ENVIROTEK LABORATORIES, INC.
33 Third Street, Bordentown, NJ 08505
PHONE 856-478-0010 www.enviroteklab.com
EPA ID # NJ01298 NJ DEP ID # 03048

TEST RESULTS

FOR

ALEXAPURE, LLC

Gravity Block Filter With Hybrid Shell
NSF Standard 53, and NSF Standard 42
Chemical Reduction Tests Results

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GRAVITY BLOCK FILTER WATER TEST REPORT

Report # 15-125 (Gravity Block Filter With Hybrid Shell)
Report Date: 10/24/2015
Customer Name: Alexapure, LLC.

Drinking Water Contaminant Tested	Influent Water Concentration in µg/L	Gravity Block Filter Element Effluent Concentration in µg/L	% Reduction
Volatile Organic Contaminants µg/L			
Dichlorodifluoromethane	80.1	<0.5	99.9+
Chloromethane	80.3	<0.5	99.9+
Vinylchloride	80.3	<0.5	99.9+
Bromomethane	80.4	<0.5	99.9+
Chloroethane	80.1	<0.5	99.9+
Trichlorofluoromethane	80.1	<0.5	99.9+
1,1-Dichloroethene	81.0	<0.5	99.9+
Methylene Chloride	80.2	<0.5	99.9+
trans-1,2-Dichloroehene	80.5	<0.5	99.9+
MTBE	80.5	<0.5	99.9+
1,1-Dichlorethane	80.2	<0.5	99.9+
cis-1,2-Dichloroethene	171.1	<0.5	99.9+
2,2-Dichloropropane	80.1	<0.5	99.9+
Bromochloromethane	81.0	<0.5	99.9+
Chloroform	81.1	<0.5	99.9+
Carbon Tetrachloride	80.0	<0.5	99.9+
1,1,1-Trichloroethane	81.3	<0.5	99.9+
1,1-Dichloropropene	81.0	<0.5	99.9+
Benzene	81.0	<0.5	99.9+
1,2-Dichloroethane	80.0	<0.5	99.9+
Trichloroethene	180.1	<0.5	99.9+
Dibromomethane	80.2	<0.5	99.9+
1,2-Dichloropropane	80.1	<0.5	99.9+
Bromodichloromethane	80.0	<0.5	99.9+
cis-1,3-Dichloropropene	50.1	<0.5	99.9+
Toluene	80.1	<0.5	99.9+
trans-1,3-Dichloropropene	81.2	<0.5	99.9+
Tetrachloroethene	80.5	<0.5	99.9+
1,1,2-Trichloroethane	150.8	<0.5	99.9+
Chlorodibromomethane	80.1	<0.5	99.9+
1,3-Dichloropropane	79.9	<0.5	99.9+
Ethylbenzene	82.2	<0.5	99.9+
Chlorobenzene	79.8	<0.5	99.9+
1,1,1,2-Tetrachloroethane	79.8	<0.5	99.9+
m-Xylene	70.0	<0.5	99.9+
o-Xylene	70.2	<0.5	99.9+
Styrene	80.1	<0.5	99.9+
Bromoform	80.4	<0.5	99.9+
Isopropylbenzene	80.2	<0.5	99.9+
n-Propylbenzene	80.2	<0.5	99.9+
Bromobenzene	80.0	<0.5	99.9+
1,1,2,2-Tetrachloroethane	81.0	<0.5	99.9+
1,3,5-Trimethylbenzene	80.1	<0.5	99.9+
2-Chlorotoluene	80.1	<0.5	99.9+
1,2,3-Trichloropropane	80.2	<0.5	99.9+
4-Chlorotoluene	80.3	<0.5	99.9+
tert-Butylbenzene	80.2	<0.5	99.9+
1,2,4-Trimethylbenzene	80.4	<0.5	99.9+
sec-Butylbenzene	80.1	<0.5	99.9+
4-Isopropyltoluene	80.2	<0.5	99.9+
1,3-Dichlorobenzene	80.2	<0.5	99.9+
1,4-Dichlorobenzene	40.1	<0.5	99.9+
n-Butylbenzene	80.0	<0.5	99.9+
1,2-Dichlorobenzene	80.3	<0.5	99.9+

