



# Monroe County Water Authority

## 2002 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			Brockport WTP Lake Ontario			Hemlock WTP Hemlock Lake			Town of Ontario WTP Lake Ontario			City of Batavia WTP Ground Water		
	EPANYS MCL	EPANYS MCLG	UNITS	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002
<b>Inorganics, Metals, Physical Parameters</b>															
Aluminum	NS	NS	ug/L	92	34 - 240	4	113	35 - 290	4	32	ND - 60	4	NR	NR	NR
Antimony	6	6	ug/L	ND		4	ND		4	ND		4	ND	1	1
Arsenic	10	NA	ug/L	ND	ND - 1	4	ND	ND - 1.3	4	ND		4	5	1	1
Barium	2	2	mg/L	0.022	.022 - .023	4	0.023	.022 - .024	4	0.018	.017 - .019	4	0.026	1	0.015
Beryllium	4	4	ug/L	ND		4	ND		4	ND		4	ND	1	1
Cadmium	5	5	ug/L	ND		4	ND		4	ND		4	ND	1	1
Calcium	NS	NS	mg/L	36	35 - 36	4	36	35 - 39	4	28	27 - 29	4	NR	NR	NR
Chromium	100	100	ug/L	ND		4	ND		4	ND		4	ND	1	1
Copper (Distribution System)	NS	NS	mg/L	ND		4	ND		4	0.005	ND - 0.012	4	NR	NR	1
Copper (Customer Tap Samples)	AL* = 1.3	1.3	mg/L	0.05	ND - 0.14	32*(2000)	0.038	ND - 0.10	30(2002)	0.15	ND - 4.6	18*(2000)	0.106	.008 - .119	13
Cyanide	200	200	ug/l	ND		4	ND		4	ND		4	ND	1	1
Fluoride	2.2	NA	mg/L	1	.2 - 1.4	2156	1.0	0.4 - 1.4	1453	0.85	0.6 - 1.0	110	0.83	1	1.02
Iron	300	NA	ug/L	ND		4	ND		4	ND		4	NR	NR	1
Lead (Distribution System)	NS	NS	ug/L	ND		4	ND		4	ND		4	NR	NR	1
Lead (Customer Tap Samples)	AL* = 15	0	ug/L	2	ND - 26	32*(2000)	ND	ND-9	30*(2001)	5	ND - 33	18*(2000)	6	3.5 - 6.3	13
Magnesium	NS	NS	mg/L	8.95	8.7 - 9.2	4	9.2	8.9 - 9.6	4	6.5	6.4 - 6.5	4	NR	NR	16.1
Manganese	300	NA	ug/L	ND		4	ND		4	ND		4	NR	NR	1
Mercury	2	2	ug/L	ND		4	ND		4	ND		4	ND	1	1
Nickel	100	NA	ug/L	ND		4	ND		4	ND		4	ND	1	1
Nitrate	10	NA	mg/L	0.3	.3 - .4	4	0.5	.27 - .6	4	0.1	ND - .2	4	0.49	1	1.4
Nitrite	1	1	mg/L	ND		4	ND		4	ND		4	NR	NR	NR
Potassium	NS	NS	mg/L	1.7		1	1.8		4	1.5		4	NR	NR	NR
Selenium	50	50	ug/L	ND		4	ND		4	ND		4	7	1	1
Silver	100	NA	ug/L	ND		4	ND		4	ND		4	NR	NR	1
Sodium	NS	NS	mg/L	11		1	12		1	15		1	NR	NR	25
Sulfate	250	NA	mg/L	28	27 - 30	4	27	25 - 32	4	18	17 - 19	4	NR	NR	38
Thallium	2	0.5	ug/L	ND		4	ND		4	ND		4	ND	1	1
Vanadium	NS	NS	ug/L	ND		1	ND		1	NR		4	NR	NR	NR
Zinc	5	NA	mg/L	ND		4	ND		4	ND		4	NR	NR	1
Alkalinity	NS	NA	mg/L	83	81 - 84	4	83	82 - 85	4	67	65 - 68	4	NR	NR	NR
Chlorides	250	NA	mg/L	22	21 - 22	4	25	23 - 27	4	28	26 - 29	4	NR	NR	65
Color	15	NA	Color Units	3	ND - 5	4	4	ND - 5	4	4	3 - 5	4	NR	NR	5
Conductivity	NS	NS	umhos/cm	310	235 - 350	1556	310	270 - 330	61	280	230 - 340	859	NR	NR	NR
pH	NS	NS	pH units	7.4	6.8 - 7.7	365	7.5	7.2 - 8.2	365	7.6	6.8 - 8.3	1957	7.6	7.5 - 7.9	365
Total Dissolved Solids	NS	NS	mg/L	160	140 - 180	4	183	170 - 200	4	148	140 - 160	4	NR	NR	NR
