



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: GP2400042	Page	: 1 of 19
Amendment	: 2		
Client	: Aquatera Utilities Inc.	Laboratory	: ALS Environmental - Grande Prairie
Contact	: Tamara Wuttunee-Cambell	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	: 10-Jan-2024 12:42
PO	: 32928	Date Analysis Commenced	: 11-Jan-2024
C-O-C number	: ----	Issue Date	: 21-Feb-2024 16:34
Sampler	: Mike Boyce		
Site	: Aquatera		
Quote number	: GP2021AQUI1003		
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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Archana Neupane	Lab Assistant	Metals, Calgary, Alberta
Elke Tabora		Inorganics, Calgary, Alberta
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Hannah Lewis	Inorganics Analyst	Inorganics, Waterloo, Ontario
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Metals, Calgary, Alberta
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Sorina Motea	Laboratory Analyst	Organics, Calgary, Alberta
Stephanie Pinheiro	Analyst	LCMS, Waterloo, Ontario
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).

<i>Unit</i>	<i>Description</i>
-	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 or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

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
GP2400042-001	Treated Water	No blue-green algae observed.

Qualifiers

Qualifier	Description
DLI	Detection Limit Raised: Dilution required to address Internal Standard response problems caused by matrix interference.
PNS	Test performed on non-preserved sample
RRR	Refer to report comments for issues regarding this analysis.
RRV	Reported result verified by repeat analysis.



