

Louisville Water Treatment Plant

2018 Water Quality Parameters

All analysis is performed in accordance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) water quality standards

The following data shows the results of monitoring conducted during the period of January 1, 2018 to December 31, 2018 unless otherwise noted

Definitions

µg/l	Micrograms per liter (parts per billion)
ADMI	American Dye Manufacturers Institute
AL	Action Level. The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements
BDL	Below Detectable Limit
cm⁻¹	Light absorbance per centimeter
MCL	Maximum Contaminant Level. The highest level of a contaminant allowed in drinking water
mg/l	Milligrams per liter (parts per million)
MRDL	Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water
mrem/yr	Millirems per year. A measure of radiation absorbed by the body
N/A	Not Applicable
ND	Non-Detect (not detected)
NT	Not Tested; not required by state regulation, or contaminant exempted by using free chlorine disinfection
NTU	Nephelometric Turbidity Unit. A measure of the clarity or cloudiness of water
pCi/l	PicoCuries per liter. A measure of radioactivity in water
ppb	Parts per billion (µg/l)
ppm	Parts per million (mg/l)
ppq	Parts per quadrillion
ppt	Parts per trillion
SMCL	Secondary Maximum Contaminant Level. Non-mandatory water quality standard
TT	Treatment Technique. A required process intended to reduce the level of a contaminant in drinking

2018 Average Results

Chemical/Parameter	Result	MCL
Alkalinity	35.75 mg/l	N/A
Aluminum	0.012 mg/l	0.05 - 0.2 mg/l
Chlorine (Free)	1.70 mg/l	4.0 (MRDL)
Fluoride	0.569 mg/l	4.0 mg/l
Hardness (as CaCO ₃)	36.35 mg/l	N/A
Manganese	0.01 mg/l	0.05 mg/l (SMCL)
pH	8.48	6.5-8.5 (SMCL)
Silicate (SiO ₂)	8.6 mg/l	N/A
Temperature	13° C	N/A
Turbidity	0.04 NTU	1.0 NTU

Based on weekly in-house lab results

Microbiological Contaminants

Contaminant	Result	MCL	Sample Date
Total Coliform Bacteria	Absent	1 Positive/Month	Weekly
Fecal Coliform & <i>E. Coli</i>	Absent	Absent	Weekly

21 samples per month taken from the distribution system (252 samples/year)

Raw Water *Giardia* and *Cryptosporidium* Analysis

Contaminant	Result	MCL	Sample Date
<i>Giardia</i>	<0.0925	TT	Monthly
<i>Cryptosporidium</i>	<0.0925	TT	Monthly

Analysis performed on raw water (untreated water entering the plant)

Disinfection Byproducts (DBP)

Parameter	Result	MCL	Sample Date
Total Organic Carbon (TOC)	1.9 mg/l	TT	Quarterly
Trihalomethanes (TTHM)	46.1 ppb	80 ppb	Quarterly
Haloacetic Acids (HAA5)	21.6 ppb	60 ppb	Quarterly

Lead and Copper

Contaminant	90th Percentile Result	Action Level	Sample Date
Lead	0.0010 ppm	0.015 ppm	Jan – June 2018
Copper	0.0200 ppm	1.3 ppm	Jan – June 2018
Lead	0.0014 ppm	0.015 ppm	July – Aug 2018
Copper	0.0302 ppm	1.3 ppm	July – Aug 2018

Analysis performed on 60 samples collected at residences throughout the City

Monitoring performed every 6 Months

Radionuclides

Contaminant	Result	MCL	Sample Date
Radium 226	0.0 (±0.15)	5 pCi/l	9/21/17
Radium 228	0.3 (±0.75)	5 pCi/l	9/21/17
Combined Radium 226/228	BDL	5 pCi/l	9/21/17
Combined Uranium	BDL	30 ppb	9/21/17
Gross α-particle activity (excluding Radon & Uranium)	0.4 (±1.3) pCi/l	15 pCi/l	9/21/17
Gross β-particle & photon activity	NT	4 mrem/yr	9/21/17

