



# Monroe County Water Authority

## 2009 Water Quality Monitoring Program Summary

If you have any questions on this report, please call our Customer Service Department at (585) 442-7200.

Parameter				Shoremont WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009
<b>Inorganics, Metals, Physical Parameters</b>															
Aluminum	NS	NS	ug/L	58	27-110	4	ND		3	65	32-92	4	136	53-350	4
Antimony	6	6	ug/L	ND		4	ND		3	ND		4	ND		4
Arsenic	10	NA	ug/L	ND		4	ND		3	ND		4	ND		4
Barium	2	2	mg/L	0.022	0.021-0.023	4	0.09	0.058-0.15	3	0.016	0.015-0.016	4	0.021	0.020-0.023	4
Beryllium	4	4	ug/L	ND		4	ND		3	ND		4	ND		4
Cadmium	5	5	ug/L	ND		4	ND		3	ND		4	ND		4
Calcium	NS	NS	mg/L	35	32-36	4	44	31-71	3	25	24-25	4	33	32-34	4
Chromium	100	100	ug/L	ND	ND-2.1	4	ND	ND-4.5	3	ND		4	ND	ND-3.2	4
Copper (Distribution System)	NS	NS	mg/L	ND		4	0.026	ND-0.042	3	ND	ND-3.1	4	ND	ND-2.6	4
Copper (Customer Tap Samples)	AL* = 1.3	1.3	mg/L	0.055	ND-0.37	51	0.09	ND-0.54	20	0.055	ND-0.37	51	0.09	ND-0.54	20
Cyanide	200	200	ug/l	ND		4	ND		3	ND		4	ND		4
Fluoride	2.2	NA	mg/L	0.8	0.1-1.1	2136	NA		NR	0.8	0.58-1.01	1078	0.8	0.2-1.0	51
Iron	300	NA	ug/L	ND		4	ND	ND-0.027	3	ND	ND-0.066	4	ND		4
Lead (Distribution System)	NS	NS	ug/L	ND		4	ND		3	ND		4	0.6	ND-1.3	4
Lead (Customer Tap Samples)	AL* = 15	0	ug/L	1.9	ND-8	51	0.6	ND-2.7	20	1.9	ND-8	51	0.6	ND-2.7	20
Magnesium	NS	NS	mg/L	9.1	8.4-9.4	4	17.0	12-28	3	6.5	6.1-6.8	4	8.9		1
Manganese	300	NA	ug/L	ND		4	9	5-18	3	ND		1	7	3.1-12	4
Mercury	2	2	ug/L	ND		4	ND		3	ND		4	ND		4
Nickel	100	NA	ug/L	ND		4	ND		3	ND		4	ND		4
Nitrate	10	10	mg/L	0.34	0.28-0.4	4	ND		3	0.17	0.10-0.28	4	0.16	0.02-0.23	4
Nitrite	1	1	mg/L	ND		4	ND		3	ND		4	ND		4
Potassium	NS	NS	mg/L	1.6		1	NA		-	1.3		1	1.6		1
Selenium	50	50	ug/L	ND		4	ND		3	ND		1	ND		4
Silica	NS	NS	mg/L	0.77	0.36-1.7	4	8.9	8.7-9.3	3	2	0.53-3.3	4	0.8	0.33-2.0	4
Silver	100	NA	ug/L	1.3	ND-4.1	4	ND	ND-17	3	ND		4	ND		4
Sodium	NS	NS	mg/L	14	13-15	3	86	18-120	3	19	18-20	4	13	13-14	4
Sulfate	250	NA	mg/L	25		1	57		1	14		1	23		1
Thallium	2	0.5	ug/L	ND		4	ND		3	ND		4	ND		4
Zinc	5	NA	mg/L	ND		4	ND		3	ND		4	ND		3
Alkalinity	NS	NA	mg/L	85	83-88	4	243	240-250	3	67	62-75	4	92	90-95	4
Chlorides	250	NA	mg/L	25	24-27	4	45	41-53	3	35	34-36	4	22	22-23	4
Color	15	NA	Color Units	ND		4	ND		3	ND	ND-3	4	ND	ND-3.2	4
Conductivity	NS	NS	umhos/cm	310	290-340	47	680	600-740	26	260	230-290	103	300	280-330	44
pH	NS	NS	pH units	7.4	7.1-7.6	360	7.5	7.4-7.7	122	7.7	7.4-8.2	361	8.0	7.4-8.2	4369
Total Dissolved Solids	NS	NS	mg/L	164	156-180	4	400	370-430	3	145	130-160	4	165	150-180	4
Total Hardness	NS	NS	mg/L	122	110-129	4	180	120-290	3	89	85-91	4	110		1
Total Organic Carbon	NS	NS	mg/L	1.9	1.4-2.3	4	0.9	0.7-1.1	3	2	2.2-2.6	4	2.2	1.9-2.5	4
Surfactants	NS	NS	mg/L	ND		4	ND		3	ND		4	ND		4
Turbidity - Entry Point	TT **	NA	NTUs	0.05	0.04-0.12	2190	NR			0.07	.04-0.23	2188	0.08	0.04-0.64	4369
Turbidity - Distribution System	TT ***	NA	NTUs	0.12	0.04-7.0	4372	0.11	.04-2.5	368	0.12	0.04-7	4372	0.11	.04-2.5	368
Chlorine Residual - Entry Point	NA	NA	mg/L	1.1	0.8-1.5	2190	0.65	0.48-0.89	122	0.8	0.4-1.1	Continuous	1.4	1.0-1.8	4369
Chlorine Residual - Retail Dist.Sys	TT ****	NA	mg/L	0.5	ND-1.9	8760	0.4	ND-1.9	368	0.5	ND-1.9	4379	0.4	ND-1.9	368
Coliform - Retail Dist.System	TT *****	0	%Positive	0.30%		4376	0.00%		368	0.3%		4376	0.00%		368
Cryptosporidium	NS	NS	#Positive	ND		2			NA	ND		4	ND		24
Giardia	NS	NS	#Positive	ND		2			NA	ND		4	ND		24
Asbestos (Distribution System)	7	7	MFL	ND		1 (2007)	ND		1 (2007)	ND		1 (2007)	ND		1 (2007)
<b>Radionuclides</b>															
Gross Alpha	15	0	pCi/L	ND		1(2003)	ND		1(2003)	ND		1(2005)	ND		1(2004)
Gross Beta	50	0	pCi/L	ND		1(2003)	ND		1(2003)	ND		1(2005)	ND		1(2004)
Tritium	NS	NS	pCi/L	ND		1(2003)	ND		1(2003)	NR		NR	NR		
Combined Radium226/228	5	0	pCi/L	ND		1(2003)	ND		1(2003)	NR		NR	NR		1(2004)
Uranium	30	0	ug/L	ND		4(2004)	ND		3(2003)	NR		NR	NR		1(2004)

