

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

SAMPLES COLLECTED: FEBRUARY 1, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			Central	North		Central
TEMPERATURE		°C	00010	4	5	5	4	3	5	5	4	4
TURBIDITY	0.5	N.T.U.	82079	5.5	0.10	0.10	0.10	4.1	0.10	0.10	0.15	0.15
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	1M	1Cc	1Cc	2Cc	2E	1Cc	1Cc	1Cc	1Cc
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.			1M	1E	1M		1M	1M	1E	1M
COLOR	*15	Pt.-Co. Units	00080	0	0	0	0	0	0	0	0	0
pH	6.5-8.	STD. Units	00040	8.14	7.60	7.72	7.64	8.18	7.77	7.70	7.68	7.65
FREE CHLORINE RESIDUAL		Cl <sub>2</sub> , mg/L	50064	0	0.82	0.82	0.58	0	0.83	0.90	0.65	0.60
SATURATION INDEX, LANGELIER		UNITS +/-		0.26	-0.38	-0.16	-0.34	0.35	-0.11	-0.18	-0.30	-0.38
ALKALINITY, PHENOLPHTHALEIN		CaCO <sub>3</sub> , mg/L	00415	0	0	0	0	0	0	0	0	0
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	105	95	95	96	102	96	95	95	94
BROMIDE		Br, mg/L	71870	0.048	<0.003	<0.003	<0.003	0.055	0.011	<0.003	<0.003	<0.003
CHLORIDE	*250	Cl, mg/L	00940	11.8	13.1	13.3	13.2	11.6	13.7	14.9	13.9	13.8
FLUORIDE	4	F, mg/L	00951	0.18	0.92	0.90	0.90	0.18	0.91	0.92	0.94	0.94
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	23.1	30.6	30	29.9	23.8	29.9	30.4	28.8	29.9
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	140	144	146	144	144	142	140	144	144
CALCIUM		Ca, mg/L	00916	37.0	36.9	36.9	36.9	38.9	36.3	36.3	36.6	36.6
MAGNESIUM		Mg, mg/L	00927	12.1	12.0	11.9	12.0	12.7	12.0	12.0	12.1	12.3
POTASSIUM		K, mg/L	00937	1.8	1.8	1.4	1.3	1.6	1.6	1.4	1.6	1.6
SODIUM		Na, mg/L	00006	5.9	6.1	6.1	6.1	5.8	6.3	6.2	6.3	6.3
RESIDUE, TOTAL DISSOLVED	*500	TDS, mg/L	00150	168	163	165	169	155	164	165	163	166
RESIDUE, TOTAL		Tot. Sol., mg/L	00500	178	170	173	173	167	175	175	175	173
TOTAL ORGANIC CARBON		NPOC, mg/L	00680	1.95	1.43	1.75	1.46	1.77	1.46	1.65	1.71	1.58
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	9.0	<5	<5	<5	6.0	<5	<5	<5	<5
NITROGEN, AMMONIA		N, mg/L	00610	0.04	<0.01	<0.01	<0.01	0.05	0.01	<0.01	<0.01	<0.01
NITROGEN, NITRATE	10	N, mg/L	00620	0.339	0.326	0.339	0.389	0.321	0.382	0.373	0.352	0.330
NITROGEN, NITRITE	1	N, mg/L	00615	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NITROGEN, TOTAL KJELDAHL		N, mg/L	00625	0.127	<0.10	<0.10	<0.10	0.138	<0.10	<0.10	<0.10	<0.10
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	0.032	0.303	0.250	0.347	0.046	0.409	0.382	0.422	0.404
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.049	0.563	0.482	0.599	0.102	0.661	0.636	0.673	0.655
CYANIDE, TOTAL	0.2	CN, mg/L	00720	<0.00	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
FOAMING AGENT	0.5	MBAS, mg/L	38260	<0.02	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
PHENOLICS, TOTAL		Phenol, µg/L	32730	2	1	1	3	2	3	3	2	3
RADIOACTIVITY, GROSS ALPHA	15	pCi/L	01501	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.26
RADIOACTIVITY, GROSS BETA	50	pCi/L	03501	<1	1.1	1.5	1.0	2.3	1.0	1.5	1.4	1.2

\* Federal/State Secondary MCL's  
\*\*\*Distribution samples are composited.

