



Monroe County Water Authority

2013 Water Quality Monitoring Program Summary

Parameter				Shoremont WTP			Webster WTP			Corfu WTP			Hemlock WTP			ECWA		
				Lake Ontario			Lake Ontario			Well			Hemlock Lake			Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013
Inorganics, Metals, Physical Parameters																		
Aluminum	NS	NS	ug/L	42	ND-90	4	47		1	ND		4	48	ND-170	4	151	35-360	4
Antimony	6	6	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Arsenic	10	0	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Barium	2	2	mg/L	0.020	0.018-0.022	4	0.023		1	0.138	0.110-0.200	4	0.016	0.014-0.017	4	0.02	0.020-0.021	4
Beryllium	4	4	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Cadmium	5	5	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Calcium	NS	NS	mg/L	34	34-36	4	34		1	54	50-81	4	25	24-26	4	34	32-35	4
Chromium	100	100	ug/L	ND		4	ND		1	ND	ND-1.3	4	ND		4	ND		4
Copper (Distribution System)	NS	NS	ug/L	ND	ND-2.7	4	ND		1	29	23-34	4	ND		4	ND	ND-2.5	4
Copper (Customer Tap Samples)	AL* = 1.3	1.3	ug/L	73	12-320	52 (2012)	73	12-320	52 (2012)	84	3-330	20 (2012)	73	12-320	52 (2012)	84	3-330	20 (2012)
Cyanide	200	200	ug/l	ND		4	ND		1	ND		4	ND		4	ND		4
Fluoride	2.2	NA	mg/L	0.8	0.4-1.1	2183	NR		NR	NR		NR	0.7	0.5-0.9	1058	0.6	0.1-1.0	49
Iron	300	NA	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Lead (Distribution System)	NS	NS	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Lead (Customer Tap Samples)	AL* = 15	0	ug/L	1.7	ND-15	52 (2012)	1.7	ND-15	52 (2012)	ND	ND-1.6	20 (2012)	1.7	ND-15	52 (2012)	ND	ND-1.6	20
Magnesium	NS	NS	mg/L	9.4	9.1-9.7	4	9		1	24.0	21-32	4	6.7	6.5-7.0	4	9.1		1
Manganese	300	NA	ug/L	ND		4	ND		1	10	8.6-10	4	ND		1	3	2-4.6	4
Mercury	2	2	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Nickel	100	NA	ug/L	ND		4	ND		1	ND		4	ND	ND-5.6	4	ND		4
Nitrate	10	10	mg/L	0.29	0.20-0.34	4	0.13		1	ND		4	ND	ND-0.18	4	0.16	ND-0.28	4
Nitrite	1	1	mg/L	ND		4	ND		1	ND		4	ND		4	ND		4
Potassium	NS	NS	mg/L	1.8		1	2		1	1.6		1	1.5		1	1.7		1
Selenium	50	50	ug/L	ND		4	ND		1	ND		4	ND		2	ND		4
Silica	NS	NS	mg/L	0.47	0.25-0.66	4	0.37		1	8.7	8.5-9.0	4	0.91	0.62-1.3	4	0.4	ND-0.86	4
Silver	100	NA	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Sodium	NS	NS	mg/L	11		3	21		1	69	47-80	4	19		3	14	12-16	3
Sulfate	250	NA	mg/L	27	26-28	4	27		1	50		1	14		4	22		1
Thallium	2	0.5	ug/L	ND		4	ND		1	ND		4	ND		4	ND		4
Zinc	5	NA	mg/L	ND		4	ND		1	ND		4	ND		4	ND		4
Alkalinity	NS	NA	mg/L	83	81-85	4	79		1	233	210-240	4	66	65-67	4	88	85-91	4
Chlorides	250	NA	mg/L	24	23-25	4	34		1	55	42-70	4	34	33-34	4	22	20-26	4
Color	15	NA	Color Units	ND		4	ND		1	ND		4	ND		4	ND	ND-3	4
Conductivity	NS	NS	umhos/cm	290	260-460	3685	290	260-460	3685	350	300-780	353	290	260-480	3685	350	300-780	353
pH	NS	NS	pH units	7.4	7.2-7.8	365	7.8	7.5-8.1	66	7.4	7.4-7.5	199	7.8	7.0-8.3	361	7.8	7.2 - 8.4	4380

