

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

Sample Date	3/3/2020	3/3/2020	3/3/2020	3/10/2020	3/3/2020	3/3/2020	3/3/2020	3/11/2020	3/11/2020
LAB ID Nos.	20C0892	20C0894	20C0895	20C0977- 20C0979	20C0888	20C0890	20C0891	20C0996- 20C0984	20C099- 20C1002

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				1	2A	2B	3	4	5A	5B	5	7
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			North	Central	Central	North
TEMPERATURE ‡		°C	00010	3	2	3	6	3	3	3	9	10
TURBIDITY	TT	N.T.U.	82079	7.6	0.10	0.10	0.24	6.50	0.15	0.20	0.11	0.11
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 E	1 Cc	1 Cc	1 Cc	1 E	1 Cc	1 Cc	1 Cc	1 Cc
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 E	1 M	1 Mm	1 M	1 E	1 Mm	1 M	1 M	1 Mm
COLOR (Apparent) ‡	*15	Pt.-Co. CU	00080	53	2	2	1	36	1	0	4	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	7.9
FREE CHLORINE RESIDUAL ‡		CL ₂ , mg/L	50064	ND	1.52	1.50	1.25	ND	1.34	1.24	1.23	1.23
SATURATION INDEX, LANGELIER ‡		UNITS +/-		-0.10	-0.77	-0.71	-0.41	-0.20	-0.99	-0.97	-0.34	-0.31
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0
ALKALINITY, TOTAL		CaCO ₃ , mg/L	00410	108	100	101	101	108	98.6	100	101	101
CONDUCTIVITY		uS/cm		307	308	309	308	299	310	310	310	309
BROMIDE ‡		Br, mg/L	71870	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.1	<0.10	<0.10
CHLORIDE	*250	Cl, mg/L	00940	15.0	17.5	17.4	16.4	17.4	19.5	19.6	16.8	16.6
FLUORIDE	4	F, mg/L	00951	0.851	0.769	R	0.745	0.712	0.698	0.694	0.699	0.701
SULFATE	*250	SO ₄ , mg/L	00945	22.9	27.1	26.8	27.8	22.3	27.6	28.3	28.4	28.2
HARDNESS		CaCO ₃ , mg/L	00900	144	142	142	136	144	142	134	137	136
CALCIUM		Ca, mg/L	00916	37.0	36.5	36.3	35.8	37.3	36.5	36.4	35.7	35.2
MAGNESIUM ‡		Mg, mg/L	00927	12.7	12.6	12.5	12.3	12.7	12.6	12.6	12.2	12.0
POTASSIUM ‡		K, mg/L	00937	1.30	1.41	1.39	1.33	1.31	1.40	1.39	1.29	1.27
SODIUM ‡		Na, mg/L	00006	8.99	9.42	9.46	9.40	8.91	9.74	9.68	9.57	9.16
SOLIDS, TOTAL DISSOLVED *	*500	TDS, mg/L	00150	172	161	155	137	159	154	167	147	141
SOLIDS, TOTAL *		Tot. Sol., mg/L	00500	185	164	172	158	161	160	173	158	162
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.69	1.47	1.46	1.47	2.01	1.52	1.53	1.48	1.41
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	6.15	4.56	6.29	6.35	4.22	4.51	3.25	6.12	5.90
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1
NITROGEN, NITRATE ‡ *	10	N, mg/L	00620	0.362	0.367	0.365	0.347	0.380	0.384	0.385	0.342	0.338
NITROGEN, NITRITE	1	N, mg/L	00615	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1
ORTHOPHOSPHATE		PO ₄ , mg/L	00660	<0.06	0.630	0.624	0.651	<0.06	0.524	0.522	0.548	0.594
PHOSPHATE, TOTAL		PO ₄ , mg/L	00650	<0.06	1.24	1.40	1.30	<0.06	1.13	1.15	1.13	1.21
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

