-3	mg/L							
Monochloroacetic acid	79-11-8	mg/L							
Trichloroacetic acid	76-03-9	mg/L							
Perfluoroalkyl Substances (PFAS)									
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	mg/L		**0.0006 mg/L**					
Perfluorooctanoic acid [PFOA]	335-67-1	mg/L		**0.0002 mg/L**					
Chlorinated Phenolics									
Dichlorophenol, 2,4-	120-83-2	mg/L	**0.0003 mg/L**						
Pentachlorophenol [PCP]	87-86-5	mg/L	**0.03 mg/L**	**0.06 mg/L**					
Tetrachlorophenol, 2,3,4,6-	58-90-2	mg/L	**0.001 mg/L**						
Trichlorophenol, 2,4,5-	95-95-4	mg/L							
Trichlorophenol, 2,4,6-	88-06-2	mg/L	**0.002 mg/L**	**0.005 mg/L**					
Carbamate Pesticides									
Aldicarb	116-06-3	mg/L							
Diuron	330-54-1	mg/L							
Chlordane, cis- (alpha)	5103-71-9	µg/L							
Chlordane, total	57-74-9	µg/L							
Chlordane, trans- (gamma)	5103-74-2	µg/L							
DDD, 2,4'-	53-19-0	µg/L							
DDD, 4,4'-	72-54-8	µg/L							
DDD, total	----	µg/L							
DDE, 2,4'-	3424-82-6	µg/L							
DDE, 4,4'-	72-55-9	µg/L							
DDE, total	----	µg/L							
DDT + metabolites, total	----	µg/L							
DDT, 2,4'-	789-02-6	µg/L							
DDT, 4,4'-	50-29-3	µg/L							
DDT, total	----	µg/L							

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Organochlorine Pesticides - Continued									
Methoxychlor	72-43-5	µg/L							
Oxychlordane	27304-13-8	µg/L							
Herbicides									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	mg/L		**0.1 mg/L**					
Bromoxynil	1689-84-5	mg/L		**0.03 mg/L**					
Dicamba	1918-00-9	mg/L		**0.11 mg/L**					
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	mg/L		**0.1 mg/L**					
Dinoseb	88-85-7	mg/L							
Diquat (ion)	2764-72-9	mg/L		**0.07 mg/L**					
Glyphosate	1071-83-6	mg/L		**0.28 mg/L**					
Paraquat (as dichloride)	1910-42-5	mg/L							
Picloram	1918-02-1	mg/L							
Pesticides									
Alachlor	15972-60-8	mg/L							
Ametryn	834-12-8	mg/L							
Atrazine + N-dealkylated metabolites	----	mg/L		**0.005 mg/L**					
Atrazine	1912-24-9	mg/L							
Atrazine-desethyl	6190-65-4	mg/L							
Azinphos-methyl	86-50-0	mg/L							
Bendiocarb	22781-23-3	mg/L							
Carbaryl	63-25-2	mg/L							
Carbofuran	1563-66-2	mg/L							
Chlorpyrifos	2921-88-2	mg/L		**0.09 mg/L**					
Cyanazine	21725-46-2	mg/L							
Diazinon	333-41-5	mg/L							
Diclofop-methyl	51338-27-3	mg/L							
Dimethoate	60-51-5	mg/L		**0.02 mg/L**					
Malathion	121-75-5	mg/L		**0.29 mg/L**					
Metolachlor	51218-45-2	mg/L							
Metribuzin	21087-64-9	mg/L		**0.08 mg/L**					
Parathion	56-38-2	mg/L							
Parathion-methyl	298-00-0	mg/L							
Phorate	298-02-2	mg/L							
Prometon	1610-18-0	mg/L							
Prometryn	7287-19-6	mg/L							
Propazine	139-40-2	mg/L							
Simazine	122-34-9	mg/L							
Temephos	3383-96-8	mg/L							
Terbufos	13071-79-9	mg/L							

Analyte	CAS Number	Unit	CDWG AO/OG	CDWG MAC					
Pesticides - Continued									
Terbutryn	886-50-0	mg/L							
Triallate	2303-17-5	mg/L							
Trifluralin	1582-09-8	mg/L							
Nitrosamines									
Nitrosodimethylamine, N- [NDMA]	62-75-9	mg/L		**4E-05 mg/L**					
Organic Parameters									
Microcystin	101043-37-2	µg/L		**1.5 µg/L**					
Radiological Parameters									
Cesium-137	----	Bq/L							
Iodine-131	----	Bq/L		**6 Bq/L**					
Lead-210	14255-04-0	Bq/L		**0.2 Bq/L**					
Radium-226	13982-63-3	Bq/L		**0.5 Bq/L**					
Strontium-90	----	Bq/L		**5 Bq/L**					
Tritium	10028-17-8	Bq/L		**7000 Bq/L**					

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

Key:

CDWG — Canada Guidelines for Canadian Drinking Water Quality (JAN, 2023

AO/OG — Aesthetic Objective/Operational Guideline

MAC — Maximum Acceptable Concentrations

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **GP2202211**	Page	: 1 of 20
Amendment	: **3**		
Client	: **Aquatera Utilities Inc.**	Laboratory	: Grande Prairie - Environmental
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-Jan-2023 15:30
PO	: 28097	Issue Date	: 30-Jan-2023 10:46
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-MRG2-7984990 02	----	Pentachlorophenol [PCP]	87-86-5	E651C	154 % LCS-H	40.0-140%	Recovery greater than upper control limit
Organochlorine Pesticides	QC-MRG3-7970840 02	----	DDD, 2,4'-	53-19-0	E660F	175 % LCS-H	50.0-150%	Recovery greater than upper control limit
Organochlorine Pesticides	QC-MRG3-7970840 02	----	DDD, 4,4'-	72-54-8	E660F	214 % LCS-H	50.0-150%	Recovery greater than upper control limit
Organochlorine Pesticides	QC-MRG3-7970840 02	----	Oxychlordane	27304-13-8	E660F	155 % LCS-H	50.0-150%	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	GP2202211-001	Treated Water Entering The Distribution System	Decachlorobiphenyl	2051-24-3	174 %	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-Jan-2023	----	----	----		11-Jan-2023	7 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Treated Water - Entering The Distribution System	E298	04-Jan-2023	05-Jan-2023	----	----		05-Jan-2023	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.Cl	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	28 days	2 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (0.003 mg/L)										
HDPE Treated Water - Entering The Distribution System	E378-T	04-Jan-2023	----	----	----		08-Jan-2023	3 days	4 days	× EHT
Anions and Nutrients : Fluoride in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.F	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	28 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.NO3	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.NO2	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	3 days	2 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
Anions and Nutrients : Sulfate in Water by IC										
HDPE Treated Water - Entering The Distribution System	E235.SO4	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	28 days	2 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-Jan-2023	09-Jan-2023	20 days	5 days	✓	10-Jan-2023	7 days	1 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-Jan-2023	10-Jan-2023	14 days	6 days	✓	12-Jan-2023	40 days	2 days	✓
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide) Treated Water - Entering The Distribution System	E333	04-Jan-2023	09-Jan-2023	----	----		09-Jan-2023	14 days	5 days	✓
Disinfectant By-Products : Bromate and Perchlorate in Water by LC-MS-MS										
Opaque HDPE (EDA) Treated Water - Entering The Distribution System	E722A	04-Jan-2023	06-Jan-2023	28 days	2 days	✓	09-Jan-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-Jan-2023	09-Jan-2023	----	----		09-Jan-2023	28 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) Treated Water - Entering The Distribution System	E421	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	180 days	2 days	✓
Haloacetic Acids : Haloacetic Acids in Water by LC-MS/MS										
Glass vial (ammonium chloride) Treated Water - Entering The Distribution System	E750	04-Jan-2023	09-Jan-2023	14 days	5 days	✓	09-Jan-2023	14 days	0 days	✓
Herbicides : Diquat and Paraquat in Water by LC-MS-MS										
HDPE (sodium thiosulfate) Treated Water - Entering The Distribution System	E723A	04-Jan-2023	09-Jan-2023	7 days	5 days	✓	09-Jan-2023	21 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 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-Jan-2023	11-Jan-2023	20 days	7 days	✓	11-Jan-2023	40 days	0 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-Jan-2023	06-Jan-2023	7 days	2 days	✓	16-Jan-2023	7 days	10 days	× EHT
Inorganics : Chlorite (CLO2) in Waters by Ion Chromatography										
Opaque HDPE (EDA)										
Treated Water - Entering The Distribution System	E409.CLO2	04-Jan-2023	09-Jan-2023	----	----		09-Jan-2023	14 days	5 days	✓
Inorganics : Free Chlorine (Residual) by DPD Colourimetry										
HDPE										
Treated Water - Entering The Distribution System	E327	04-Jan-2023	----	----	----		11-Jan-2023	0.25 hrs	160 hrs	× EHTR-FM
Inorganics : Total Chlorine (Residual) by DPD Colourimetry										
HDPE										
Treated Water - Entering The Distribution System	E326	04-Jan-2023	----	----	----		11-Jan-2023	0.25 hrs	160 hrs	× EHTR-FM
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-Jan-2023	09-Jan-2023	28 days	5 days	✓	11-Jan-2023	28 days	2 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-Jan-2023	05-Jan-2023	----	----		05-Jan-2023	28 days	1 days	✓
Organic Parameters : Microcystin by ELISA (Extraction by Sonication)										
Amber glass vial										
Treated Water - Entering The Distribution System	E576	04-Jan-2023	----	----	----		10-Jan-2023	14 days	6 days	✓
Organochlorine Pesticides : OCP Analysis by GC-MS-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
Treated Water - Entering The Distribution System	E660F	04-Jan-2023	09-Jan-2023	7 days	5 days	✓	12-Jan-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
Perfluoroalkyl Substances (PFAS) : PFAS in Water by LC-MS-MS										
HDPE (teflon free) Treated Water - Entering The Distribution System	E745B	04-Jan-2023	09-Jan-2023	28 days	5 days	✓	09-Jan-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-Jan-2023	10-Jan-2023	14 days	6 days	✓	11-Jan-2023	40 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Treated Water - Entering The Distribution System	E290	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	14 days	2 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE Treated Water - Entering The Distribution System	E329	04-Jan-2023	05-Jan-2023	----	----		05-Jan-2023	3 days	1 days	✓
Physical Tests : Conductivity in Water										
HDPE Treated Water - Entering The Distribution System	E100	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	28 days	2 days	✓
Physical Tests : pH by Meter										
HDPE Treated Water - Entering The Distribution System	E108	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	0.25 hrs	0.25 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE Treated Water - Entering The Distribution System	E162	04-Jan-2023	----	----	----		09-Jan-2023	7 days	5 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE Treated Water - Entering The Distribution System	E121	04-Jan-2023	----	----	----		05-Jan-2023	3 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) Treated Water - Entering The Distribution System	E641A	04-Jan-2023	07-Jan-2023	14 days	3 days	✓	09-Jan-2023	40 days	2 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
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-Jan-2023	----	----	----		20-Jan-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-Jan-2023	----	----	----		20-Jan-2023	----	----	
Radiological Parameters : Radium 226 in Water by Alpha Spectrometry										
HDPE total (nitric acid) Treated Water - Entering The Distribution System	Ra-226	04-Jan-2023	----	----	----		20-Jan-2023	----	----	
Radiological Parameters : Strontium-90 in Water by Gas Flow Proportional Counting										
HDPE total (nitric acid) Treated Water - Entering The Distribution System	Sr90	04-Jan-2023	----	----	----		20-Jan-2023	----	----	
Radiological Parameters : Tritium (H-3) in Water by Liquid Scintillation Counting										
HDPE Treated Water - Entering The Distribution System	TRITIUM	04-Jan-2023	----	----	----		20-Jan-2023	180 days	16 days	✓
Taxonomy : Blue-Green Algae										
HDPE (Lugol's Solution) Treated Water - Entering The Distribution System	E921A	04-Jan-2023	----	----	----		10-Jan-2023	5 days	6 days	× EHT
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) Treated Water - Entering The Distribution System	E508	04-Jan-2023	05-Jan-2023	----	----		05-Jan-2023	28 days	1 days	✓
Total Metals : Total metals in Water by CRC ICPMS										
HDPE total (nitric acid) Treated Water - Entering The Distribution System	E420	04-Jan-2023	06-Jan-2023	----	----		06-Jan-2023	180 days	2 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) Treated Water - Entering The Distribution System	E395	04-Jan-2023	----	----	----		10-Jan-2023	7 days	6 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
Volatile Organic Compounds : VOCs (Dioxane) by Headspace GC-MS										
Glass vial (sodium bisulfate) Treated Water - Entering The Distribution System	E611I	04-Jan-2023	09-Jan-2023	----	----		09-Jan-2023	14 days	5 days	✓
Volatile Organic Compounds : VOCs (Prairies List) by Headspace GC-MS										
Glass vial (sodium bisulfate) Treated Water - Entering The Distribution System	E611E	04-Jan-2023	09-Jan-2023	----	----		09-Jan-2023	14 days	5 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	797175	1	5	20.0	5.0	✓
Alkalinity Species by Titration	E290	795894	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	794658	1	17	5.8	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	795774	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	797730	1	6	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	795704	1	9	11.1	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	797731	1	6	16.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	794581	1	5	20.0	5.0	✓
Conductivity in Water	E100	795893	1	16	6.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	797128	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	794412	1	3	33.3	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	796876	1	2	50.0	5.0	✓
Fluoride in Water by IC	E235.F	795706	1	12	8.3	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	799064	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	797096	1	5	20.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	797101	1	8	12.5	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	798339	1	3	33.3	5.0	✓
Nitrate in Water by IC	E235.NO3	795702	1	6	16.6	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	799228	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	795703	1	3	33.3	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	797423	1	8	12.5	5.0	✓
PFAS in Water by LC-MS-MS	E745B	797094	1	2	50.0	5.0	✓
pH by Meter	E108	795892	1	20	5.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	795737	1	13	7.6	5.0	✓
Sulfate in Water by IC	E235.SO4	795705	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	797127	1	7	14.2	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	799063	1	2	50.0	5.0	✓
Total Cyanide	E333	797202	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	794584	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	795463	1	14	7.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	794476	1	2	50.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	798195	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	794500	1	4	25.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	797070	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	797069	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 Control Samples (LCS)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	797175	1	5	20.0	5.0	✓
Alkalinity Species by Titration	E290	795894	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	794658	1	17	5.8	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	795774	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	797730	1	6	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	795704	1	9	11.1	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	797731	1	6	16.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	794581	1	5	20.0	5.0	✓
Conductivity in Water	E100	795893	1	16	6.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	797128	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	794412	1	3	33.3	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	796876	1	2	50.0	5.0	✓
Fluoride in Water by IC	E235.F	795706	1	12	8.3	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	799064	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	797096	1	5	20.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	797101	1	8	12.5	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	798339	1	3	33.3	5.0	✓
Miscellaneous Pesticides by GC-MS	E660E-H	798498	1	5	20.0	5.0	✓
Nitrate in Water by IC	E235.NO3	795702	1	6	16.6	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	799228	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	795703	1	3	33.3	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	797423	1	8	12.5	5.0	✓
OCP Analysis by GC-MS-MS	E660F	797084	1	2	50.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	795835	1	9	11.1	5.0	✓
PFAS in Water by LC-MS-MS	E745B	797094	1	2	50.0	5.0	✓
pH by Meter	E108	795892	1	20	5.0	5.0	✓
Phenolics (Eastern Canada List with Nitro-Phenols) by GC-MS	E651C	798500	1	2	50.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	795737	1	13	7.6	5.0	✓
Sulfate in Water by IC	E235.SO4	795705	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	797127	1	7	14.2	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	799063	1	2	50.0	5.0	✓
Total Cyanide	E333	797202	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	794584	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	795463	1	14	7.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	794476	1	2	50.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	798195	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	794500	1	4	25.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	797070	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 Control Samples (LCS) - Continued							
VOCs (Prairies List) by Headspace GC-MS	E611E	797069	1	2	50.0	5.0	✓
Method Blanks (MB)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	797175	1	5	20.0	5.0	✓
Alkalinity Species by Titration	E290	795894	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	794658	1	17	5.8	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	795774	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	797730	1	6	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	795704	1	9	11.1	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	797731	1	6	16.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	794581	1	5	20.0	5.0	✓
Conductivity in Water	E100	795893	1	16	6.2	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	797128	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	794412	1	3	33.3	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	796876	1	2	50.0	5.0	✓
Fluoride in Water by IC	E235.F	795706	1	12	8.3	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	799064	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	797096	1	5	20.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	797101	1	8	12.5	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	798339	1	3	33.3	5.0	✓
Miscellaneous Pesticides by GC-MS	E660E-H	798498	1	5	20.0	5.0	✓
Nitrate in Water by IC	E235.NO3	795702	1	6	16.6	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	799228	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	795703	1	3	33.3	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	797423	1	8	12.5	5.0	✓
OCP Analysis by GC-MS-MS	E660F	797084	1	2	50.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	795835	1	9	11.1	5.0	✓
PFAS in Water by LC-MS-MS	E745B	797094	1	2	50.0	5.0	✓
Phenolics (Eastern Canada List with Nitro-Phenols) by GC-MS	E651C	798500	1	2	50.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	795737	1	13	7.6	5.0	✓
Sulfate in Water by IC	E235.SO4	795705	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	797127	1	7	14.2	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	799063	1	2	50.0	5.0	✓
Total Cyanide	E333	797202	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	794584	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	795463	1	14	7.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	794476	1	2	50.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	798195	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	794500	1	4	25.0	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*
Method Blanks (MB) - Continued							
VOCs (Dioxane) by Headspace GC-MS	E611I	797070	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	797069	1	2	50.0	5.0	✓
Matrix Spikes (MS)							
Aldicarb and Diuron in Water by LC-MS/MS	E712B	797175	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	794658	1	17	5.8	5.0	✓
Bromate and Perchlorate in Water by LC-MS-MS	E722A	795774	1	11	9.0	5.0	✓
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3	797730	1	6	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	795704	1	9	11.1	5.0	✓
Chlorite (CLO2) in Waters by Ion Chromatography	E409.CLO2	797731	1	6	16.6	5.0	✓
Diquat and Paraquat in Water by LC-MS-MS	E723A	797128	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	794412	1	3	33.3	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	796876	1	2	50.0	5.0	✓
Fluoride in Water by IC	E235.F	795706	1	12	8.3	5.0	✓
Free Chlorine (Residual) by DPD Colourimetry	E327	799064	1	2	50.0	5.0	✓
Glyphosate and AMPA in Water	E716A	797096	1	5	20.0	5.0	✓
Haloacetic Acids in Water by LC-MS/MS	E750	797101	1	8	12.5	4.7	✓
Microcystin by ELISA (Extraction by Sonication)	E576	798339	1	3	33.3	5.0	✓
Nitrate in Water by IC	E235.NO3	795702	1	6	16.6	5.0	✓
Nitrilotriacetic Acid (NTA) in Water	E394	799228	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	795703	1	3	33.3	5.0	✓
Nitrosamines by LC-MS-MS by Direct Injection (Routine Levels)	E725A	797423	1	8	12.5	5.0	✓
PFAS in Water by LC-MS-MS	E745B	797094	1	2	50.0	5.0	✓
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A	795737	1	13	7.6	5.0	✓
Sulfate in Water by IC	E235.SO4	795705	1	14	7.1	5.0	✓
Total Chlorine (Residual) by DPD Colourimetry	E326	799063	1	2	50.0	5.0	✓
Total Cyanide	E333	797202	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	794584	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	795463	1	14	7.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	794476	1	2	50.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	798195	1	20	5.0	5.0	✓
VOCs (Dioxane) by Headspace GC-MS	E611I	797070	1	2	50.0	5.0	✓
VOCs (Prairies List) by Headspace GC-MS	E611E	797069	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 Calgary - Environmental	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.
Ammonia by Fluorescence	E298 Calgary - Environmental	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)

