



# Monroe County Water Authority

## 2012 Water Quality Monitoring Program Summary

Parameter	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Shoremont WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
				Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012
<b>Inorganics, Metals, Physical Parameters</b>															
Aluminum	NS	NS	ug/L	52	22-96	4	ND		4	63	35-130	4	183	41-440	4
Antimony	6	6	ug/L	ND		4	ND		4	ND		4	ND		4
Arsenic	10	0	ug/L	ND		4	ND		4	ND		4	ND		4
Barium	2	2	mg/L	0.021	0.020-0.023	4	0.11	0.098-0.120	4	0.016	0.014-0.017	4	0.022	.021-.022	4
Beryllium	4	4	ug/L	ND		4	ND		4	ND		4	ND		4
Cadmium	5	5	ug/L	ND		4	ND		4	ND		4	ND		4
Calcium	NS	NS	mg/L	35	32-36	4	52	46-52	4	26	25-28	4	34	33-35	4
Chromium	100	100	ug/L	ND		4	ND		4	ND		4	ND		4
Copper (Distribution System)	NS	NS	ug/L	ND		4	2.9	2.7-3.1	4	ND	ND-2.6	4	1.2	ND-2.6	4
Copper (Customer Tap Samples)	AL* = 1.3	1.3	ug/L	73	12-320	52	84	3-330	20	73	12-320	52	84	3-330	20
Cyanide	200	200	ug/l	ND		4	ND		4	ND		4	ND		4
Fluoride	2.2	NA	mg/L	0.7	0.2-1.0	2157	NR		NR				0.8	0.1-1.0	52
Iron	300	NA	ug/L	ND		4	ND	ND-28	4	ND		4	ND		4
Lead (Distribution System)	NS	NS	ug/L	ND		4	ND	ND-0.7	4	ND		4	ND		4
Lead (Customer Tap Samples)	AL* = 15	0	ug/L	1.7	ND-15	52	ND	ND-1.6	20	1.7	ND-15	52	ND	ND-1.6	20
Magnesium	NS	NS	mg/L	9.5	9.2-9.9	4	21.0	18-23	4	6.9	6.8-7.2	4	9.2		1
Manganese	300	NA	ug/L	ND		4	8.5	7-9.9	4	ND		1	2.9	ND-6	4
Mercury	2	2	ug/L	ND		4	ND		4	ND		4	ND		4
Nickel	100	NA	ug/L	ND		4	ND		4	ND		4	ND		4
Nitrate	10	10	mg/L	0.31	0.20-0.36	4	ND		4	0.14	ND-0.23	40.14	0.18	ND-0.33	4
Nitrite	1	1	mg/L	ND		4	ND		4	ND		4	ND		4
Potassium	NS	NS	mg/L	1.7		1	1.1		1	1.4		1	1.7		1
Selenium	50	50	ug/L	ND		4	ND		4	ND		1	ND		4
Silica	NS	NS	mg/L	0.57	0.38-0.81	4	9	8.1-9.3	4	1.3	0.66-1.8	4	0.4	0.08-0.53	4
Silver	100	NA	ug/L	ND		4	ND		4	ND		4	ND		4
Sodium	NS	NS	mg/L	16	15-16	3	77	66-98	4	19	19-20	4	12	11-14	3
Sulfate	250	NA	mg/L	28	27-30	3	53		1	14	13-15	3	22		1
Thallium	2	0.5	ug/L	ND		4	ND		4	ND		4	ND		4
Zinc	5	NA	mg/L	ND		4	ND		4	ND		4	ND		4
Alkalinity	NS	NA	mg/L	85	82-89	4	235	230-240	4	66	64-67	4	87	83-90	4
Chlorides	250	NA	mg/L	26		4	49	38-58	4	35	34-35	4	23	21-26	4
Color	15	NA	Color Units	ND		4	ND		4	ND		4	ND		4
Conductivity	NS	NS	umhos/cm	290	220-340	3783	725	600-800	38	290	220-340	3783	300	290-320	41
pH	NS	NS	pH units	7.4	7.1-7.7	365	7.4	7.4-7.9	195	8	6.6 - 8.5	366	8	7.5-8.9	3290
Total Dissolved Solids	NS	NS	mg/L	178	170-190	4	415	410-430	4	155	140-170	4	180	170-200	4
Total Hardness	NS	NS	mg/L	125	120-130	4	218	190-230	4	93	89-93	4	120		1
Total Organic Carbon	NS	NS	mg/L	1.9	1.8-2.0	4	0.7	0.4-0.9	4	2.3	2.3-2.4	4	2	1.9-2	4
Surfactants	NS	NS	mg/L	ND		4	ND		4	ND		4	ND		4
Turbidity - Entry Point	TT **	NA	NTUs	0.05	0.03-0.09	2190	NR			0.08	0.05-0.18	2184	0.05	0.04-0.17	3290
Turbidity - Distribution System	TT ***	NA	NTUs	0.09	0.04-6.1	4440	0.09	0.5-0.04	372	0.09	0.04-6.1	4440	0.09	0.5-0.04	372
Chlorine Residual - Entry Point	NA	NA	mg/L	1.1	0.8-2.1	2196	0.7	0.4-1.0	195	1.1	0.5-1.5	2190	1.5	1.5-1.6	3285
Chlorine Residual - Retail Dist.Sys	TT ****	NA	mg/L	0.6	ND-1.4	4441	0.3	1.2-ND	374	0.6	ND-1.4	4441	0.3	1.2-ND	374
Coliform - Retail Dist.System	TT *****	0	%Positive	ND		4440	0.5%		374	ND		4440	0.5%		374
Cryptosporidium	NS	NS	#Positive	ND		4	NR			ND		4	ND		24
Giardia	NS	NS	#Positive	ND		4	NR			ND		4	ND		24
Asbestos (Distribution System)	7	7	MF/L	ND		1 (2007)	ND		1 (2007)	ND		1 (2007)	ND		1 (2007)

