2008 Regulated Contaminants of the Distribution System

Contaminant, units	MCLG	MCL	MAX CONC	RANGE	COMMENTS
Total Coliform	0	Presence of coliform bacteria in >5% of monthly samples	0.53%	0-0.53%	1 sample positive out of 2401 sample analyzed
E.Coli	0	A routine sample & a repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive	0%		
Total Trihalomethane THM, ppb	0	80	16	7 - 39	Max Conc- qt compliance avg, includes 2007 data Range- individual samples collected in 2008
HAA(5)	0	60	19	5 - 35	Max Conc- qt compliance avg, includes 2007 data Range- individual samples collected in 2008
Total Chlorine (Chloramines)	4	MRDL=4.0	3.3	0.0 - 4.7	Max Conc- mn compliance avg, includes 2006 data Range- individual samples collected in 2007
TOC Removal		TT (Compliance removal ratio)	1.07 (Min % removal)	0.96-1.31	Min Conc- qt compliance avg, includes 2007 data Range- mn average of samples collected in 2008
Lead, ppb		AL=15 (>10% samples exceed AL)	0.0 90% percentile	<1.0 - 1.2	2007 Sampling event; no sample exceeded the AL
Copper, ppm		AL=1.3 (>10% samples exceed AL)	0.168 90% percentile	0.008 - 0.280	2007 Sampling event, no samples exceeded the AL

Inorganics- Regulated at the Treatment Plant

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	COMMENTS
Arsenic	ppb	none	50	<2			YES	NO	
Antimony	ppb	6	6	<1			YES	NO	
Barium	ppm	2	2	0.03	0.016 - 0.030	Erosion of natural deposits	YES	NO	
Beryllium	ppb	4	4	<0.07			YES	NO	
Cadmium	ppb	5	5	<0.5			YES	NO	
Chromium	ppb	100	100	<1			YES	NO	
Cyanide	ppb	200	200	<5			YES	NO	new to list
Fluoride	ppm	4	4	1.58	<0.20 - 1.58		YES	NO	Fluoride is added to promote strong teeth
Mercury	ppb	2	2	<0.05			YES	NO	
Nitrate	N, ppm	10	10	0.09	<0.02 - 0.09	Erosion of natural deposits	YES	NO	
Nitrite	N, ppm	1	1	0.012	<0.001 - 0.012	Erosion of natural deposits	YES	NO	
Lead	ppb	n/a	15-AL	<1			YES	NO	
Selenium	ppb	50	50	<2			YES	NO	
Thallium	ppb	0.5	2	<0.7			YES	NO	
Bromate	ppb	0	10	<1			YES	NO	
Turbidity	NTU	n/a	TT	0.22	0.02 -0.22		YES	NO	At least 95% of monthly samples had turbidity of $\leq$ 0.30 NTU

Radiological- Regulated at the Treatment Plant

Substance	Unit	MCLG	MCL	MAX CONC	RANGE	Likely Source	Meets EPA Standards	Violations?	COMMENTS
Alpha emitters	pCi/L	0	15	0.9	0.8-0.9	Erosion of natural deposits	YES	NO	
Beta emitters	pCi/L	0	50	3.6	3.0-3.6	Decay of natural & man-made deposits	YES	NO	

2008 Regulated Nonhealth Risk Contaminants

Contaminant, units	MCLG	MCL	AVERAGE	RANGE
pH	n/a	6.5-8.5	7.5	7.2 - 7.8
Chloride, ppm	n/a	250	22	11 - 35
Color, color units	n/a	15	0	0
Copper,ppb	n/a	1300	8	1 - 38
Iron, ppb	n/a	300	18	ND - 122
Manganese, ppb	n/a	50	15	2 - 65
Silver, ppb	n/a	100	<1	ND
Sulfate, ppm	n/a	500 (proposed)	38	9 - 48
Total Dissolved Solids, ppm	n/a	500	138	1110 - 163
Zinc, ppm	n/a	5	0.22	0.17 - 0..27