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Chlorine (Residual) by DPD Colourimetry	E326 Waterloo - Environmental	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 Waterloo - Environmental	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 Calgary - Environmental	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 Waterloo - Environmental	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 Calgary - Environmental	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).
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T Waterloo - Environmental	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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Nitrilotriacetic Acid (NTA) in Water	E394 Waterloo - Environmental	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 Vancouver - Environmental	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 Waterloo - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Chlorate (CLO3) in Waters by Ion Chromatography	E409.CLO3 Waterloo - Environmental	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity detection.
Total metals in Water by CRC ICPMS	E420 Calgary - Environmental	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 Calgary - Environmental	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 Calgary - Environmental	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 Winnipeg - Environmental	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 Waterloo - Environmental	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.
VOCs (Dioxane) by Headspace GC-MS	E611I Waterloo - Environmental	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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs by Hexane LVI GC-MS	E641A Waterloo - Environmental	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 Waterloo - Environmental	Water	EPA 8270E (mod)	Phenolics are analyzed by GC-MS.
Miscellaneous Pesticides by GC-MS	E660E-H Waterloo - Environmental	Water	EPA 8270E (mod)	Pesticides are analyzed by GC-MS.
OCP Analysis by GC-MS-MS	E660F Waterloo - Environmental	Water	EPA 8270E (mod)	Pesticides are analyzed by GC-MS-MS
Phenoxy Herbicides and other Herbicides/Pesticides in Water by LC-MS-MS	E706A Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	Water	QWI-ORG/WP239	An aliquot of sample is injected directly using liquid chromatgraphy tandem mass spectrometry.
PFAS in Water by LC-MS-MS	E745B Waterloo - Environmental	Water	MECP E3533	An aliquot of water is analyzed for PFAs by direct injection LC/MS/MS