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

SAMPLES COLLECTED FEBRUARY 1, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT						JARDINE WATER PURIFICATION PLANT					
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION CENTRAL	RAW LAKE	OUTLETS		***DISTRIBUTION NORTH
					73rd Street	79th Street			Central	North			Central	North	
ALUMINUM		Al, µg/L	01105	150	115	139	155	248	115	130	120	202			
ANTIMONY	6	Sb, µg/L	01268	<2	<2	<2	2	2	<2	<2	<2	<2			
ARSENIC	50	As, µg/L	01002	<4	<4	<4	<4	<4	<4	<4	<4	<4			
BARIUM	2000	Ba, µg/L	01007	25	21	21	21	23	20	21	20	20			
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1			
BORON		B, µg/L	01022	31	22	23	10	25	16	21	<10	20			
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1			
CHROMIUM	100	Cr, µg/L	01034	<2	<2	<2	<2	3	<2	<2	<2	<2			
COBALT		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1			
COPPER	1300	Cu, µg/L	01042	3	4	<3	<3	3	<3	6	<3	<3			
IRON	1000	Fe, µg/L	01045	172	6	<6	19	25	12	<6	32	49			
LEAD	15**	Pb, µg/L	01051	<3	<3	<3	<3	<3	<3	<3	<3	<3			
LITHIUM		Li, µg/L	01132	<1	<1	<1	<1	<1	<1	<1	<1	<1			
MANGANESE	150	Mn, µg/L	01055	<2	<2	<2	<2	<2	<2	<2	<2	<2			
MERCURY	2	Hg, µg/L	71900	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4			
MOLYBDENUM		Mo, µg/L	01062	<10	<10	<10	<10	<10	<10	<10	<10	<10			
NICKEL	100	Ni, µg/L	01067	<3	<3	<3	<3	<3	<3	<3	<3	<3			
SELENIUM	50	Se, µg/L	01147	<3	<3	<3	<3	<3	<3	<3	<3	<3			
SILICON		Si, µg/L	01142	1134	929	906	885	1153	897	918	940	920			
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1			
STRONTIUM		Sr, µg/L	01082	134	129	133	131	133	131	131	129	128			
THALLIUM	2	Tl, µg/L	01059	<2	<2	<2	<2	<2	<2	<2	<2	<2			
TITANIUM		Ti, µg/L	01152	<3	<3	<3	<3	<3	<3	<3	<3	<3			
VANADIUM		V, µg/L	00985	<5	<5	<5	<5	<5	<5	<5	<5	<5			
ZINC	5000	Zn, µg/L	01092	3	3	<3	10	9	<3	12	19	13			

\*\* Action Level

\*\* Distribution samples are composited.

