



## User Friendly Summary of Test Results for the UltraWater / Fluoride Shield Filtration System\*

*performed by:*



All tests performed in a NELAP Accredited laboratory environment.

**Abstract:** All tests were performed to replicate the flow rates and contact times of AlkaViva electric ionizers with a flow rate of 3 liters per minute. No ionization or form of electrolysis was used in testing.

All control water samples (influent samples) were created using DI water that was then spiked with contaminant samples and scanned separately for accurate starting values without passing through the filters.

All filters were flushed prior to testing using 10 gallons of DI water, than cleared of excess water by air. Prior to collection, approximately 2 liters of control water sample were passed through the filter and the effluent samples were collected.

Testing for heavy metals, disinfectants, and VOC sample groups was performed using the UltraWater filter\*. Anions group testing was performed with the addition of a Fluoride Shield. Completion date: December 10, 2012. Testing for PPCP (Pharmaceuticals and Personal Care Products) sample group was performed using the UltraWater filter\*. Completion date: August 3, 2012.

**Influent** = The levels found in the control sample prior to passing through the UltraWater Filtration System.

**Effluent** = The levels found in the collected sample after passing through the UltraWater Filtration System.

**mg/L** = Milligrams per liter, or Parts Per Million (PPM)

**ug/L** = Micrograms per Liter, or Parts Per Billion (PPB)

**ND** = Nondetectable levels were found in testing. ND is an indicator of the lowest level of accurate reporting based on the test equipment capability and the type of tests performed.

\* As used only in AlkaViva electric ionizers

Compounds Action	Compound Name	Influent Compound Level (ng/L)	AlkaViva UltraWater Results	Reporting Limit (ng/L)
<b><u>Hormones</u></b>				
Contraceptive Hormone	EE2 (17 Alpha-ethynylestradiol)	500	Not Detected	5
Estrogenic Hormone	E2 (17 Beta-Estradiol)	380	Not Detected	5
Estrogenic Hormone	Estrone	400	Not Detected	5
Steroid Hormone	Androstenedione	370	Not Detected	5
Steroid Hormone	Norethisterone	600	Not Detected	5
Steroid Hormone	Progesterone	550	Not Detected	5
Steroid Hormone	Testosterone	410	Not Detected	10
<b><u>Over the Counter</u></b>				
Analgesic	Acetaminophen	640	Not Detected	5
Analgesic	Phenazone	530	Not Detected	5
Analgesic-NSAID	Ibuprofen	1800	Not Detected	10
<b><u>Prescription Drugs</u></b>				
Analgesic	Lidocaine	280	Not Detected	5
Analgesic-NSAID	Butalbital	310	Not Detected	5
Anti anxiety	Meprobamate	520	Not Detected	5
Anti Asthmatic	Albuterol	1800	Not Detected	5
Anti Asthmatic	Theophylline	310	Not Detected	10
Anti Convulsant	Primidone	230	Not Detected	5
Anti Inflammatory	Diclofenac	390	Not Detected	5
Anti Inflammatory	Ketoprofen	280	Not Detected	5

\*ND = Nondetectable levels found

Compounds Action	Compound Name	Influent Compound Level (ng/L)	AlkaViva UltraWater Results	Reporting Limit (ng/L)
Anti Inflammatory	Ketorolac	230	Not Detected	5
Anti Inflammatory	Meclofenamic Acid	380	Not Detected	5
Anti seizure	Carbamazepine	480	Not Detected	5
Antibiotic	Amoxicillin	480	Not Detected	20
Antibiotic	Azrothromycin	31000	810	5
Antibiotic	Carbadox	360	Not Detected	5
Antibiotic	Chloramphenicol	700	Not Detected	10
Antibiotic	Erythromycin	110	Not Detected	10
Antibiotic	Flumequine	270	Not Detected	10
Antibiotic	Lincomycin	1200	Not Detected	10
Antibiotic	Oxolinic acid	84	Not Detected	5
Antibiotic	Trimethoprim	200	Not Detected	5
Anti-cholesterol	Clofibrac acid	470	Not Detected	5
Anticoagulant	Warfarin	860	Not Detected	5
Antidepressant	Fluoxetine (Prozac)	470	Not Detected	10
Anti-Seizure	Dilantin	2400	Not Detected	20
Beta Blocker	Atenolol	1000	Not Detected	5
Beta Blocker	Lopressor	3400	Not Detected	20
Blood thinner	Pentoxifylline	490	Not Detected	5
Calcium Blocker	Nifedipine	1600	87	20
Enzyme	Chloridazon	120	Not Detected	5

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User Friendly Summary of UltraWater Test Results