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Haloacetic Acids in Water by LC-MS/MS	E750 Waterloo - Environmental	Water	MOE E3478	An aliquot of sample is fortified with formic acid and internal standards and analyzed via direct injection by LCMSMS
Blue-Green Algae	E921A Winnipeg - Environmental	Water	APHA 10200 (mod)	Following sedimentation, microscopic techniques are used to identify and enumerate blue-green algae.
Hardness (Calculated) from Total Ca/Mg	EC100A Calgary - Environmental	Water	APHA 2340B	“Hardness (as CaCO3), from total Ca/Mg” is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 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 Calgary - Environmental	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 Calgary - Environmental	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.
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	Ra-226 Saskatchewan Research Council - 143 - 111 Research Drive Saskatoon Saskatchewan Canada S7N 3R2	Water		See attached report.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 Calgary - Environmental	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 Calgary - Environmental	Water		Preparation for Total Organic Carbon by Combustion
Dissolved Metals Water Filtration	EP421 Calgary - Environmental	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 Waterloo - Environmental	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 Waterloo - Environmental	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Phenolics Extraction	EP651 Waterloo - Environmental	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 Waterloo - Environmental	Water	EPA 3511 (mod)	Samples are extracted from aqueous sample using an organic solvent liquid-liquid extraction.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Pesticides & Toxaphene Extraction by DCM	EP660D Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	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 Waterloo - Environmental	Water	MOE E3500	Preparation of Glyphosate and AMPA in Water
Preparation of Bromate and Perchlorate in Water by LC-MS-MS	EP722 Waterloo - Environmental	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 Waterloo - Environmental	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 of Nitrosamines for Direct Injection LC-MS-MS	EP725A Waterloo - Environmental	Water	QWI-ORG/WP239	Preparation of Nitrosamines in Water for Direct Injection LC-MS-MS
Preparation of PFAS in Water by Direct Injection	EP745 Waterloo - Environmental	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 Waterloo - Environmental	Water	E3478	An aliquot of samples is fortified with formic acid and internal standard to be analyzed by direct injection LCMSMS

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QUALITY CONTROL REPORT

Work Order	: **GP2202211**	Page	: 1 of 26
Amendment	: **3**		
Client	: Aquatera Utilities Inc.	Laboratory	: Grande Prairie - Environmental
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-Jan-2023 15:30
PO	: 28097	Date Analysis Commenced	: 05-Jan-2023
C-O-C number	: ----	Issue Date	: 30-Jan-2023 10:46
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.

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Wanda Chapella	Account Manager	Saskatchewan Research Council External Subcontracting, Saskatoon, Saskatchewan

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: 794500)											
FJ2300002-001	Anonymous	Turbidity	----	E121	0.10	NTU	21.3	20.0	6.48%	15%	----
Physical Tests (QC Lot: 794581)											
CG2300054-001	Anonymous	Colour, true	----	E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 795892)											
CG2300106-002	Anonymous	pH	----	E108	0.10	pH units	7.48	7.49	0.134%	4%	----
Physical Tests (QC Lot: 795893)											
CG2300137-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	1680	1680	0.178%	10%	----
Physical Tests (QC Lot: 795894)											
CG2300137-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	299	332	10.5%	20%	----
Physical Tests (QC Lot: 797127)											
FJ2300030-003	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	100	100	0.5	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 794658)											
CG2300103-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	33.4	33.2	0.544%	20%	----
Anions and Nutrients (QC Lot: 795702)											
GP2202210-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.083	0.082	0.0009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 795703)											
GP2202210-001	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: 795704)											
GP2202210-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.97	0.97	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 795705)											
GP2202210-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	45.5	45.4	0.278%	20%	----
Anions and Nutrients (QC Lot: 795706)											
CG2300151-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.297	0.312	0.014	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 796876)											
GP2202210-001	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: 797202)											
CG2300054-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 794476)											
GP2202210-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.43	1.36	0.07	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: 799063)											
GP2202210-001	Anonymous	Chlorine, total	7782-50-5	E326	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Inorganics (QC Lot: 799064)											
GP2202210-001	Anonymous	Chlorine, free	7782-50-5	E327	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 798195)											
CG2300087-004	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	<0.0015	0	Diff <2x LOR	----
Total Metals (QC Lot: 794584)											
CG2300054-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 795463)											
CG2300134-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0150	mg/L	<0.0150	<0.0150	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.00219	0.00218	0.000009	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00050	mg/L	0.0196	0.0202	2.79%	20%	----
		Boron, total	7440-42-8	E420	0.050	mg/L	0.099	0.097	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	1.27 µg/L	0.00142	10.8%	20%	----
		Calcium, total	7440-70-2	E420	0.250	mg/L	606	602	0.605%	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	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.050	mg/L	0.207	0.214	0.007	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	272	276	1.69%	20%	----
		Manganese, total	7439-96-5	E420	0.00050	mg/L	0.198	0.206	4.28%	20%	----
		Selenium, total	7782-49-2	E420	0.000250	mg/L	152 µg/L	0.152	0.0452%	20%	----
		Silver, total	7440-22-4	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.250	mg/L	32.8	33.6	2.46%	20%	----
		Strontium, total	7440-24-6	E420	0.00100	mg/L	1.60	1.59	1.14%	20%	----
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.0313	0.0327	4.20%	20%	----
		Zinc, total	7440-66-6	E420	0.0150	mg/L	0.0924	0.0978	0.0054	Diff <2x LOR	----
Dissolved Metals (QC Lot: 794412)											
CG2300054-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0014	0.0017	0.0003	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00012	0.00011	0.00001	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00030	0.00029	0.000010	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0424	0.0433	2.08%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<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: 794412) - continued											
CG2300054-001	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	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	52.5	49.3	6.43%	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00234	0.00230	1.94%	20%	----
		Iron, dissolved	7439-89-6	E421	0.030	mg/L	<0.030	<0.030	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	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	19.8	19.5	1.14%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00585	0.00524	11.0%	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	1.08	1.05	2.19%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00156	0.00149	0.00007	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000172	0.000198	0.000026	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.13	3.16	0.744%	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	1.71	1.68	1.52%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.231	0.220	4.91%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	28.9	28.5	1.27%	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	0.00140	0.00137	2.26%	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	0.0067	0.0064	0.0004	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 798339)											