Total Hardness	NS	NS	mg/L	126	125 - 127	4	128	124 - 137	4	96	94 - 99	4	NR	NR	NR
Total Organic Carbon	NS	NS	mg/L	1.7	1.6 - 1.9	4	2.1	1.8 - 2.4	4	2.2	2.1 - 2.4	4	NR	NR	NR
Turbidity - Entry Point	TT **	NA	NTUs	0.08	.06 - .23	2186	0.05	0.01 - 0.20	1883	0.08	0.03 - 0.22	2190	0.04	0.03 - 0.09	2190
Turbidity - Distribution System	TT ***	NA	NTUs	0.13	.06 - 2.8	2765	0.21	0.07 - 4.0	155	0.21	0.06 - 8	1130	NA		0.14
Chlorine Residual - Entry Point	NS	NS	mg/L	1.24	.87 - 1.7	8668	1.3	0.8 - 2.4	365	0.92	0.2 - 1.2	2190	1	0.95 - 1.1	2190
Chlorine Residual - Retail Dist.System	TT ****	NA	mg/L	0.8	ND - 2.2	2770	0.59	0.09 - 1.28	160	0.6	ND - 1.7	1130	NA		0.8
Coliform - Retail Dist.System	TT *****	0	%Positive	0.10%		2770	0%		160	0%		1130	NA		ND
Cryptosporidium	NS	NS	#/10L	6		6	ND		6	ND		4	ND	2	ND
Giardia	NS	NS	#/10L	6		6	ND		6	ND	ND - 1	4	ND	2	ND
Asbestos (Distribution System)	7	7	MFL	ND		1*(1998)	Not Required		1	ND		1	NR	NR	NR
<b>Radionuclides</b>															
Gross Alpha	15	0	pCi/L	ND		4*(1999)	ND		4*(1999)	ND	--	4*(2001)	0.53	0.22 - 0.94	4
Gross Beta	50	0	pCi/L	ND		4*(1999)	ND		4*(1999)	ND	--	4*(2001)	1.7	0.8 - 2.8	4
Tritium	NS	NS	pCi/L	ND		4*(1999)	ND		4*(1999)	NT			NT		NR
<b>Volatile Organics</b>															
Benzene	5	0	ug/L			4			4			4		1	1
Bromobenzene	5	NA	ug/L			4			4			4		1	1
Bromochloromethane	5	NA	ug/L			4			4			4		1	1
Bromomethane	5	NA	ug/L			4			4			4		1	1
n-Butylbenzene	5	NA	ug/L			4			4			4		1	1
sec-Butylbenzene	5	NA	ug/L			4			4			4		1	1
tert-Butylbenzene	5	NA	ug/L			4			4			4		1	1
Carbon Tetrachloride	5	0	ug/L			4			4			4		1	1
Chlorobenzene	5	NA	ug/L			4			4			4		1	1
Chloroethane	5	NA	ug/L			4			4			4		1	1
Chloromethane	5	NA	ug/L			4			4			4		1	1
2-Chlorotoluene	5	NA	ug/L			4			4			4		1	1
4-Chlorotoluene	5	NA	ug/L			4			4			4		1	1
Dibromomethane	5	NA	ug/L			4			4			4		1	1

Parameter	Shoremont WTP Lake Ontario			Brockport WTP Lake Ontario			Hemlock WTP Hemlock Lake			Town of Ontario WTP Lake Ontario			City of Batavia WTP Ground Water		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002
	<b>Not Detected</b>														
1,2-Dichlorobenzene	5	NA	ug/L			4			4			1			1
1,3-Dichlorobenzene	5	NA	ug/L			4			4			1			1
1,4-Dichlorobenzene	5	NA	ug/L			4			4			1			1
Dichlorodifluoromethane	5	NA	ug/L			4			4			1			1
1,1-Dichloroethane	5	NA	ug/L			4			4			1			1
1,2-Dichloroethane	5	0	ug/L			4			4			1			1
1,1-Dichloroethene	5	NA	ug/L			4			4			1			1
cis-1,2-Dichloroethene	5	NA	ug/L			4			4			1			1
trans-1,2-Dichloroethene	5	NA	ug/L			4			4			1			1
1,2-Dichloropropane	5	0	ug/L			4			4			1			1
