

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**

LABORATORY ACCREDITATION NUMBER: 100228

1st Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	2/25/2019	2/25/2019	2/25/2019	2/27/2019	2/25/2019	2/25/2019	2/25/2019	2/26/19 2/27/2019	2/26/2019		
				LAB ID Nos.	19C1693	19C1694	19C1695	19C1783- 19C1788	19C1672	19C1673	19C1674	19C1721-23 19C1789-90	19C1716- 19C1720		
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS			***DISTRIBUTION	RAW LAKE	OUTLETS			***DISTRIBUTION						
	73rd Street	79th Street	SOUTH		North	Central	Central	North							
TEMPERATURE		°C	00010	4	3	3	7	2	2	3	5	8			
TURBIDITY	TT	N.T.U.	82079	0.70	0.10	0.10	0.15	0.90	0.10	0.10	0.20	0.20			
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	1 M	2 Cc	2 Cc	1 Cc	1 M	2 Cc	1 Cc	1 Cc	1 Cc			
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.		1 M	1 M	1 M	1 M	1 M	1 M	1 M	1 M	1 M			
COLOR	*15	Pt.-Co. CU	00080	9	1	0	1	6	2	1	1	3			
pH	*6.5-8.5	STD. Units	00040	8.2	7.8	7.8	7.9	8.2	7.8	7.8	7.9	7.8			
FREE CHLORINE RESIDUAL		CL <sub>2</sub> , mg/L	50064	ND	1.27	1.31	0.88	ND	1.22	1.13	0.99	0.85			
SATURATION INDEX, LANGELIER		UNITS +/-		-0.14	-0.54	-0.53	-0.36	-0.23	-0.52	-0.52	-0.34	-0.35			
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0			
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	118	115	117	111	114	108	110	115	110			
CONDUCTIVITY		uS/cm		306	320	319	320	310	318	319	321	317			
BROMIDE		Br, mg/L	71870	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
CHLORIDE	*250	Cl, mg/L	00940	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
FLUORIDE	4	F, mg/L	00951	0.115	0.724	0.720	0.706	0.118	0.733	0.742	0.732	0.740			
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	144	146	140	145	143	146	145	147	144			
CALCIUM		Ca, mg/L	00916	35.1	35.1	35.1	35.8	35.4	35.9	36.5	35.8	35.5			
MAGNESIUM		Mg, mg/L	00927	12.4	12.5	12.4	12.7	12.6	12.7	12.9	12.7	12.6			
POTASSIUM		K, mg/L	00937	1.29	1.31	1.32	1.34	1.31	1.40	1.43	1.36	1.34			
SODIUM		Na, mg/L	00006	8.55	9.33	9.40	9.47	9.22	10.2	10.4	10.3	9.97			
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	141	138	105	150	157	152	142	125	138			
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	196	161	173	175	209	182	209	180	171			
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.77	1.50	1.49	1.52	1.74	1.50	1.50	1.56	1.48			
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	6.8	5.3	4.4	5.7	6.0	4.8	4.9	4.0	5.6			
NITROGEN, AMMONIA		N, mg/L	00610	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
NITROGEN, NITRATE	10	N, mg/L	00620	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
NITROGEN, NITRITE	1	N, mg/L	00615	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	0.060	0.695	0.591	0.636	0.060	0.530	0.541	0.541	0.539			
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.019	1.35	1.22	1.22	0.018	1.17	1.19	1.18	1.15			
CYANIDE, TOTAL***	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

O/S - Instrument out of Service

R - Data rejected

\*\*\*Cyanide - LFM Did not meet QC Criteria

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**  
 LABORATORY ACCREDITATION NUMBER: 100228