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				Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012		
<b>Radionuclides</b>																	
Gross Alpha	15	0	pCi/L	ND		1	ND		1	ND		1	ND		1 (2004)		
Gross Beta	50	0	pCi/L	ND		1	ND		1	ND		1	ND		1 (2004)		
Combined Radium 226/228	5	0	pCi/L	ND		1	ND		1	ND		1	ND		1 (2004)		
Uranium	30	0	pCi/L	ND		1	ND		1	ND		1	ND		1 (2004)		
<b>Volatile Organics</b>																	
Benzene	5	0	ug/L	<b>Not Detected</b>			<b>Not Detected</b>			<b>Not Detected</b>			<b>Not Detected</b>			4	1
Bromobenzene	5	NA	ug/L													4	1
Bromochloromethane	5	NA	ug/L													4	1
Bromomethane	5	NA	ug/L													4	1
n-Butylbenzene	5	NA	ug/L													4	1
sec-Butylbenzene	5	NA	ug/L													4	1
tert-Butylbenzene	5	NA	ug/L													4	1
Carbon Tetrachloride	5	0	ug/L													4	1
Chlorobenzene	5	NA	ug/L													4	1
Chloroethane	5	NA	ug/L													4	1
Chloromethane	5	NA	ug/L													4	1
2-Chlorotoluene	5	NA	ug/L													4	1
4-Chlorotoluene	5	NA	ug/L													4	1
Dibromomethane	5	NA	ug/L													4	1
1,2-Dichlorobenzene	5	NA	ug/L													4	1
1,3-Dichlorobenzene	5	NA	ug/L													4	1
1,4-Dichlorobenzene	5	NA	ug/L													4	1
Dichlorodifluoromethane	5	NA	ug/L													4	1
1,1-Dichloroethane	5	NA	ug/L													4	1
1,2-Dichloroethane	5	0	ug/L													4	1
1,1-Dichloroethene	5	NA	ug/L													4	1
cis-1,2-Dichloroethene	5	NA	ug/L													4	1
trans-1,2-Dichloroethene	5	NA	ug/L													4	1
1,2-Dichloropropane	5	0	ug/L													4	1
1,3-Dichloropropane	5	NA	ug/L													4	1
2,2-Dichloropropane	5	NA	ug/L													4	1
1,1-Dichloropropene	5	NA	ug/L													4	1
1,3-Dichloropropene(Cis)	5	NA	ug/L													4	1
1,3-Dichloropropene(Trans)	5	NA	ug/L													4	1
Ethylbenzene	5	NA	ug/L													4	1
Hexachlorobutadiene	5	NA	ug/L													4	1
Isopropylbenzene	5	NA	ug/L													4	1
p-Isopropyltoluene	5	NA	ug/L	4	1												
Methyl Tert-butyl ether (MTBE)	10	NA	ug/L	4	1												
Methylene Chloride (Dichloromethane)	5	0	ug/L	4	1												
n-Propylbenzene	5	NA	ug/L	4	1												
Styrene	5	NA	ug/L	4	1												
1,1,1,2-Tetrachloroethane	5	NA	ug/L	4	1												
1,1,2,2-Tetrachloroethane	5	NA	ug/L	4	1												
Tetrachloroethene	5	0	ug/L	4	1												
Toluene	5	NA	ug/L	4	1												
1,2,3-Trichlorobenzene	5	NA	ug/L	4	1												
1,2,4-Trichlorobenzene	5	NA	ug/L	4	1												
1,1,1-Trichloroethane	5	NA	ug/L	4	1												
1,1,2-Trichloroethane	5	3	ug/L	4	1												
Trichloroethene	5	0	ug/L	4	1												
Trichlorofluoromethane	5	NA	ug/L	4	1												
1,2,3-Trichloropropane	5	NA	ug/L	4	1												
1,2,4-Trimethylbenzene	5	NA	ug/L	4	1												
1,3,5-Trimethylbenzene	5	NA	ug/L	4	1												
Vinyl Chloride	2	0	ug/L	4	1												
Xylenes	5	NA	ug/L	4	1	4	0.7	ND-1.7	4								