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1st 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
ALUMINUM	*50-200	Al, µg/L	01105	144	28.8	31.9	30.0	159	38.7	40.9	32.4	36.0
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1
ARSENIC	10	As, µg/L	01002	1.16	<1	<1	<1	1.02	<1	<1	<1	<1
BARIUM	2000	Ba, µg/L	01007	20.4	18.5	18.7	18.4	20.0	18.6	18.8	18.7	18.8
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON ‡		B, µg/L	01022	23.1	22.6	22.3	22.6	22.7	23.2	22.7	22.4	22.5
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<1	1.24	1.20	1.58	<1	<1	1.22	<1	<1
COBALT #		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1
COPPER	**1300	Cu, µg/L	01042	2.24	<1	<1	1.11	<1	<1	<1	<1	2.53
IRON	*300	Fe, µg/L	00031	1.31	<1	<1	8.93	194	<1	<1	5.59	13.1
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1
LITHIUM ‡		Li, µg/L	01132	1.53	2.63	2.74	2.06	<1	2.75	2.27	2.04	2.05
MANGANESE	*50	Mn, µg/L	01055	3.21	<1	<1	<1	3.08	<1	<1	<1	1.28
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	<1	<1	1.12	<1	<1	<1	<1	<1
NICKEL		Ni, µg/L	01067	2.52	1.47	1.50	1.55	2.46	1.44	1.42	1.58	1.57
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	1.00
SILICON		Si, µg/L	01142	1555	1470	1441	1417	1494	1424	1418	1386	1365
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM ‡		Sr, µg/L	01082	113	119	119	119	111	118	119	118	119
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1
TITANIUM ‡		Ti, µg/L	01152	4.84	1.61	1.74	1.67	4.71	1.44	1.45	1.45	1.50
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1
ZINC	*5000	Zn, µg/L	01092	6.33	<1	<1	10.3	13.6	<1	<1	22.0	23.0

* Federal Primary/Secondary MCLs

** Action Level

TT - Treatment Technique

ND - not detected

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Rachael Bault
CHIEF WATER CHEMIST

Hansen Saleh
DIRECTOR OF LABORATORIES

Andreia K. P. Kelly
DEPUTY COMMISSIONER

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2nd Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	5/11/2020	5/11/2020	5/11/2020	5/13/2020	5/11/2020	5/11/2020	5/11/2020	5/12/2020	5/12/2020		
				LAB ID Nos.	20C1893	20C1895	20C1896	20C1934 - 20C1935	20C1877	20C1879	20C1880	20C1922 - 20C1924, 20C1940-20C1941	20C1919 - 20C1921		
				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		North					
TEMPERATURE ‡		°C	00010	11	10	11	7	9	11	12	9	12			
TURBIDITY	TT	N.T.U.	82079	4.4	0.15	0.05	0.10	6.2	0.05	0.05	0.08	0.14			
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 E	1 Mm	2 Mm	1 Cc	1 E	1 Mm	1 Mm	1 Cc	1 Cc			
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 E	1 Mm	2 Mm	1 M	1 E	1 Mm	1 Mm	1 M	1 M			
COLOR (Apparent) ‡	*15	Pt.-Co. ACU	00080	33	<15	<15	<15	56	<15	<15	<15	<15			
pH	*6.5-8.5	STD. Units	00040	8.0	7.7	7.7	7.7	8.0	7.6	7.6	7.7	7.8			
FREE CHLORINE RESIDUAL ‡		CL ₂ , mg/L	50064	---	1.58	1.53	1.02	--	1.59	1.58	1.43	1.24			
SATURATION INDEX, LANGELIER ‡		UNITS +/-		-0.41	-0.67	-0.62	-0.58	0.02	-0.67	-0.67	-0.52	-0.43			
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0			
ALKALINITY, TOTAL		CaCO ₃ , mg/L	00410	112	102	103	103	109	102	102	103	102			
CONDUCTIVITY		uS/cm		324	321	323	327	309	318	318	314	315			
BROMIDE ‡		Br, mg/L	71870	<0.10	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10			
CHLORIDE	*250	Cl, mg/L	00940	17.5	18.8	18.5	20.4	15.2	18.0	17.9	18.5	17.9			
FLUORIDE	4	F, mg/L	00951	0.11	0.75	0.74	0.76	0.11	0.75	0.75	0.77	0.83			
SULFATE	*250	SO ₄ , mg/L	00945	22.4	27.4	27.1	27.3	22.2	26.1	25.7	25.8	26.0			
HARDNESS		CaCO ₃ , mg/L	00900	139	138	139	141	143	135	138	137	136			
CALCIUM		Ca, mg/L	00916	36.3	34.3	34.3	34.6	35.7	33.9	33.8	34.1	33.9			
MAGNESIUM ‡		Mg, mg/L	00927	12.6	12.4	12.4	12.5	12.4	12.2	12.2	12.3	12.2			
POTASSIUM ‡		K, mg/L	00937	1.44	1.18	1.18	1.21	1.40	1.19	1.20	1.20	1.21			
SODIUM ‡		Na, mg/L	00006	10.7	9.95	9.96	10.9	9.20	9.60	9.54	10.0	9.90			
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	157	169	164	176	165	170	166	161	160			
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	189	186	183	194	187	183	179	186	183			
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.99	1.64	1.63	1.63	1.92	1.66	1.70	1.65	1.63			
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	7.02	5.07	4.79	4.75	5.54	4.39	4.75	4.76	4.80			
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
NITROGEN, NITRATE ‡	10	N, mg/L	00620	0.403	0.364	0.362	0.394	0.344	0.355	0.353	0.354	0.339			
NITROGEN, NITRITE	1	N, mg/L	00615	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
ORTHOPHOSPHATE		PO ₄ , mg/L	00660	<0.06	0.672	0.595	0.683	<0.06	0.594	0.599	0.569	0.587			
PHOSPHATE, TOTAL		PO ₄ , mg/L	00650	<0.06	1.52	1.46	1.32	<0.06	1.28	1.25	1.24	1.24			
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

