

2019 WATER QUALITY RESULTS

Water Treatment Plant Monitoring

Before water can be delivered to your home, it must first be analyzed by certified laboratories at Des Moines Water Works' Fleur Drive Treatment Plant and the State Hygienic Laboratory. Results for 2019 in this report include samples taken as water leaves Des Moines Water Works' three treatment plants and from samples obtained from the various water distribution systems supplied with water by Des Moines Water Works.

2019 LAB RESULTS	UNITS	MCL	MCLG	Fleur Drive Treatment Plant			L.D. McMullen Water Treatment Plant			Saylorville Water Treatment Plant			COMMON SOURCES OF CONTAMINANT	
				YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS		
WATER CLARITY														
Turbidity	NTU	TT	NA	2019	0.19	0.02-0.19	2019	0.84	0.02-0.84	2019	0.32	0.01-0.32	Soil runoff	
ORGANIC SUBSTANCES														
Atrazine	µg/L	3	3	2019	0.10	NA	2019	ND	NA	2017	ND	NA	Agrotoxin	
Cis-1,2 Dichloroethylene	µg/L	70	70	2019	0.80	ND-0.80	2019	ND	NA	2017	ND	NA	Discharge from industrial chemical factories	
INORGANIC SUBSTANCES														
Fluoride	mg/L	4	4	2019	0.84	0.14-0.84	2019	0.87	ND-0.87	2019	0.64	0.08-0.64	Additive for strong teeth; erosion of natural deposits; discharge from fertilizer factories Agrotoxin; leaching from septic tanks; sewage; erosion of natural deposits Erosion of natural deposits	
Nitrate [as N]	mg/L	10	10	2019	6.78	1.31-6.78	2019	6.75	1.29-6.75	2019	0.82	0.54-0.82		
Sodium	mg/L	NA	NA	2019	15.02	NA	2019	10.00	NA	2019	16.10	NA		
TREATMENT PLANT														
Total Organic Carbon	mg/L	TT	NA	2019	2.99	1	2019	2.41	1	2019	2.90	1	Naturally present in the environment	

DES MOINES WATER WORKS operates three Aquifer Storage and Recovery (ASR) wells and the CITY OF ANKENY operates two ASR wells. Treated drinking water is injected into wells during cold weather months, and recovered for use during warm-weather months to help limit the use of poor quality source water and meet customer demand. Testing data unique to this water can be seen on the chart below.

2019 LAB RESULTS	UNITS	MCL	MCLG	Louise P. Moon ASR Well ¹			L.D. McMullen ASR Well			Army Post Road ASR Well			Ankeny ASR Well 4			Ankeny ASR Well 6		
				YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS	YEAR TESTED	LEVEL FOUND	RANGE OF DETECTIONS
PARAMETER																		
Alpha Emitters	pCi/L	15	NA	2018	1.40	NA	2019	5.90	NA	2019	7.80	1.90-7.80	2019	5.80	NA	2017	8.30	NA
Arsenic	µg/L	10	NA	2019	ND	NA	2019	ND	NA	2019	2.00	1.00-2.00	2013	1.00	NA	2019	1.00	NA
Atrazine	µg/L	3	3	2019	0.10	NA	2019	ND	NA	2019	ND	NA	2017	ND	NA	2017	ND	NA
Combined Radium	pCi/L	5	0	2019	ND	NA	2019	1.20	NA	2019	1.40	ND-1.40	2013	ND	NA	2017	1.40	NA
Fluoride	mg/L	4	4	2019	1.46	0.61-1.46	2019	0.87	0.45-0.87	2019	1.62	0.86-1.62	2013	1.01	NA	2011	0.69	NA
Nitrate [as N]	mg/L	10	10	2019	4.67	2.88-4.67	2019	6.53	0.94-6.53	2019	3.62	2.39-3.62	2019	1.67	0.19-1.67	2019	1.31	NA
Sodium	mg/L	NA	NA	2019	19.31	NA	2019	11.78	NA	2019	18.86	NA	2016	39.00	NA	2014	48.00	NA
PARAMETER COMMON SOURCES OF CONTAMINANT																		
Alpha Emitters	Erosion of natural deposits			Combined Radium			Erosion of natural deposits			Nitrate [as N]			Agrotoxin; leaching from septic tanks; sewage; erosion of natural deposits					
Arsenic	Erosion of natural deposits			Fluoride			Additive for strong teeth; erosion of natural deposits; discharge from fertilizer factories			Sodium			Erosion of natural deposits					
Atrazine	Agrotoxin																	

Water Distribution System Monitoring

Once the water leaves Des Moines Water Works' water treatment facilities, it is regularly monitored throughout the numerous distribution systems served by Des Moines Water Works for disinfectant, disinfection byproducts, bacteria, lead and copper. The table below shows the results of this monitoring.