*Henry D. O'Brien*  
CHIEF WATER CHEMIST

*Karynna Warber's*  
DIRECTOR WATER PURIFICATION LABORATORIES

*Steven P. Flanagan*  
DEPUTY CHIEF CHEMIST

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

SAMPLES COLLECTED May 10, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION Central North	
					73rd Street	79th Street			Central	North		Central
TEMPERATURE		°C	00010	12	12	12	12	11	12	12	12	12
TURBIDITY	0.5	N.T.U.	00076	1.0	0.10	0.10	0.10	1.6	0.10	0.10	0.10	0.15
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	ZDF	2Cc	2Cc	1Cc	1Df	1Cc	2Cc	2Cc	1Cc
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.		1G	1M	1M	1M	1G	1M	1M	1M	1G
COLOR	*15	Pt.-Co. Units	00080	0	0	0	0	0	0	0	0	0
pH	6.5-8.	STD. Units	00403	8.20	7.54	7.65	7.65	8.27	7.75	7.73	7.81	7.82
FREE CHLORINE RESIDUAL		CL <sub>2</sub> , mg/L	50064	0.00	0.81	0.78	0.88	0.00	0.79	0.80	0.70	0.69
SATURATION INDEX, LANGELEIR		UNITS +/-		0.22	-0.49	-0.38	-0.38	0.29	-0.23	-0.25	-0.27	-0.16
ALKALINITY, PHENOLPHTHALEIN		CaCO <sub>3</sub> , mg/L	00415	0	0	0	0	0	0	0	0	0
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	101	90	92	93	101	95	95	93	95
BROMIDE		Br, mg/L	71870	0.028	<0.003	<0.003	<0.003	0.029	<0.003	<0.003	<0.003	<0.003
CHLORIDE	*250	Cl, mg/L	00940	11.7	20.1	13.7	13.9	15.2	17.1	17.3	17.3	16.7
FLUORIDE	4	F, mg/L	00951	0.16	1.03	0.99	1.02	0.16	1.05	1.10	1.12	1.09
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.3	27.3	27	27.4	23.9	27.6	27	23.3	27.1
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	136	136	136	142	134	138	140	140	134
CALCIUM		Ca, mg/L	00916	35.5	34.4	34.9	33.8	34.8	33.9	34.1	33.7	34.1
MAGNESIUM		Mg, mg/L	00927	12.5	12.2	12.3	12.8	12.8	12.8	12.8	12.5	12.5
POTASSIUM		K, mg/L	00937	1.8	1.9	1.9	1.3	2.0	1.9	1.9	1.9	1.8
SODIUM		Na, mg/L	00929	6.3	6.6	6.8	6.8	8.2	8.3	8.3	8.1	8.0
RESIDUE, TOTAL DISSOLVED	*500	TDS, mg/L	00515	159	165	163	162	181	169	167	166	167
RESIDUE, TOTAL		Tot. Sol., mg/L	00500	172	180	188	191	192	184	186	185	187
TOTAL ORGANIC CARBON		NPOC, mg/L	00680	1.74	1.52	1.63	1.46	1.79	1.69	1.62	1.36	1.66
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	8.4	6.3	<5	5.6	<5	<5	<5	5.4	<5
NITROGEN, AMMONIA		N, mg/L	00610	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NITROGEN, NITRATE	10	N, mg/L	00620	0.402	0.332	0.337	0.432	0.434	0.524	0.463	0.462	0.431
NITROGEN, NITRITE	1	N, mg/L	00615	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NITROGEN, TOTAL KJELDAHL		N, mg/L	00625	0.180	0.172	0.17	0.157	0.210	0.265	0.25	0.197	0.179
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	0.350	0.446	0.481	0.500	0.028	0.536	0.495	0.559	0.493
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.047	0.884	1.081	1.036	0.042	0.954	0.945	1.091	0.929
CYANIDE, TOTAL	0.2	CN, mg/L	00720	<0.00	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
FOAMING AGENT	0.5	MBAS, mg/L	38260	<0.02	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
PHENOLICS, TOTAL		Phenol, µg/L	32730	1	<1	<1	<1	<1	<1	1	<1	<1
RADIOACTIVITY, GROSS ALPHA	15	pci/l	01501	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
RADIOACTIVITY, GROSS BETA	50	pci/l	03501	1.6	1.4	1.4	2.0	2.3	1.5	1.9	1.5	1.9

\* Federal/State Secondary MCL's

\*\* Distribution samples are composited.

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

SAMPLES COLLECTED May 10, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION South	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			Central	North		Central
ALUMINUM		Al, µg/L	01105	109	118	115	138	179	121	117	100	136
ANTIMONY	6	Sb, µg/L	01268	<2	<2	<2	<2	<2	<2	<2	<2	<2
ARSENIC	50	As, µg/L	01002	<4	<4	<4	<4	<4	<4	<4	<4	<4
BARIUM	2000	Ba, µg/L	01007	15	15	15	15	16	15	19	17	17
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON		B, µg/L	01022	15	12	13	18	17	9	7	6	10
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<2	<2	<2	<2	<2	<2	<2	<2	<2
COBALT		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1
COPPER	1300	Cu, µg/L	01042	<3	<3	<3	<3	<3	<3	<3	<3	<3
IRON	1000	Fe, µg/L	01045	53	<12	<12	<12	106	<12	<12	15	48
LEAD	15**	Pb, µg/L	01051	<3	<3	<3	<3	<3	<3	<3	<3	<3
LITHIUM		Li, µg/L	01132	<1	<1	<1	<1	<1	<1	<1	<1	<1
MANGANESE	150	Mn, µg/L	01055	<2	<2	<2	<2	<2	<2	<2	<2	<2
MERCURY	2	Hg, µg/L	71900	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
MOLYBDENUM		Mo, µg/L	01062	<10	<10	<10	<10	<10	<10	<10	<10	<10
NICKEL	100	Ni, µg/L	01067	<3	<3	<3	<3	<3	<3	<3	<3	<3
SELENIUM	50	Se, µg/L	01147	<3	<3	<3	<3	<3	<3	<3	<3	<3
SILICON		Si, µg/L	01142	739	944	913	942	769	862	846	875	876
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM		Sr, µg/L	01082	132	130	130	128	139	137	137	135	135
THALLIUM	2	Tl, µg/L	01059	<2	<2	<2	<2	<2	<2	<2	<2	<2
TITANIUM		Ti, µg/L	01152	<3	<3	<3	<3	<3	<3	<3	<3	<3
VANADIUM		V, µg/L	01087	<5	<5	<5	<5	<5	<5	<5	<5	<5
ZINC	5000	Zn, µg/L	01092	<3	<3	3	9	14	<3	<3	13	15