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2nd Quarter

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	5/11/2020	5/11/2020	5/11/2020	5/13/2020	5/11/2020	5/11/2020	5/11/2020	5/12/2020	5/12/2020		
				LAB ID Nos.	20C1893	20C1895	20C1896	20C1934 - 20C1935	20C1877	20C1879	20C1880	20C1922 - 20C1924, 20C1940-20C1941	20C1919 - 20C1921		
				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	69.4	35.0	38.0	32.7	72.0	50.0	54.7	49.1	43.2			
ANTIMONY	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC	10	As, µg/L	01002	R	<3	<3	<3	R	<3	<3	<3	<3			
BARIUM	2000	Ba, µg/L	01007	21.6	20.4	20.3	21.0	21.8	20.4	20.5	21.0	20.5			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	25.0	25.1	25.0	26.0	24.4	25.2	25	25.7	25.8			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	1.20	3.12	3.12	2.70	1.15	3.08	3.06	2.95	3.20			
COBALT ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	4.80	<1	<1	2.98	1.08	<1	<1	<1	<1			
IRON	*300	Fe, µg/L	00031	106	<1	2.55	13.2	140	<1	<1	4.67	13.2			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1			
LITHIUM ‡		Li, µg/L	01132	1.46	1.82	2.30	2.81	1.32	2.21	2.82	3.17	3.36			
MANGANESE	*50	Mn, µg/L	01055	2.27	<1	<1	<1	2.81	<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	1.01	<1	<1	<1	<1	<1	<1	<1	<1			
NICKEL		Ni, µg/L	01067	2.18	1.44	1.47	1.74	2.58	2.50	1.44	1.54	1.52			
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	1373	1277	1398	1376	1294	1294	1294	1407	1483			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM ‡		Sr, µg/L	01082	125	119	120	125	123	119	118	121	120			
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1			
TITANIUM ‡		Ti, µg/L	01152	2.17	1.85	1.83	1.79	2.52	1.59	1.57	1.58	1.59			
VANADIUM ‡		V, µg/L	00985	R	1.02	1.03	<1	R	1.01	1.01	1.02	1.04			
ZINC	*5000	Zn, µg/L	01092	<1	<1	1.18	31.1	<1	<1	<1	21.4	18.9			

* Federal Primary/Secondary MCLs

** Action Level

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ND - not detected

Distribution samples results are averages

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LFMs did not meet Criteria for Si (Site Nos. 1 & 4)

Rashel Barth

CHIEF WATER CHEMIST

Harvey S. Sch

DIRECTOR OF LABORATORIES

Andrea H. Cheng

DEPUTY COMMISSIONER

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3rd Quarter

Sample Date	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	8/31/2020-9/1/20	8/31/2020
LAB ID Nos.	20C3247	20C3249	20C3250	20C3262-20C3267	20C3243	20C3245	20C3246	20C3235 -20C3237; 20C3268-20C3269	20C3238 - 20C3242