1st Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	2/25/2019	2/25/2019	2/25/2019	2/27/2019	2/25/2019	2/25/2019	2/25/2019	2/26/19 2/27/2019	2/26/2019		
				LAB ID Nos.	19C1693	19C1694	19C1695	19C1783- 19C1788	19C1672	19C1673	19C1674	19C1721-23 19C1789-90	19C1716- 19C1720		
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION								
	73rd Street	79th Street	SOUTH		North	Central	Central	North							
ALUMINUM	*50-200	Al, µg/L	01105	137	320	65.1	31.3	32.4	52.0	52.7	47.6	44.4			
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC	10	As, µg/L	01002	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BARIUM	2000	Ba, µg/L	01007	20.3	20.3	19.7	18.8	20.4	20.0	19.6	19.3	18.9			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON		B, µg/L	01022	28.7	37.9	26.4	25.2	24.7	25.1	24.7	24.9	24.6			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	1.16	1.12	1.10	1.05	1.02	<1	1.25	1.00	<1			
COBALT		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	2.35	1.23	<1	2.69	<1	<1	<1	1.18	2.90			
IRON	*300	Fe, µg/L	00031	23.3	12.4	1.97	7.17	18.4	<1	<1	7.62	12.9			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	1.22	<1	<1	<1	2.59	<1			
LITHIUM ***		Li, µg/L	01132	2.96	3.13	2.95	3.00	2.91	2.92	2.92	2.95	2.92			
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	<1	<1	<1	<1	1.60			
MERCURY	2	Hg, µg/L	71900	<0.5	<0.5	<0.5	0.178	<0.5	<0.5	<0.5	0.505	<0.5			
MOLYBDENUM		Mo, µg/L	01062	<1	1.02	1.02	1.01	1.00	1.00	1.00	1.02	<1			
NICKEL		Ni, µg/L	01067	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	1212	1339	1354	1375	1253	1380	1368	1358	1361			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM		Sr, µg/L	01082	124	128	126	127	128	126	126	128	126			
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1			
TITANIUM		Ti, µg/L	01152	1.13	2.23	1.93	1.47	1.19	1.86	1.94	1.41	1.35			
VANADIUM		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	30.4	82.1	8.93	9.09	<1	<1	<1	21.0	31.4			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

\*\*\*Lithium - LFM did not meet QC Criteria

*Robert Paul*

CHIEF WATER CHEMIST

*Hesse Loh*

DIRECTOR OF LABORATORIES

*Andrew Hatz*

DEPUTY COMMISSIONER

MANAGER OF WATER QUALITY

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**  
 LABORATORY ACCREDITATION NUMBER: 100228

2nd Quarter

Sample Date	6/3/2019	6/3/2019	6/3/2019	6/5/19-6/6/19	6/3/2019	6/3/2019	6/3/2019	6/5/19-6/6/19	6/5/2019
LAB ID Nos.	19C5031	19C5033	19C5034	19C5197-5199 19C5264-5266	19C5027	19C5029	19C5030	19C5194-5196 19C5200-5267	19C5189- 19C5193

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				1	2A	2B	3	4	5A	5B	6	7
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			North	Central	Central	North
TEMPERATURE ‡		°C	00010	10	11	12	17	9	9	10	16	16
TURBIDITY	TT	N.T.U.	82079	0.45	0.05	0.05	0.16	0.65	0.05	0.05	0.10	0.11
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 M	1 Cc	1 Cc	1 Cc	1 M	1 Cc	1 Cc	1 Cc	1 Cc
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 M	1 M	1 M	1 M	1 M	1 M	1 M	1 M	1 M
COLOR (Apparent) ‡	*15	Pt.-Co. ACU	00080	4	2	0	1	6	2	1	1	1
pH	*6.5-8.5	STD. Units	00040	8.3	7.9	7.9	8.0	8.3	7.9	7.9	8.0	7.9
FREE CHLORINE RESIDUAL ‡		CL <sub>2</sub> , mg/L	50064	ND	1.25	1.31	0.81	ND	1.12	1.13	0.86	0.83
SATURATION INDEX, LANGELIER ‡		UNITS +/-		0.20	-0.55	-0.55	-0.06	0.26	-0.54	-0.49	-0.10	-0.14
ALKALINITY, PHENOLPHTHALEIN		0	00415	1	0	0	0	1	0	0	0	0
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	107	101	101	101	106	101	101	100	100
CONDUCTIVITY		uS/cm		306	310	310	308	303	310	311	306	307
BROMIDE ‡		Br, mg/L	71870	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CHLORIDE	*250	Cl, mg/L	00940	16.1	17.7	17.7	17.7	15.7	17.4	17.4	17.1	17.4
FLUORIDE	4	F, mg/L	00951	<0.5	0.79	0.78	0.77	<0.5	0.71	0.71	0.72	0.72
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	21.8	24.5	24.6	24.4	21.8	25.4	25.2	24.7	24.6
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	137	135	138	138	139	135	136	135	135
CALCIUM		Ca, mg/L	00916	34.8	35.2	35.4	36.2	35.4	35.7	35.2	35.8	35.9
MAGNESIUM ‡		Mg, mg/L	00927	12.5	12.6	12.7	12.9	12.8	12.9	12.7	12.9	12.9
POTASSIUM ‡		K, mg/L	00937	1.29	1.35	1.35	1.40	1.32	1.37	1.35	1.36	1.37
SODIUM ‡		Na, mg/L	00006	10.0	10.6	10.6	10.9	10.0	10.6	10.4	10.4	10.5
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	168	172	174	154	163	172	170	147	163
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	180	184	186	179	172	185	181	179	183
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.76	1.70	1.69	1.64	1.84	1.65	1.64	1.60	1.71
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	6.86	5.93	6.57	9.42	6.36	5.72	6.49	7.20	6.75
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
NITROGEN, NITRATE ‡	10	N, mg/L	00620	0.300	0.291	0.292	0.287	0.285	0.284	0.285	0.279	0.285
NITROGEN, NITRITE	1	N, mg/L	00615	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	<0.06	0.741	0.527	0.639	<0.06	0.496	0.518	0.557	0.552
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	<0.06	1.32	1.05	1.16	<0.06	1.12	1.12	1.11	1.11
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

