

Drinking Water Analysis SUMMARY 2024

Drinking Water Analysis Summary for all Plants and Distribution for January 1 to December 31, 2024

Parameters	Units	Aesthetic Objective/Operational Guideline	Maximum Acceptable Concentration/Interim Maximum Acceptable Concentration	Sampling Date	Number of Samples	Reporting Limit	Number of Detectable Results	Maximum	Minimum	Average
Microbiological Parameter										
<i>E. coli</i> - Presence/Absence			A	1/01 - 12/31	12070		1	Present	Absent	99.99 % Absent
Ecoli - membrane filtration	CFU/100mL			1/01 - 12/31	282		12	6	0	0.1
Heterotrophic Plate Count	CFU/mL			1/01 - 12/31	12032		1268	5700	0	5
<i>Total Coliform</i> - Presence/Absence			A	1/01 - 12/31	12070		52	Present	Absent	99.57 % Absent
Total Coliform - membrane filtration	CFU/100mL			1/01 - 12/31	282		32	15	0	0.3
Microcystin	µg/L		1.5	1/01 - 12/31	95	0.10	0	0	0	0
Operational Parameters										
Aluminum	mg/L	0.1		1/01 - 12/31	272	0.01	268	0.41	0	0.03
Fluoride	mg/L		1.5	1/01 - 12/31	1589	0.10	1589	0.81	0.20	0.66
Total Chlorine residual (Chloramines)	mg/L		3.0	1/01 - 12/31	6510	0.1	6510	2.5	0.39	1.7
Turbidity (Distribution only)	NTU	5		1/01 - 12/31	6454	0.1	6454	4.7	0.09	0.3
General Chemical and Physical Parameters										
Alkalinity	mg/L	30-500		1/01 - 12/31	134	5.0	134	96.4	84.6	90.9
Colour	T.C.U.	5		1/01 - 12/31	15		15	1	1	1
Conductivity	µmhos/cm			1/01 - 12/31	119	1.5	119	353	308	321
Hardness (as CaCO ₃ - calculated)	mg/L	80-100		1/01 - 12/31	111	1	111	131	116	121
pH		6.5-8.5		1/01 - 12/31	1006		1006	7.8	7.3	7.5
TOC	mg/L	5		1/01 - 12/31	47	1.0	47	2.2	1.5	1.8
Dissolved Solids (calculated)	mg/L	500		1/01 - 12/31	119	3.25	119	229	200	209
Inorganic Parameters										
Antimony	mg/L		0.006	1/01 - 12/31	26	0.0005	0	0	0	0
Arsenic	mg/L		0.01	1/01 - 12/31	26	0.00005	26	0.0010	0.00044	0.00073
Barium	mg/L		1.0	1/01 - 12/31	26	0.0005	26	0.0248	0.0188	0.0216
Beryllium	mg/L			1/01 - 12/31	26	0.00005	0	0	0	0
Boron	mg/L		5.0	1/01 - 12/31	26	0.005	26	0.024	0.020	0.022
Bromide	mg/L			1/01 - 12/31	107	0.1	0	0	0	0
Cadmium	mg/L		0.005	1/01 - 12/31	26	0.00001	0	0	0	0
Caesium	mg/L			1/01 - 12/31	26	0.00001	0	0	0	0
Calcium	mg/L			1/01 - 12/31	107	0.2	107	36.7	32.2	33.9
Chloride	mg/L	250		1/01 - 12/31	107	0.2	107	35.5	25.1	28.0

