

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

SAMPLE COLLECTION DATE: February 1, 2017

LAB ID Nos.

1st QUARTER

February 6, 2017 ( Site 3 & 6)

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C0843	17C0844	17C0845	17C0951	17C0847	17C0848	17C0849	17C0952	17C0851
				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	4	9	2	3	3	8	8
TURBIDITY	TT	N.T.U.	82079	1.0	0.05	0.05	0.10	0.50	0.05	0.05	0.10	0.10
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	ND	1 Cc	1 Cc	2 Cc	ND	1 Cc	1 Cc	2 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	8	1	<1	2	3	<1	<1	2	4
pH	*6.5-8.5	STD. Units	00040	8.10	7.74	7.74	7.91	8.09	7.73	7.82	7.80	7.86
FREE CHLORINE RESIDUAL		CL <sub>2</sub> , mg/L	50064	ND	1.30	1.31	1.00	ND	1.22	1.17	0.91	1.01
SATURATION INDEX, LANGELIER		UNITS +/-		-0.07	-0.68	-0.66	-0.32	-0.28	-0.81	-0.80	-0.44	-0.40
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	108	101	101	101	107	101	101	102	101
CONDUCTIVITY		uS/cm		290	291	294	296	294	292	295	299	296
BROMIDE		Br, mg/L	71870	0.058	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
CHLORIDE	*250	Cl, mg/L	00940	12.9	14.0	14.2	14.3	12.8	14.1	14.4	14.3	14.3
FLUORIDE	4	F, mg/L	00951	0.12	0.68	0.69	0.65	0.12	0.68	0.69	0.69	0.69
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	23.0	28.3	25.6	25.7	22.1	25.9	25.7	25.6	25.7
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	135	134	136	134	134	139	135	135	140
CALCIUM		Ca, mg/L	00916	36.4	36.0	36.1	36.2	36.1	36.0	35.9	36.4	35.7
MAGNESIUM		Mg, mg/L	00927	12.0	12.0	12.0	12.1	12.0	12.0	12.0	12.0	11.8
POTASSIUM		K, mg/L	00937	1.29	1.27	1.29	1.30	1.27	1.27	1.27	1.30	1.29
SODIUM		Na, mg/L	00006	7.99	8.19	8.27	8.33	7.91	8.35	8.33	8.50	8.26
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	152	155	154	H	138	152	151	H	H
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	163	R	163	H	202	157	157	H	H
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.69	1.50	1.51	1.52	1.70	1.47	1.48	1.51	1.51
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	12.4	12.2	8.68	10.5	9.50	7.81	10.3	9.85	9.77
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	0.269	0.264	0.220	0.326	0.276	0.273	0.276	0.353	H
NITROGEN, NITRITE	1	N, mg/L	00615	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	H
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	<0.06	0.429	0.516	0.521	<0.06	0.520	0.524	0.529	0.536
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	<0.06	1.06	1.38	1.38	<0.06	1.32	1.31	0.877	1.39
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	H
RADIOACTIVITY, GROSS ALPHA	15	pCi/L	01501	<9	<9	<9	<9	<9	<9	<9	<9	<9
RADIOACTIVITY, GROSS BETA	50	pCi/L	03501	11	13	13	<7	<7	10	8	12	10

\* Federal/State Secondary MCLs

\*\* Action Level

\*\*\*Distribution samples are composited. TT - Treatment Technique ND - not detected

Nitrate-N, Nitrite-N were collected on 2/6/17

H - Holding Time Exceeded

R - Data rejected

Nitrate-N & Cyanide did not meet LFM QC Criteria

For Solids, constant weight not attained within 0.5 mg (Samples collected on 3/27/17)