H - Holding Time Exceeded

R - Data rejected

‡ - Non-NELAP Accredited

Dist. Central Samples for Cyanide did not meet LFM QC criteria

**COMPREHENSIVE CHEMICAL ANALYSIS  
CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY  
WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**

LABORATORY ACCREDITATION NUMBER: 100228

2nd Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	6/3/2019	6/3/2019	6/3/2019	6/5/19-6/6/19	6/3/2019	6/3/2019	6/3/2019	6/5/19-6/6/19	6/5/2019		
				LAB ID Nos.	19C5031	19C5033	19C5034	19C5197-5199 19C5264-5266	19C5027	19C5029	19C5030	19C5194-5196 19C5200-5267	19C5189- 19C5193		
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS			***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION							
	73rd Street	79th Street	SOUTH		North	Central	Central	North							
ALUMINUM	*50-200	Al, µg/L	01105	17.5	86.0	88.9	78.5	21.6	100	103	83.1	77.9			
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC	10	As, µg/L	01002	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BARIUM	2000	Ba, µg/L	01007	20.0	19.7	20.1	20.5	20.3	20.3	20.4	20.4	20.3			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	23.4	24.2	24.2	24.9	23.9	24.2	24.3	24.3	24.3			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	1.27	1.20	1.01	<1	<1	1.24	1.29	<1	1.15			
COBALT ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	1.17	<1	<1	<1	<1	<1	6.83	<1	1.05			
IRON	*300	Fe, µg/L	00031	7.50	<1	<1	8.58	12.5	<1	<1	8.71	14.6			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1			
LITHIUM ‡		Li, µg/L	01132	<1	1.08	2.03	2.36	2.29	2.00	<1	1.49	2.43			
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	<1	<1	<1	<1	<1			
MERCURY	2	Hg, µg/L	71900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
MOLYBDENUM		Mo, µg/L	01062	1.01	<1	1.01	<1	1.03	1.01	1.00	<1	<1			
NICKEL		Ni, µg/L	01067	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	765	948	930	917	725	882	881	874	864			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM ‡		Sr, µg/L	01082	116	116	118	118	115	116	116	116	116			
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1			
TITANIUM ‡		Ti, µg/L	01152	<1	1.46	1.19	1.29	<1	1.22	1.24	1.20	1.18			
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	6.58	<1	<1	<1	24.6	17.3			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