Analytical Results Evaluation

				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
Matrix: Water				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Physical Tests											
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/CG	mg/L	202	----	----	----	----	----	----	----
Alkalinity, carbonate (as CO ₃)	3812-32-6	E290/CG	mg/L	<2.0	----	----	----	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/CG	mg/L	<2.0	----	----	----	----	----	----	----
Alkalinity, total (as CaCO ₃)	----	E290/CG	mg/L	165	----	----	----	----	----	----	----
Colour, true	----	E329/CG	CU	<5.0	----	----	----	----	----	----	----
Conductivity	----	E100/CG	µS/cm	420	----	----	----	----	----	----	----
Hardness (as CaCO ₃), from total Ca/Mg	----	EC100A/CG	mg/L	206	----	----	----	----	----	----	----
pH	----	E108/CG	pH units	7.90	----	----	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162/CG	mg/L	200	----	----	----	----	----	----	----
Turbidity	----	E121/CG	NTU	<0.10	----	----	----	----	----	----	----
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/CG	mg/L	<0.0050 ^{RRV}	----	----	----	----	----	----	----
Chloride	16887-00-6	E235.Cl/CG	mg/L	12.0	----	----	----	----	----	----	----
Fluoride	16984-48-8	E235.F/CG	mg/L	0.659	----	----	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/CG	mg/L	0.047	----	----	----	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/CG	mg/L	0.0470	----	----	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/CG	mg/L	<0.010	----	----	----	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/CG	mg/L	<0.0010 ^{RRV}	----	----	----	----	----	----	----
Sulfate (as SO ₄)	14808-79-8	E235.SO4/CG	mg/L	41.3	----	----	----	----	----	----	----
Cyanides											
Cyanide, strong acid dissociable (Total)	----	E333/WT	mg/L	<0.0050	----	----	----	----	----	----	----
Organic / Inorganic Carbon											
Carbon, total organic [TOC]	----	E355-L/CG	mg/L	1.00	----	----	----	----	----	----	----
Inorganics											
Chlorine, total	7782-50-5	E326-H/CG	mg/L	1.42	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Inorganics											
Chlorite	14998-27-7	E409.CLO2/WT	mg/L	<0.010	----	----	----	----	----	----	----
Chlorine, free	7782-50-5	E327-H/CG	mg/L	1.29 ^{RRV}	----	----	----	----	----	----	----
Chloramines, total (as Cl2)	----	EC326/CG	mg/L	<0.20	----	----	----	----	----	----	----
Total Sulfides											
Sulfide, total (as S)	18496-25-8	E395/VA	mg/L	<0.0015	----	----	----	----	----	----	----
Sulfide, total (as H2S)	7783-06-4	E395/VA	mg/L	<0.0016	----	----	----	----	----	----	----
Taxonomy											
Blue-green algae cell count, total	----	E921A/WP	cells/mL	<1 ^{RRR}	----	----	----	----	----	----	----
Total Metals											
Aluminum, total	7429-90-5	E420/CG	mg/L	0.0398	----	----	----	----	----	----	----
Antimony, total	7440-36-0	E420/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Arsenic, total	7440-38-2	E420/CG	mg/L	0.00010	----	----	----	----	----	----	----
Barium, total	7440-39-3	E420/CG	mg/L	0.102	----	----	----	----	----	----	----
Boron, total	7440-42-8	E420/CG	mg/L	<0.010	----	----	----	----	----	----	----
Cadmium, total	7440-43-9	E420/CG	µg/L	<0.0050	----	----	----	----	----	----	----
Calcium, total	7440-70-2	E420/CG	mg/L	58.4	----	----	----	----	----	----	----
Chromium, total	7440-47-3	E420/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Copper, total	7440-50-8	E420/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Iron, total	7439-89-6	E420/CG	mg/L	<0.010	----	----	----	----	----	----	----
Lead, total	7439-92-1	E420/CG	mg/L	<0.000050	----	----	----	----	----	----	----
Magnesium, total	7439-95-4	E420/CG	mg/L	14.7	----	----	----	----	----	----	----
Manganese, total	7439-96-5	E420/CG	mg/L	0.00065	----	----	----	----	----	----	----
Mercury, total	7439-97-6	E508/CG	µg/L	<0.0050	----	----	----	----	----	----	----
Selenium, total	7782-49-2	E420/CG	mg/L	0.000510	----	----	----	----	----	----	----
Silver, total	7440-22-4	E420/CG	mg/L	<0.000010	----	----	----	----	----	----	----
Sodium, total	7440-23-5	E420/CG	mg/L	7.32	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Total Metals											
Strontium, total	7440-24-6	E420/CG	mg/L	0.278	----	----	----	----	----	----	----
Uranium, total	7440-61-1	E420/CG	mg/L	0.000189	----	----	----	----	----	----	----
Zinc, total	7440-66-6	E420/CG	mg/L	<0.0030	----	----	----	----	----	----	----
Dissolved Metals											
Aluminum, dissolved	7429-90-5	E421/CG	mg/L	0.0377	----	----	----	----	----	----	----
Antimony, dissolved	7440-36-0	E421/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/CG	mg/L	0.00010	----	----	----	----	----	----	----
Barium, dissolved	7440-39-3	E421/CG	mg/L	0.112	----	----	----	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/CG	mg/L	<0.000020	----	----	----	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/CG	mg/L	<0.000050	----	----	----	----	----	----	----
Boron, dissolved	7440-42-8	E421/CG	mg/L	<0.010	----	----	----	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/CG	µg/L	0.0055 ^{RRV}	----	----	----	----	----	----	----
Calcium, dissolved	7440-70-2	E421/CG	mg/L	57.1	----	----	----	----	----	----	----
Cesium, dissolved	7440-46-2	E421/CG	mg/L	<0.000010	----	----	----	----	----	----	----
Chromium, dissolved	7440-47-3	E421/CG	mg/L	<0.000050	----	----	----	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Copper, dissolved	7440-50-8	E421/CG	mg/L	0.00022	----	----	----	----	----	----	----