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

SAMPLE COLLECTION DATE: February 1, 2017 LAB ID Nos. 1st QUARTER

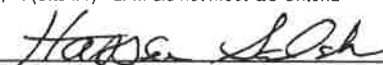
PARAMETER	February 6, 2017 ( Site 3 & 6)			17C0843				17C0844				17C0845				17C0951				17C0847				17C0848				17C0849				17C0952				17C0851			
	SOUTH WATER PURIFICATION PLANT													JARDINE WATER PURIFICATION PLANT																									
	IEPA MCL	DETERMINED AS	STORET NUMBER	RAW LAKE	OUTLETS			***DISTRIBUTION	RAW LAKE	OUTLETS			***DISTRIBUTION																										
					73rd Street	79th Street	South	North		Central	Central	North																											
ALUMINUM	*50-200	Al, µg/L	01105	16.6	41.9	43.4	38.4	8.02	43.4	44.5	42.3	40.4																											
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	19.6	18.9	18.9	18.3	19.8	18.9	18.8	18.3	18.1																											
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1																											
BORON		B, µg/L	01022	23.8	23.7	24.0	23.8	23.6	23.6	23.6	23.9	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	<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	1.20	<1	<1	<1	<1	1.39																											
IRON	*300	Fe, µg/L	00031	19.8	<5	<5	11.4	11.3	<5	<5	5.22	9.44																											
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1																											
LITHIUM		Li, µg/L	01132	2.86	2.78	2.76	2.88	2.80	2.84	2.78	2.80	2.73																											
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	1.04	<1	<1	<1	<1	<1	<1	<1	<1																											
NICKEL		Ni, µg/L	01067	1.84	2.09	2.08	2.16	2.09	2.07	2.16	2.14	2.13																											
SELENIUM	50	Se, µg/L	01147	<5	<5	<5	<5	<5	<5	<5	<5	<5																											
SILICON		Si, µg/L	01142	1044	1157	1150	1118	1026	1163	1163	1170	1156																											
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1																											
STRONTIUM		Sr, µg/L	01082	117	115	116	116	117	117	116	117	115																											
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1																											
TITANIUM		Ti, µg/L	01152	<1	1.13	1.28	1.19	<1	1.28	1.29	1.24	1.23																											
VANADIUM		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1																											
ZINC	*5000	Zn, µg/L	01092	<7	<7	<7	16.6	<7	<7	<7	29.8	26.4																											

\* Federal/State Secondary MCLs      \*\* Action Level      \*\*\*Distribution samples are composited. TT - Treatment Technique

Lithium - LFM did not meet QC Criteria

As, Sr, V, Al (Site #1) - LFM did not meet QC Criteria

  
 CHIEF WATER CHEMIST

  
 DIRECTOR OF LABORATORIES

  
 MANAGER OF WATER QUALITY

  
 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

SAMPLE COLLECTION DATE: April 25, 2017  
 April 26 & 27, 2017 (Site #3)

LAB ID Nos. 2nd QUARTER

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C2917	17C2918	17C2919	17C2920	17C2921	17C2922	17C2923	17C2924	17C2925		
				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	13	12	13	12	12	12	12	12	13		
TURBIDITY	TT	N.T.U.	82079	1.10	0.05	0.05	0.10	1.40	0.05	0.05	0.10	0.10		
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	1 M	2 Cc	2 Cc	1 Cc	1 M	2 Cc	2 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	0	1	0	11	1	3	1	0		
pH	*6.5-8.5	STD. Units	00040	8.2	7.7	7.8	7.9	8.2	7.8	7.8	7.9	7.9		
FREE CHLORINE RESIDUAL		CL <sub>2</sub> , mg/L	50064	ND	1.25	1.23	0.88	ND	1.19	1.15	0.88	0.90		
SATURATION INDEX, LANGELIER		UNITS +/-		0.18	-0.50	-0.44	-0.22	0.07	-0.59	-0.60	-0.25	-0.21		
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0		
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	112	106	105	105	109	102	102	103	103		
CONDUCTIVITY		uS/cm		333	326	341	323	309	315	315	322	321		
BROMIDE		Br, mg/L	71870	0.634	<0.1	<0.1	0.134	<0.1	<0.1	<0.1	<0.1	<0.1		
CHLORIDE	*250	Cl, mg/L	00940	19.6	21.0	21.1	20.4	14.9	16.5	16.6	17.8	17.9		
FLUORIDE	4	F, mg/L	00951	0.13	0.69	0.71	0.70	0.13	0.76	0.76	0.77	0.77		
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.8	26.0	26.2	26.3	22.1	25.9	26.2	26.2	25.8		
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	138	140	143	136	140	140	138	131	141		
CALCIUM		Ca, mg/L	00916	37.1	37.5	37.2	37.2	36.8	36.3	36.4	36.5	36.6		
MAGNESIUM		Mg, mg/L	00927	13.1	13.2	13.2	13.0	12.8	12.6	12.6	12.7	12.8		
POTASSIUM		K, mg/L	00937	1.18	1.22	1.19	1.20	1.15	1.13	1.14	1.15	1.17		
SODIUM		Na, mg/L	00006	11.8	12.6	12.6	12.2	9.23	9.93	10.0	10.8	10.9		
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	170	161	151	135	159	166	165	183	167		
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	175	183	171	165	162	R	188	187	178		
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.77	1.65	1.60	1.61	1.68	1.51	1.50	1.53	1.57		
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	11.6	14.7	13.1	12.5	13.4	11.6	12.5	11.8	13.0		
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	0.496	0.376	0.389	0.332	0.383	0.318	0.318	0.329	0.395		
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	0.019	0.463	0.464	0.460	0.034	0.519	0.529	0.544	0.539		
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	1.27	1.25	1.26	0.96	1.42	1.42	1.46	1.49	1.57		
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12		
RADIOACTIVITY, GROSS ALPHA	15	pCi/L	01501	<9	<9	<9	<9	<9	<9	<9	<9	<9		
RADIOACTIVITY, GROSS BETA	50	pCi/L	03501	10	12	10	9	8	12	9	10	8		