2008 Regulated Health Risk Contaminants

Organics- Regulated at the Treatment Plant

Substance	Units	MCLG	MCL	AVERAGE	RANGE	Likely Source	Meets EPA Standards	Violations?
Regulated VOC	ppb							
Benzene	ppb	0	5	ND	ND		YES	NO
Carbon Tetrachloride	ppb	0	5	ND	ND		YES	NO
Chlorobenzene	ppb	100	100	ND	ND		YES	NO
o-Dichlorobenzene	ppb	600	600	ND	ND		YES	NO
p-Dichlorobenzene	ppb	75	75	ND	ND		YES	NO
1,2-Dichloroethane	ppb	0	5	ND	ND		YES	NO
1,1-Dichloroethylene	ppb	7	7	ND	ND		YES	NO
cis-1.2-Dichloroethylene	ppb	70	70	ND	ND		YES	NO
trans-1,2-Dichloroethylene	ppb	100	100	ND	ND		YES	NO
Dichloromethane	ppb	0	5	ND	ND		YES	NO
1,2-Dichlorpropane	ppb	0	5	ND	ND		YES	NO
Ethylbenzene	ppb	700	700	ND	ND		YES	NO
Styrene	ppb	100	100	ND	ND		YES	NO
Tetrachloroethylene	ppb	0	5	ND	ND		YES	NO
1,2,4-Trichlorobenzene	ppb	70	70	ND	ND		YES	NO
1,1,1-Trichloroethane	ppb	200	200	ND	ND		YES	NO
1,1,2-Trichloroethane	ppb	3	5	ND	ND		YES	NO
Trichloroethylene	ppb	0	5	ND	ND		YES	NO
Toluene	ppb	1	1	ND	ND		YES	NO
Vinyl Chloride	ppb	0	2	ND	ND		YES	NO
Xylene	ppb	10	10	ND	ND		YES	NO
38 Unregulated VOC	ppb	n/a	n/a	ND	ND		n/a	n/a
Chloroform	ppb	n/a	n/a	6	ND - 19	By-product of drinking water chlorination	n/a	n/a
Dichlorobromomethane	ppb	n/a	n/a	4	ND - 7	By-product of drinking water chlorination	n/a	n/a
Dibromochloromethane	ppb	n/a	n/a	2	ND - 5	By-product of drinking water chlorination	n/a	n/a
Bromoform	ppb	n/a	n/a	ND	ND - 3	By-product of drinking water chlorination	n/a	n/a

2008 Regulated Nonhealth Risk Contaminants

2008 Miscellaneous Analyses of Finished Water at Water Treatment Plant

Contaminant, units		MCLG	MCL	AVERAGE	RANGE
Alkalinity	CaCO3 ppm	n/a	n/a	31	21 - 40
Aluminum	ppb	n/a	50-200	17	0 - 206
Ammonia	ppm	n/a	n/a	0.56	0.38 - 0.70
Bromide	ppb	n/a	n/a	15	1 - 47
Calcium	ppm	n/a	n/a	24	12 - 34
Hardness	CaCO3 ppm	n/a	n/a	62	32 - 92
Lead	ppm	n/a	n/a	0	0
Magnesium	ppm	n/a	n/a	1.8	1.4 - 2.2
Molybdate	ppb	n/a	n/a	<1	<1
Nickel	ppb	n/a	n/a	<1	<1
Ortho-Phosphorus	P, ppm	n/a	n/a	0.22	0.18 - 0.36
Potassium	ppm	n/a	n/a	2.20	1.35 - 3.42
Silica	ppm	n/a	n/a	4.5	1.0 - 7.0
Sodium	ppm	n/a	n/a	13.7	6.7 - 26.7
Specific Conductance	uhmo/cm	n/a	n/a	222	194 - 247
Vanadium	ppb	n/a	n/a	<1	<1

2008Microbial Monitoring of Source Water

Substance	Unit	MCLG	MCL	MAX CONC	RANGE
Giardia	#/L	0	n/a	0.050	<0.050 - 0.050
Cryptosporidium	#/L	0	TT	<0.050	ND

Unregulated Contaminant Monitoring Regulation-2 (URMC2)

Unregulated Contaminates	Units	MRL	MAX	Range
UCMR2 Nitrosamines				
N-nitroso-di-n-butylamine	ng/L	4	ND	
N-nitroso-di-n-propylamine	ng/L	7	ND	
N-nitroso-diethylamine (NDEA)	ng/L	5	ND	
N-nitroso-dimethylamine (NDMA)	ng/L	2	3.1	2.6 - 3.1
N-nitroso-methylethylamine	ng/L	3	ND	
N-nitroso-pyrrolidine (NPYR)	ng/L	2	ND	
UCMR2- Semivolatiles				
Acetochlor	ug/L	2	ND	
Alachlor	ug/L	2	ND	
Metolachlor	ug/L	1	ND	
UCMR2-Flame Retardants				
2,2,4,4- tetrabromodiphenyl ether	ug/L	0.3	ND	
2,2,4,4,5- pentabromodiphenyl ether	ug/L	0.9	ND	
2,2,4,4,5,5- hexabromobiphenyl(HBB)	ug/L	0.7	ND	
2,2,4,4,5,5- hexabromodiphenyl ether	ug/L	0.8	ND	
2,2,4,4,6- pentabromodiphenyl ether	ug/L	0.5	ND	
Dimethoate	ug/L	0.7	ND	
Terbufos sulfone	ug/L	0.4	ND	
UCMR2- Explosives Related Compounds				
1,3-dinitrobenzene	ug/L	0.8	ND	
2,4,6-trinitrotoluene (TNT)	ug/L	0.8	ND	
RDX	ug/L	1	ND	
UCMR2- Herbicide Degradates				
Acetochlor ESA	ug/L	1	ND	
Acetochlor OA	ug/L	2	ND	
Alachlor ESA	ug/L	1	ND	
Alachlor OA	ug/L	2	ND	
Metolachlor ESA	ug/L	1	ND	
Metolachlor OA	ug/L	2	ND	

NOTE: Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard.