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Drinking Water Contaminant Tested	Influent Water Concentration in µg/L	Gravity Block Filter Element Effluent Concentration in µg/L	% Reduction
Volatile Organic Contaminants µg/L			
Hexachlorobutadiene	44.1	<0.5	99.9+
1,2,4-Trichlorobenzene	160.1	<0.5	99.9+
Naphthalene	80.2	<0.5	99.9+
1,2,3-Trichlorobenzene	80.0	<0.5	99.9+
Heavy Metal Contaminants µg/L			
Aluminum	220	<2	99.9+
Antimony	6.2	<0.5	99.9+
Arsenic	310	<0.5	99.9+
Beryllium	50.2	<0.2	99.9+
Bismuth	50.2	0.7	97.4+
Cadmium	30.1	<0.2	99.9+
Chromium	302	4.9	98.7+
Copper	3050	29.1	99.0+
Iron	3030	24.2	99.2+
Lead	152	5.4	96.4+
Manganese	1020	<0.5	99.9+
Mercury	6.1	<0.1	99.9+
Nickel	102	<0.5	99.9+
Selenium	106	<0.5	99.9+
Zinc	102	18.4	82.0+
Pesticide Contaminants µg/L			
4,4'-DDD	50.1	<0.1	99.9+
4,4'-DDE	50.2	<0.1	99.9+
4,4'-DDT	50.1	<0.1	99.9+
Alachlor	40.1	<0.1	99.9+
Aldrin	50.1	<0.1	99.9+
Alpha-BHC	49.9	<0.1	99.9+
Ametryn	50.1	<0.1	99.9+
Atraton	51.0	<0.1	99.9+
Atrazine	9.9	<0.1	99.9+
Beta-BHC	49.7	<0.1	99.9+
Bromacil	51.1	<0.1	99.9+
Carbofuran	80.0	<0.1	99.9+
Chlordane	40.2	<0.1	99.9+
Chlorneb	51.0	<0.1	99.9+
Chlorobenzilate	49.9	<0.1	99.9+
Chlorothalonil	50.2	<0.1	99.9+
Chlorprophane	51.1	<0.1	99.9+
Chlorpyrifos	51.1	<0.1	99.9+
Cyanizene	51.2	<0.1	99.9+
Delta-BHC	50.8	<0.1	99.9+
Dichlorvos	50.1	<0.1	99.9+
Dieldrin	50.4	<0.1	99.9+
Diphenamid	51.1	<0.1	99.9+
Disulfoton	50.2	<0.1	99.9+
Endosulfan Sulfate	51.0	<0.1	99.9+
Endrin	6.1	<0.1	99.9+
Endrin Aldehide	51.5	<0.1	99.9+
Endrin Ketone	51.0	<0.1	99.9+
Endusulfan I	49.5	<0.1	99.9+
Endusulfan II	50.1	<0.1	99.9+
Ethoprop	50.2	<0.1	99.9+
Fenamiphos	51.2	<0.1	99.9+
Fenarimol	50.4	<0.1	99.9+
Fluoridone	51.2	<0.1	99.9+
Gamma-BHC (Lindane)	2.1	<0.1	99.9+
Glyphosate	798	<0.1	99.9+
Heptachlor	80.0	<0.1	99.9+
Heptachlor Epoxide	4.0	<0.1	99.9+
Methoxychlor	122	<0.1	99.9+
Molinate	50.4	<0.1	99.9+
PCB's	10.4	<0.1	99.9+