Parameters	Units	Aesthetic Objective/ Operational Guideline	Maximum Acceptable Concentration/Interim Maximum Acceptable Concentration	Sampling Date	Number of Samples	Reporting Limit	Number of Detectable Results	Maximum	Minimum	Average
Chromium	mg/L		0.05	1/01 - 12/31	26	0.0002	21	0.0004	0	0.0003
Cobalt	mg/L			1/01 - 12/31	26	0.00001	1	0.00002	0	0.0000004
Copper	mg/L	1		1/01 - 12/31	213	0.0008	211	0.12	0	0.0058
Cyanide (Free)	mg/L		0.2	1/01 - 12/31	16	0.003	0	0	0	0
Iron	mg/L	0.3		1/01 - 12/31	229	0.01	182	1.4	0	0.07
Lead	mg/L		0.010	1/01 - 12/31	201	0.00005	122	0.0086	0	0.00032
Magnesium	mg/L			1/01 - 12/31	107	0.1	107	9.5	8.4	8.7
Manganese	mg/L	0.05		1/01 - 12/31	26	0.0005	8	0.027	0	0.0014
Mercury	mg/L		0.001	1/01 - 12/31	16	0.00005	0	0	0	0
Molybdenum	mg/L			1/01 - 12/31	26	0.00003	26	0.0012	0.0010	0.0011
Nickel	mg/L			1/01 - 12/31	26	0.0002	26	0.0007	0.0003	0.0004
Nitrate	mg/L		10.0	1/01 - 12/31	107	0.01	107	0.58	0.21	0.37
Nitrite	mg/L		1.0	1/01 - 12/31	107	0.002	45	0.006	0	0.0013
Orthophosphate	mg/L			1/01 - 12/31	1651	0.50	1651	3.1	0.79	1.5
Potassium	mg/L			1/01 - 12/31	107	0.05	107	1.80	1.50	1.60
Selenium	mg/L		0.05	1/01 - 12/31	26	0.0005	2	0.0006	0	0.00004
Silver	mg/L			1/01 - 12/31	26	0.00001	7	0.00060	0	0.000056
Sodium	mg/L	200		1/01 - 12/31	158	0.4	158	20.2	13.0	14.7
Strontium	mg/L			1/01 - 12/31	26	0.003	26	0.185	0.162	0.173
Sulphate	mg/L	500		1/01 - 12/31	107	0.2	107	28.6	22.7	25.6
Terbium	mg/L			1/01 - 12/31	26	0.00005	0	0	0	0
Thallium	mg/L			1/01 - 12/31	26	0.00005	0	0	0	0
Tin	mg/L			1/01 - 12/31	26	0.0005	0	0	0	0
Titanium	mg/L			1/01 - 12/31	26	0.0002	26	0.0008	0.0005	0.0007
Tungsten	mg/L			1/01 - 12/31	26	0.00005	25	0.00015	0	0.00009
Uranium	mg/L		0.02	1/01 - 12/31	26	0.00005	26	0.00035	0.00021	0.00073
Vanadium	mg/L			1/01 - 12/31	26	0.00005	26	0.00030	0.00014	0.00023
Zinc	mg/L	5		1/01 - 12/31	26	0.01	0	0	0	0
Disinfection Byproducts- Trihalomethanes										
Bromodichloromethane	µg/L			1/01 - 12/31	65	0.2	65	6.5	1.5	3.1
Bromoform	µg/L			1/01 - 12/31	65	0.2	23	0.8	0	0.1
Chloroform	µg/L			1/01 - 12/31	65	0.2	65	13.0	1.5	4.0
Dibromochloromethane	µg/L			1/01 - 12/31	65	0.2	65	4.1	1.1	2.3
THM (total)	µg/L		100	1/01 - 12/31	65	0.2	65	23.8	5.0	7.8
THM (total - end of line)	µg/L		100	1/01 - 12/31	11	0.2	11	23.8	7.1	12.1
Disinfection Byproducts- Haloacetic acids										
Bromoacetic acid	µg/L			1/01 - 12/31	65	2.0	0	0	0	0
Bromochloroacetic acid	µg/L			1/01 - 12/31	65	1.2	41	4.3	0	1.2
Chloroacetic acid	µg/L			1/01 - 12/31	65	2.0	3	3.2	0	0.1
Dibromoacetic acid	µg/L			1/01 - 12/31	65	2.0	0	0	0	0
Dichloroacetic acid	µg/L			1/01 - 12/31	65	1.0	62	6.7	0	1.9
Trichloroacetic acid	µg/L			1/01 - 12/31	65	0.8	58	4.1	0	1.6
HAA-5 (total)	µg/L		80	1/01 - 12/31	65	2.0	53	14.0	0	3.3