Monitoring performed every 9 years

Regulated Inorganic Chemicals

Chemical	Average Result (mg/l)	MCL (mg/l)	Sample Date
Antimony	BDL	0.006	6/6/2018
Arsenic	BDL	0.01	6/6/2018
Barium	0.026	2	6/6/2018
Beryllium	BDL	0.004	6/6/2018
Cadmium	BDL	0.005	6/6/2018
Chromium	BDL	0.1	6/6/2018
Cyanide	NT	0.2	NT
Fluoride	0.74	4.0	6/6/2018
Mercury	BDL	0.002	6/6/2018
Nickel	BDL	Monitoring Only	6/6/2018
Nitrate (as nitrogen)	BDL	10	6/6/2018
Nitrite (as nitrogen)	NT	1.0	NT
Nitrate/Nitrite (combined)	NT	10.0	NT
Selenium	BDL	0.05	6/6/2018
Sodium	9.65	Monitoring Only	6/6/2018
Thallium	BDL	0.002	6/6/2018

Monitoring performed every 1 years

Regulated Volatile Organic Contaminants (VOC)

Chemical	Result	MCL	Sample Date
Benzene	<1 µg/l	5 ppb	6/6/2018
Bromate	NT	10 ppb	NT
Carbon tetrachloride	<1 µg/l	5 ppb	6/6/2018
Chloramines	NT	4 mg/l	NT
Chlorine	1.77 mg/l	4 mg/l (MRDL)	Daily
Chlorite	0.22 mg/l	1 mg/l	Quarterly
Chlorine dioxide	0.03 mg/l	0.8 mg/l (MRDL)	Daily
o-Dichlorobenzene	<1 µg/l	600 ppb	6/6/2018
1, 2-Dichloroethane	<1 µg/l	5 ppb	6/6/2018
1, 1-Dichloroethylene	<1 µg/l	7 ppb	6/6/2018
cis-1, 2-Dichloroethylene	<1 µg/l	70 ppb	6/6/2018
trans-1, 2-Dichloroethylene	<1 µg/l	100 ppb	6/6/2018
Dichloromethane	<1 µg/l	5 ppb	6/6/2018
1, 2-Dichloropropane	<1 µg/l	5 ppb	6/6/2018
Ethylbenzene	<1 µg/l	700 ppb	6/6/2018
Monochlorobenzene	<1 µg/l	100 ppb	6/6/2018
Paradichlorobenzene	<1 µg/l	75 ppb	6/6/2018
Styrene	<1 µg/l	100 ppb	6/6/2018
Tetrachloroethylene	<1 µg/l	5 ppb	6/6/2018
1, 2, 4-Trichlorobenzene	<1 µg/l	70 ppb	6/6/2018
1, 1, 1-Trichloroethane	<1 µg/l	200 ppb	6/6/2018
1, 1, 2-Trichloroethane	<1 µg/l	5 ppb	6/6/2018
Trichloroethylene	<1 µg/l	5 ppb	6/6/2018
Toluene	<1 µg/l	1 mg/l	6/6/2018
Vinyl chloride	<1 µg/l	2 ppb	6/6/2018
Xylenes	<1 µg/l	10 mg/l	6/6/2018

Monitoring performed every 1 years

Regulated Synthetic Organic Chemicals (SOC)

Chemical	Result	MCL	Sample Date
2, 4-D	BDL	70 ppb	8/10/2017 & 10/4/17
2, 4, 5-TP (Silvex)	BDL	50 ppb	8/10/2017 & 10/4/17
Alachlor	BDL	2.0 ppb	8/10/2017 & 10/4/17
Aldicarb	BDL	N/A	8/10/2017 & 10/4/17
Aldicarb sulfone	BDL	N/A	8/10/2017 & 10/4/17
Aldicarb sulfoxide	BDL	N/A	8/10/2017 & 10/4/17
Atrazine	BDL	3.0 ppb	8/10/2017 & 10/4/17
Benzo (a) pyrene (PAH)	BDL	0.2 ppb	8/10/2017 & 10/4/17
Carbofuran	BDL	40 ppb	8/10/2017 & 10/4/17
Chlordane	BDL	2 ppb	8/10/2017 & 10/4/17
Dalapon	BDL	200 ppb	8/10/2017 & 10/4/17
Di (2-ethylhexyl) adipate	BDL	400 ppb	8/10/2017 & 10/4/17
Di (2-ethylhexyl) phthalate	BDL	6 ppb	8/10/2017 & 10/4/17
Dibromochloropropane	BDL	0.2 ppb	8/10/2017 & 10/4/17
Dinoseb	BDL	7 ppb	8/10/2017 & 10/4/17
Diquat	BDL	20 ppb	8/10/2017 & 10/4/17
Dioxin (2, 3, 7, 8-TCDD)	NT	30 ppq	8/10/2017 & 10/4/17
Endothall	BDL	100 ppb	8/10/2017 & 10/4/17
Endrin	BDL	2 ppb	8/10/2017 & 10/4/17
Ethylene dibromide	BDL	50 ppt	8/10/2017 & 10/4/17
Glyphosphate	NT	700 ppb	8/10/2017 & 10/4/17
Heptachlor	BDL	400 ppt	8/10/2017 & 10/4/17
Heptachlor epoxide	BDL	200 ppt	8/10/2017 & 10/4/17
Hexachlorobenzene	BDL	1 ppb	8/10/2017 & 10/4/17
Hexachlorocyclopentadiene	BDL	50 ppb	8/10/2017 & 10/4/17
Lindane	BDL	200 ppt	8/10/2017 & 10/4/17
Methoxychlor	BDL	40 ppb	8/10/2017 & 10/4/17
Oxamyl (Vydate)	BDL	200 ppb	8/10/2017 & 10/4/17
PCBs (polychlorinated biphenyls)	BDL	500 ppt	8/10/2017 & 10/4/17
Pentachlorophenol	BDL	1 ppb	8/10/2017 & 10/4/17