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Pesticide Contaminants µg/L			
Prometron	50.0	<0.1	99.9+
Simazine	12.1	<0.1	99.9+
Toxaphene	15.2	<0.1	99.9+
Semivolatile Contaminants µg/L			
Acenaphthylene	50.1	<0.5	99.9+
Anthracene	50.1	<0.5	99.9+
Benz[a]anthracene	51.5	<0.5	99.9+
Benzo[b]fluoranthene	50.2	<0.5	99.9+
Benzo[k]fluoranthene	50.1	<0.5	99.9+
Benzo[a]pyrene	51.8	<0.5	99.9+
Benzo[g,h,i]perylene	50.1	<0.5	99.9+
Butylbenzylphthalate	50.2	<0.5	99.9+
Carboxin	50.1	<0.5	99.9+
2-Chlorobiphenyl	50.2	<0.5	99.9+
Chrysene	50.4	<0.5	99.9+
Cycloate	49.9	<0.5	99.9+
Dacthal (DCPA)	49.2	<0.5	99.9+
Diazinon	50.1	<0.5	99.9+
Dibenz[a,h]anthracene	50.2	<0.5	99.9+
Di-n-Butylphthalate	51.4	<0.5	99.9+
2,3-Dichlorobiphenyl	52.2	<0.5	99.9+
Diethylphthalate	50.1	<0.5	99.9+
Di(2-ethylhexyl)adipate	51.0	<0.5	99.9+
Di(2-ethylhexyl)phthalate	50.0	<0.5	99.9+
Dimethylphthalate	51.4	<0.5	99.9+
EPTC	52.1	<0.5	99.9+
Fluorene	51.0	<0.5	99.9+
2,2', 3,3', 4,4', 6-Heptachlorobiphenyl	50.1	<0.5	99.9+
Hexachlorobenzene	49.0	<0.5	99.9+
2,2', 4,4', 5,6'-Hexachlorobiphenyl	51.1	<0.5	99.9+
Hexachlorocyclohexane, alpha	50.2	<0.5	99.9+
Hexachlorocyclohexane, beta	50.1	<0.5	99.9+
Hexachlorocyclohexane, delta	50.2	<0.5	99.9+
Hexachlorocyclopentadiene	51.7	<0.5	99.9+
Hexazinone	51.1	<0.5	99.9+
Indeno[1,2,3,c,d]pyrene	50.0	<0.5	99.9+
Isophorone	50.0	<0.5	99.9+
Merphos	50.1	<0.5	99.9+
Methyl Paraoxon	50.4	<0.5	99.9+
Norflurazon	50.4	<0.5	99.9+
2,2', 3,3', 4,5', 6,6'-Octachlorobiphenyl	51.2	<0.5	99.9+
Pebulate	50.8	<0.5	99.9+
2,2', 3', 4,6'-Pentachlorobiphenyl	49.8	<0.5	99.9+
Pentachlorophenol	51.2	<0.5	99.9+
Phenanthrene	50.1	<0.5	99.9+
cis-Permethrin	50.2	<0.5	99.9+
trans-Permethrin	49.0	<0.5	99.9+
Prometon	51.0	<0.5	99.9+
Prometryn	51.0	<0.5	99.9+
Pronamide	49.0	<0.5	99.9+
Propachlor	50.1	<0.5	99.9+
Propazine	50.9	<0.5	99.9+
Triademefon	49.3	<0.5	99.9+
2,4,5-Trichlorobiphenyl	49.0	<0.5	99.9+
Tricyclazole	49.4	<0.5	99.9+
Trifluralin	50.2	<0.5	99.9+
Vernolate	50.2	<0.5	99.9+
Disinfectant and Inorganic Non-Metallic Contaminants in mg/L			
Chloramines	3.1	<0.1	99.9+
Free Chlorine	2.1	<0.1	99.9+
Chloride	250	0.1	99.9+
Sodium Fluoride	4.2	0.1	97.6+