\* Federal/State Secondary MCLs      \*\* Action Level      \*\*\*Distribution samples are composited.      TT - Treatment Technique      ND - not detected

pH/Alk not tested within 15 minutes of sample collection      H - Holding Time Exceeded      R - Data rejected

Site #3 was not preserved for COD      For Solids, did not meet precision criteria of 0.5 mg

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

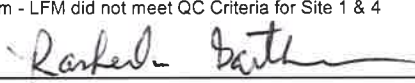
SAMPLE COLLECTION DATE: April 25, 2017

LAB ID Nos. 2nd QUARTER

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C2917	17C2918	17C2919	17C2920	17C2921	17C2922	17C2923	17C2924	17C2925
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	
73rd Street	79th Street	South	North		Central	Central	North					
ALUMINUM	*50-200	Al, µg/L	01105	40.0	67.6	60.3	28.3	104	57.5	58.8	36.0	29.4
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	20.9	19.7	19.7	19.9	20.8	19.2	19.1	19.3	19.3
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON		B, µg/L	01022	23.9	23	22.8	22.8	23.7	21.8	21.7	21.8	22.0
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<1	<1	2.7	<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	1.09	1.46	<1	3.08	<1	1.29
IRON	*300	Fe, µg/L	00031	26.4	<2	<2	9.10	103	<2	<2	5.48	6.13
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	<1	<1	<1
LITHIUM		Li, µg/L	01132	2.98	2.95	2.94	3.02	3.06	2.85	2.85	2.85	2.87
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	1.38	<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	1.10	1.12	1.08	1.50	1.05	<1	<1	1.02	1.02
NICKEL		Ni, µg/L	01067	1.91	1.77	1.72	1.95	1.86	1.60	1.63	1.71	1.79
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1
SILICON		Si, µg/L	01142	1043	1162	1150	1145	1176	1141	1136	1121	1125
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM		Sr, µg/L	01082	130	126	124	121	124	120	116	121	120
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1
TITANIUM		Ti, µg/L	01152	<1	<1	<1	<1	2.81	1.07	1.08	1.08	1.06
VANADIUM		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1
ZINC	*5000	Zn, µg/L	01092	2.70	1.55	1.25	12.0	3.43	<1	<1	16.9	14.4

\* Federal/State Secondary MCLs    \*\* Action Level    \*\*\*Distribution samples are composited. TT - Treatment Technique

Lithium - LFM did not meet QC Criteria for Site 1 & 4

  
 CHIEF WATER CHEMIST

  
 DIRECTOR OF LABORATORIES

  
 MANAGER OF WATER QUALITY

  
 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

SAMPLE COLLECTION DATE: August 29, 2017

LAB ID Nos.