Compounds Action	Compound Name	Influent Compound Level (ng/L)	AlkaViva UltraWater Results	Reporting Limit (ng/L)
H2 Blocker	Cimetidine	4400	Not Detected	5
Heart Medication	Dehydronifedipine	230	Not Detected	5
Lipid Regulator	Bezafibrate	1200	Not Detected	5
Lipid Regulator	Gemfibrozil	450	Not Detected	5
Muscle Relaxant	Carisoprodol	540	Not Detected	5
Sulfa Antibiotic	Sulfachloropyridazine	3400	Not Detected	5
Sulfa Antibiotic	Sulfadimethoxine	550	Not Detected	5
Sulfa Antibiotic	Sulfamerazine	170	Not Detected	5
Sulfa Antibiotic	Sulfadiazine	630	Not Detected	5
Sulfa Antibiotic	Sulfamethazine	200	Not Detected	5
Sulfa Antibiotic	Sulfamethizole	270	Not Detected	5
Sulfa Antibiotic	Sulfathiazole	200	Not Detected	5
Sulfa Antibiotic	Sulfamethoxazole	290	Not Detected	5
Triazide	Bendroflumethiazide	880	Not Detected	5
Valium- Antianxiety	Diazepam	620	Not Detected	5
<b><u>Stimulants</u></b>				
Caffeine Degradate	1,7-dimethylxanthine	700	Not Detected	5
Caffeine Degradate	Theobromine	560	Not Detected	5
Nicotine Degradate	Cotinine	1900	Not Detected	10
Stimulant	Caffeine	780	Not Detected	5
Analgesic-NSAID	Naproxen	240	Not Detected	10

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User Friendly Summary of UltraWater Test Results

Compounds Action	Compound Name	Influent Compound Level (ng/L)	AlkaViva UltraWater Results	Reporting Limit (ng/L)
<b><u>Personal Care Products</u></b>				
Antibacterial	Triclosan	1000	Not Detected	10
Mosquito Repellant	DEET	340	Not Detected	2
<b><u>Preservatives</u></b>				
Preservative	Butylparaben	730	Not Detected	5
Preservative	Ethylparaben	2100	Not Detected	20
Preservative	Isobutylparaben	780	Not Detected	5
Preservative	Methylparaben	1400	Not Detected	20
Preservative	Propylparaben	270	Not Detected	5
<b><u>Pesticides/Herbicides</u></b>				
Herbicide	2,4-D	250	Not Detected	5
Herbicide	Bromacil	480	Not Detected	5
Herbicide	Chlorotoluron	440	Not Detected	5
Herbicide	Diuron	940	Not Detected	5
Herbicide	Isoproturon	2000	Not Detected	100
Herbicide	Linuron	420	Not Detected	5
Herbicide	Metazachlor	520	Not Detected	5
Pesticide	Quinoline	250	Not Detected	5
Triazine Herbicide	Atrazine	390	Not Detected	5
Triazine Herbicide	Cyanazine	16	Not Detected	5
Triazine Degradate	DACT (Diaminochlorotriazine)	260	Not Detected	5

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Compounds Action	Compound Name	Influent Compound Level (ng/L)	AlkaViva UltraWater Results	Reporting Limit (ng/L)
Triazine Degradate	DEA (Deethylatrazine)	120	Not Detected	5
Triazine Degradate	DIA (Deisopropylatrazine)	250	Not Detected	5
Triazine Herbicide	Propazine	340	Not Detected	5
Triazine Herbicide	Simazine	120	Not Detected	5
<b><u>Wastewater Indicators</u></b>				
Flame Retardant	TCEP	29	Not Detected	5
Flame Retardant	T CPP	440	Not Detected	5
Flame Retardant	TDCPP	1000	Not Detected	5
Plasticizer	BPA (Bis Phenol A)	270	Not Detected	10
Sugar Substitute	Acesulfame-K	1300	Not Detected	20
Sugar Substitute	Sucralose	15000	Not Detected	100
Surfactant	4-nonylphenol	710	Not Detected	100
Surfactant	4-tert-octylphenol	400	Not Detected	50
X-ray Contrast agent	Iohexol (Iohexal)	240	Not Detected	10
X-ray Contrast agent	Iopromide	290	Not Detected	5