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Disinfectant and Inorganic Non-Metallic Contaminants in mg/L			
Hexafluorosilicate	4.2	0.2	95.2+
Fluorosilic Acid	4.1	0.2	95.1+
Nitrates	27.2	0.5	98.2+
Nitrites	2.9	<0.1	99.9+
Herbicide Contaminants in µg/L			
Dalapon	151	<0.1	99.9+
Dicamba	150	<0.1	99.9+
Dinosep	20.1	<0.1	99.9+
Dichlorporp	150	<0.1	99.9+
2,4-D	210	<0.1	99.9+
Pentachlorophenol	10.2	<0.1	99.9+
Picoram	151	<0.1	99.9+
2,4,5-T	152	<0.1	99.9+
2,4,5-TP (Silvex)	151	<0.1	99.9+
2,4-DB	150	<0.1	99.9+
Bentazom	150	<0.1	99.9+
DCPA	150	<0.1	99.9+
Quinclorac	151	<0.1	99.9+
Aciflurfen	149	<0.1	99.9+
Pharmaceutical Drugs Contaminants in µg/L			
Acetaminofen	20.1	<0.1	99.9+
Caffeine	19.9	<0.1	99.9+
Carbamazepine	20.0	<0.1	99.9+
Ciprofloxacin HCl	20.2	<0.1	99.9+
Erythromycin USP	20.2	<0.1	99.9+
Sulfamethoxazole	20.1	<0.1	99.9+
Trimethoprim	21.0	<0.1	99.9+
Bisphenol A	20.4	<0.1	99.9+
Diclofenac Sodium	19.9	<0.1	99.9+
4-para-Nonylphenol	20.0	<0.1	99.9+
4-tert-Octylphenol	20.2	<0.1	99.9+
Primidone	20.4	<0.1	99.9+
Progestrone	20.3	<0.1	99.9+
Gemfibrozil	20.1	<0.1	99.9+
Ibuprofen	20.2	<0.1	99.9+
Naproxen Sodium	20.2	<0.1	99.9+
Triclosan	20.4	<0.1	99.9+

Jaime Young
Lab Director

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ALEXAPURE FILTER MICROBIOLOGICAL P231 TEST REPORT

Report # 15-288 (Alexapure Filter Element)
Report Date: 10/27/2015
Customer Name: Alexapure, LLC

EXECUTIVE SUMMARY

The Alexapure Filter Element was tested for Microbiological Reduction following the NSF protocol P231 for a total volume of 200 gallons. The Alexapure Filter element qualifies as a microbiological water purifier set forth by the NSF protocol P231 for 200 gallons.

INTRODUCTION

The Alexapure Filter Element was tested for Microbiological Reduction following the NSF protocol P231 for a total volume of 200 gallons. The filter element was challenged with tap water adjusted and spiked with Bacteria (Klebsiella); Virus (Rotavirus); and Polystyrene Microspheres (Cryptosporidium, Giardia lamblia) and tested using Standard Methods for the Examination of Water. The Alexapure filter element qualifies as a microbiological water purifier set forth by the NSF protocol P231 for 200 gallons.

REAGENTS, MATERIALS, AND LAB EQUIPMENT

Barnstead Lab-Line Incubator
Klebsiella pneumoniae (Bacteria)
Rotavirus (Virus)
Polystyrene Microsphere (Giardia lamblia, Cryptosporidium).
Sterile water, Phosphate buffer, fluorescein isothiocyanate dye (FITC), 0.45 µm membrane filters.
Amscope EPI Fluorescence Microscope FM-320TA-3M.
Alexapure Filter Element.

PROCEDURE

Flushed the filter element with approximately 1 gallon of sterile water. Prepared 20 gallons of general test water daily for 6 consecutive days with Klebsiella at a concentration of 10^8/L, Rotavirus at 10^7/L, and microspheres at 10^6/L. Two days of stagnation. Prepared 20 gallons of challenge water for the following 4 days without adding the micro-organisms and two additional days of stagnation. Table 1 and 2 summarize the general test and challenge water properties. Passed 20 gallons of the general test water through the filter element per day, every day for the first 6 days. Collected the effluent water and analyzed the filtered water for micro-organisms following the Standard Methods of Analysis of Water 21st Edition, methods SM 9222-D (bacteria); SM 9510-B (virus); SM9711-B (cyst). Left the filter system in stagnation for the following 2 days, then added 20 gallons per day of the challenge water and analyzed the filtered water for micro-organisms following the Standard Methods of Analysis of Water 21st Edition, methods SM 9222-D (bacteria); SM 9510-B (virus); SM9711-B (cyst). The results are summarized in Table 3, 4, and 5 below.