3rd QUARTER

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C5667	17C5668	17C5669	17C5670	17C5671	17C5672	17C5673	17C5674	17C2925			
				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	22	23	23	23	20	22	22	23	25			
TURBIDITY	TT	N.T.U.	82079	0.50	0.05	0.10	0.15	0.40	0.05	0.05	0.10	0.10			
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	2 M	2 M	2 M	2 M	3 M	2 M	2 M	2 M	2 M			
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.		2 M	2 M	2 M	2 M	3 M	2 M	2 M	2 M	2 M			
COLOR	*15	Pt.-Co. CU	00080	2	0	0	0	1	0	0	0	0			
pH	*6.5-8.5	STD. Units	00040	8.4	7.9	7.9	7.9	8.3	7.9	7.9	8.0	8.0			
FREE CHLORINE RESIDUAL		CL <sub>2</sub> , mg/L	50064	--	1.41	1.42	0.80	--	1.18	1.14	0.94	0.94			
SATURATION INDEX, LANGELIER		UNITS +/-		0.43	-0.27	-0.28	-0.03	0.33	-0.29	-0.28	0.10	0.11			
ALKALINITY, PHENOLPHTHALEIN		0	00415	1.65	0	0	0	1.40	0	0	0	0			
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	107	101	101	101	107	102	102	102	102			
CONDUCTIVITY		uS/cm		303	306	305	297	298	306	306	303	306			
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	13.3	14.7	14.7	14.9	11.9	14.5	14.5	14.7	14.6			
FLUORIDE	4	F, mg/L	00951	0.16	0.59	0.61	0.61	0.15	0.59	0.62	0.64	0.66			
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	21.6	24.3	24.2	24.3	19.9	23.8	23.8	23.5	23.8			
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	139	145	138	139	138	133	139	141	134			
CALCIUM		Ca, mg/L	00916	34.0	34.0	34.0	33.9	34.1	34.3	34.3	33.9	34.0			
MAGNESIUM		Mg, mg/L	00927	11.8	11.9	11.9	11.8	11.7	11.7	11.8	11.7	11.7			
POTASSIUM		K, mg/L	00937	1.35	1.39	1.38	1.33	1.28	1.33	1.32	1.30	1.30			
SODIUM		Na, mg/L	00006	8.19	8.57	8.48	8.52	7.80	8.27	8.31	8.28	8.24			
SOLIDS, TOTAL DISSOLVED	*500	TDS, mg/L	00150	R	R	R	R	R	R	R	R	R			
SOLIDS, TOTAL		Tot. Sol., mg/L	00500	147	137	141	135	136	144	110	140	144			
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.83	1.82	1.78	1.81	1.83	1.79	1.82	1.82	1.23			
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	4.2	2.8	3.3	3.8	3.1	3.8	5.1	8.3	4.3			
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	0.316	0.283	0.272	H	0.292	0.281	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	<0.03	0.408	0.405	0.551	<0.03	0.536	0.536	0.557	0.568			
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.044	0.828	0.784	0.998	0.072	1.09	1.04	1.11	1.09			
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12			

\* Federal/State Secondary MCLs

\*\* Action Level

\*\*\*Distribution samples are composited. TT - Treatment Technique ND - not detected

Nitrate samples collected on 8/8/17

H - Holding Time Exceeded

R - Data rejected

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

SAMPLE COLLECTION DATE: August 29, 2017 LAB ID Nos. 3rd QUARTER

February 6, 2017 ( Site 3 & 6) 17C0843 17C0844 17C0845 17C0951 17C0847 17C0848 17C0849 17C0952 17C0851