Parameter				Shoremont WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009
<b>Volatile Organics</b>															
Benzene	5	0	ug/L	<b>Not Detected</b>		4	<b>Not Detected</b>		3	<b>Not Detected</b>		4	<b>Not Detected</b>		2
Bromobenzene	5	NA	ug/L			4			3			2			
Bromochloromethane	5	NA	ug/L			4			3			2			
Bromomethane	5	NA	ug/L			4			3			2			
n-Butylbenzene	5	NA	ug/L			4			3			2			
sec-Butylbenzene	5	NA	ug/L			4			3			2			
tert-Butylbenzene	5	NA	ug/L			4			3			2			
Carbon Tetrachloride	5	0	ug/L			4			3			2			
Chlorobenzene	5	NA	ug/L			4			3			2			
Chloroethane	5	NA	ug/L			4			3			2			
Chloromethane	5	NA	ug/L			4			3			2			
2-Chlorotoluene	5	NA	ug/L			4			3			2			
4-Chlorotoluene	5	NA	ug/L			4			3			2			
Dibromomethane	5	NA	ug/L			4			3			2			
1,2-Dichlorobenzene	5	NA	ug/L			4			3			2			
1,3-Dichlorobenzene	5	NA	ug/L			4			3			2			
1,4-Dichlorobenzene	5	NA	ug/L			4			3			2			
Dichlorodifluoromethane	5	NA	ug/L			4			3			2			
1,1 Dichloroethane	5	NA	ug/L			4			3			2			
1,2-Dichloroethane	5	0	ug/L			4			3			2			
1,1-Dichloroethene	5	NA	ug/L			4			3			2			
cis-1,2-Dichloroethene	5	NA	ug/L			4			3			2			
trans-1,2-Dichloroethene	5	NA	ug/L			4			3			2			
1,2-Dichloropropane	5	0	ug/L			4			3			2			
1,3-Dichloropropane	5	NA	ug/L			4			3			2			
2,2-Dichloropropane	5	NA	ug/L			4			3			2			
1,1-Dichloropropene	5	NA	ug/L			4			3			2			
1,3-Dichloropropene (Cis)	5	NA	ug/L			4			3			2			
1,3-Dichloropropene (Trans)	5	NA	ug/L			4			3			2			
Ethylbenzene	5	NA	ug/L			4			3			2			
Hexachlorobutadiene	5	NA	ug/L			4			3			2			
Isopropylbenzene	5	NA	ug/L			4			3			2			
p-Isopropyltoluene	5	NA	ug/L			4			3			2			
Methyl Tert-butyl ether (MTBE)	50	NA	ug/L			4			3			2			
Methylene Chloride (Dichloromethane)	5	0	ug/L			3			1			NR			
n-Propylbenzene	5	NA	ug/L			4			3			2			
Styrene	5	NA	ug/L			4			3			2			
1,1,1,2-Tetrachloroethane	5	NA	ug/L			4			3			2			
1,1,2,2-Tetrachloroethane	5	NA	ug/L			4			3			2			
Tetrachloroethene	5	0	ug/L			4			3			2			
Toluene	5	NA	ug/L			4			3			2			
1,2,3-Trichlorobenzene	5	NA	ug/L			4			3			2			
1,2,4-Trichlorobenzene	5	NA	ug/L			4			3			2			
1,1,1-Trichloroethane	5	NA	ug/L			4			3			2			
1,1,2-Trichloroethane	5	3	ug/L			4			3			2			
Trichloroethene	5	0	ug/L			4			3			2			
Trichlorofluoromethane	5	NA	ug/L			4			3			2			
1,2,3-Trichloropropane	5	NA	ug/L			4			3			2			
1,2,4-Trimethylbenzene	5	NA	ug/L			4			3			2			
1,3,5-Trimethylbenzene	5	NA	ug/L			4			3			2			
Xylenes	5	NA	ug/L	4	3	2									
Vinyl chloride	2	0	ug/L	4	3	2									