RESULTS

Table 1
General Test Water Properties

Parameter	General Test Water	Target
pH	7.10 to 7.55	6.5 to 8.5
Temperature	20.0 °C to 22.5 °C	20 ± 5°C
TDS	300 to 400 mg/L	50 - 500 mg/L
Turbidity	3.5 to 4.5 NTU	3 to 5 Nephelometric Turbidity Units
TOC	2.5 to 3.2 mg/L	2 to 5 mg/L

Table 2
Challenge Water Properties

Parameter	Influent Challenge Water	Target
pH	8.60 to 9.30	8.5 to 9.5
Temperature	20.0 °C to 22.5 °C	20 ± 5°C
TDS	1300 to 1650 mg/L	1250 - 1700 mg/L
Turbidity	30 to 50 NTU	30 to 50 Nephelometric Turbidity Units
TOC	10 to 15 mg/L	10 to 15 mg/L

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Table 3
Klebsiellla pneumoniae (Bacteria) Test Results

Accumulated volume	Influent Water Concentration	Filtered Water Concentration	% Reduction	Criteria: Minimum % Reduction 99.9999
Day 1 (20 gallons)	10^8/L	<10 CFU/L	99.9999	Passed
Day 2 (40 gallons)	Not tested	Not tested	N/A	N/A
Day 3 (60 gallons)	10^8/L	<10 CFU/L	99.9999	Passed
Day 4 (80 gallons)	Not tested	Not tested	N/A	N/A
Day 5 100 gallons)	Not tested	Not tested	N/A	N/A
Day 6 (120 gallons)	10^8/L	<10 CFU/L	99.9999	Passed
Day 7 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 8 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 9 (140 gallons)	10^7/L	<10 CFU/L	99.9999	Passed
Day 10 (160 gallons)	10^7/L	<10 CFU/L	99.9999	Passed
Day 11 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 12 ((stagnation day)	Not tested	Not tested	N/A	N/A
Day 13 (180 gallons)	10^6/L	<10 CFU/L	99.9999	Passed
Day 14 (200 gallons)	10^5/L	<10 CFU/L	99.9999	Passed

Table 4
Rotavirus (Virus)Test Results

Accumulated volume	Influent Water Concentration	Filtered Water Concentration	% Reduction	Criteria: Minimum % Reduction 99.99
Day 1 (20 gallons)	10^7/L	<10 PFU/L	99.99	Passed
Day 2 (40 gallons)	Not tested	Not tested	N/A	N/A
Day 3 (60 gallons)	10^7/L	<10 PFU/L	99.99	Passed
Day 4 (80 gallons)	Not tested	Not tested	N/A	N/A
Day 5 100 gallons)	Not tested	Not tested	N/A	N/A
Day 6 (120 gallons)	10^7/L	<10 PFU/L	99.99	Passed
Day 7 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 8 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 9 (140 gallons)	10^7/L	<10 PFU/L	99.99	Passed
Day 10 (160 gallons)	10^6/L	<10 PFU/L	99.99	Passed
Day 11 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 12 ((stagnation day)	Not tested	Not tested	N/A	N/A
Day 13 (180 gallons)	10^6/L	<10 PFU/L	99.99	Passed
Day 14 (200 gallons)	10^5/L	<10 PFU/L	99.99	Passed

Table 5
Microspheres (Cryptosporidium, Giardia lamblia)Test Results

Accumulated volume	Influent Water Concentration	Filtered Water Concentration	% Reduction	Criteria: Minimum % Reduction 99.9
Day 1 (20 gallons)	10^6/L	<10 oocysts/L	99.9	Passed
Day 2 (40 gallons)	Not tested	Not tested	N/A	N/A
Day 3 (60 gallons)	10^6/L	<10 oocysts/L	99.9	Passed
Day 4 (80 gallons)	Not tested	Not tested	N/A	N/A
Day 5 100 gallons)	Not tested	Not tested	N/A	N/A
Day 6 (120 gallons)	10^6/L	<10 oocysts/L	99.9	Passed
Day 7 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 8 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 9 (140 gallons)	10^6/L	<10 oocysts/L	99.9	Passed
Day 10 (160 gallons)	10^5/L	<10 oocysts/L	99.9	Passed
Day 11 (stagnation day)	Not tested	Not tested	N/A	N/A
Day 12 ((stagnation day)	Not tested	Not tested	N/A	N/A
Day 13 (180 gallons)	10^4/L	<10 oocysts/L	99.9	Passed
Day 14 (200 gallons)	10^4/L	<10 oocysts/L	99.9	Passed

CONCLUSION:
The Alexapure Filter Element meets the requirements for the Microbiological Reduction NSF Protocol P231 for 200 gallons. Passed.