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Disinfection Byproducts- Other										
1,1,1-Trichloro-2-propanone	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
1,1-Dichloro-2-propanone	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Bromate	mg/L		0.01	1/01 - 12/31	24	0.003	14	0.005	0	0.0008
Bromochloroacetonitrile	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Chloropicrin	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Dibromoacetonitrile	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Dichloroacetonitrile	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Trichloroacetonitrile	µg/L			1/01 - 12/31	16	0.50	0	0	0	0
Organic Parameters										
1,1,1-Trichloroethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,1,2,2-Tetrachloroethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,1,2-Trichloroethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,1-Dichloroethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,1-Dichloroethylene	µg/L		14	1/01 - 12/31	65	0.2	0	0	0	0
1,2-Dibromoethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,2-Dichlorobenzene	µg/L	3	200	1/01 - 12/31	65	0.2	0	0	0	0
1,2-Dichloroethane	µg/L		5	1/01 - 12/31	65	0.2	0	0	0	0
1,2-Dichloropropane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,3-Dichlorobenzene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
1,4-Dichlorobenzene	µg/L	1	5	1/01 - 12/31	65	0.2	0	0	0	0
2,3,4,6-Tetrachloroanisole	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2,3,4,6-Tetrachlorophenol	µg/L	1	100	1/01 - 12/31	12	1.0	0	0	0	0
2,3,6-Trichloroanisole	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2,4,6-Trichlorophenol	µg/L	2	5	1/01 - 12/31	12	0.5	0	0	0	0
2,4,6-Trichloroanisole	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2,4-Dichloroanisole	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2,4-Dichlorophenol	µg/L	0.3	900	1/01 - 12/31	12	0.5	0	0	0	0
2-Isobutyl-3-methoxypyrazine	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2-Isopropyl-3-methoxypyrazine	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
2-Methylisoborneol(MIB)	µg/L			1/01 - 12/31	63	0.003	0	0	0	0
Benzene	µg/L		1	1/01 - 12/31	65	0.1	0	0	0	0
Benzo(a)pyrene	µg/L		0.01	1/01 - 12/31	16	0.01	0	0	0	0
Bromomethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Carbon Tetrachloride	µg/L		2	1/01 - 12/31	65	0.2	0	0	0	0
Chlorobenzene	µg/L	30	80	1/01 - 12/31	65	0.2	0	0	0	0
Chloroethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Chloromethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
cis-1,2-Dichloroethylene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
cis-1,3-Dichloropropylene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Dichlorodifluoromethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Dichloromethane(Methylene Chloride)	µg/L		50	1/01 - 12/31	65	0.3	6	4.9	0	0.30
Ethylbenzene	µg/L	2.4	140	1/01 - 12/31	65	0.2	0	0	0	0
Geosmin	µg/L			1/01 - 12/31	63	0.003	4	6.1	0	0.3
m- & p-Xylene	µg/L			1/01 - 12/31	65	0.3	0	0	0	0

Parameters	Units	Aesthetic Objective/ Operational Guideline	Maximum Acceptable Concentration/Interim Maximum Acceptable Concentration	Sampling Date	Number of Samples	Reporting Limit	Number of Detectable Results	Maximum	Minimum	Average
NDMA	µg/L		0.009	1/01 - 12/31	12	0.0009	3	0.002	0	0.0004
o-Xylene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Pentachlorophenol	µg/L	30	60	1/01 - 12/31	12	0.5	0	0	0	0
Styrene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Tetrachloroethylene	µg/L		10	1/01 - 12/31	65	0.2	0	0	0	0
Toluene	µg/L	24	60	1/01 - 12/31	65	0.2	0	0	0	0
trans-1,2-Dichloroethylene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
trans-1,3-Dichloropropylene	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Trichloroethylene	µg/L		5	1/01 - 12/31	65	0.2	0	0	0	0
Trichlorofluoromethane	µg/L			1/01 - 12/31	65	0.2	0	0	0	0
Vinyl Chloride	µg/L		1	1/01 - 12/31	65	0.1	0	0	0	0
Xylenes (total) calculated	µg/L	300	90	1/01 - 12/31	65	0.3	0	0	0	0
Pesticides										
2,4-D	µg/L		100	1/01 - 12/31	12	0.028	0	0	0	0
Alachlor	µg/L		5	1/01 - 12/31	12	0.0005	0	0	0	0
Atrazine	µg/L			1/01 - 12/31	12	0.0005	12	0.046	0.030	0.041
Atrazine + N-dealkylated metabolites	µg/L		5	1/01 - 12/31	12	0.0025	12	0.094	0.070	0.085
Azinphos Methyl (Guthion)	µg/L		20	1/01 - 12/31	12	0.001	0	0	0	0
Bromoxynil	µg/L		5	1/01 - 12/31	12	0.075	0	0	0	0
Caffeine	µg/L			1/01 - 12/31	4	0.020	0	0	0	0
Carbaryl	µg/L		90	1/01 - 12/31	11	0.0015	0	0	0	0
Carbofuran	µg/L		90	1/01 - 12/31	9	0.0025	0	0	0	0
Chlorpyrifos (Dursban)	µg/L		90	1/01 - 12/31	12	0.01	0	0	0	0
Des-ethyl atrazine	µg/L			1/01 - 12/31	12	0.0025	12	0.050	0.037	0.044
Diazinon	µg/L		20	1/01 - 12/31	12	0.0005	0	0	0	0
Dicamba	µg/L		120	1/01 - 12/31	12	0.2	0	0	0	0
Diclofop-methyl	µg/L		9	1/01 - 12/31	12	0.5	0	0	0	0
Dimethoate	µg/L		20	1/01 - 12/31	12	0.001	0	0	0	0
Diquat	µg/L		70	1/01 - 12/31	4	1.0	0	0	0	0
Diuron	µg/L		150	1/01 - 12/31	12	0.001	2	0.001	0	0.0002
Glyphosate	µg/L		280	1/01 - 12/31	4	25	0	0	0	0
Malathion	µg/L		190	1/01 - 12/31	12	0.001	0	0	0	0
MCPA (2-methyl-4-chlorophenoxyacetic acid)	µg/L		100	1/01 - 12/31	7	0.2	0	0	0	0
Metolachlor	µg/L		50	1/01 - 12/31	12	0.001	12	0.009	0.003	0.007
Metribuzin (Sencor)	µg/L		80	1/01 - 12/31	12	0.001	0	0	0	0
Paraquat	µg/L		10	1/01 - 12/31	4	1.0	0	0	0	0
PCBs	µg/L		3	1/01 - 12/31	16	0.3	0	0	0	0
Phorate	µg/L		2	1/01 - 12/31	12	0.01	0	0	0	0
Picloram	µg/L		190	1/01 - 12/31	12	0.3	1	0.3	0	0.03
Prometryne	µg/L		1	1/01 - 12/31	12	0.0005	0	0	0	0
Simazine	µg/L		10	1/01 - 12/31	12	0.001	12	0.004	0.002	0.003
Terbufos	µg/L		1	1/01 - 12/31	12	0.006	0	0	0	0
Triallate	µg/L		230	1/01 - 12/31	11	0.01	0	0	0	0
Trifluralin	µg/L		45	1/01 - 12/31	12	0.265	0	0	0	0