1,3-Dichloropropane	5	NA	ug/L			4			4			1			1
2,2-Dichloropropane	5	NA	ug/L			4			4			1			1
1,1-Dichloropropene	5	NA	ug/L			4			4			1			1
1,3-Dichloropropene(Cis)	5	NA	ug/L			4			4			1			1
1,3-Dichloropropene(Trans)	5	NA	ug/L			4			4			1			1
Ethylbenzene	5	NA	ug/L			4			4			1			1
Hexachlorobutadiene	5	NA	ug/L			4			4			1			1
Isopropylbenzene	5	NA	ug/L			4			4			1			1
p-Isopropyltoluene	5	NA	ug/L			4			4			1			1
Methyl Tert-butyl ether (MTBE)	50	NA	ug/L			4			4			1			1
Methylene Chloride (Dichloromethane)	5	0	ug/L			4			4			1			1
Nitrobenzene	5	NA	ug/L			4			3			1			1
n-Propylbenzene	5	NA	ug/L			4			4			1			1
Styrene	5	NA	ug/L			4			4			1			1
1,1,1,2-Tetrachloroethane	5	NA	ug/L			4			4			1			1
1,1,1,2,2-Tetrachloroethane	5	NA	ug/L			4			4			1			1
Tetrachloroethene	5	0	ug/L			4			4			1			1
Toluene	5	NA	ug/L			4			4			1			1
1,2,3-Trichlorobenzene	5	NA	ug/L			4			4			1			1
1,2,4-Trichlorobenzene	5	NA	ug/L			4			4			1			1
1,1,1-Trichloroethane	5	NA	ug/L			4			4			1			1
1,1,2-Trichloroethane	5	3	ug/L			4			4			1			1
Trichloroethene	5	0	ug/L			4			4			1			1
Trichlorofluoromethane	5	NA	ug/L			4			4			1			1
1,2,3-Trichloropropane	5	NA	ug/L			4			4			1			1
1,2,4-Trimethylbenzene	5	NA	ug/L			4			4			1			1
1,3,5-Trimethylbenzene	5	NA	ug/L			4			4			1			1
Xylenes	5	NA	ug/L			4			4			1			1
Vinyl chloride	2	0	ug/L			4			4			1			1
Parameter	Shoremont WTP Lake Ontario			Brockport WTP Lake Ontario			Purchased Water Hemlock Lake			Town of Ontario WTP Lake Ontario			City of Batavia WTP Ground Water		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002
	<b>Not Detected</b>														
<b>Organics, Pesticides, Herbicides</b>															
Atrazine	3	3	ug/L			4			4			NR			1
Bis(2-Ethylhexyl)Phthalate	6	0	ug/L			4			4			NR			1
1,2-Dibromo-3-Chloropropane	200	0	ng/L			1			1			NR			1
1,2-Dibromoethane (EDB)	50	0	ng/L			1			1			NR			1
2,4,5-TP (Siivex)	10	NA	ug/L			1			1			NR			1
2,4-D	50	NA	ug/L			1			1			NR			1
Alachlor	2	0	ug/L			4			4			NR			1
Aldicarb	3	1	ug/L			1			1			NR			1
Aldicarb Sulfone	2	1	ug/L			1			1			NR			1
Aldicarb Sulfoxide	4	1	ug/L			1			1			NR			1
Aldrin	5	NA	ug/L			4			4			NR			1
Alpha-BHC (Alpha Lindane)	5	NA	ug/L			1			1			NR			1
Benzo(a)pyrene	200	0	ng/L			4			4			NR			1
Beta-BHC	5	NA	ug/L			1			1			NR			1
Butachlor	50	NA	ug/L			4			4			NR			1
Carbaryl	50	NA	ug/L			1			1			NR			1
Carbofuran	40	40	ug/L			1			1			NR			1
Dalapon	50	NA	ug/L			1			1			NR			1
DCPA, Mono & Di-Acid Degradate	50	NS	ug/L			1			1			NR			1
Di(2-Ethylhexyl) Adipate	50	NA	ug/L			4			4			NR			1
Dicamba	50	NA	ug/L			1			1			NR			1
Dieldrin	5	NA	ug/L			4			4			NR			1