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			South	North		Central
ALUMINUM	*50-200	Al, µg/L	01105	14.1	200	193	181	13.6	182	188	190	182
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
BARIIUM	2000	Ba, µg/L	01007	19.4	19.0	18.9	19.0	19.4	18.8	19.3	18.7	19.0
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON		B, µg/L	01022	25.4	24.9	25.1	25.0	24.3	24.1	24.7	24.4	24.6
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<1	<1	2.7	<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	1.99	<1	<1	1.29	<1	<1	<1	<1	1.14
IRON	*300	Fe, µg/L	00031	7.21	<1	<1	1.95	7.21	<1	<1	<1	2.93
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	1.80	<1	<1
LITHIUM		Li, µg/L	01132	1.60	1.58	1.60	1.60	1.46	1.49	1.50	1.46	1.46
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	1	<1	<1	<1	<1	<1	<1	<1
NICKEL		Ni, µg/L	01067	1.11	1.15	1.12	1.21	1.24	1.18	1.19	1.34	1.22
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1
SILICON		Si, µg/L	01142	711	769	779	776	828	857	861	830	823
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM		Sr, µg/L	01082	112	112	109	111	111	109	113	108	109
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1
TITANIUM		Ti, µg/L	01152	<1	1.32	<1	1.14	<1	1.32	1.27	1.18	1.22
VANADIUM		V, µg/L	00985	<1	<1	<1	<1	<1	<1	<1	<1	<1
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	11.7	<1	<1	<1	14.8	7.44

\* Federal/State Secondary MCLs

\*\* Action Level

\*\*\*Distribution samples are composited. TT - Treatment Technique

*Rand. Bath*

CHIEF WATER CHEMIST

*Haseen S. Shah*

DIRECTOR OF LABORATORIES

*Andrew H. Ritz*

MANAGER OF WATER QUALITY

*[Signature]*

DEPUTY COMMISSIONER

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

SAMPLE COLLECTION DATE: December 5, 2017

LAB ID Nos. 4th QUARTER

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C7792	17C7793	17C7794	17C7795	17C7796	17C7797	17C7798	17C7799	17C7800			
				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	9	9	9	13	8	9	8	13	12			
TURBIDITY	TT	N.T.U.	82079	0.85	0.10	0.10	0.10	3.5	0.10	0.10	0.15	0.10			
THRESHOLD ODOR, STRAIGHT - ‡	*3	T.O.N	00086	2 M	2 M	2 M	2 M	1 M	2 M	2 M	1 M	2 M			
THRESHOLD ODOR, DECHLORINATED - ‡	*3	T.O.N.		2 M	2 M	2 M	2 M	1 M	2 M	2 M	1 M	2 M			
COLOR - ‡	*15	Pt.-Co. CU	00080	5	1	0	0	17	1	0	1	0			
pH	*6.5-8.5	STD. Units	00040	8.2	7.8	7.9	8.0	8.2	7.8	7.8	8.1	7.9			
FREE CHLORINE RESIDUAL - ‡		CL <sub>2</sub> , mg/L	50064	--	1.24	1.25	0.95	--	1.04	1.04	0.90	0.90			
SATURATION INDEX, LANGELIER - ‡		UNITS +/-		0.37	-0.20	-0.21	0.08	0.27	-0.35	-0.35	0.22	0.12			
ALKALINITY, PHENOLPHTHALEIN		0	00415	0	0	0	0	0	0	0	0	0			
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	109	103	104	104	110	103	103	105	104			
CONDUCTIVITY		uS/cm		291	296	295	298	292	297	297	302	293			
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	14.4	14.5	14.6	13.0	14.3	14.4	14.5	14.4			
FLUORIDE	4	F, mg/L	00951	0.13	0.59	0.62	0.60	0.13	0.66	0.72	0.66	0.66			
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.6	25.6	25.8	25.5	22.5	25.7	26.0	25.8	25.5			
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	132	139	140	135	132	133	135	136	133			
CALCIUM		Ca, mg/L	00916	36.2	36.1	36.1	36.0	36.5	36.3	36.4	37.0	36.2			
MAGNESIUM - ‡		Mg, mg/L	00927	12.3	12.2	12.2	12.2	12.5	12.2	12.3	12.2	12.3			
POTASSIUM - ‡		K, mg/L	00937	1.45	1.47	1.43	1.45	1.37	1.44	1.44	1.77	1.45			
SODIUM		Na, mg/L	00006	8.20	8.50	8.48	8.38	7.84	8.47	8.67	8.66	8.57			
SOLIDS, TOTAL DISSOLVED (H)	*500	TDS, mg/L	00150	104	193	135	140	131	123	131	124	122			
SOLIDS, TOTAL - ‡		Tot. Sol., mg/L	00500	140	R	R	R	143	142	R	135	134			
TOTAL ORGANIC CARBON		TOC, mg/L	00680	1.74	1.58	1.60	1.54	1.71	1.54	1.54	1.52	1.50			
OXYGEN DEMAND, CHEMICAL - ‡		O, mg/L	00335	4.41	5.18	2.53	4.60	4.36	6.69	4.06	2.64	4.76			
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	0.319	0.296	0.310	0.311	0.235	0.314	0.312	0.326	0.307			
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	0.443	0.398	0.486	<0.06	0.474	0.474	0.492	0.470			
PHOSPHATE, TOTAL - ‡		PO <sub>4</sub> , mg/L	00650	<0.06	0.982	0.892	0.878	0.060	1.04	1.05	0.998	1.04			
CYANIDE, TOTAL	200	CN, ug/L	00720	<12	<12	<12	<12	<12	<12	<12	<12	<12			