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Drinking Water Contaminant	Influent Contaminant Level	Unit of Measure	UltraWater Results (Effluent)	Reporting Limits
<b><u>Disinfectants/ Anions</u></b>				
Total Residual Chlorine	1	mg/L	Not Detected	0.25
Free Chlorine	0.33	mg/L	Not Detected	0.25
Fluoride	2.27	mg/L	Not Detected	0.5
Nitrate as N	0.73	mg/L	Not Detected	0.1
Nitrite as N	0	mg/L	Not Detected	0.1
TDS	105	mg/L	100	10
<b><u>Heavy Metals</u></b>				
Aluminum	0.695	mg/L	0.216	0.01
Antimony	0.0313	mg/L	Not Detected	0.001
Arsenic	0.466	mg/L	Not Detected	0.001
Barium	0.932	mg/L	0.00103	0.001
Beryllium	0.00482	mg/L	Not Detected	0.001
Boron	1.69	mg/L	0.722	0.01
Cadmium	0.0471	mg/L	Not Detected	0.001
Chromium	0.179	mg/L	Not Detected	0.001
Chromium VI	0.958	mg/L	Not Detected	0.0005
Copper	0.41	mg/L	Not Detected	0.001
Iron	1.36	mg/L	0.0103	0.01
Lead	0.0988	mg/L	Not Detected	0.001
Manganese	0.0912	mg/L	Not Detected	0.01

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Drinking Water Contaminant	Influent Contaminant Level	Unit of Measure	UltraWater Results (Effluent)	Reporting Limits
Molybdenum	0.0675	mg/L	Not Detected	0.001
Mercury	0.008	mg/L	Not Detected	0.002
Nickle	0.0693	mg/L	Not Detected	0.001
Selenium	0.0909	mg/L	Not Detected	0.001
Silver	0.117	mg/L	Not Detected	0.001
Thalium	0.0071	mg/L	Not Detected	0.001
Vanadium	0.977	mg/L	Not Detected	0.001
Zinc	0.585	mg/L	Not Detected	0.001
<b><u>Volitile Organics</u></b>				
1,1,1,2-Tetrachloethane	201	ug/L	Not Detected	5
1,1,1-Trichlorethane	156	ug/L	Not Detected	5
1,1,2,2-Tetrachloroethane	616	ug/L	Not Detected	5
1,1,2-Trichloroethane	60.2	ug/L	Not Detected	5
1,1-Dichlorethane	397	ug/L	5.43	5
1,1-Dichloroethene	98.5	ug/L	Not Detected	5
1,1-dichloropropene	246	ug/L	Not Detected	5
1,2,3-Trichloropropane	528	ug/L	Not Detected	5
1,2,4-Trichlorobenzene	101	ug/L	Not Detected	5
1,2,4-Trimethylbenzene	192	ug/L	Not Detected	5
1,2-Dichlorobenzene	228	ug/L	Not Detected	5
1,2-Dichloroethane	108	ug/L	Not Detected	5

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Drinking Water Contaminant	Influent Contaminant Level	Unit of Measure	UltraWater Results (Effluent)	Reporting Limits
1,2-Dichloropropane	186	ug/L	Not Detected	5
1,3,5-Trimethylbenzene	387	ug/L	Not Detected	5
1,3-Dichloropropane	275	ug/L	Not Detected	5
1,4-Dichlorobenzene	203	ug/L	Not Detected	5
2,2-Dichloropropane	179	ug/L	Not Detected	5
2-Chlorotoluene	429	ug/L	Not Detected	5
4-Chlorotoluene	94.5	ug/L	Not Detected	5
Benzene	172	ug/L	Not Detected	5
Bromobenzene	59.6	ug/L	Not Detected	5
Carbon Tetrachloride	153	ug/L	Not Detected	5
Chlorobenzene	231	ug/L	Not Detected	5
cis-1,2-dichloroethane	366	ug/L	Not Detected	5
cis-1,3-Dichloropropene	145	ug/L	Not Detected	5
Dibromomethane	156	ug/L	Not Detected	5
Dichlorodifluoromethane	160	ug/L	Not Detected	5
Ethylbenzene	262	ug/L	Not Detected	5
Hexachlorobutadine	80.3	ug/L	Not Detected	5
Isopropylbenzene	328	ug/L	Not Detected	5
m+p-Xylene	72.5	ug/L	Not Detected	5
Methylene chloride	266	ug/L	Not Detected	5
methyl-t-butyl ether (MTBE)	372	ug/L	5.36	5

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Drinking Water Contaminant	Influent Contaminant Level	Unit of Measure	UltraWater Results (Effluent)	Reporting Limits
Napthalene	124	ug/L	Not Detected	5
n-Propylbenzene	247	ug/L	Not Detected	5
o-Xylene	59.8	ug/L	Not Detected	5
p-isopropyltoluene	124	ug/L	Not Detected	5
Styrene	85.4	ug/L	Not Detected	5
tert-Butylbenzene	318	ug/L	Not Detected	5
Tetrachloroethane	168	ug/L	Not Detected	5
Toluene	265	ug/L	Not Detected	5
trans-1,2-Dichloroethane	186	ug/L	Not Detected	5
trans-1,3-Dichloropropene	205	ug/L	Not Detected	5
Trichloroethane	259	ug/L	Not Detected	5
Vinyl Chloride	136	ug/L	Not Detected	5

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