Parameter				Shoremont WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009	Average	Range	samples in 2009
<b>Organics, Pesticides, Herbicides</b>															
1, 2-Dibromo-3-Chloropropane	200	0	ng/L	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>	<b>Not Detected</b>
1, 2-Dibromoethane (EDB)	50	0	ng/L												
2, 4, 5-TP (Silvex)	10	NA	ug/L												
2, 4-D	50	NA	ug/L												
3-Hydroxycarbofuran	50	NS	ug/L												
Alachlor	2	0	ug/L												
Aldicarb	3	1	ug/L												
Aldicarb Sulfone	2	1	ug/L												
Aldicarb Sulfoxide	4	1	ug/L												
Aldrin	5	NA	ug/L												
Atrazine	3	3	ug/L												
Benzo(a)pyrene	200	0	ng/L												
Bis(2-Ethylhexyl)Phthalate	8	0	ug/L												
Butachlor	50	NA	ug/L												
Carbaryl	50	NA	ug/L												
Carbofuran	40	40	ug/L												
Dalapon	50	NA	ug/L												
DCCA, Mono & Di-Acid Degradate	50	NS	ug/L												
Dj(2-Ethylhexyl) Adipate	50	NA	ug/L												
Dicamba	50	NA	ug/L												
Dieldrin	5	NA	ug/L												
Dinoseb	7	7	ug/L												
Dioxin	30	0	pg/L												
Diquat	20	20	ug/L												
Endothall	50	NA	ug/L												
Endrin	2	2	ug/L												
Glyphosate	50	NA	ug/L												
Heptachlor	400	0	ng/L												
Heptachlor Epoxide	200	0	ng/L												
Hexachlorobenzene	1	0	ug/L												
Hexachlorocyclopentadiene	5	NA	ug/L												
Isophorone	50	NA	ug/L												
Lindane (gamma-BHC)	200	200	ng/L												
Methomyl	50	NA	ug/L												
Methoxychlor	40	40	ug/L												
Metolachlor	50	NA	ug/L												
Metribuzin	50	NA	ug/L												
Oxamyl	50	NA	ug/L												
p,p' DDD	5	NA	ug/L												
p,p' DDE	NS	NS	ug/L												
p,p' DDT	5	NA	ug/L												
PCB's Total	500	0	ng/L												
Pentachlorophenol	1	0	ug/L												
Perchlorate	NS	NS	ug/L												
Pichloram	50	NA	ug/L												
Propachlor	50	NA	ug/L												
Simazine	4	4	ug/L												
Total Chlordane	2	0	ug/L												
Toxaphene	3	0	ug/L												
<b>Disinfectant Byproducts</b>															
Total THMs	80	NA	ug/L	33	17-52	16	41	21-66	4	36	20-58	16	41	21-66	4
Haloacetic Acids	60	NA	ug/L	11	4-28	16	14	8-19	4	19	8-19	16	14	8-19	4