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URANIUM REDUCTION TEST REPORT

Report # 15-353-Uranium Reduction Test (Gravity Block Filter with Hybrid Shell).
Customer Name: Alexapure, LLC.
Report Date: 12/23/2015.

EXECUTIVE SUMMARY

20 gallons of tap water was spiked with Uranium to have a final concentration of 100 µg/L ± 30 µg/L of Uranium, the spiked tap water was filtered through the filter element and tested; the Uranium in the tap water was reduced by more than 99.9%.

INTRODUCTION

Twenty gallons of tap water was spiked with Uranium to have a final concentration of 100 µg/L ± 30µg/L of Uranium, the spiked tap water was filtered through the filter element, the spiked solution and the filtered solution were tested following the EPA method 200.8; the Uranium in the tap water was reduced by more than 99.9%.

REAGENTS AND LAB EQUIPMENT

Gravity Block Filter with Hybrid Shell.
Uranium Standard Solution 10.00 mg/L, Inorganic Ventures Catalog # IV-ICPMS-71A.
Perkin Elmer ICP/MS Elan DRCe 6100
Type A glassware necessary to perform the EPA 200.8 method for drinking water analysis.

PROCEDURE

Twenty gallons of tap water was spiked with Uranium in a Tank and mixed well; this solution was tested and adjusted to have a final concentration of 100 µg/L ± 30µg/L of Uranium, the results are summarized in Table 1 below. The solution was filtered and tested following the EPA method 200.8 The results are summarized in 2 below.

RESULTS

Table 1
Spiked Tap Water Properties

Parameter	Influent Water Properties	Target
pH	7.50	7.00 to 8.00
TDS	400 mg/L	200 to 500 mg/L
Temperature	20.5 °C	20 ± 2.5°C
Turbidity	0.40 NTU	< 1 Nephelometric Turbidity Units
Uranium	129 µg/L	100.0 ± 30 µg/L

Table 2
Uranium Filtered Water Results

Parameter Tested	Gravity Block Filter Effluent Water Result	% Reduction
0.1 gallons	<2 µg/L	+99.9 %
5 gallons	<2 µg/L	+99.9 %
10 gallons	<2 µg/L	+99.9 %
15 gallons	<2 µg/L	+99.9 %
20 gallons	<2 µg/L	+99.9 %

CONCLUSION

The Gravity Block Filter reduced the Uranium concentration in the tap water by more than 99.9%. The EPA limit for Uranium is 30 µg/L; the Gravity Block Filter meets the EPA requirements for drinking water.

Jaime A. Young

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GROSS ALPHA REDUCTION TEST REPORT

Report # 15-353-Gross Alpha Reduction Test (Gravity Block Filter with Hybrid Shell).
Customer Name: Alexapure, LLC.
Report Date: 12/23/2015.

EXECUTIVE SUMMARY

Twenty gallons of tap water was spiked with Gross Alpha Standard Solution to have a final concentration of 100 ± 25 pCi/L, the spiked tap water was filtered through the filter element and tested; the Gross Alpha Standard Solution in the tap water was reduced by at least 96.0%.

INTRODUCTION

Twenty gallons of tap water was spiked with Gross Alpha Standard Solution to have a final concentration of 100 ± 25 pCi/L of Gross Alpha, the spiked tap water was filtered through the filter element, the spiked solution and the filtered solution were tested following the EPA method 900.0; the Gross Alpha Standard Solution in the tap water was reduced by more than 96.0%.

REAGENTS AND LAB EQUIPMENT

Gravity Block Filter with Hybrid Shell.
Gross Alpha Standard Solution $PoCl_4$ 0.1 µCi/L Eckert & Ziegler Isotope Products Catalog # 7310.
Gamma Products Alpha/Beta counter G5000W Counting System.
Type A glassware necessary to perform the EPA 900.0 method for drinking water analysis.