Monitoring performed every 3 years

Unregulated Contaminants

In 2010, the City of Louisville was requested by the Environmental Protection Agency (EPA) to participate in the Unregulated Contaminant Monitoring Regulation phase 2. These contaminants were analyzed by various water treatment plants across the country to determine which future contaminants may become regulated. The following are the results of quarterly analysis for 2010 as requested by the EPA

Unregulated Contaminants

Contaminant	Result	Sample Date
Acetochlor	ND	Quarterly 2010
Acetochlor ESA	ND	Quarterly 2010
Acetochlor OA	ND	Quarterly 2010
Alachlor	ND	Quarterly 2010
Alachlor ESA	ND	Quarterly 2010
Alachlor OA	ND	Quarterly 2010
Dimethoate	ND	Quarterly 2010
1, 3-dinitrobenzene	ND	Quarterly 2010
2, 2', 4, 4', 5, 5'-hexabromobiphenyl	ND	Quarterly 2010
2, 2', 4, 4', 5, 5'-hexabromobiphenyl ether	ND	Quarterly 2010
Hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine	ND	Quarterly 2010
Metolachlor	ND	Quarterly 2010
Metolachlor ESA	ND	Quarterly 2010
Metolachlor OA	ND	Quarterly 2010
N-nitro-methylethylamine	ND	Quarterly 2010
N-nitrosodiethylamine	ND	Quarterly 2010
N-nitroso-dimethylamine	ND	Quarterly 2010
N-nitroso-di-n-butylamine	ND	Quarterly 2010
N-nitroso-di-n-propylamine	ND	Quarterly 2010
N-nitroso-pyrrolidine	ND	Quarterly 2010
2, 2', 4, 4', 5-pentabromodiphenyl ether	ND	Quarterly 2010
2, 2', 4, 4', 6-pentabromodiphenyl ether	ND	Quarterly 2010
Terbufos sulfone	ND	Quarterly 2010
2, 2', 4, 4'-tetrabromodiphenyl ether	ND	Quarterly 2010
2, 4, 6-trinitrotoluene	ND	Quarterly 2010

Unregulated Synthetic Organic Chemicals (SOC)

In 2012, the City of Louisville analyzed unregulated synthetic organic chemicals

Unregulated Synthetic Organic Chemicals (SOC)

Contaminant	Result	Sample Date
3-Hydroxycarbofuran	ND	5/15/2012 & 11/15/2012
Aldicarb	ND	5/15/2012 & 11/15/2012
Aldicarb sulfone	ND	5/15/2012 & 11/15/2012
Aldicarb sulfoxide	ND	5/15/2012 & 11/15/2012
Aldrin	ND	5/15/2012 & 11/15/2012
Butachlor	ND	5/15/2012 & 11/15/2012
Carbaryl	ND	5/15/2012 & 11/15/2012
Dicamba	ND	5/15/2012 & 11/15/2012
Dieldrin	ND	5/15/2012 & 11/15/2012
Methomyl	ND	5/15/2012 & 11/15/2012
Metolachlor	ND	5/15/2012 & 11/15/2012
Metribuzin	ND	5/15/2012 & 11/15/2012
Propachlor	ND	5/15/2012 & 11/15/2012