Iron, dissolved	7439-89-6	E421/CG	mg/L	<0.010	----	----	----	----	----	----	----
Lead, dissolved	7439-92-1	E421/CG	mg/L	<0.000050	----	----	----	----	----	----	----
Lithium, dissolved	7439-93-2	E421/CG	mg/L	0.0051	----	----	----	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/CG	mg/L	15.0	----	----	----	----	----	----	----
Manganese, dissolved	7439-96-5	E421/CG	mg/L	0.00056	----	----	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/CG	mg/L	0.000790	----	----	----	----	----	----	----
Nickel, dissolved	7440-02-0	E421/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/CG	mg/L	<0.050	----	----	----	----	----	----	----
Potassium, dissolved	7440-09-7	E421/CG	mg/L	0.658	----	----	----	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/CG	mg/L	0.00030	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Dissolved Metals											
Selenium, dissolved	7782-49-2	E421/CG	mg/L	0.000533	----	----	----	----	----	----	----
Silicon, dissolved	7440-21-3	E421/CG	mg/L	1.76	----	----	----	----	----	----	----
Silver, dissolved	7440-22-4	E421/CG	mg/L	<0.000010	----	----	----	----	----	----	----
Sodium, dissolved	7440-23-5	E421/CG	mg/L	7.38	----	----	----	----	----	----	----
Strontium, dissolved	7440-24-6	E421/CG	mg/L	0.283	----	----	----	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/CG	mg/L	14.8	----	----	----	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/CG	mg/L	<0.00020	----	----	----	----	----	----	----
Thallium, dissolved	7440-28-0	E421/CG	mg/L	<0.000010	----	----	----	----	----	----	----
Thorium, dissolved	7440-29-1	E421/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Tin, dissolved	7440-31-5	E421/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Titanium, dissolved	7440-32-6	E421/CG	mg/L	<0.00030	----	----	----	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/CG	mg/L	<0.00010	----	----	----	----	----	----	----
Uranium, dissolved	7440-61-1	E421/CG	mg/L	0.000185	----	----	----	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/CG	mg/L	0.0028 ^{RRV}	----	----	----	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/CG	mg/L	<0.00030	----	----	----	----	----	----	----
Dissolved metals filtration location	----	EP421/CG	-	Laboratory	----	----	----	----	----	----	----
Aggregate Organics											
Nitritotriacetic acid [NTA]	139-13-9	E394/WT	mg/L	<0.40	----	----	----	----	----	----	----
Volatile Organic Compounds											
Benzene	71-43-2	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Carbon tetrachloride	56-23-5	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Chlorobenzene	108-90-7	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Volatile Organic Compounds											
Dichloroethylene, 1,1-	75-35-4	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Dichloromethane	75-09-2	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Dioxane, 1,4-	123-91-1	E611I/CG	mg/L	<0.020	----	----	----	----	----	----	----
Ethylbenzene	100-41-4	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Toluene	108-88-3	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Trichloroethylene	79-01-6	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Vinyl chloride	75-01-4	E611E/CG	mg/L	<0.0010	----	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611E/CG	mg/L	<0.00040	----	----	----	----	----	----	----
Xylene, o-	95-47-6	E611E/CG	mg/L	<0.00030	----	----	----	----	----	----	----
Xylenes, total	1330-20-7	E611E/CG	mg/L	<0.00050	----	----	----	----	----	----	----
Trihalomethanes [THMs], total	----	E611E/CG	mg/L	0.0066	----	----	----	----	----	----	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611I/CG	%	80.2	----	----	----	----	----	----	----
Bromofluorobenzene, 4-	460-00-4	E611E/CG	%	80.2	----	----	----	----	----	----	----
Diffuorobenzene, 1,4-	540-36-3	E611I/CG	%	106	----	----	----	----	----	----	----
Diffuorobenzene, 1,4-	540-36-3	E611E/CG	%	106	----	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons											
Benzo(a)pyrene	50-32-8	E641A/CG	µg/L	<0.0050	----	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates											
Chrysene-d12	1719-03-5	E641A/CG	%	116	----	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/CG	%	117	----	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/CG	%	117	----	----	----	----	----	----	----
Disinfectant By-Products											
Bromate	15541-45-4	E722A/WT	mg/L	<0.00030	----	----	----	----	----	----	----
Chlorate	14866-68-3	E409.CLO3/WT	mg/L	<0.010	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Haloacetic Acids											
Dibromoacetic acid	631-64-1	E750/WT	mg/L	<0.00100	----	----	----	----	----	----	----
Dichloroacetic acid	79-43-6	E750/WT	mg/L	0.00346	----	----	----	----	----	----	----
Monobromoacetic acid	79-08-3	E750/WT	mg/L	<0.00100	----	----	----	----	----	----	----
Monochloroacetic acid	79-11-8	E750/WT	mg/L	<0.00100	----	----	----	----	----	----	----
Trichloroacetic acid	76-03-9	E750/WT	mg/L	0.00358	----	----	----	----	----	----	----
Haloacetic acids, total [HAA5]	n/a	E750/WT	mg/L	0.00704	----	----	----	----	----	----	----
Per- and Perfluoroalkyl Substances (PFAS)											
Perfluorooctanesulfonic acid [PFOS]	1763-23-1	E745B/WT	mg/L	<0.000010	----	----	----	----	----	----	----
Perfluorooctanoic acid [PFOA]	335-67-1	E745B/WT	mg/L	<0.000010	----	----	----	----	----	----	----
Per- and Perfluoroalkyl Substances (PFAS) Surrogates											