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: 798339) - continued											
CG2300025-001	Anonymous	Microcystin	101043-37-2	E576	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 799228)											
GP2202210-001	Anonymous	Nitrilotriacetic acid [NTA]	139-13-9	E394	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 797069)											
GP2202210-001	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	<0.0010 mg/L	<1.0	0	Diff <2x LOR	----
		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: 797070)											
GP2202210-001	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: 795774)											
FC2300023-001	Anonymous	Bromate	15541-45-4	E722A	0.30	µg/L	0.71	0.56	0.15	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 797730)											
EO2300029-003	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
DIsinfectant By-Products (QC Lot: 797731)											
EO2300029-003	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Haloacetic Acids (QC Lot: 797101)											
CG2300093-002	Anonymous	Dibromoacetic acid	631-64-1	E750	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Dichloroacetic acid	79-43-6	E750	1.00	µg/L	3.17	3.30	0.12	Diff <2x LOR	----
		Monobromoacetic acid	79-08-3	E750	1.00	µg/L	<1.00	<1.00	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*
Haloacetic Acids (QC Lot: 797101) - continued											
CG2300093-002	Anonymous	Monochloroacetic acid	79-11-8	E750	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Trichloroacetic acid	76-03-9	E750	1.00	µg/L	3.80	3.66	0.14	Diff <2x LOR	----
Perfluoroalkyl Substances (PFAS) (QC Lot: 797094)											
GP2202211-001	Treated Water Entering The Distribution System	Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.010	µg/L	<0.000010 mg/L	<0.010	0	Diff <2x LOR	----
		Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.010	µg/L	<0.000010 mg/L	<0.010	0	Diff <2x LOR	----
Carbamate Pesticides (QC Lot: 797175)											
FC2300023-001	Anonymous	Aldicarb	116-06-3	E712B	10.0	µg/L	<10.0	<10.0	0	Diff <2x LOR	----
		Diuron	330-54-1	E712B	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
Herbicides (QC Lot: 795737)											
FC2300022-001	Anonymous	Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	0.050	µg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Bromoxynil	1689-84-5	E706A	0.050	µg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Dicamba	1918-00-9	E706A	0.10	µg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.050	µg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Dinoseb	88-85-7	E706A	0.050	µg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Picloram	1918-02-1	E706A	0.10	µg/L	<0.10	<0.10	0	Diff <2x LOR	----
Herbicides (QC Lot: 797096)											
FC2300022-001	Anonymous	Glyphosate	1071-83-6	E716A	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
Herbicides (QC Lot: 797128)											
FC2300022-001	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	----
Nitrosamines (QC Lot: 797423)											
GP2202210-001	Anonymous	Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.030	µg/L	<0.000030 mg/L	<0.030	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: 794500)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 794581)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 795893)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 795894)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	1.5	----
Physical Tests (QCLot: 797127)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 794658)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 795702)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 795703)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 795704)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 795705)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 795706)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 796876)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.003	mg/L	<0.0030	----
Cyanides (QCLot: 797202)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 794476)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Inorganics (QCLot: 799063)						
Chlorine, total	7782-50-5	E326	0.05	mg/L	<0.050	----
Inorganics (QCLot: 799064)						
Chlorine, free	7782-50-5	E327	0.05	mg/L	<0.050	----
Total Sulfides (QCLot: 798195)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Sulfides (QCLot: 798195) - continued						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 794584)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 795463)						
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	----
Dissolved Metals (QCLot: 794412)						
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: 794412) - 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: 798339)						
Microcystin	101043-37-2	E576	0.2	µg/L	<0.20	----
Aggregate Organics (QCLot: 799228)						
Nitrilotriacetic acid [NTA]	139-13-9	E394	0.2	mg/L	<0.20	----
Volatile Organic Compounds (QCLot: 797069)						
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: 797069) - 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: 797070)						
Dioxane, 1,4-	123-91-1	E611I	20	µg/L	<20	----
Polycyclic Aromatic Hydrocarbons (QCLot: 795835)						
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
DIsinfectant By-Products (QCLot: 795774)						
Bromate	15541-45-4	E722A	0.3	µg/L	<0.30	----
DIsinfectant By-Products (QCLot: 797730)						
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	<0.010	----
DIsinfectant By-Products (QCLot: 797731)						
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	<0.010	----
Haloacetic Acids (QCLot: 797101)						
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: 797094)						
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: 798500)						
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: 798500) - 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: 797175)						
Aldicarb	116-06-3	E712B	1	µg/L	<1.0	----
Diuron	330-54-1	E712B	1	µg/L	<1.0	----
Organochlorine Pesticides (QCLot: 797084)						
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: 795737)						
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: 797096)						
Glyphosate	1071-83-6	E716A	0.2	µg/L	<0.20	----
Herbicides (QCLot: 797128)						
Diquat (ion)	2764-72-9	E723A	1	µg/L	<1.0	----
Paraquat (as dichloride)	1910-42-5	E723A	1	µg/L	<1.0	----
Pesticides (QCLot: 798498)						
Alachlor	15972-60-8	E660E-H	0.1	µg/L	<0.10	----
Ametryn	834-12-8	E660E-H	0.1	µg/L	<0.10	----
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Pesticides (QCLot: 798498) - continued						
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	----
Dimethoate	60-51-5	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: 797423)						
Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.03	µg/L	<0.030	----