Parameters	Units	Aesthetic Objective/ Operational Guideline	Maximum Acceptable Concentration/Interim Maximum Acceptable Concentration	Sampling Date	Number of Samples	Reporting Limit	Number of Detectable Results	Maximum	Minimum	Average
Per and Polyfluoroalkyl substances (PFAS)										
n-Perfluorobutane sulfonic acid (PFBS)	µg/L			1/01 - 12/31	16	0.002	0	0	0	0
n-Perfluorohexane sulfonic acid (PFHxS)	µg/L			1/01 - 12/31	16	0.002	0	0	0	0
n-Perfluorooctane sulfonic acid (PFOS)	µg/L			1/01 - 12/31	16	0.002	0	0	0	0
n-Perfluorodecane sulfonic acid (PFDS)	µg/L			1/01 - 12/31	16	0.002	0	0	0	0
n-Perfluorooctane sulfonamide (PFOSA)	µg/L			1/01 - 12/31	12	0.002	0	0	0	0
n-Perfluorohexanoic acid (PFHxA)	µg/L			1/01 - 12/31	16	0.002	2	0.002	0	0.0003
n-perfluoroheptanoic acid (PFHpA)	µg/L			1/01 - 12/31	16	0.002	0	0	0	0
n-perfluorooctanoic acid (PFOA)	µg/L			1/01 - 12/31	16	0.002	1	0.004	0	0.0002
n-perfluorononanoic acid (PFNA)	µg/L			1/01 - 12/31	12	0.002	0	0	0	0
n-perfluorodecanoic acid (PFDA)	µg/L			1/01 - 12/31	12	0.002	0	0	0	0
n-perfluoroundecanoic acid (PFUnA)	µg/L			1/01 - 12/31	12	0.002	0	0	0	0
n-perfluorododecanoic acid (PFDoA)	µg/L			1/01 - 12/31	12	0.002	0	0	0	0

Notes:

- Microbiological Presence-Absence (P/A) samples include treated water samples from the Water Treatment Plants, Distribution samples, as well as samples collected after Water main repair work and Water Quality Inquiry
- Microbiological analysis for resamples and vicinities is conducted using the Membrane Filtration technique.
- Chlorine residual values are for the distribution system which is a chloraminated system.

Where standards are based on sums of components, the following calculations are used:

- Atrazine + N-dealkylated metabolites = Atrazine + Desethylatrazine
- HAA5 (total) = Bromoacetic acid + Chloroacetic acid + Dibromoacetic acid + Dichloroacetic acid + Trichloroacetic acid
- PCB total = Arochlor 1232 + 1242 + 1248 + 1254 + 1260 + 1262
- THM (total) = Bromodichloromethane + Bromoform + Chloroform + Dibromochloromethane
- Xylenes (total) = m- & p-Xylene + o-Xylene

All results below Reporting limit are recorded as zero in this summary

P/A	– Presence / Absence
mg/L	– milligrams per litre
µg/L	– micrograms per litre
TCU	– True Colour Unit
NTU	– Nephelometric Turbidity Unit
CFU	– Colony forming unit
µmhos/cm	– Micromhos per centimeter