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				Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012	Average	Range	Samples in 2012						
<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>								
1, 2-Dibromoethane (EDB)	50	0	ng/L													1	1	1	1	1	1
2, 4, 5-TP (Silvex)	10	NA	ug/L													1	1	1	1	1	1
2, 4-D	50	NA	ug/L													1	1	1	1	1	1
3-Hydroxycarbofuran	50	NS	ug/L													1	1	1	1	1	1
Alachlor	2	0	ug/L													4	4	4	4	4	4
Aldicarb	3	1	ug/L													1	1	1	1	1	1
Aldicarb Sulfone	2	1	ug/L													1	1	1	1	1	1
Aldicarb Sulfoxide	4	1	ug/L													1	1	1	1	1	1
Aldrin	5	NA	ug/L													4	4	4	4	4	4
Atrazine	3	3	ug/L													4	4	4	4	4	4
Benzo(a)pyrene	200	0	ng/L													4	4	4	4	4	4
Bis(2-Ethylhexyl)Phthalate	6	0	ug/L													4	4	4	4	4	4
Butachlor	50	NA	ug/L													4	4	4	4	4	4
Carbaryl	50	NA	ug/L													1	1	1	1	1	1
Carbofuran	40	40	ug/L													1	1	1	1	1	1
Dalapon	50	NA	ug/L													1	1	1	1	1	1
DCPA, Mono & Di-Acid Degradate	50	NS	ug/L													1	1	1	1	1	1
Di(2-Ethylhexyl) Adipate	50	NA	ug/L													4	4	4	4	4	4
Dicamba	50	NA	ug/L													1	1	1	1	1	1
Dieldrin	5	NA	ug/L													4	4	4	4	4	4
Dinoseb	7	7	ug/L													1	1	1	1	1	1
Dioxin	30	0	pg/L													1	1	1	1	1	1
Diquat	20	20	ug/L													1	1	1	1	1	1
Endothall	50	NA	ug/L													1	1	1	1	1	1
Endrin	2	2	ug/L													4	4	4	4	4	4
Glyphosate	50	NA	ug/L													1	1	1	1	1	1
Heptachlor	400	0	ng/L													4	4	4	4	4	4
Heptachlor Epoxide	200	0	ng/L	4	4	4	4	4	4												
Hexachlorobenzene	1	0	ug/L	4	4	4	4	4	4												
Hexachlorocyclopentadiene	5	NA	ug/L	4	4	4	4	4	4												
Isophorone	50	NA	ug/L	4	4	4	4	4	4												
Lindane (gamma-BHC)	200	200	ng/L	4	4	4	4	4	4												
Methomyl	50	NA	ug/L	1	1	1	1	1	1												
Methoxychlor	40	40	ug/L	4	4	4	4	4	4												
Metolachlor	50	NA	ug/L	4	4	4	4	4	4												
Metribuzin	50	NA	ug/L	4	4	4	4	4	4												
Oxamyl	50	NA	ug/L	1	1	1	1	1	1												
p,p' DDD	5	NA	ug/L	4	4	4	4	4	4												
p,p' DDE	NS	NS	ug/L	4	4	4	4	4	4												
p,p' DDT	5	NA	ug/L	4	4	4	4	4	4												
PCB's Total	500	0	ng/L	4	4	4	4	4	2												
Pentachlorophenol	1	0	ug/L	4	4	4	4	4	4												
Perchlorate	NS	NS	ug/L	1	1	1	1	1	1												
Pichloram	50	NA	ug/L	1	1	1	1	1	1												
Propachlor	50	NA	ug/L	4	4	4	4	4	3												
Simazine	4	4	ug/L	4	4	4	4	4	4												
Total Chlordane	2	0	ug/L	4	4	4	4	4	4												
Toxaphene	3	0	ug/L	4	4	4	4	4	2												
<b>Disinfectant Byproducts</b>																					
Total THMs	80	NA	ug/L	42	18-84	48	48	24-76	8	42	18-84	48	48	24-76	8						
Haloacetic Acids	60	NA	ug/L	12	5-30	48	8	ND-17	8	12	5-30	48	8	ND-17	8						

**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 micrometers (year) = Most recent testing. Monitoring frequency requirements vary depending on compound.

**\*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.