‡ - Non-NELAP Accredited

*Paul J. Dault*  
CHIEF WATER CHEMIST

*Harvee Salish*  
DIRECTOR OF LABORATORIES

*Andrew R. Prof*  
MANAGER OF WATER QUALITY

*Andrew R. Prof*  
DEPUTY COMMISSIONER

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**

LABORATORY ACCREDITATION NUMBER: 100228

3rd Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				1	2A	2B	3	4	5A	5B	6	7
				RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street	SOUTH		North	Central	Central	North
TEMPERATURE ‡		°C	00010	12	11	12	NA	12	11	11	20	21
TURBIDITY	TT	N.T.U.	82079	0.40	0.10	0.10	0.20	0.55	0.10	0.10	0.15	0.15
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 Df	1 Cc	1 Cc	1 Cc	1 Df	1 Cc	1 Cc	1 Cc	1 Cc
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 Df	1 M	1 M	1 M	1 Df	1 M	1 M	1 M	1 M
COLOR (Apparent) ‡	*15	Pt.-Co. ACU	00080	7	4	5	1	7	1	<1	<1	<1
pH	*6.5-8.5	STD. Units	00040	8.3	7.9	7.9	7.9	8.4	7.8	7.9	7.9	8.0
FREE CHLORINE RESIDUAL ‡		CL <sub>2</sub> , mg/L	50064	ND	1.28	1.29	NA	ND	1.29	1.27	NA	0.79
SATURATION INDEX, LANGELIER ‡		UNITS +/-		0.14	-0.28	-0.27	NA	0.24	-0.40	-0.31	-0.04	-0.02
ALKALINITY, PHENOLPHTHALEIN		0	00415	5	0	0	0	3	0	0	0	0
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	110	107	107	102	108	103	103	111	111
CONDUCTIVITY		uS/cm		295	299	299	300	292	298	299	300	299
BROMIDE ‡		Br, mg/L	71870	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CHLORIDE	*250	Cl, mg/L	00940	13.0	14.8	14.8	16.4	12.8	14.5	14.5	16.2	15.9
FLUORIDE	4	F, mg/L	00951	<0.5	0.75	0.73	0.75	<0.5	0.66	0.66	0.69	0.68
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	21.4	23.9	23.8	26.8	21.3	24.8	24.7	27.8	27.4
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	137	135	135	136	136	135	136	136	136
CALCIUM		Ca, mg/L	00916	32.8	33.4	32.9	32.9	32.9	32.9	32.7	32.8	32.6
MAGNESIUM ‡		Mg, mg/L	00927	12.0	12.2	12.1	12.0	12.0	12.0	11.9	12.0	11.9
POTASSIUM ‡		K, mg/L	00937	1.26	1.36	1.29	1.32	1.26	1.28	1.28	1.29	1.27
SODIUM ‡		Na, mg/L	00006	7.95	8.57	8.40	8.45	7.88	8.17	8.16	8.26	8.12
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	167	167	171	167	161	169	169	163	165
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	189	192	193	182	189	194	191	184	187
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.84	1.86	1.87	1.80	1.92	1.79	1.84	1.70	1.68
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	8.40	8.71	7.09	7.00	9.94	6.47	8.68	7.73	7.19
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
NITROGEN, NITRATE ‡	10	N, mg/L	00620	0.258	0.244	0.243	0.229	0.250	0.252	0.251	0.242	0.235
NITROGEN, NITRITE	1	N, mg/L	00615	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	<0.06	0.774	0.605	0.736	<0.06	0.479	0.495	0.535	0.537
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	<0.06	1.34	1.12	1.23	<0.06	0.970	0.962	0.976	0.953
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

H - Holding Time Exceeded

R - Data rejected

‡ - Non-NELAP Accredited

Nitrogen-Nitrite - LFM did not meet QC Criteria for North, South & Central Districts