Parameter				Shoremont WTP Lake Ontario			Webster WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013
Total Dissolved Solids	NS	NS	mg/L	165	150-180	4	190		1	410	370-430	4	140	130-150	4	160	140-170	4
Total Hardness	NS	NS	mg/L	123	120-130	4	120		1	254	210-330	4	91	88-92	4	120		1
Total Organic Carbon	NS	NS	mg/L	1.8	1.7-1.9	4	0.5		1	0.9	0.8-1.0	4	2.4	2.3-2.5	4	2.0	1.9-2	4
Surfactants	NS	NS	mg/L	ND	ND-0.05	4	ND		1	ND		4	ND		4	ND		4
Turbidity - Entry Point	TT **	NA	NTUs	0.05	0.03-0.07	2190	0.07	0.04-0.10	135	NR			0.07	0.04-0.15	2190	0.06	0.03 - 0.023	4380
Turbidity - Distribution System	TT ***	NA	NTUs	0.09	0.05-2.1	4590	0.09	0.05-2.4	4590	0.1	0.04-2.4	361	0.09	0.05-2.1	4590	0.1	0.04-2.4	361
Chlorine Residual - Entry Point	NA	NA	mg/L	1.1	0.8-1.5	Cont	0.6	0.3 - 0.8	Cont	0.7	0.5-1.0	202	0.9	0.6-1.3	1081	1.5	0.5 - 2	4380
Chlorine Residual - Retail Dist.Sy	TT ****	NA	mg/L	0.6	0-2.1	4590	0.6	0-2.1	4590	0.4	0-1.2	361	0.6	0-2.1	4590	0.4	0-1.2	361
Coliform - Retail Dist.System	TT *****	0	%Positive	0.09%		4589	0.09%		4589	ND		361	0.09%		4589	ND		361
Cryptosporidium	NS	NS	#Positive	ND		1			NR	NR			ND		4	ND		22
Giardia	NS	NS	#Positive	ND		4			NR	NR			ND		4	ND		22
Asbestos (Distribution System)	7	7	MF/L	ND		1 (2007)	ND		1(2007)	ND		1 (2007)	ND		1 (2007)	ND		1 (2007)
Radionuclides																		
Gross Alpha	15	0	pCi/L	ND		1 (2012)			NR	ND		1 (2012)	ND		1 (2012)	ND		1 (2004)
Gross Beta	50	0	pCi/L	ND		1 (2012)			NR	ND		1 (2012)	ND		1 (2012)	ND		1 (2004)
Combined Radium 226/228	5	0	pCi/L	ND		1 (2012)			NR	ND		1 (2012)	ND		1 (2012)	ND		1 (2004)
Uranium	30	0	pCi/L	ND		1 (2012)			NR	ND		1 (2012)	ND		1 (2012)	ND		1 (2004)
Volatile Organics																		
Benzene	5	0	ug/L	Not Detected		4	Not Detected		1	Not Detected		4	Not Detected		4	Not Detected		1
Bromobenzene	5	NA	ug/L		4	1		4	1									
Bromochloromethane	5	NA	ug/L		4	1		4	1									
Bromomethane	5	NA	ug/L		4	1		4	1									
n-Butylbenzene	5	NA	ug/L		4	1		4	1									
sec-Butylbenzene	5	NA	ug/L		4	1		4	1									
tert-Butylbenzene	5	NA	ug/L		4	1		4	1									
Carbon Tetrachloride	5	0	ug/L		4	1		4	1									
Chlorobenzene	5	NA	ug/L		4	1		4	1									
Chloroethane	5	NA	ug/L		4	1		4	1									
Chloromethane	5	NA	ug/L		4	1		4	1									
2-Chlorotoluene	5	NA	ug/L		4	1		4	1									
4-Chlorotoluene	5	NA	ug/L		4	1		4	1									
Dibromomethane	5	NA	ug/L		4	1		4	1									
1,2-Dichlorobenzene	5	NA	ug/L	4	1	4	1											
1,3-Dichlorobenzene	5	NA	ug/L	4	1	4	1											
1,4-Dichlorobenzene	5	NA	ug/L	4	1	4	1											
Dichlorodifluoromethane	5	NA	ug/L	4	1	4	1											