**Key**

**MCL** = Maximum Contaminant Level, the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as possible.

**MCLG** = Maximum Contaminant Level Goal, the level of a contaminant below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**TT** = Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.

**AL** = Action Level, the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Not Detected** = **ND** = absent or present at less than testing method detection level. All testing methods are EPA approved with detection limits much less than the MCL.

**NA** = Not applicable    **NR** = Not required    **NS** = No standard    **NT** = Not Tested

**mg/l** = milligram (1/1,000 of a gram) per liter = **ppm** = parts per million

**ug/L** = microgram (1/1,000,000 of a gram) per liter = **ppb** = parts per billion

**ng/L** = nanogram (1/1,000,000,000 of a gram) per liter = **ppt** = parts per trillion

**pg/L** = picogram (1/1,000,000,000,000 of a gram) per liter = **ppq** = parts per quadrillion

**pCi/L** = picoCuries per liter

**NTU** = Nephelometric turbidity Unit, a measure of the clarity of water.

**MF/L** = million fibers per liter, a measure of the presence of asbestos fibers longer than 10 (year) = Most recent testing. Monitoring frequency requirements vary depending on

**\*Action level:** If >10% of results are greater than 15 ug/l for lead or 1.3 mg/L for copper, remediative steps are required. In MCWA's combined retail area, 90% of the samples were less than 4.3 ug/L for lead and 0.100 mg/L for copper.

**\*\*** = 95% of measurements within a given month must be less than <0.3 NTUs.

**\*\*\*** = Average of monthly distribution system turbidity samples must be less than 5.0 NTUs.

**\*\*\*\*** = 95% of monthly distribution system samples must have a measurable chlorine residual.

**Note:** Total Hardness is also expressed in grains per gallon. The Total Hardness of the Ontario and Hemlock supplies are 7.6 and 5.6 grains per gallon respectively.