Perfluorooctanesulfonic acid [13C8-PFOS]	265893-05-6	E745B/WT	%	84.0	----	----	----	----	----	----	----
Chlorinated Phenolics											
Dichlorophenol, 2,4-	120-83-2	E651C/WT	mg/L	<0.00020	----	----	----	----	----	----	----
Pentachlorophenol [PCP]	87-86-5	E651C/WT	mg/L	<0.00050	----	----	----	----	----	----	----
Tetrachlorophenol, 2,3,4,6-	58-90-2	E651C/WT	mg/L	<0.00050	----	----	----	----	----	----	----
Trichlorophenol, 2,4,5-	95-95-4	E651C/WT	mg/L	<0.00050	----	----	----	----	----	----	----
Trichlorophenol, 2,4,6-	88-06-2	E651C/WT	mg/L	<0.00050	----	----	----	----	----	----	----
Phenolics Surrogates											
Tribromophenol, 2,4,6-	118-79-6	E651C/WT	%	90.0	----	----	----	----	----	----	----
Organochlorine Pesticides											
Chlordane, cis- (alpha)	5103-71-9	E660F/WT	µg/L	<0.0080	----	----	----	----	----	----	----
Chlordane, total	57-74-9	E660F/WT	µg/L	<0.011	----	----	----	----	----	----	----
Chlordane, trans- (gamma)	5103-74-2	E660F/WT	µg/L	<0.0080	----	----	----	----	----	----	----
DDD, 2,4'-	53-19-0	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDD, 4,4'-	72-54-8	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDD, total	----	E660F/WT	µg/L	<0.0060	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Organochlorine Pesticides											
DDE, 2,4'-	3424-82-6	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDE, 4,4'-	72-55-9	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDE, total	----	E660F/WT	µg/L	<0.0060	----	----	----	----	----	----	----
DDT, 2,4'-	789-02-6	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDT, 4,4'-	50-29-3	E660F/WT	µg/L	<0.0040	----	----	----	----	----	----	----
DDT, total	----	E660F/WT	µg/L	<0.0060	----	----	----	----	----	----	----
Methoxychlor	72-43-5	E660F/WT	µg/L	<0.0080	----	----	----	----	----	----	----
Oxychlorane	27304-13-8	E660F/WT	µg/L	<0.0080	----	----	----	----	----	----	----
DDT + metabolites, total	----	E660F/WT	mg/L	<0.000010	----	----	----	----	----	----	----
Organochlorine Pesticides Surrogates											
Decachlorobiphenyl	2051-24-3	E660F/WT	%	106	----	----	----	----	----	----	----
Tetrachloro-m-xylene	877-09-8	E660F/WT	%	113	----	----	----	----	----	----	----
Herbicides											
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	E706A/WT	mg/L	<0.000050	----	----	----	----	----	----	----
Alachlor	15972-60-8	E755/WT	mg/L	<0.000500 ^{DLI, PNS}	----	----	----	----	----	----	----
Ametryn	834-12-8	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Atrazine	1912-24-9	E755/WT	mg/L	<0.000050 ^{PNS}	----	----	----	----	----	----	----
Atrazine + N-dealkylated metabolites	----	E755/WT	mg/L	<0.00010 ^{PNS}	----	----	----	----	----	----	----
Atrazine-desethyl	6190-65-4	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Bromoxynil	1689-84-5	E706A/WT	mg/L	<0.000050	----	----	----	----	----	----	----
Cyanazine	21725-46-2	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Dicamba	1918-00-9	E706A/WT	mg/L	<0.00010	----	----	----	----	----	----	----
Dichlorophenoxyacetic acid, 2,4- [2,4-D]	94-75-7	E706A/WT	mg/L	<0.000050	----	----	----	----	----	----	----
Diclofop-methyl	51338-27-3	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Dinoseb	88-85-7	E706A/WT	mg/L	<0.000050	----	----	----	----	----	----	----
Diquat (ion)	2764-72-9	E723A/WT	mg/L	<0.0010	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Herbicides											
Diuron	330-54-1	E755/WT	mg/L	<0.000050 ^{PNS}	----	----	----	----	----	----	----
Glyphosate	1071-83-6	E716A/WT	mg/L	<0.00020	----	----	----	----	----	----	----
Metolachlor	51218-45-2	E755/WT	µg/L	<0.250 ^{DLI, PNS}	----	----	----	----	----	----	----
Metribuzin	21087-64-9	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Paraquat (as dichloride)	1910-42-5	E723A/WT	mg/L	<0.0010	----	----	----	----	----	----	----
Picloram	1918-02-1	E706A/WT	mg/L	<0.00010	----	----	----	----	----	----	----
Prometon	1610-18-0	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Prometryn	7287-19-6	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Propazine	139-40-2	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Simazine	122-34-9	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Terbutryn	886-50-0	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Triallate	2303-17-5	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Trifluralin	1582-09-8	E756/WT	mg/L	<0.00010 ^{PNS}	----	----	----	----	----	----	----
Herbicides Surrogates											
Dichlorophenylacetic acid, 2,4-	19719-28-9	E706A/WT	%	96.5	----	----	----	----	----	----	----
Insecticides											
Aldicarb	116-06-3	E755/WT	mg/L	<0.000100 ^{PNS}	----	----	----	----	----	----	----
Azinphos-methyl	86-50-0	E755/WT	mg/L	<0.00100 ^{DLI, PNS}	----	----	----	----	----	----	----
Bendiocarb	22781-23-3	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Carbaryl	63-25-2	E755/WT	mg/L	<0.000050 ^{PNS}	----	----	----	----	----	----	----
Carbofuran	1563-66-2	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Diazinon	333-41-5	E755/WT	µg/L	<0.250 ^{DLI, PNS}	----	----	----	----	----	----	----
Dimethoate	60-51-5	E755/WT	mg/L	<0.000050 ^{PNS}	----	----	----	----	----	----	----
Malathion	121-75-5	E755/WT	µg/L	<0.0250 ^{PNS}	----	----	----	----	----	----	----
Omethoate	1113-02-6	E755/WT	mg/L	<0.000050 ^{PNS}	----	----	----	----	----	----	----
Parathion	56-38-2	E756/WT	mg/L	<0.00010 ^{PNS}	----	----	----	----	----	----	----