Dinoseb	7	7	ug/L			1			1			NR			1
Dioxin	30	0	pg/L			1			1			NR			1
Diquat	20	20	ug/L			1			1			NR			1
Endosulfan I (alpha)	50	NA	ug/L			1			1			NR			1
Endosulfan II (beta)	50	NA	ug/L			1			1			NR			1
Endosulfan sulfate	50	NA	ug/L			1			1			NR			1
Endothal	50	NA	ug/L			1			1			NR			1

Parameter				Shoremont WTP Lake Ontario			Brockport WTP Lake Ontario			Hemlock WTP Hemlock Lake			Town of Ontario WTP Lake Ontario			City of Batavia WTP Ground Water										
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002	Average	Range	Samples in 2002								
	Endrin	2	2	ug/L	<b>Not Detected</b>	<b>Not Detected</b>	4	<b>Not Detected</b>	<b>Not Detected</b>	4	<b>Not Detected</b>	<b>Not Detected</b>	4	NR			ND		1							
EPTC	NS	NS	ug/L	4^(2001)										4^(2001)	NR			NR			NR			NR		
Glyphosate	50	NA	ug/L	1										1	NR			1			NR			NR		
Heptachlor	400	0	ng/L	4										4	NR			4			NR			NR		1
Heptachlor Epoxide	200	0	ng/L	4										4	NR			4			NR			NR		1
Hexachlorobenzene	1	0	ug/L	4										4	NR			4			NR			NR		1
Hexachlorocyclopentadiene	5	NA	ug/L	4										4	NR			4			NR			NR		
3-Hydroxycarbofuran	50	NS	ug/L	1										1	NR			1			NR			NR		1
Isophorone	50	NA	ug/L	4										4	NR			4			NR			NR		
Lindane (gamma-BHC)	200	200	ng/L	4										4	NR			4			NR			NR		1
Methomyl	50	NA	ug/L	1										1	NR			1			NR			NR		1
Methoxychlor	40	40	ug/L	4										4	NR			4			NR			NR		1
Metolachlor	50	NA	ug/L	4										4	NR			4			NR			NR		1
Metribuzin	50	NA	ug/L	4										4	NR			4			NR			NR		1
Mirex	5	NA	ug/L	4										4	NR			4			NR			NR		
Oxamyl	50	NA	ug/L	1										1	NR			1			NR			NR		1
Paraquat	50	NA	ug/L	1										1	NR			1			NR			NR		
PCB's Total	500	0	ng/L	1										1	NR			1			NR			NR		1
Pentachlorophenol	1	0	ug/L	4										4	NR			4			NR			NR		1
Pichloram	50	NA	ug/L	1										1	NR			1			NR			NR		1
p,p' DDD	5	NA	ug/L	1										1	NR			1			NR			NR		
p,p' DDE	NS	NS	ug/L	1										1	NR			1			NR			NR		
p,p' DDT	5	NA	ug/L	1										1	NR			1			NR			NR		
Propachlor	50	NA	ug/L	4										4	NR			4			NR			NR		1
Simazine	4	4	ug/L	4	4	NR			4			NR			NR		1									
Total Chlordane	2	0	ug/L	4	4	NR			4			NR			NR		1									
Toxaphene	3	0	ug/L	1	1	NR			1			NR			NR		1									
Perchlorate	NS	NS	ug/L			4^(2001)			4^(2001)			4^(2001)			NR											
<b>Disinfectant Byproducts</b>																										
Total THMs	80	NA	ug/L	35	16 - 66	16	37	19 - 58	16	35	20 - 81	4	25	18 - 36	16	50	16-91	4								
Haloacetic Acids	60	NA	ug/L	12	4 - 22	16	20	4 - 49	16	20	12 - 30	4	14	11 - 16	16	16	8-20	4								
Chlorite	1000	NA	ug/L	NR			48	15 - 330	37	NR			NR			NR										