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: 794500)									
Turbidity	----	E121	0.1	NTU	200 NTU	106	85.0	115	----
Physical Tests (QCLot: 794581)									
Colour, true	----	E329	5	CU	100 CU	103	85.0	115	----
Physical Tests (QCLot: 795892)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 795893)									
Conductivity	----	E100	1	µS/cm	146.9 µS/cm	97.5	90.0	110	----
Physical Tests (QCLot: 795894)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 797127)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	95.2	85.0	115	----
Anions and Nutrients (QCLot: 794658)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	113	85.0	115	----
Anions and Nutrients (QCLot: 795702)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 795703)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 795704)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 795705)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 795706)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 796876)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.003	mg/L	0.0212 mg/L	100	80.0	120	----
Cyanides (QCLot: 797202)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	86.0	80.0	120	----
Organic / Inorganic Carbon (QCLot: 794476)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	93.2	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
Inorganics (QCLot: 799063)									
Chlorine, total	7782-50-5	E326	0.05	mg/L	0.27584 mg/L	94.2	75.0	125	----
Inorganics (QCLot: 799064)									
Chlorine, free	7782-50-5	E327	0.05	mg/L	0.27584 mg/L	90.6	75.0	125	----
Total Sulfides (QCLot: 798195)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	96.7	80.0	120	----
Total Metals (QCLot: 794584)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	118	80.0	120	----
Total Metals (QCLot: 795463)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	100	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.4	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	116	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	98.7	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	97.5	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.0	80.0	120	----
Dissolved Metals (QCLot: 794412)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	102	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	98.2	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	100	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
Dissolved Metals (QCLot: 794412) - continued									
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	88.8	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	96.5	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	90.1	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	97.5	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.3	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	96.2	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.9	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	88.9	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	95.5	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	99.4	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.2	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	110	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	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	103	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	92.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	97.7	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	99.9	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	93.2	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.6	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	90.2	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	96.5	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	102	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.7	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	93.8	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	94.7	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.4	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: 798339)									
Microcystin	101043-37-2	E576	0.2	µg/L	0.5 µg/L	101	70.0	130	----
Aggregate Organics (QCLot: 799228)									
Nitrilotriacetic acid [NTA]	139-13-9	E394	0.2	mg/L	1 mg/L	97.7	75.0	125	----
Volatile Organic Compounds (QCLot: 797069)									
Benzene	71-43-2	E611E	0.5	µg/L	100 µg/L	105	70.0	130	----
Carbon tetrachloride	56-23-5	E611E	0.5	µg/L	100 µg/L	103	70.0	130	----
Chlorobenzene	108-90-7	E611E	1	µg/L	100 µg/L	99.3	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611E	0.5	µg/L	100 µg/L	99.7	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611E	1	µg/L	100 µg/L	99.7	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	99.9	70.0	130	----
Dichloromethane	75-09-2	E611E	1	µg/L	100 µg/L	114	70.0	130	----
Ethylbenzene	100-41-4	E611E	0.5	µg/L	100 µg/L	94.9	70.0	130	----
Tetrachloroethylene	127-18-4	E611E	1	µg/L	100 µg/L	96.2	70.0	130	----
Toluene	108-88-3	E611E	0.5	µg/L	100 µg/L	95.3	70.0	130	----
Trichloroethylene	79-01-6	E611E	1	µg/L	100 µg/L	103	70.0	130	----
Vinyl chloride	75-01-4	E611E	1	µg/L	100 µg/L	98.8	60.0	140	----
Xylene, m+p-	179601-23-1	E611E	0.4	µg/L	200 µg/L	96.2	70.0	130	----
Xylene, o-	95-47-6	E611E	0.3	µg/L	100 µg/L	94.6	70.0	130	----
Volatile Organic Compounds (QCLot: 797070)									
Dioxane, 1,4-	123-91-1	E611I	20	µg/L	100 µg/L	108	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 795835)									
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5263 µg/L	88.8	50.0	140	----
DIsinfectant By-Products (QCLot: 795774)									
Bromate	15541-45-4	E722A	0.3	µg/L	4 µg/L	90.0	70.0	130	----
DIsinfectant By-Products (QCLot: 797730)									
Chlorate	14866-68-3	E409.CLO3	0.01	mg/L	1 mg/L	104	85.0	115	----
DIsinfectant By-Products (QCLot: 797731)									
Chlorite	14998-27-7	E409.CLO2	0.01	mg/L	1 mg/L	106	85.0	115	----
Haloacetic Acids (QCLot: 797101)									
Dibromoacetic acid	631-64-1	E750	1	µg/L	5 µg/L	108	70.0	130	----
Dichloroacetic acid	79-43-6	E750	1	µg/L	5 µg/L	106	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Haloacetic Acids (QCLot: 797101) - continued									
Monobromoacetic acid	79-08-3	E750	0.2	µg/L	1 µg/L	104	70.0	130	----
Monochloroacetic acid	79-11-8	E750	0.5	µg/L	2.5 µg/L	88.4	70.0	130	----
Trichloroacetic acid	76-03-9	E750	1	µg/L	5 µg/L	104	70.0	130	----
Perfluoroalkyl Substances (PFAS) (QCLot: 797094)									
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.01	µg/L	0.3 µg/L	86.7	50.0	150	----
Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.01	µg/L	0.3 µg/L	90.0	50.0	150	----
Chlorinated Phenolics (QCLot: 798500)									
Dichlorophenol, 2,4-	120-83-2	E651C	0.2	µg/L	4.8 µg/L	107	50.0	130	----
Pentachlorophenol [PCP]	87-86-5	E651C	0.5	µg/L	4.8 µg/L	# 154	40.0	140	LCS-H
Tetrachlorophenol, 2,3,4,6-	58-90-2	E651C	0.5	µg/L	4.8 µg/L	119	60.0	130	----
Trichlorophenol, 2,4,5-	95-95-4	E651C	0.5	µg/L	4.8 µg/L	129	50.0	130	----
Trichlorophenol, 2,4,6-	88-06-2	E651C	0.5	µg/L	4.8 µg/L	126	50.0	130	----
Carbamate Pesticides (QCLot: 797175)									
Aldicarb	116-06-3	E712B	1	µg/L	10 µg/L	104	80.0	120	----
Diuron	330-54-1	E712B	1	µg/L	10 µg/L	96.9	80.0	120	----
Organochlorine Pesticides (QCLot: 797084)									
Chlordane, cis- (alpha)	5103-71-9	E660F	0.008	µg/L	0.2 µg/L	66.5	50.0	150	----
Chlordane, trans- (gamma)	5103-74-2	E660F	0.008	µg/L	0.2 µg/L	54.5	50.0	150	----
DDD, 2,4'-	53-19-0	E660F	0.004	µg/L	0.2 µg/L	# 175	50.0	150	LCS-H
DDD, 4,4'-	72-54-8	E660F	0.004	µg/L	0.2 µg/L	# 214	50.0	150	LCS-H
DDE, 2,4'-	3424-82-6	E660F	0.004	µg/L	0.2 µg/L	110	50.0	150	----
DDE, 4,4'-	72-55-9	E660F	0.004	µg/L	0.2 µg/L	114	50.0	150	----
DDT, 2,4'-	789-02-6	E660F	0.004	µg/L	0.2 µg/L	119	50.0	150	----
DDT, 4,4'-	50-29-3	E660F	0.004	µg/L	0.2 µg/L	120	50.0	150	----
Methoxychlor	72-43-5	E660F	0.008	µg/L	0.2 µg/L	73.4	50.0	150	----
Oxychlordane	27304-13-8	E660F	0.008	µg/L	0.2 µg/L	# 155	50.0	150	LCS-H
Herbicides (QCLot: 795737)									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	0.05	µg/L	1 µg/L	113	65.0	130	----
Bromoxynil	1689-84-5	E706A	0.05	µg/L	1 µg/L	101	65.0	130	----
Dicamba	1918-00-9	E706A	0.1	µg/L	2 µg/L	98.6	50.0	150	----
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.05	µg/L	1 µg/L	93.6	65.0	130	----
Dinoseb	88-85-7	E706A	0.05	µg/L	1 µg/L	99.4	65.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Herbicides (QCLot: 795737) - continued									
Picloram	1918-02-1	E706A	0.1	µg/L	2 µg/L	108	50.0	150	----
Herbicides (QCLot: 797096)									
Glyphosate	1071-83-6	E716A	0.2	µg/L	5 µg/L	98.5	70.0	130	----
Herbicides (QCLot: 797128)									
Diquat (ion)	2764-72-9	E723A	1	µg/L	25 µg/L	106	70.0	130	----
Paraquat (as dichloride)	1910-42-5	E723A	1	µg/L	25 µg/L	85.6	70.0	130	----
Pesticides (QCLot: 798498)									
Alachlor	15972-60-8	E660E-H	0.1	µg/L	0.2 µg/L	98.9	60.0	130	----
Ametryn	834-12-8	E660E-H	0.1	µg/L	0.2 µg/L	102	60.0	130	----
Atrazine	1912-24-9	E660E-H	0.1	µg/L	0.2 µg/L	110	60.0	130	----
Atrazine-desethyl	6190-65-4	E660E-H	0.1	µg/L	0.2 µg/L	62.2	50.0	130	----
Azinphos-methyl	86-50-0	E660E-H	0.1	µg/L	0.2 µg/L	120	60.0	140	----
Bendiocarb	22781-23-3	E660E-H	0.5	µg/L	0.2 µg/L	106	50.0	140	----
Carbaryl	63-25-2	E660E-H	0.2	µg/L	0.2 µg/L	108	50.0	140	----
Carbofuran	1563-66-2	E660E-H	0.2	µg/L	0.2 µg/L	112	60.0	140	----
Chlorpyrifos	2921-88-2	E660E-H	0.1	µg/L	0.2 µg/L	97.7	60.0	130	----
Cyanazine	21725-46-2	E660E-H	0.1	µg/L	0.2 µg/L	101	50.0	140	----
Diazinon	333-41-5	E660E-H	0.1	µg/L	0.2 µg/L	87.8	60.0	130	----
Diclofop-methyl	51338-27-3	E660E-H	0.1	µg/L	0.2 µg/L	118	60.0	140	----
Dimethoate	60-51-5	E660E-H	0.1	µg/L	0.2 µg/L	94.8	60.0	130	----
Malathion	121-75-5	E660E-H	0.1	µg/L	0.2 µg/L	102	60.0	130	----
Metolachlor	51218-45-2	E660E-H	0.1	µg/L	0.2 µg/L	106	60.0	130	----
Metribuzin	21087-64-9	E660E-H	0.1	µg/L	0.2 µg/L	103	60.0	130	----
Parathion	56-38-2	E660E-H	0.1	µg/L	0.2 µg/L	103	60.0	140	----
Parathion-methyl	298-00-0	E660E-H	0.1	µg/L	0.2 µg/L	95.5	60.0	130	----
Phorate	298-02-2	E660E-H	0.1	µg/L	0.2 µg/L	98.9	60.0	140	----
Prometon	1610-18-0	E660E-H	0.1	µg/L	0.2 µg/L	98.5	60.0	130	----
Prometryn	7287-19-6	E660E-H	0.1	µg/L	0.2 µg/L	98.5	60.0	130	----
Propazine	139-40-2	E660E-H	0.1	µg/L	0.2 µg/L	98.6	60.0	130	----
Simazine	122-34-9	E660E-H	0.1	µg/L	0.2 µg/L	95.9	60.0	130	----
Temephos	3383-96-8	E660E-H	1	µg/L	0.2 µg/L	137	50.0	140	----
Terbufos	13071-79-9	E660E-H	0.1	µg/L	0.2 µg/L	93.9	60.0	130	----
Terbutryn	886-50-0	E660E-H	0.1	µg/L	0.2 µg/L	99.0	60.0	130	----
Triallate	2303-17-5	E660E-H	0.1	µg/L	0.2 µg/L	91.7	60.0	130	----
Trifluralin	1582-09-8	E660E-H	0.1	µg/L	0.2 µg/L	90.2	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