2019 DISTRIBUTION RESULTS	Total Trihalomethanes (TTHM) (µg/L)		Haloacetic Acids (HAA5) (µg/L)		Lead (µg/L)			Copper (mg/L)			Coliform Bacteria (positive)		Chlorine Disinfectant (mg/L)		
	Level Found	Range of Detections	Level Found	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Monthly Samples	Positive Samples	Running Annual Average	Range	
Byproducts of chlorination MCL: 80 µg/L MCLG: no limit set															
Byproducts of chlorination MCL: 60 µg/L MCLG: no limit set															
From plumbing corrosion 90% of all samples must be below Action Level of 15 µg/L															
From plumbing corrosion 90% of all samples must be below Action Level of 1.3 mg/L															
Naturally present in the environment Treatment Technique (TT)															
Added to prevent bacterial growth Maximum limit for annual average: 4 mg/L															
SYSTEM	Level Found	Range of Detections	Level Found	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Year Tested	90% of test levels were less than	Range of Detections	Monthly Samples	Positive Samples	Running Annual Average	Range	
Des Moines*	51	33-62	17	8-25	2019	ND	ND	2019	ND	ND-0.031	151	1 ¹	1.10	0.12-2.05	
Ankeny	39	23-58	12	8-13	2019	ND	ND	2019	0.031	ND-0.046	70	1 ¹	1.00	0.19-1.72	
Bondurant	39	20-61	15	12-18	2018	2	ND-2	2018	0.014	ND-0.034	6	0	2.20	1.38-2.45	
Clive	57	43-63	13	10-17	2019	ND	ND-14	2019	ND	ND	15	0	1.00	0.43-1.54	
Cumming	47	32-61	10	7-12	2018	ND	ND	2018	0.050	0.020-0.080	1	0	0.70	0.24-1.01	
East Dallas Water	31	NA	6	NA	2018	10	ND-10	2018	ND	ND	1	1 ¹	2.4	1.3-3.0	
Earlham	23	NA	6	NA	2017	7	ND-13	2017	0.020	ND-0.050	2	0	2.20	1.96-2.54	
Johnston	44	29-63	20	11-31	2019	1.6	ND-8	2019	0.179	ND-0.318	20	0	1.00	0.35-1.69	
New Virginia	48	NA	9	NA	2019	ND	ND	2019	ND	ND	1	0	2.4	1.9-2.7	
Norwalk	46	33-61	12	7-16	2019	ND	ND-13	2019	ND	ND-0.379	10	0	1.00	0.39-1.63	
SE Polk Rural Water**	49	31-59	10	8-12	2018	ND	ND-20 ²	2018	ND	ND-0.110	9	0	0.80	0.16-1.28	
Urbandale	47	34-59	10	8-13	2018	ND	ND-10	2018	ND	ND	40	2 ¹	1.00	0.34-1.56	
Warren Water District ³	37	27-53	10	ND-18	2017	ND	ND-10	2017	0.020	ND-0.060	20	2 ¹	2.6	ND-3.1	
Waukee	55	36-71	11	6-17	2018	ND	ND	2018	ND	ND	20	1 ¹	0.90	0.37-1.36	

* Includes water supplied to Alleman, Berwick, Pleasant Hill, Unincorporated Polk County, and Windsor Heights ** Includes water supplied to Runnells and eastern portions of Pleasant Hill.
¹ Sample tested positive for bacteria. Repeat samples indicated bacteria were not present, and the water was determined to be safe for consumption. ² One sample exceeded the AL of 15 µg/L. ³ In October, had a Level 1 Assessment, Multiple Total Coliform positive samples. This was a violation for the Total Coliform Rule (TCR).

Unregulated Contaminants

The U.S. Environmental Protection Agency required some cities to take samples in 2019 for an assessment monitoring program for the Unregulated Contaminant Monitoring (UCMR). The EPA will review the findings of this nationwide assessment to determine if any new regulations are needed.

SOURCE ENTRY POINT

	Manganese (µg/L)		Anatoxin-A (µg/L)		O-Toluidine (µg/L)		Quinoline (µg/L)	
	Level Found	Range	Level Found	Range	Level Found	Range	Level Found	Range
Ankeny	2.81	0.43-2.81	0.07	ND-0.07	ND	NA	ND	NA
Clive	2.36	0.43-2.36	ND	NA	0.015	ND-0.015	ND	NA
DMWW	1.85	ND-1.85	0.26	ND-0.26	ND	NA	ND	NA
Johnston	2.33	ND-2.33	NA	NA	ND	NA	ND	NA
Urbandale	0.80	ND-0.80	NA	NA	0.009	ND-0.009	0.30	ND-0.30
Warren	2.00	0.44-2.00	NA	NA	ND	NA	0.07	ND-0.07
Waukee	ND	NA	ND	NA	ND	NA	ND	NA

DISTRIBUTION SYSTEM

	HAA6Br (µg/L)		HAA9 (µg/L)	
	Level Found	Range	Level Found	Range
Ankeny	17.17	2.90-17.17	30.07	8.72-30.07
Clive	8.45	5.03-8.45	17.32	6.76-17.32
DMWW	9.51	4.86-9.51	21.32	10.07-21.32
Johnston	6.30	2.78-6.30	19.47	7.63-19.47
Urbandale	8.18	4.83-8.18	19.15	8.68-19.15
Warren	9.98	5.12-9.98	18.39	7.62-18.39
Waukee	13.20	7.13-13.20	19.69	12.76-19.69