Analytical Results Evaluation

Matrix: Water				Client sample ID	Treated Water Entering the Distribution System	----	----	----	----	----	----
				Sampling date/time	10-Jan-2024 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	GP2400042-001	-----	-----	-----	-----	-----	-----	-----
Insecticides											
Parathion-methyl	298-00-0	E756/WT	mg/L	<0.00010 ^{PNS}	----	----	----	----	----	----	----
Phorate	298-02-2	E755/WT	mg/L	<0.000250 ^{PNS}	----	----	----	----	----	----	----
Temephos	3383-96-8	E755/WT	mg/L	<0.00250 ^{DLI, PNS}	----	----	----	----	----	----	----
Terbufos	13071-79-9	E755/WT	mg/L	<0.00050 ^{PNS}	----	----	----	----	----	----	----
Omethoate (as dimethoate)	n/a	E755/WT	mg/L	<0.00016 ^{PNS}	----	----	----	----	----	----	----
Nitrosamines											
Nitrosodimethylamine, N- [NDMA]	62-75-9	E725AWT	µg/L	<0.034	----	----	----	----	----	----	----
Nitrosamines Surrogates											
Nitrosodimethylamine-d6, N-	17829-05-9	E725AWT	%	99.9	----	----	----	----	----	----	----
Organic Parameters											
Microcystin	101043-37-2	E576/WP	µg/L	<0.20	----	----	----	----	----	----	----
Radiological Parameters											
Cesium-137	----	I131+Cs137/2I	Bq/L	See Attached	----	----	----	----	----	----	----
Iodine-131	----	I131+Cs137/2I	Bq/L	See Attached	----	----	----	----	----	----	----
Lead-210	14255-04-0	Pb-210/2I	Bq/L	See Attached	----	----	----	----	----	----	----
Radium-226	13982-63-3	Ra-226/2I	Bq/L	See Attached	----	----	----	----	----	----	----
Strontium-90	----	Sr90/2I	Bq/L	See Attached	----	----	----	----	----	----	----
Tritium	10028-17-8	TRITIUM/2I	Bq/L	See Attached	----	----	----	----	----	----	----