Nitrosamines (QCLot: 797423)									
Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.03	µg/L	0.25 µg/L	94.8	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: 794658)										
CG2300103-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	0.1 mg/L	ND	75.0	125	----
Anions and Nutrients (QCLot: 795702)										
GP2202211-001	Treated Water Entering The Distribution System	Nitrate (as N)	14797-55-8	E235.NO3	2.71 mg/L	2.5 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 795703)										
GP2202211-001	Treated Water Entering The Distribution System	Nitrite (as N)	14797-65-0	E235.NO2	0.526 mg/L	0.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 795704)										
GP2202211-001	Treated Water Entering The Distribution System	Chloride	16887-00-6	E235.Cl	99.8 mg/L	100 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 795705)										
GP2202211-001	Treated Water Entering The Distribution System	Sulfate (as SO4)	14808-79-8	E235.SO4	98.7 mg/L	100 mg/L	98.7	75.0	125	----
Anions and Nutrients (QCLot: 795706)										
CG2300152-001	Anonymous	Fluoride	16984-48-8	E235.F	0.783 mg/L	1 mg/L	78.3	75.0	125	----
Anions and Nutrients (QCLot: 796876)										
GP2202210-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.0199 mg/L	0.0196 mg/L	101	70.0	130	----
Cyanides (QCLot: 797202)										
CG2300054-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.217 mg/L	0.25 mg/L	86.8	75.0	125	----
Organic / Inorganic Carbon (QCLot: 794476)										
GP2202210-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.73 mg/L	5 mg/L	115	70.0	130	----
Inorganics (QCLot: 799063)										
GP2202210-001	Anonymous	Chlorine, total	7782-50-5	E326	0.280 mg/L	0.27584 mg/L	102	70.0	130	----
Inorganics (QCLot: 799064)										
GP2202210-001	Anonymous	Chlorine, free	7782-50-5	E327	0.250 mg/L	0.27584 mg/L	90.6	70.0	130	----
Total Sulfides (QCLot: 798195)										
CG2300162-010	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.228 mg/L	0.2 mg/L	114	75.0	125	----
Total Metals (QCLot: 794584)										
CG2300084-001	Anonymous	Mercury, total	7439-97-6	E508	0.000110 mg/L	0.0001 mg/L	110	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: 795463)										
CG2300134-002	Anonymous	Aluminum, total	7429-90-5	E420	2.04 mg/L	2 mg/L	102	70.0	130	----
		Antimony, total	7440-36-0	E420	0.207 mg/L	0.2 mg/L	104	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.216 mg/L	0.2 mg/L	108	70.0	130	----
		Barium, total	7440-39-3	E420	0.208 mg/L	0.2 mg/L	104	70.0	130	----
		Boron, total	7440-42-8	E420	1.04 mg/L	1 mg/L	104	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.0425 mg/L	0.04 mg/L	106	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	40 mg/L	ND	70.0	130	----
		Chromium, total	7440-47-3	E420	0.428 mg/L	0.4 mg/L	107	70.0	130	----
		Copper, total	7440-50-8	E420	0.203 mg/L	0.2 mg/L	102	70.0	130	----
		Iron, total	7439-89-6	E420	20.4 mg/L	20 mg/L	102	70.0	130	----
		Lead, total	7439-92-1	E420	0.205 mg/L	0.2 mg/L	103	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	10 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Selenium, total	7782-49-2	E420	0.451 mg/L	0.4 mg/L	113	70.0	130	----
		Silver, total	7440-22-4	E420	0.0428 mg/L	0.04 mg/L	107	70.0	130	----
		Sodium, total	7440-23-5	E420	20.3 mg/L	20 mg/L	101	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	0.04 mg/L	ND	70.0	130	----
		Zinc, total	7440-66-6	E420	3.87 mg/L	4 mg/L	96.7	70.0	130	----
Dissolved Metals (QCLot: 794412)										
GP2202210-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	2.30 mg/L	2 mg/L	115	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.234 mg/L	0.2 mg/L	117	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.229 mg/L	0.2 mg/L	115	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.224 mg/L	0.2 mg/L	112	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.518 mg/L	0.4 mg/L	129	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.114 mg/L	0.1 mg/L	114	70.0	130	----
		Boron, dissolved	7440-42-8	E421	1.29 mg/L	1 mg/L	129	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0465 mg/L	0.04 mg/L	116	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	40 mg/L	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.127 mg/L	0.1 mg/L	127	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.449 mg/L	0.4 mg/L	112	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.228 mg/L	0.2 mg/L	114	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.227 mg/L	0.2 mg/L	114	70.0	130	----
		Iron, dissolved	7439-89-6	E421	22.0 mg/L	20 mg/L	110	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.230 mg/L	0.2 mg/L	115	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: 794412) - continued										
GP2202210-001	Anonymous	Lithium, dissolved	7439-93-2	E421	1.27 mg/L	1 mg/L	127	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	10 mg/L	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.213 mg/L	0.2 mg/L	106	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.224 mg/L	0.2 mg/L	112	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.443 mg/L	0.4 mg/L	111	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	118 mg/L	100 mg/L	118	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	45.6 mg/L	40 mg/L	114	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.230 mg/L	0.2 mg/L	115	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.475 mg/L	0.4 mg/L	119	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	107 mg/L	100 mg/L	107	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0485 mg/L	0.04 mg/L	121	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	22.6 mg/L	20 mg/L	113	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	230 mg/L	200 mg/L	115	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.451 mg/L	0.4 mg/L	113	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0468 mg/L	0.04 mg/L	117	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.220 mg/L	0.2 mg/L	110	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.224 mg/L	0.2 mg/L	112	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.425 mg/L	0.4 mg/L	106	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.217 mg/L	0.2 mg/L	108	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.0431 mg/L	0.04 mg/L	108	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	1.13 mg/L	1 mg/L	113	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	4.55 mg/L	4 mg/L	114	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.443 mg/L	0.4 mg/L	111	70.0	130	----
Aggregate Organics (QCLot: 798339)										
CG2300025-001	Anonymous	Microcystin	101043-37-2	E576	1.08 µg/L	1 µg/L	108	50.0	150	----
Aggregate Organics (QCLot: 799228)										
GP2202210-001	Anonymous	Nitrilotriacetic acid [NTA]	139-13-9	E394	0.93 mg/L	1 mg/L	93.3	50.0	150	----
Volatile Organic Compounds (QCLot: 797069)										
GP2202210-001	Anonymous	Benzene	71-43-2	E611E	110 µg/L	100 µg/L	110	60.0	140	----
		Carbon tetrachloride	56-23-5	E611E	111 µg/L	100 µg/L	111	60.0	140	----
		Chlorobenzene	108-90-7	E611E	104 µg/L	100 µg/L	104	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611E	105 µg/L	100 µg/L	105	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611E	106 µg/L	100 µg/L	106	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: 797069) - continued										
GP2202210-001	Anonymous	Dichloroethane, 1,2-	107-06-2	E611E	104 µg/L	100 µg/L	104	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611E	107 µg/L	100 µg/L	107	60.0	140	----
		Dichloromethane	75-09-2	E611E	112 µg/L	100 µg/L	112	60.0	140	----
		Ethylbenzene	100-41-4	E611E	101 µg/L	100 µg/L	101	60.0	140	----
		Tetrachloroethylene	127-18-4	E611E	103 µg/L	100 µg/L	103	60.0	140	----
		Toluene	108-88-3	E611E	101 µg/L	100 µg/L	101	60.0	140	----
		Trichloroethylene	79-01-6	E611E	106 µg/L	100 µg/L	106	60.0	140	----
		Vinyl chloride	75-01-4	E611E	92.7 µg/L	100 µg/L	92.7	60.0	140	----
		Xylene, m+p-	179601-23-1	E611E	206 µg/L	200 µg/L	103	60.0	140	----
		Xylene, o-	95-47-6	E611E	100 µg/L	100 µg/L	100	60.0	140	----
Volatile Organic Compounds (QCLot: 797070)										
GP2202210-001	Anonymous	Dioxane, 1,4-	123-91-1	E611I	115 µg/L	100 µg/L	115	60.0	140	----
DIsinfectant By-Products (QCLot: 795774)										
FC2300023-001	Anonymous	Bromate	15541-45-4	E722A	4.36 µg/L	4 µg/L	109	70.0	130	----
DIsinfectant By-Products (QCLot: 797730)										
EO2300029-003	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.991 mg/L	1 mg/L	99.1	75.0	125	----
DIsinfectant By-Products (QCLot: 797731)										
EO2300029-003	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.938 mg/L	1 mg/L	93.8	75.0	125	----
Haloacetic Acids (QCLot: 797101)										
CG2300093-002	Anonymous	Dibromoacetic acid	631-64-1	E750	5.32 µg/L	5 µg/L	106	50.0	150	----
		Dichloroacetic acid	79-43-6	E750	5.55 µg/L	5 µg/L	111	50.0	150	----
		Monobromoacetic acid	79-08-3	E750	1.12 µg/L	1 µg/L	112	50.0	150	----
		Monochloroacetic acid	79-11-8	E750	2.74 µg/L	2.5 µg/L	110	50.0	150	----
		Trichloroacetic acid	76-03-9	E750	5.20 µg/L	5 µg/L	104	50.0	150	----
Perfluoroalkyl Substances (PFAS) (QCLot: 797094)										
GP2202211-001	Treated Water Entering The Distribution System	Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B	0.286 µg/L	0.3 µg/L	95.3	50.0	150	----
		Perfluorooctanoic acid [PFOA]	335-67-1	E745B	0.272 µg/L	0.3 µg/L	90.7	50.0	150	----
Carbamate Pesticides (QCLot: 797175)										
FC2300023-001	Anonymous	Aldicarb	116-06-3	E712B	9.2 µg/L	10 µg/L	91.7	70.0	130	----
		Diuron	330-54-1	E712B	9.8 µg/L	10 µg/L	98.0	70.0	130	----
Herbicides (QCLot: 795737)										
FC2300022-001	Anonymous	Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A	1.18 µg/L	1 µg/L	118	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: 795737) - continued										
FC2300022-001	Anonymous	Bromoxynil	1689-84-5	E706A	1.13 µg/L	1 µg/L	113	50.0	130	----
		Dicamba	1918-00-9	E706A	1.93 µg/L	2 µg/L	96.6	50.0	150	----
		Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A	0.944 µg/L	1 µg/L	94.4	50.0	130	----
		Dinoseb	88-85-7	E706A	0.978 µg/L	1 µg/L	97.8	50.0	130	----
		Picloram	1918-02-1	E706A	2.19 µg/L	2 µg/L	110	50.0	150	----
Herbicides (QCLot: 797096)										
FC2300022-001	Anonymous	Glyphosate	1071-83-6	E716A	4.56 µg/L	5 µg/L	91.3	70.0	130	----
Herbicides (QCLot: 797128)										
FC2300022-001	Anonymous	Diquat (ion)	2764-72-9	E723A	26.2 µg/L	25 µg/L	105	70.0	130	----
		Paraquat (as dichloride)	1910-42-5	E723A	20.9 µg/L	25 µg/L	83.5	70.0	130	----
Nitrosamines (QCLot: 797423)										
GP2202210-001	Anonymous	Nitrosodimethylamine, N- [NDMA]	62-75-9	E725A	0.265 µg/L	0.25 µg/L	106	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 # 2023-253