NA - Not Available

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**

LABORATORY ACCREDITATION NUMBER: 100228

3rd Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	7/29/2019	7/29/2019	7/29/2019	8/1/2019	7/29/2019	7/29/2019	7/29/2019	7/30/19-8/2/19	7/30/2019		
				LAB ID Nos.	19C7554	19C7556	19C7557	19C7833-7838	19C7550	19C7552	19C7553	19C7686-7688 19C7839-7904	19C7681-19C7685		
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION								
	73rd Street	79th Street	SOUTH		North	Central	Central	North							
ALUMINUM	*50-200	Al, µg/L	01105	14.9	153	156	129	17.5	118	121	119	105			
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC	10	As, µg/L	01002	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BARIUM	2000	Ba, µg/L	01007	20.1	19.2	19.2	19.5	20.0	19.5	19.2	19.2	19.1			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	23.2	23.3	23.7	23.6	23.4	23.4	23.5	23.3	23.2			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	1.21	1.22	1.08	<1	<1	1.16	1.20	<1	<1			
COBALT ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	1.51	<1	<1	<1	<1	<1	<1	<1	1.82			
IRON	*300	Fe, µg/L	00031	8.53	1.60	1.00	14.2	10.2	<1	<1	9.85	18.1			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1			
LITHIUM ‡		Li, µg/L	01132	2.66	2.59	2.76	2.61	2.49	2.29	2.32	2.89	2.54			
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	<1	<1	<1	<1	1.22			
MERCURY	2	Hg, µg/L	71900	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
MOLYBDENUM		Mo, µg/L	01062	<1	<1	<1	<1	<1	<1	<1	<1	<1			
NICKEL		Ni, µg/L	01067	2.51	2.49	2.47	2.80	2.48	2.44	2.41	2.62	2.59			
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	811	934	925	913	852	965	960	940	952			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM ‡		Sr, µg/L	01082	110	110	109	109	112	108	108	108	110			
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1			
TITANIUM ‡		Ti, µg/L	01152	<1	1.98	1.66	1.83	<1	1.50	1.48	1.48	1.48			
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	4.72	6.34	1.38	<1	31.7	19.0			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

‡ - Non-NELAP Accredited

*Rashid Baitha*  
CHIEF WATER CHEMIST

*Hassan Saleh*  
DIRECTOR OF LABORATORIES

*Andrew R. Perry*  
MANAGER OF WATER QUALITY

*Andrew R. Perry*  
DEPUTY COMMISSIONER

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**  
 LABORATORY ACCREDITATION NUMBER: 100228

4th Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	12/9/2019	12/9/2019	12/9/2019	12/10/2019	12/9/2019	12/9/2019	12/9/2019	12/11/2019- 12/10/19	12/11/2019		
				LAB ID Nos.	19C11990	19C11991	19C11992	19C12005- 19C12010	19C11986	19C11988	19C11989	19C12011,12012,12027, 12028,12029	19C12030,12023,12024, 12025,12026		
				SAWYER WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	North	Central	Central	North			
	73rd Street	79th Street	SOUTH												
TEMPERATURE ‡		°C	00010	6	6	5	14	7	7	7	10	12			
TURBIDITY	TT	N.T.U.	82079	2.00	0.10	0.05	0.20	1.50	0.15	0.10	0.20	0.20			
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 E	1 Cc	1 Cc	1 Cc	1 E	2 Cc	2 Cc	2 Cc	2 Cc			
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 E	1 Mm	1 Mm	2 M	1 E	1 M	1 M	1 M	1 M			
COLOR (Apparent) ‡	*15	Pt.-Co. CU	00080	15	<5	<5	<5	11	<5	<5	<5	<5			
pH	*6.5-8.5	STD. Units	00040	8.2	7.8	7.9	7.9	8.2	7.8	7.9	7.9	7.9			
FREE CHLORINE RESIDUAL ‡		CL <sub>2</sub> , mg/L	50064	ND	1.22	1.25	0.97	ND	1.32	1.32	1.25	1.08			
SATURATION INDEX, LANGELIER ‡		UNITS +/-		-0.05	-0.49	-0.50	-0.24	-0.06	-0.45	-0.46	-0.31	-0.25			
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0			
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	108	99.5	100	99.5	107	100	101	102	101			
CONDUCTIVITY		uS/cm		295	298	298	303	292	298	298	301	300			
BROMIDE ‡		Br, mg/L	71870	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
CHLORIDE	*250	Cl, mg/L	00940	12.9	14.3	14.4	14.5	12.6	14.3	14.3	14.6	15.0			
FLUORIDE	4	F, mg/L	00951	<0.5	0.82	0.77	0.78	<0.5	0.70	0.71	0.71	0.71			
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.6	27.6	27.4	27.6	22.4	26.8	26.7	26.5	27.4			
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	137	133	134	135	138	136	136	134	135			
CALCIUM		Ca, mg/L	00916	35.4	34.1	34.2	34.4	35.5	34.7	34.6	34.2	34.5			
MAGNESIUM ‡		Mg, mg/L	00927	11.9	11.7	11.7	11.8	12.0	12.0	12.0	11.8	11.9			
POTASSIUM ‡		K, mg/L	00937	1.29	1.19	1.20	1.18	1.33	1.34	1.21	1.17	1.18			
SODIUM ‡		Na, mg/L	00006	7.67	7.99	8.11	8.06	7.59	8.38	8.27	8.00	8.06			
SOLIDS, TOTAL DISSOLVED *	*500	TDS, mg/L	00150	150	148	152	158	147	156	148	154	155			
SOLIDS, TOTAL *		Tot. Sol., mg/L	00500	156	172	169	171	176	172	159	164	162			
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.69	1.58	1.76	1.48	1.70	1.51	1.53	1.48	1.45			
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	5.13	4.90	5.23	5.23	4.85	3.34	4.31	5.62	5.11			
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
NITROGEN, NITRATE ‡ *	10	N, mg/L	00620	0.295	0.290	0.287	H	0.291	0.287	0.280	H	H			
NITROGEN, NITRITE	1	N, mg/L	00615	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	<0.06	0.754	0.595	0.668	<0.06	0.527	0.499	0.563	0.552			
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	<0.06	1.28	1.30	1.23	<0.06	1.18	1.11	1.18	1.14			
CYANIDE, TOTAL	200	CN, ug/L	00720	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

