



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) |
|----------------------------------|---------------------------------|--------------------------------|-----------------------------|------------------------|
| <u>Hormones</u> | | | | |
| 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 |
| <u>Over the Counter</u> | | | | |
| Analgesic | Acetaminophen | 640 | Not Detected | 5 |
| Analgesic | Phenazone | 530 | Not Detected | 5 |
| Analgesic-NSAID | Ibuprofen | 1800 | Not Detected | 10 |
| <u>Prescription Drugs</u> | | | | |
| 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 |
| <u>Stimulants</u> | | | | |
| 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) |
|--------------------------------------|------------------------------|--------------------------------|-----------------------------|------------------------|
| <u>Personal Care Products</u> | | | | |
| Antibacterial | Triclosan | 1000 | Not Detected | 10 |
| Mosquito Repellant | DEET | 340 | Not Detected | 2 |
| <u>Preservatives</u> | | | | |
| 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 |
| <u>Pesticides/Herbicides</u> | | | | |
| 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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|-------------------------------------|---------------------------|--------------------------------|-----------------------------|------------------------|
| 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 |
| <u>Wastewater Indicators</u> | | | | |
| 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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User Friendly Summary of UltraWater Test Results

| Drinking Water Contaminant | Influent Contaminant Level | Unit of Measure | UltraWater Results (Effluent) | Reporting Limits |
|-------------------------------------|----------------------------|-----------------|-------------------------------|------------------|
| <u>Disinfectants/ Anions</u> | | | | |
| 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 |
| <u>Heavy Metals</u> | | | | |
| 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 |
| <u>Volitile Organics</u> | | | | |
| 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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