\*\* Action Level

\*\*\* Distribution samples are composited.

*Sheld L. O'Connor*  
CHIEF WATER CHEMIST

*Lyndee Henderson*  
DIRECTOR, WATER PURIFICATION LABORATORIES

*Sean P. Flanagan*  
DEPUTY COMMISSIONER

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

SAMPLES COLLECTED August 9, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT						JARDINE WATER PURIFICATION PLANT					
				RAW LAKE	OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE	OUTLETS		***DISTRIBUTION Central	North			
					73rd Street	79th Street			Central	North			Central	North	
TEMPERATURE		°C	00010	22	22	22	23	22	22	22	23	23	23		
TURBIDITY	0.5	N.T.U.	82079	1.85	0.95	0.15	0.30	4.65	0.10	0.10	0.15	0.15	0.40		
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	2E	1Cc	1Cc	0.3	2G	1Cc	1Cc	1Cc	1Cc	1Cc		
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.			1M	1M	1M		1E	1E	1M	1M	1M		
COLOR	*15	Pt.-Co. Units	00080	0	0	0	0	0	0	0	0	0	0		
pH	6.5-8.	STD. Units	00040	8.04	7.35	7.36	7.45	8.11	7.36	7.32	7.39	7.39	7.37		
FREE CHLORINE RESIDUAL		Cl <sub>2</sub> , mg/L	50064	0.00	0.71	0.72	0.69	0.00	0.85	0.77	0.77	0.77	0.63		
SATURATION INDEX, LANGELIER		UNITS +/-		0.06	-0.58	-0.62	-0.38	0.13	-0.02	-0.66	-0.64	-0.64	-0.61		
ALKALINITY, PHENOLPHTHALEIN		CaCO <sub>3</sub> , mg/L	00415	0	0	0	0	0	0	0	0	0	0		
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	110	101	102	102	111	100	100	100	99	98		
BROMIDE		Br, mg/L	71870	0.021	<0.003	<0.003	<0.003	0.019	<0.003	<0.003	<0.003	<0.003	0		
CHLORIDE	*250	Cl, mg/L	00940	11.6	14.6	14.9	14.4	11.4	15.3	14.1	14.2	14.2	15.3		
FLUORIDE	4	F, mg/L	00951	0.22	0.91	0.90	0.91	0.22	1.08	1.11	1.12	1.12	1.10		
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.7	28.0	27.8	27.4	22.3	26.5	26.8	26.2	26.2	27.8		
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	134	136	136	138	134	136	136	134	134	132		
CALCIUM		Ca, mg/L	00916	37.4	37.9	37.0	38.1	37.5	37.1	37.4	36.9	36.9	37.4		
MAGNESIUM		Mg, mg/L	00927	11.7	11.8	11.7	11.8	11.9	11.7	11.7	11.6	11.6	11.8		
POTASSIUM		K, mg/L	00937	1.7	2.0	1.8	1.5	1.5	1.8	1.8	2.3	1.8	2.1		
SODIUM		Na, mg/L	00006	6.0	6.6	6.5	6.6	6.0	6.3	6.3	6.4	6.4	6.5		
RESIDUE, TOTAL DISSOLVED	*500	TDS, mg/L	00150	179	181	168	172	170	169	171	176	176	170		
RESIDUE, TOTAL		Tot. Sol., mg/L	00500	173	180	182	178	165	170	185	190	190	162		
TOTAL ORGANIC CARBON		NPOC, mg/L	00680	1.89	1.67	1.66	1.91	2.04	1.67	1.79	1.81	1.81	1.77		
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5		
NITROGEN, AMMONIA		N, mg/L	00610	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
NITROGEN, NITRATE	10	N, mg/L	00620	0.384	0.239	0.287	0.301	0.247	0.353	0.232	0.232	0.232	0.335		
NITROGEN, NITRITE	1	N, mg/L	00615	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
NITROGEN, TOTAL KJELDAHL		N, mg/L	00625	0.419	<0.100	<0.100	0.225	0.592	0.211	0.146	0.322	0.322	0.293		
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	0.026	0.662	0.684	0.773	0.038	0.860	0.859	0.825	0.825	0.911		
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.044	1.146	1.160	1.103	0.047	1.608	1.606	1.134	1.134	1.263		
CYANIDE, TOTAL	0.2	CN, mg/L	00720	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
FOAMING AGENT	0.5	MBAS, mg/L	38260	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025		
PHENOLICS, TOTAL		Phenol, µg/L	32730	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
RADIOACTIVITY, GROSS ALPHA	15	pCi/L	01501	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
RADIOACTIVITY, GROSS BETA	50	pCi/L	03501	1.3	<1	<1	1.0	1.2	<1	1.0	<1	<1	1.0		