Parameter				Shoremont WTP Lake Ontario			Webster WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013
				Not Detected			Not Detected			Not Detected			Not Detected			Not Detected		
1,1-Dichloroethane	5	NA	ug/L			4			1			4			4			1
1,2-Dichloroethane	5	0	ug/L			4			1			4			4			1
1,1-Dichloroethene	5	NA	ug/L			4			1			4			4			1
cis-1,2-Dichloroethene	5	NA	ug/L			4			1			4			4			1
trans-1,2-Dichloroethene	5	NA	ug/L			4			1			4			4			1
1,2-Dichloropropane	5	0	ug/L			4			1			4			4			1
1,3-Dichloropropane	5	NA	ug/L			4			1			4			4			1
2,2-Dichloropropane	5	NA	ug/L			4			1			4			4			1
1,1-Dichloropropene	5	NA	ug/L			4			1			4			4			1
1,3-Dichloropropene(Cis)	5	NA	ug/L			4			1			4			4			1
1,3-Dichloropropene(Trans)	5	NA	ug/L			4			1			4			4			1
Ethylbenzene	5	NA	ug/L			4			1			4			4			1
Hexachlorobutadiene	5	NA	ug/L			4			1			4			4			1
Isopropylbenzene	5	NA	ug/L			4			1			4			4			1
p-Isopropyltoluene	5	NA	ug/L			4			1			4			4			1
Methyl Tert-butyl ether (MTBE)	10	NA	ug/L			4			1			4			4			1
Methylene Chloride (Dichloromet)	5	0	ug/L			4			1			4			3			1
n-Propylbenzene	5	NA	ug/L			4			1			4			4			1
Styrene	5	NA	ug/L			4			1			4			4			1
1,1,1,2-Tetrachloroethane	5	NA	ug/L			4			1			4			4			1
1,1,2,2-Tetrachloroethane	5	NA	ug/L			4			1			4			4			1
Tetrachloroethene	5	0	ug/L			4			1			4			4			1
Toluene	5	NA	ug/L			4			1			4			4			1
1,2,3-Trichlorobenzene	5	NA	ug/L			4			1			4			4			1
1,2,4-Trichlorobenzene	5	NA	ug/L			4			1			4			4			1
1,1,1-Trichloroethane	5	NA	ug/L			4			1			4			4			1
1,1,2-Trichloroethane	5	3	ug/L			4			1			4			4			1
Trichloroethene	5	0	ug/L			4			1			4			4			1
Trichlorofluoromethane	5	NA	ug/L			4			1			4			4			1
1,2,3-Trichloropropane	5	NA	ug/L			4			1			4			4			1
1,2,4-Trimethylbenzene	5	NA	ug/L			4			1			4			4			1
1,3,5-Trimethylbenzene	5	NA	ug/L			4			1			4			4			1
Vinyl Chloride	2	0	ug/L			4			1			4			4			1
Xylenes	5	NA	ug/L			4			1			4			4			4