Haloacetonitriles	50	NA	ug/L	4.4	3.4 - 5.5	16^(1998)	NR			3.9	1.5 - 5.3	16^(1998)	NR			NR										
Halo ketones	50	NA	ug/L	1.8	0.9 - 3.4	16^(1998)	NR			4.5	1.2 - 7.6	16^(1998)	NR			NR										
Chloropicrin	NS	NS	ug/L	ND			NR			0.5	ND - 0.8	16^(1998)	NR			NR										
Chloral Hydrate	NS	NS	ug/L	4.6	1.6 - 12	16^(1998)	NR			8.5	1.6 - 13	16^(1998)	NR			NR										
Total Organic Halides	NS	NS	ug/L	101	54 - 158	16^(1998)	NR			245	110 - 350	16^(1998)	NR			NR										
<b>Key</b>																										
<b>MCL</b> = 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.									<b>mg/l</b> = milligram (1/1,000 of a gram) per liter = <b>ppm</b> = parts per million																	
<b>MCLG</b> = 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.									<b>ug/l</b> = microgram (1/1,000,000 of a gram) per liter = <b>ppb</b> = parts per billion																	
<b>TT</b> = Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.									<b>ng/L</b> = nanogram (1/1,000,000,000 of a gram) per liter = <b>ppt</b> = parts per trillion																	
<b>AL</b> = Action Level, the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.									<b>pg/L</b> = picogram (1/1,000,000,000,000 of a gram) per liter = <b>ppq</b> = parts per quadrillion																	
<b>Not Detected = ND</b> = absent or present at less than testing method detection level. All testing methods are EPA approved with detection limits much less than the MCL.									<b>pC/L</b> = picoCuries per liter																	
<b>NA</b> = Not applicable <b>NR</b> = Not required <b>NS</b> = No standard <b>NT</b> = Not Tested									<b>*Action level:</b> 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 7 ug/L for lead and 0.140 mg/L for copper.																	
<b>NTU</b> = Nephelometric turbidity Unit, a measure of the clarity of water.									<b>**</b> = 95% of measurements within a given month must be less than <0.5 NTUs.																	
<b>MF/L</b> = million fibers per liter, a measure of the presence of asbestos fibers longer than 10 micrometers									<b>***</b> = Average of monthly distribution system turbidity samples must be less than 5.0 NTUs.																	
<b>^(year)</b> = Most recent testing. Monitoring frequency requirements vary depending on compound.									<b>****</b> = 95% of monthly distribution system samples must have a measurable chlorine residual.																	
									<b>*****</b> = 95% of monthly distribution system samples must be coliform negative																	
									<b>Note:</b> 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.																	