\* Federal/State Secondary MCL's

\*\*\*Distribution samples are composited.

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

SAMPLES COLLECTED August 9, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT				JARDINE WATER PURIFICATION PLANT				
				RAW LAKE	OUTLETS		***DISTRIBUTION South	RAW LAKE	OUTLETS		***DISTRIBUTION	
					73rd Street	79th Street			Central	North		Central
ALUMINUM		Al, µg/L	01105	82	148	135	155	86	122	114	117	113
ANTIMONY	6	Sb, µg/L	01268	<2	<2	<2	<2	<2	<2	<2	<2	<2
ARSENIC	50	As, µg/L	01002	<4	<4	<4	<4	<4	<4	<4	<4	<4
BARIUM	2000	Ba, µg/L	01007	34	42	38	41	36	36	35	41	39
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON		B, µg/L	01022	20	21	29	18	20	18	23	17	16
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<2	<2	<2	<2	<2	<2	<2	<2	<2
COBALT		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1
COPPER	1300	Cu, µg/L	01042	<3	<3	<3	<3	4	<3	<3	<3	<3
IRON	1000	Fe, µg/L	01045	42	<12	<12	<12	25	<12	<12	<12	64
LEAD	15**	Pb, µg/L	01051	<3	<3	<3	<3	<3	<3	<3	<3	<3
LITHIUM		Li, µg/L	01132	<1	2	7	6	<1	<1	<1	6	6
MANGANESE	150	Mn, µg/L	01055	2	<2	<2	<2	6	<2	<2	<2	2
MERCURY	2	Hg, µg/L	71900	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
MOLYBDENUM		Mo, µg/L	01062	<10	<10	<10	<10	<10	<10	<10	<10	<10
NICKEL	100	Ni, µg/L	01067	<3	<3	<3	<3	<3	<3	<3	<3	<3
SELENIUM	50	Se, µg/L	01147	<3	<3	<3	<3	<3	<3	<3	<3	<3
SILICON		Si, µg/L	01142	382	562	533	547	313	586	577	577	563
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM		Sr, µg/L	01082	127	130	126	126	125	125	126	119	124
THALLIUM	2	Tl, µg/L	01059	<2	<2	<2	<2	<2	<2	<2	<2	<2
TITANIUM		Ti, µg/L	01152	<5	<5	<5	<5	<5	<5	<5	<5	<5
VANADIUM		V, µg/L	00985	<5	<5	<5	<5	<5	<5	<5	<5	<5
ZINC	5000	Zn, µg/L	01092	6	4	6	13	15	<3	7	26	31

\*\* Action Level

\*\*\* Distribution samples are composited.