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	20	22	20	23	19	20	19	22	22
TURBIDITY	TT	N.T.U.	82079	0.50	0.10	0.10	0.16	1.00	0.10	0.10	0.15	0.18
THRESHOLD ODOR, STRAIGHT ‡	*3	T.O.N	00086	1 Cc	2 Cc	2 Cc	1 Cc	1 Cc	2 Cc	2 Cc	1 Cc	1 Cc
THRESHOLD ODOR, DECHLORINATED ‡	*3	T.O.N.		1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 M	1 M
COLOR (Apparent) ‡	*15	Pt.-Co. ACU	00080	<15	<15	<15	<15	<15	<15	<15	<15	<15
pH	*6.5-8.5	STD. Units	00040	8.3	7.9	7.9	8.0	8.4	7.9	7.9	7.9	7.9
FREE CHLORINE RESIDUAL ‡		CL ₂ , mg/L	50064	ND	1.59	1.58	0.73	ND	1.61	1.52	1.24	1.11
SATURATION INDEX, LANGELIER ‡		UNITS +/-		0.38	-0.01	-0.06	0.15	0.41	-0.06	-0.07	0.02	0.00
ALKALINITY, PHENOLPHTHALEIN		0	00415	1.00	0	0	0	1.30	0	0	0	0
ALKALINITY, TOTAL		CaCO ₃ , mg/L	00410	107	99.0	99.3	100	106	100	100	100	100
CONDUCTIVITY		uS/cm		299	306	306	309	296	303	304	302	306
BROMIDE ‡		Br, mg/L	71870	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
CHLORIDE	*250	Cl, mg/L	00940	13.7	16.3	16.5	16.9	13.3	15.6	15.7	16.2	15.9
FLUORIDE	4	F, mg/L	00951	0.12	0.72	0.73	0.71	0.11	0.61	0.60	0.73	0.76
SULFATE	*250	SO ₄ , mg/L	00945	22.8	26.4	26.9	26.8	22.1	25.8	25.7	26.1	25.5
HARDNESS		CaCO ₃ , mg/L	00900	128	127	128	135	125	131	127	137	141
CALCIUM		Ca, mg/L	00916	34.9	35.0	34.8	35.7	34.8	34.9	35.0	35.2	35.2
MAGNESIUM ‡		Mg, mg/L	00927	12.2	12.2	12.1	12.3	12.1	12.1	12.1	12.1	12.3
POTASSIUM ‡		K, mg/L	00937	1.38	1.38	1.39	1.37	1.32	1.36	1.38	1.38	1.39
SODIUM		Na, mg/L	00006	8.41	8.70	8.72	8.81	8.08	8.51	8.56	8.72	8.73
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	NA	NA	NA	NA	NA	NA	NA	NA	NA
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.73	1.64	1.62	1.68	1.73	1.61	1.63	1.79	1.67
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	5.52	4.16	2.97	4.44	4.75	3.36	3.18	4.92	4.03
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
NITROGEN, NITRATE ‡	10	N, mg/L	00620	0.259	0.240	0.244	0.249	0.253	0.245	0.244	0.246	0.245
NITROGEN, NITRITE	1	N, mg/L	00615	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
ORTHOPHOSPHATE		PO ₄ , mg/L	00660	<0.06	0.621	0.641	0.698	<0.06	0.531	0.539	0.598	0.603
PHOSPHATE, TOTAL ‡		PO ₄ , mg/L	00650	<0.06	1.14	1.21	1.13	<0.06	1.09	1.13	1.10	1.12
CYANIDE	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 NA - Data 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	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	9/1/2020	8/31/2020-9/1/20	8/31/2020		
				LAB ID Nos.	20C3247	20C3249	20C3250	20C3262-20C3267	20C3243	20C3245	20C3246	20C3235 -20C3237; 20C3268-20C3269	20C3238 - 20C3242		
				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	14.2	158	148	133	30.2	167	177	210	151			
ANTIMONY ‡	6	Sb, µg/L	01268	<5	<5	<5	<5	<5	<5	<5	<5	<5			
ARSENIC ‡	10	As, µg/L	01002	<5	<5	<5	<5	<5	<5	<5	<5	<5			
BARIUM	2000	Ba, µg/L	01007	21.6	22.5	22.2	23.1	21.2	20.5	20.6	21.9	21.9			
BERYLLIUM ‡	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	25.3	28.2	28.1	29.0	24.7	24.8	25.0	36.5	26.2			
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	<1	<1			
COBALT ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	**1300	Cu, µg/L	01042	3.55	<1	<1	2.85	<1	<1	<1	1.18	3.01			
IRON	*300	Fe, µg/L	00031	8.44	<1	<1	12.7	26.8	<1	<1	8.09	11.7			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1			
LITHIUM ‡		Li, µg/L	01132	3.61	3.46	3.71	3.81	3.83	3.52	3.02	3.47	3.86			
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	1.29	<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	1.22	2.02	1.31	1.36	<1	1.20	1.30	<1			
NICKEL ‡		Ni, µg/L	01067	<1	<1	<1	<1	<1	<1	<1	<1	<1			
SELENIUM ‡	50	Se, µg/L	01147	<1	<1	1.70	<1	<1	<1	<1	<1	<1			
SILICON		Si, µg/L	01142	787	915	910	952	792	869	866	864	863			
SILVER ‡	*100	Ag, µg/L	01077	<5	<5	<5	<5	<5	<5	<5	<5	<5			
STRONTIUM ‡		Sr, µg/L	01082	114	116	116	119	115	114	114	116	116			
THALLIUM ‡	2	Tl, µg/L	01059	<5	<5	<5	<5	<5	<5	<5	<5	<5			
TITANIUM ‡		Ti, µg/L	01152	<1	<1	<1	<1	1.14	<1	<1	<1	<1			
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	37.4	1.27	<1	<1	22.1	17.5			