Parameter	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Shoremont WTP Lake Ontario			Webster WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
				Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013
				Not Detected														
Organics, Pesticides, Herbicides																		
1, 2-Dibromo-3-Chloropropane	200	0	ng/L			1			1			1			1			1
1, 2-Dibromoethane (EDB)	50	0	ng/L			1			1			1			1			1
2, 4, 5-TP (Silvex)	10	NA	ug/L			1			1			1			1			1
2, 4-D	50	NA	ug/L			1			1			1			1			1
3-Hydroxycarbofuran	50	NS	ug/L			1			1			1			1			1
Alachlor	2	0	ug/L			4			1			4			4			4
Aldicarb	3	1	ug/L			1			1			1			1			1
Aldicarb Sulfone	2	1	ug/L			1			1			1			1			1
Aldicarb Sulfoxide	4	1	ug/L			1			1			1			1			1
Aldrin	5	NA	ug/L			4			1			4			4			4
Atrazine	3	3	ug/L			4			1			4			4			4
Benzo(a)pyrene	200	0	ng/L			4			1			4			4			4
Bis(2-Ethylhexyl)Phthalate	6	0	ug/L			4			1			4			4			4
Butachlor	50	NA	ug/L			4			1			4			4			4
Carbaryl	50	NA	ug/L			1			1			1			1			1
Carbofuran	40	40	ug/L			1			1			1			1			1
Dalapon	50	NA	ug/L			1			1			1			1			1
DCPA, Mono & Di-Acid Degradat	50	NS	ug/L			1			1			1			1			1
Di(2-Ethylhexyl) Adipate	50	NA	ug/L			4			1			4			4			4
Dicamba	50	NA	ug/L			1			1			1			1			1
Dieldrin	5	NA	ug/L			4			1			4			4			4
Dinoseb	7	7	ug/L			1			1			1			1			1
Dioxin	30	0	pg/L			1			1			1			1			1
Diquat	20	20	ug/L			1			1			1			1			1
Endothall	50	NA	ug/L			1			1			1			1			1
Endrin	2	2	ug/L			4			1			4			4			4
Glyphosate	50	NA	ug/L			1			1			1			1			1
Heptachlor	400	0	ng/L			4			1			4			4			4
Heptachlor Epoxide	200	0	ng/L			4			1			4			4			4
Hexachlorobenzene	1	0	ug/L			4			1			4			4			4
Hexachlorocyclopentadiene	5	NA	ug/L			4			1			4			4			4
Isophorone	50	NA	ug/L			4			1			4			4			4
Lindane (gamma-BHC)	200	200	ng/L			4			1			4			4			4
Methomyl	50	NA	ug/L			1			1			1			1			1
Methoxychlor	40	40	ug/L			4			1			4			4			4
Metolachlor	50	NA	ug/L			4			1			4			4			4
Metribuzin	50	NA	ug/L			4			1			4			4			4

Parameter				Shoremont WTP Lake Ontario			Webster WTP Lake Ontario			Corfu WTP Well			Hemlock WTP Hemlock Lake			ECWA Lake Erie		
	EPA/NYS MCL	EPA/NYS MCLG	UNITS	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013	Average	Range	Samples in 2013
				Not Detected			Not Detected			Not Detected			Not Detected			Not Detected		
Oxamyl	50	NA	ug/L			1			1			1			1			1
p,p' DDD	5	NA	ug/L			4			1			4			4			4
p,p' DDE	NS	NS	ug/L			4			1			4			4			4
p,p' DDT	5	NA	ug/L			4			1			4			4			4
PCB's Total	500	0	ng/L			4			1			4			4			2
Pentachlorophenol	1	0	ug/L			4			1			4			4			4
Perchlorate	NS	NS	ug/L			1			1			1			1			1
Pichloram	50	NA	ug/L			1			1			1			1			1
Propachlor	50	NA	ug/L			4			1			4			4			3
Simazine	4	4	ug/L			4			1			4			4			4
Total Chlordane	2	0	ug/L			4			1			4			4			4
Toxaphene	3	0	ug/L			4			1			4			4			2
Disinfectant Byproducts																		
Total THMs	80	NA	ug/L	38	16 - 93	48	38	16 - 93	48	43	15 - 64	8	38	16 - 93	48	43	15 - 64	8
Haloacetic Acids	60	NA	ug/L	11	ND - 31	48	11	ND - 31	48	7.8	ND - 21	8	11	ND - 31	48	7.8	ND - 21	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. 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.

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.

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

umhos/cm = micro ohms per centimeter

Cont = Continuously monitored via online instrumentation.

** = 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.

***** = No more than 5% of monthly samples can be positive.

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.