\* Federal/State Secondary MCLs      \*\* Action Level      \*\*\*Distribution samples are composited.      TT - Treatment Technique      ND - not detected

‡ Non - NELAP Accredited

H - Holding Time Exceeded

R - Data rejected

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

SAMPLE COLLECTION DATE: December 5, 2017

LAB ID Nos.

4th QUARTER

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	17C7792	17C7793	17C7794	17C7795	17C7796	17C7797	17C7798	17C7799	17C7800
				SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION	RAW LAKE	OUTLETS		***DISTRIBUTION	
73rd Street	79th Street	South	North		Central	Central	North					
ALUMINUM	*50-200	Al, µg/L	01105	18.2	60.4	57.4	50.0	114	59.6	60.0	62.1	57.0
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	19.6	18.9	18.5	20.8	19.5	19.8	18.2	18.3
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON - ‡		B, µg/L	01022	25.5	25.0	25.4	24.9	24.6	25.3	24.8	25.0	25.7
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	1.08	1.38	1.30	1.26	2.56	1.15	1.19	1.23	1.08
COBALT - ‡		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1
COPPER	**1300	Cu, µg/L	01042	1.82	<1	<1	1.60	<1	<1	<1	1.40	1.64
IRON	*300	Fe, µg/L	00031	19.4	<1	1.47	6.68	150	<1	<1	14.6	6.51
LEAD	**15.0	Pb, µg/L	01051	<1	<1	<1	<1	<1	<1	1.28	1.08	<1
LITHIUM - ‡		Li, µg/L	01132	3.16	2.98	2.97	2.93	3.25	2.96	3.04	3.24	2.92
MANGANESE	*50	Mn, µg/L	01055	<1	<1	<1	<1	4.15	<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	<1	<1	<1	<1	<1	<1	<1	<1
NICKEL		Ni, µg/L	01067	1.70	1.62	1.66	1.76	2.03	1.72	1.69	1.80	1.73
SELENIUM	50	Se, µg/L	01147	<1	<1	<1	<1	<1	<1	<1	<1	<1
SILICON		Si, µg/L	01142	1130	1200	1200	1200	1420	1240	1250	1310	1230
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM - ‡		Sr, µg/L	01082	119	116	116	117	126	119	120	120	114
THALLIUM	2	Tl, µg/L	01059	<1	<1	<1	<1	<1	<1	<1	<1	<1
TITANIUM - ‡		Ti, µg/L	01152	1.08	1.58	1.45	1.67	3.40	1.68	1.67	1.67	1.56
VANADIUM - ‡		V, µg/L	00985	<1	<1	<1	<1	6.34	<1	<1	<1	<1
ZINC	*5000	Zn, µg/L	01092	<1	<1	<1	27.2	2.88	<1	<1	22.4	14.5

\* Federal/State Secondary MCLs

\*\* Action Level

\*\*\*Distribution samples are composited. TT - Treatment Technique

‡ Non NELAP Accredited

Note: LFM recovery for Lithium Test did not meet QC Criteria due to Matrix Effects

*Rashed Dault*

CHIEF WATER CHEMIST

*Hansen Loh*

DIRECTOR OF LABORATORIES

*Shane R. P. Kelly*

MANAGER OF WATER QUALITY

*[Signature]*

DEPUTY COMMISSIONER