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

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



Summary of Guideline Limits

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC					
Physical Tests									
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	mg/L	--	--					
Alkalinity, carbonate (as CO ₃)	3812-32-6	mg/L	--	--					
Alkalinity, hydroxide (as OH)	14280-30-9	mg/L	--	--					
Alkalinity, total (as CaCO ₃)	----	mg/L	--	--					
Colour, true	----	CU	15 CU	--					
Conductivity	----	µS/cm	--	--					
Hardness (as CaCO ₃), from total Ca/Mg	----	mg/L	--	--					
pH	----	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 SO ₄)	14808-79-8	mg/L	500 mg/L	--					
Cyanides									
Cyanide, strong acid dissociable (Total)	----	mg/L	--	--					
Organic / Inorganic Carbon									
Carbon, total organic [TOC]	----	mg/L	--	--					
Inorganics									
Chloramines, total (as Cl ₂)	----	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 H ₂ S)	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	mg/L	--	2.9 mg/L					
Antimony, total	7440-36-0	mg/L	--	0.006 mg/L					
Arsenic, total	7440-38-2	mg/L	--	0.01 mg/L					



Analyte	CAS Number	Unit	CDWG AO	CDWG MAC					
Total Metals - Continued									
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	µg/L	--	7 µg/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	--	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	µg/L	--	7 µg/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	--	--					
Nickel, dissolved	7440-02-0	mg/L	--	--					



Analyte	CAS Number	Unit	CDWG AO	CDWG MAC					
Dissolved Metals - Continued									
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									
Nitritotriacetic 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	--	--					
Xylene, o-	95-47-6	mg/L	--	--					



Analyte	CAS Number	Unit	CDWG AO	CDWG MAC					
Volatile Organic Compounds - Continued									
Xylenes, total	1330-20-7	mg/L	0.02 mg/L	0.09 mg/L					
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	%	--	--					
Difluorobenzene, 1,4-	540-36-3	%	--	--					
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene	50-32-8	µg/L	--	0.04 µg/L					
Chrysene-d12	1719-03-5	%	--	--					
Naphthalene-d8	1146-65-2	%	--	--					
Phenanthrene-d10	1517-22-2	%	--	--					
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]	n/a	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	--	--					
Per- and 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					
Perfluorooctanesulfonic acid [13C8-PFOS]	2265893-05-6	%	--	--					
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					
Tribromophenol, 2,4,6-	118-79-6	%	--	--					
Organochlorine Pesticides									
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	--	--					



Analyte	CAS Number	Unit	CDWG AO	CDWG MAC					
Organochlorine Pesticides - Continued									
DDE, 4,4'-	72-55-9	µg/L	--	--					
DDE, total	----	µg/L	--	--					
DDT + metabolites, total	----	mg/L	--	--					
DDT, 2,4'-	789-02-6	µg/L	--	--					
DDT, 4,4'-	50-29-3	µg/L	--	--					
DDT, total	----	µg/L	--	--					
Methoxychlor	72-43-5	µg/L	--	--					
Oxychlorane	27304-13-8	µg/L	--	--					
Decachlorobiphenyl	2051-24-3	%	--	--					
Tetrachloro-m-xylene	877-09-8	%	--	--					
Herbicides									
Acetic acid, 2-methyl-4-chlorophenoxy- [MCPA]	94-74-6	mg/L	--	0.35 mg/L					
Alachlor	15972-60-8	mg/L	--	--					
Ametryn	834-12-8	µg/L	--	--					
Atrazine + N-dealkylated metabolites	----	mg/L	--	0.005 mg/L					
Atrazine	1912-24-9	mg/L	--	--					
Atrazine-desethyl	6190-65-4	µg/L	--	--					
Bromoxynil	1689-84-5	mg/L	--	0.03 mg/L					
Cyanazine	21725-46-2	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					
Diclofop-methyl	51338-27-3	mg/L	--	--					
Dinoseb	88-85-7	mg/L	--	--					
Diquat (ion)	2764-72-9	mg/L	--	0.07 mg/L					
Diuron	330-54-1	mg/L	--	--					
Glyphosate	1071-83-6	mg/L	--	0.28 mg/L					
Metolachlor	51218-45-2	µg/L	--	--					
Metribuzin	21087-64-9	mg/L	--	0.08 mg/L					
Paraquat (as dichloride)	1910-42-5	mg/L	--	--					
Picloram	1918-02-1	mg/L	--	--					
Prometon	1610-18-0	µg/L	--	--					
Prometryn	7287-19-6	µg/L	--	--					
Propazine	139-40-2	µg/L	--	--					
Simazine	122-34-9	mg/L	--	--					
Terbutryn	886-50-0	µg/L	--	--					
Triallate	2303-17-5	mg/L	--	--					
Trifluralin	1582-09-8	mg/L	--	--					
Dichlorophenylacetic acid, 2,4-	19719-28-9	%	--	--					
Insecticides									