*Alayd D. Connor*  
CHIEF WATER CHEMIST

*Virginia Walker*  
DIRECTOR, WATER PURIFICATION LABORATORIES

*Sean P. Danagan*  
DEPUTY COMMISSIONER

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

SAMPLES COLLECTED November 15, 1999

PARAMETER	IEPA MCL	DETERMINED AS	STORET NUMBER	SOUTH WATER PURIFICATION PLANT						JARDINE WATER PURIFICATION PLANT					
				RAW LAKE		OUTLETS		***DISTRIBUTION SOUTH	RAW LAKE		OUTLETS		***DISTRIBUTION Central	***DISTRIBUTION North	
				73rd Street	79th Street	73rd Street	79th Street		Central	North	Central	North			
TEMPERATURE		°C	00010	12	13	13	14	12	13	13	13	13	13		
TURBIDITY	0.5	N.T.U.	82079	6.60	0.15	0.15	0.15	11.30	0.10	0.10	0.15	0.15	0.35		
THRESHOLD ODOR, STRAIGHT	*3	T.O.N	00086	1G	1Cc	2Cc	1Cc	2E	2Cc	2Cc	1Cc	1Cc	1Cc		
THRESHOLD ODOR, DECHLORINATED	*3	T.O.N.			2M	1M	1E		1M	1M	1E	2M			
COLOR	*15	Pt.-Co. Units	00080	5	0	0	0	2	0	0	0	0	1		
pH	6.5-8.	STD. Units	00040	8.25	7.49	7.52	7.54	8.18	7.58	7.56	7.57	7.57	7.63		
FREE CHLORINE RESIDUAL		Cl <sub>2</sub> , mg/L	50064	0.00	0.80	0.75	0.66	0	0.78	0.74	0.86	0.86	0.74		
SATURATION INDEX, LANGELIER		UNITS +/-		0.07	-0.69	-0.60	-0.64	0.0	-0.06	-0.62	-0.61	-0.61	-0.56		
ALKALINITY, PHENOLPHTHALEIN		CaCO <sub>3</sub> , mg/L	00415	0	0	0	0	0	0	0	0	0	0		
ALKALINITY, TOTAL		CaCO <sub>3</sub> , mg/L	00410	105	108	103	110	104	99	95.6	96	96	109		
BROMIDE		Br, mg/L	71870	0.035	<0.003	<0.003	<0.003	0.040	<0.003	<0.003	<0.003	<0.003	<0.003		
CHLORIDE	*250	Cl, mg/L	00940	10.7	11.9	11.9	11.9	11.4	12.7	12.6	12.5	12.5	12.6		
FLUORIDE	4	F, mg/L	00951	0.23	1.08	1.07	1.06	0.24	1.16	1.17	1.17	1.17	1.17		
SULFATE	*250	SO <sub>4</sub> , mg/L	00945	22.3	28.7	28	28.0	23.5	29.1	29.1	28.5	28.5	28.5		
HARDNESS		CaCO <sub>3</sub> , mg/L	00900	136	138	136	136	136	138	140	136	136	136		
CALCIUM		Ca, mg/L	00916	36.2	35.2	36.3	36.3	36.1	34.3	37.3	35.6	35.6	36.1		
MAGNESIUM		Mg, mg/L	00927	13.6	13.2	13.2	13.2	13.0	14.1	13.3	13.1	13.1	13.1		
POTASSIUM		K, mg/L	00937	1.0	1.3	1.3	1.3	1.6	1.3	1.4	1.1	1.1	1.0		
SODIUM		Na, mg/L	00006	6.4	6.8	6.8	7.0	6.7	7.5	7.4	7.2	7.2	7.2		
RESIDUE, TOTAL DISSOLVED	*500	TDS, mg/L	00150	166	161	155	156	166	162	155	152	152	162		
RESIDUE, TOTAL		Tot. Sol., mg/L	00500	172	175	171	166	183	178	174	169	169	178		
TOTAL ORGANIC CARBON		NPOC, mg/L	00680	1.85	1.59	1.52	1.51	1.80	1.56	1.65	1.63	1.63	1.69		
OXYGEN DEMAND, CHEMICAL		O, mg/L	00335	5.2	<5	<5	<5	<5	<5	<5	<5	<5	<5		
NITROGEN, AMMONIA		N, mg/L	00610	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	<0.01		
NITROGEN, NITRATE	10	N, mg/L	00620	0.230	0.214	0.215	0.228	0.264	0.257	0.256	0.244	0.244	0.246		
NITROGEN, NITRITE	1	N, mg/L	00615	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
NITROGEN, TOTAL KJELDAHL		N, mg/L	00625	0.355	0.242	0.341	0.402	0.317	0.224	0.347	0.355	0.355	0.295		
ORTHOPHOSPHATE		PO <sub>4</sub> , mg/L	00660	0.025	0.851	0.754	0.907	0.012	1.188	0.874	0.643	0.643	0.686		
PHOSPHATE, TOTAL		PO <sub>4</sub> , mg/L	00650	0.045	1.415	1.369	1.540	0.053	2.089	1.991	0.936	0.936	1.646		
CYANIDE, TOTAL	0.2	CN, mg/L	00720	<0.00	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
FOAMING AGENT	0.5	MIBAS, mg/L	38260	<0.02	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025		
PHENOLICS, TOTAL		Phenol, µg/L	32730	1	<1	<1	<1	2	<1	<1	<1	<1	<1		
RADIOACTIVITY, GROSS ALPHA	15	pCi/L	01501	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
RADIOACTIVITY, GROSS BETA	50	pCi/L	03501	1.3	1.0	1.0	1.1	1.2	1.0	1.0	1.0	1.0	1.1		