MRL= Minimum Report Level
ng/L= nanogram per liter (1 billionth of a gram in a liter)
ND = non-detected, below MRL

Pharmaceuticals & Personal Care Products

(Endocrine Disruptor Compounds (EDC))

Analyte	CAS#	Units	MRL	Chickahominy Pump Station	LH Raw Water	LH Finished Water	HM Raw Water	HM Finished Water
2,6-di-tert-butylphenol	128-39-2	ng/l	10	ND	ND	ND	ND	ND
4-Methylphenol	106-44-5	ng/l	25	ND	ND	ND	ND	ND
4-Nonyl Phenol	104-40-5	ng/l	25	ND	ND	ND	ND	ND
Acetaminophen	103-90-2	ng/l	1	ND	ND	ND	ND	ND
Alpha Chlordane	5103-71-9	ng/l	10	ND	ND	ND	ND	ND
Bis Phenol A (BPA)	80-05-7	ng/l	25	ND	ND	ND	ND	ND
Caffeine	58-08-2	ng/l	1	11	8.3	ND	11	ND
Carbamazepine	298-46-4	ng/l	5	ND	ND	ND	ND	ND
Carbaryl	63-25-2	ng/l	50	ND	ND	ND	ND	ND
Chlorpyrifos	2921-88-2	ng/l	25	ND	ND	ND	ND	ND
DEET	134-62-3	ng/l	25	ND	ND	ND	ND	ND
Diazinon	333-41-5	ng/l	25	ND	ND	ND	ND	ND
Dieldrin	60-57-1	ng/l	25	ND	ND	ND	ND	ND
Esterone	53-16-7	ng/l	1	ND	ND	ND	ND	ND
Estradiol	50-28-2	ng/l	1	ND	ND	ND	ND	ND
Ethinyl Estradiol -17 alpha	57-63-6	ng/l	5	ND	ND	ND	ND	ND
Fluoxetine	54910-89-3	ng/l	1	ND	ND	ND	ND	ND
Gemfibrozil	25812-30-0	ng/l	1	ND	ND	ND	ND	ND
Ibuprofen	15687-27-1	ng/l	1	ND	ND	ND	ND	ND
Iopromide	73334-07-3	ng/l	5	ND	ND	ND	ND	ND
Methyl Parathion	298-00-0	ng/l	25	ND	ND	ND	ND	ND
Phenol	108-95-2	ng/l	100	ND	ND	ND	ND	ND
Progesterone	57-83-0	ng/l	1	ND	ND	ND	ND	ND
Sulfamethoxazole	723-46-6	ng/l	1	ND	ND	ND	ND	ND
TDCPP	13674-87-8	ng/l	25	ND	ND	ND	ND	ND
Testosterone	58-22-0	ng/l	1	ND	ND	ND	ND	ND
Triclosan	3380-34-5	ng/l	5	ND	ND	ND	ND	ND
Triclosan	3380-34-5	ng/l	50	ND	ND	ND	ND	ND
Trimethoprim	738-70-5	ng/l	1	ND	ND	ND	ND	ND
Triphenylphosphate	115-86-6	ng/l	25	32	ND	ND	ND	ND
Tris (2-butoxyethyl) phosphate	78-51-3	ng/l	100	ND	ND	ND	ND	ND
Tris (2-chloroethyl) phosphate	115-96-8	ng/l	25	ND	ND	ND	ND	ND

MRL= Minimum Report Level
ng/L= nanogram per liter (1 billionth of a gram in a liter)
ND = non-detected, below MRL

Glossary of Terms

Term	Definition
AL	Action Level
Finished Water	Treated water, drinking water
ICR	Information Collection Rule
MCLG	Maximum Contaminant Level Goal
MCL	Maximum Contaminant Level
MRDL	Maxiumum Residual Disinfection Level
MRL	Minimum Report Level
ng/L	Nanogram per liter (parts per trillion)
ND	non-detected, amount detected is below MRL
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter (a measure of radioactivity)
ppb	parts per billion or micrograms per liter (ug/L)
ppm	parts per million or milligrams per liter (mg/L)
Source Water	Water prior entering the treatment plant, reservoir water
TT	Treatment Technique
VOC	Volatile Organic Compound