H - Holding Time Exceeded

R - Data rejected

‡ - Non-NELAP Accredited

TDS & TS did not meet Duplicate QC Criteria for N and C District

NA - Not Available

Nitrogen Nitrate results reported from 10/15/19

**COMPREHENSIVE CHEMICAL ANALYSIS**  
**CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY**  
**WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES**  
 LABORATORY ACCREDITATION NUMBER: 100228

4th Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	12/9/2019	12/9/2019	12/9/2019	12/10/2019	12/9/2019	12/9/2019	12/9/2019	12/11/2019-12/10/19	12/11/2019		
				LAB ID Nos.	19C11990	19C11991	19C11992	19C12005-19C12010	19C11986	19C11988	19C11989	19C12011,12012, 12027, 12028, 12029	19C12030,12023, 12024, 12025, 12026		
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT							
				1	2A	2B	3	4	5A	5B	6	7			
RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION				
	73rd Street	79th Street	SOUTH		North	Central	Central	North							
ALUMINUM	*50-200	Al, µg/L	01105	60	31.2	37.2	31.3	65.4	51.4	53.7	51.2	48.7			
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC	10	As, µg/L	01002	1.25	<1	<1	<1	1.47	<1	<1	<1	<1			
BARIUM	2000	Ba, µg/L	01007	20.1	19.5	19.4	18.9	20.2	20.3	20.0	19.4	18.9			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	23.3	24.1	23.9	24.5	23.1	24.4	24.0	23.7	23.3			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	<1	<1	<1	<1	<1	<1	1.16	<1	<1			
COBALT ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	<1	<1	<1	<1	1.37	<1	<1	1.16	<1			
IRON	*300	Fe, µg/L	00031	63.8	<1	1.42	12.3	62.8	2.59	<1	4.90	16.0			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	3.84			
LITHIUM ‡		Li, µg/L	01132	2.26	1.08	1.16	2.36	3.04	2.46	1.21	2.77	2.25			
MANGANESE	*50	Mn, µg/L	01055	1.26	<1	<1	<1	1.04	<1	<1	<1	<1			
MERCURY	2	Hg, µg/L	71900	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S	O/S			
MOLYBDENUM		Mo, µg/L	01062	1.07	<1	<1	<1	<1	<1	<1	<1	<1			
NICKEL		Ni, µg/L	01067	1.55	2.53	2.07	<1	1.25	1.78	1.70	1.73	<1			
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	1144	1329	1274	1305	1066	1210	1202	1195	1168			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM ‡		Sr, µg/L	01082	118	109	109	108	111	108	108	107	106			
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1			
TITANIUM ‡		Ti, µg/L	01152	2.21	1.56	1.50	<1	2.09	1.44	1.39	<1	<1			
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	4.99	<1	<1	27.8	9.90	<1	<1	20.9	20.9			

\* Federal Primary/Secondary MCLs

\*\* Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

‡ - Non-NELAP Accredited

*Rohd. Sath*  
CHIEF WATER CHEMIST

*Harsen Saleh*  
DIRECTOR OF LABORATORIES

*Andrea R. H. Pitty*  
DEPUTY COMMISSIONER