PROCEDURE

Twenty gallons of tap water was spiked with Gross Alpha Standard Solution in a Tank and mixed well; this solution was tested and adjusted to have a final concentration of 100 ± 25 pCi/L of Gross Alpha, the results are summarized in Table 1 below. The solution was filtered and tested following the EPA method 900.0. The results are summarized in 2 below.

RESULTS

Table 1
Spiked Tap Water Properties

Parameter	Influent Water Properties	Target
pH	7.45	7.00 to 8.00
TDS	450 mg/L	200 to 500 mg/L
Temperature	20.5 °C	20 ± 2.5°C
Turbidity	0.60 NTU	< 1 Nephelometric Turbidity Units
Gross Alpha	100.3 pCi/L	100 ± 25 pCi/L

Table 2
Gross Alpha Filtered Water Results

Parameter Tested	Gravity Block Filter Effluent Water Result	% Reduction
0.1 gallons	2.553 pCi/L	97.5 %
5 gallons	4.054 pCi/L	96.0 %
10 gallons	2.853 pCi/L	97.2 %
15 gallons	1.802 pCi/L	98.2 %
20 gallons	3.604 pCi/L	96.4 %

CONCLUSION

The Gravity Block Filter reduced the Gross Alpha concentration in the tap water by at least 96.0 %. The EPA limit for Gross Alpha is 15 pCi/L; the Gravity Block Filter meets the EPA requirements for drinking water.

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GROSS BETA REDUCTION TEST REPORT

Report # 15-353-Gross Beta Reduction Test (Gravity Block Filter with Hybrid Shell).
Customer Name: Alexapure, LLC.
Report Date: 12/23/2015.

EXECUTIVE SUMMARY

Twenty gallons of tap water was spiked with Gross Beta Standard Solution to have a final concentration of 100 ± 25 pCi/L, the spiked tap water was filtered through the filter element and tested; the Gross Beta Standard Solution in the tap water was reduced by at least 97.8%.

INTRODUCTION

Twenty gallons of tap water was spiked with Gross Beta Standard Solution to have a final concentration of 100 ± 25 pCi/L of Gross Beta, the spiked tap water was filtered through the filter element, the spiked solution and the filtered solution were tested following the EPA method 900.0; the Gross Beta Standard Solution in the tap water was reduced by more than 97.8%.

REAGENTS AND LAB EQUIPMENT

Gravity Block Filter with Hybrid Shell.
Gross Beta Standard Solution CsCl 10 µCi/L Eckert & Ziegler Isotope Products Catalog # 7137.
Gamma Products Alpha/Beta counter G5000W Counting System.
Type A glassware necessary to perform the EPA 900.0 method for drinking water analysis.

PROCEDURE

Twenty gallons of tap water was spiked with Gross Beta Standard Solution in a Tank and mixed well; this solution was tested and adjusted to have a final concentration of 100 ± 25 pCi/L of Gross Beta, the results are summarized in Table 1 below. The solution was filtered and tested following the EPA method 900.0. The results are summarized in 2 below.

RESULTS

Table 1
Spiked Tap Water Properties

Parameter	Influent Water Properties	Target
pH	7.55	7.00 to 8.00
TDS	460 mg/L	200 to 500 mg/L
Temperature	20.5 °C	20 ± 2.5°C
Turbidity	0.70 NTU	< 1 Nephelometric Turbidity Units
Gross Beta	114.1 pCi/L	100 ± 25 pCi/L

Table 2
Gross Beta Filtered Water Results

Parameter Tested	Gravity Block Filter Effluent Water Result	% Reduction
0.1 gallons	1.066 pCi/L	99.1 %
5 gallons	2.477 pCi/L	97.8 %
10 gallons	1.141 pCi/L	99.0 %
15 gallons	1.727 pCi/L	98.5 %
20 gallons	1.276 pCi/L	98.9 %

CONCLUSION

The Gravity Block Filter reduced the Gross Beta concentration in the tap water by at least 97.8 %. The EPA limit for Gross Beta is 15 pCi/L; the Gravity Block Filter meets the EPA requirements for drinking water.

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