\* Federal/State Secondary MCL's

\*\*\*Distribution samples are composited.

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

SAMPLES COLLECTED November 15, 1999

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			Central	North		Central
ALUMINUM		Al, µg/L	01105	97	70	78	61	206	99	85	121	90
ANTIMONY	6	Sb, µg/L	01268	<2	<2	<2	<2	<2	<2	<2	<2	<2
ARSENIC	50	As, µg/L	01002	<4	<4	<4	<4	<4	<4	<4	<4	<4
BARIUM	2000	Ba, µg/L	01007	19	16	17	15	15	16	17	16	15
BERYLLIUM	4	Be, µg/L	01012	<1	<1	<1	<1	<1	<1	<1	<1	<1
BORON		B, µg/L	01022	<10	<10	<10	<10	20	<10	<10	19	<10
CADMIUM	5	Cd, µg/L	01027	<1	<1	<1	<1	<1	<1	<1	<1	<1
CHROMIUM	100	Cr, µg/L	01034	<2	<2	<2	<2	<2	<2	<2	<2	<2
COBALT		Co, µg/L	01037	<1	<1	<1	<1	<1	<1	<1	<1	<1
COPPER	1300	Cu, µg/L	01042	<3	<3	<3	<3	<3	<3	<3	<3	<3
IRON	1000	Fe, µg/L	01045	129	<12	<12	15	318	<12	<12	15	80
LEAD	15**	Pb, µg/L	01051	<3	<3	<3	<3	<3	<3	<3	<3	<3
LITHIUM		Li, µg/L	01132	<1	<1	<1	<1	<1	<1	<1	<1	<1
MANGANESE	150	Mn, µg/L	01055	9	2	2	2	12	3	3	3	3
MERCURY	2	Hg, µg/L	71900	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
MOLYBDENUM		Mo, µg/L	01062	<10	<10	<10	<10	<10	<10	<10	<10	<10
NICKEL	100	Ni, µg/L	01067	<3	<3	<3	<3	<3	<3	<3	<3	<3
SELENIUM	50	Se, µg/L	01147	<3	<3	<3	<3	<3	<3	<3	<3	<3
SILICON		Si, µg/L	01142	614	817	801	812	669	826	846	881	865
SILVER	*100	Ag, µg/L	01077	<1	<1	<1	<1	<1	<1	<1	<1	<1
STRONTIUM		Sr, µg/L	01082	115	110	111	110	113	110	113	112	116
THALLIUM	2	Tl, µg/L	01059	<2	<2	<2	<2	<2	<2	<2	<2	<2
TITANIUM		Ti, µg/L	01152	<5	<5	<5	<5	<5	<5	<5	<5	<5
VANADIUM		V, µg/L	00985	<5	<5	<5	<5	<5	<5	<5	<5	<5
ZINC	5000	Zn, µg/L	01092	16	<3	31	13	20	8	8	17	17

\*\* Action Level

\*\*\* Distribution samples are composited.

*Meghd O'Connor*  
CHIEF WATER CHEMIST

*Kyoterna Markiewicz*  
DIRECTOR, WATER PURIFICATION LABORATORIES

*Alan P. Flanagan*  
DEPUTY COMMISSIONER