* Federal Primary/Secondary MCLs

** Action Level

TT - Treatment Technique

ND - not detected

Distribution samples results are averages

‡ - Non-NELAP Accredited

Rashid Dault

CHIEF WATER CHEMIST

Haseem Saleh

DIRECTOR OF LABORATORIES

Andrew H. Cheng

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	11/30/2020	11/30/2020	11/30/2020	12/1/2020	11/30/2020	11/30/2020	11/30/2020	12/2/2020	12/2/2020			
				LAB ID Nos.	20C4822	20C4824	20C4825	20C4852- 20C4857	20C4818	20C4820	20C4821	20C4872-20C4874, 20C4858-20C4859	20C4875- 20C4879			
				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	8	9	10	11	9	12	12	11	11				
TURBIDITY	TT	N.T.U.	82079	4.50	0.05	0.05	0.10	5.50	0.05	0.05	0.10	0.10				
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 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm	1 Mm				
COLOR (Apparent) ‡	*15	Pt.-Co. ACU	00080	34	<15	<15	<15	23	<15	<15	<15	<15				
pH	*6.5-8.5	STD. Units	00040	7.9	7.7	7.8	7.6	7.9	7.6	7.6	7.6	7.7				
FREE CHLORINE RESIDUAL ‡		CL ₂ , mg/L	50064	ND	1.64	1.69	1.13	ND	1.65	1.65	1.32	1.24				
SATURATION INDEX, LANGELIER ‡		UNITS +/-		0.13	-0.55	-0.53	-0.59	0.05	-0.65	-0.65	-0.51	-0.49				
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0				
ALKALINITY, TOTAL		CaCO ₃ , mg/L	00410	107	99.2	99.7	99.2	106	99.0	99.4	100	100				
CONDUCTIVITY		uS/cm		288	297	297	296	290	295	297	297	300				
BROMIDE ‡		Br, mg/L	71870	<0.25	R	R	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25				
CHLORIDE	*250	Cl, mg/L	00940	12.8	14.9	15.1	14.9	12.9	14.5	14.5	14.7	14.7				
FLUORIDE	4	F, mg/L	00951	0.117	0.675	0.666	0.669	0.112	0.681	0.683	0.658	0.643				
SULFATE	*250	SO ₄ , mg/L	00945	21.4	27.0	27.4	25.3	21.6	24.8	24.6	25.2	25.3				
HARDNESS		CaCO ₃ , mg/L	00900	140	139	140	141	139	137	137	140	136				
CALCIUM		Ca, mg/L	00916	36.2	37.0	37.0	36.2	36.7	36.9	37.0	37.1	37.2				
MAGNESIUM ‡		Mg, mg/L	00927	12.6	12.8	12.8	12.5	12.8	12.8	12.8	12.7	12.8				
POTASSIUM ‡		K, mg/L	00937	1.39	1.40	1.40	1.36	1.37	1.41	1.39	1.39	1.39				
SODIUM		Na, mg/L	00006	8.33	9.00	9.09	8.78	8.40	9.02	9.05	9.02	9.06				
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	142	172	178	173	173	170	172	170	171				
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	164	179	169	181	180	171	168	172	175				
TOTAL ORGANIC CARBON		TOC, mg/L	00680	2.12	1.75	1.74	1.67	1.86	2.62	2.18	1.62	1.64				
OXYGEN DEMAND, CHEMICAL ‡		O, mg/L	00335	4.67	2.72	2.49	2.41	3.30	2.99	1.98	<1	<1				
NITROGEN, AMMONIA ‡		N, mg/L	00610	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10				
NITROGEN, NITRATE ‡	10	N, mg/L	00620	0.327	0.316	0.317	0.319	0.327	0.315	0.315	0.317	0.315				
NITROGEN, NITRITE	1	N, mg/L	00615	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25				
ORTHOPHOSPHATE		PO ₄ , mg/L	00660	<0.06	0.595	0.618	0.665	<0.06	0.534	0.548	0.581	0.563				
PHOSPHATE, TOTAL ‡		PO ₄ , mg/L	00650	<0.06	1.11	1.34	1.27	<0.06	1.22	1.32	1.28	1.19				
CYANIDE	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