Jan 20, 2023

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

Date Samples Received: Jan-06-2023 Client P.O.: GP2202211

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 # 2023-253

Jan 20, 2023

ALS Laboratory Group

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

Sample #: **2023000465**
Date Sampled: **Jan 04, 2023**
Sample Matrix: **WATER**
Description: **01/04/2023 13:10 TREATED WATER GP2202211-001**

Client PO #: **GP2202211**
Date Received: **Jan 06, 2023**

Analyte	Units	Result
Lab Section 4		
Cesium-137	Bq/L	<0.1
Iodine-131	Bq/L	<0.1
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 5.9 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

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SRC Group # 2023-253

Jan 20, 2023

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
GP2202211

Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Telephone : +1 780 539 5196

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 #	28097

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

☑ Routine [R] If received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimu
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimu
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimu
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimu
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.
Additional fees may apply to rush requests on weekends,
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please con

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	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	04-01-23	1210	Water		X	X	X	X	X	X	X	X	X	X	X	X	X	X			

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

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 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			
9.4							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by: W. Rapella	Date: 04 Jan 23	Time: 3:30 pm	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 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.**

(31)

Chain of Custody (COC) / Analytical Request Form

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

COC Number: 21 -

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 #	28097

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

☑ 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, 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.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

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	HAA-CDWQ-WT (P)	MICROCYSTIN-WP	NDMA-ONTDW-HRMS-BU	CESIUM-137	IODINE-131	LEAD-210	STRONTIUM-90	TRITIUM	PFAS-DI-LCMS-WT	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	Treated Water Entering the Distribution System	04-01-23	1210	Water	~~28~~ 33	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 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			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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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.