NA - Data Not Available

H - Nitrite-N - Sites 1, 2A, 2B, 3, 4, 5A & Nitrate-N Sites 1, 2A, 2B

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

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	Sample Date	11/30/2020	11/30/2020	11/30/2020	12/1/2020	11/30/2020	11/30/2020	11/30/2020	12/2/2020	12/2/2020		
				LAB ID Nos.	20C4822	20C4824	20C4825	20C4852- 20C4857	20C4818	20C4820	20C4821	20C4872-20C4874, 20C4858-20C4859	20C4875- 20C4879		
				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	122	52.7	52.8	54.4	131	69.4	72.9	63.5	57.1			
ANTIMONY ‡	6	Sb, µg/L	01268	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ARSENIC ‡	10	As, µg/L	01002	<10	<10	<10	<10	<10	<10	<10	<10	<10			
BARIIUM	2000	Ba, µg/L	01007	20.8	19.9	19.8	19.0	21.1	20.2	20.2	19.7	19.6			
BERYLLIUM ‡	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON ‡		B, µg/L	01022	24.2	24.8	24.8	25.3	23.9	24.2	24.2	25.3	24.7			
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	<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	1.53	<1	<1	<1	<1	2.33			
IRON	*300	Fe, µg/L	00031	134	<1	<1	9.23	157	<1	<1	2.85	14.3			
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	1.31			
LITHIUM ‡		Li, µg/L	01132	3.00	3.46	1.82	2.62	2.84	<1	3.88	2.72	2.73			
MANGANESE	*50	Mn, µg/L	01055	4.39	<1	<1	<1	6.53	<1	<1	<1	1.37			
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	<1	<1	<1	<1	<1	<1	<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	2.84	<1	<1	<1			
SILICON		Si, µg/L	01142	1334	1254	1258	1214	1356	1240	1243	1237	1259			
SILVER ‡	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM ‡		Sr, µg/L	01082	106	107	108	105	106	108	108	107	108			
THALLIUM ‡	2	Tl, µg/L	01059	<1	<1	<1	1.12	<1	<1	1.65	<1	1.29			
TITANIUM ‡		Ti, µg/L	01152	3.16	<1	<1	<1	4.69	<1	<1	<1	<1			
VANADIUM ‡		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1			
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	19.0	1.26	<1	<1	19.6	14.8			

* Federal Primary/Secondary MCLs ** Action Level TT - Treatment Technique ND - not detected Distribution samples results are averages

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