



ENVIROTEK LABORATORIES, INC.

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EPA ID # NJ01298 NJ DEP ID # 03048 NY ELAP ID # 12044

URANIUM REDUCTION TEST REPORT

Report # 16-101-Uranium Reduction Test (Gravity Black Berkey Filter).
Customer Name: New Millennium Concepts, Ltd.
Report Date: 04/09/2016.

EXECUTIVE SUMMARY

Fifty gallons of tap water was spiked with Uranium Standard Solution to have a final concentration of $50 \pm 2.5 \mu\text{g/L}$, the spiked tap water was filtered through the filter element and tested; the Uranium Standard Solution in the tap water was reduced by at least 97.0%.

INTRODUCTION

Fifty gallons of tap water was spiked with Uranium Standard Solution to have a final concentration of Uranium of $50 \pm 2.5 \mu\text{g/L}$, 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 Standard Solution in the tap water was reduced by more than 97.0%.

REAGENTS AND LAB EQUIPMENT

Gravity Black Berkey Filter.
Uranium Standard Solution Inorganic Ventures Catalog # CGU-10.
Inductively Couple Plasma/Mass Spectrometer, Perkin Elmer Elan 6000.
Type A glassware necessary to perform the EPA 200.8 method for drinking water analysis.

PROCEDURE

Fifty gallons of tap water was spiked with Uranium Standard Solution in a Tank and mixed well; this solution was tested and adjusted to have a final concentration of $50 \pm 2.5 \mu\text{g/L}$ of Uranium, the results are summarized in Table 1 below. The solution was filtered through the Black Berkey Filter 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	7.55	7.00 to 8.00
TDS	400 mg/L	200 to 500 mg/L
Temperature	21.5 °C	$20 \pm 2.5^\circ\text{C}$
Turbidity	0.65 NTU	< 1 Nephelometric Turbidity Units
Uranium	49.1 $\mu\text{g/L}$	$50 \pm 2.5 \mu\text{g/L}$
EPA Maximum Contaminant Level (MCL)	30 $\mu\text{g/L}$	<5 $\mu\text{g/L}$

Table 2
Uranium Filtered Water Results

Parameter Tested	Gravity Black Berkey Filter Effluent Water Result	% Reduction
10 gallons	<1.00 $\mu\text{g/L}$	99.9 %
20 gallons	1.41 $\mu\text{g/L}$	97.1 %
30 gallons	1.41 $\mu\text{g/L}$	97.1 %
40 gallons	1.42 $\mu\text{g/L}$	97.1 %
50 gallons	1.45 $\mu\text{g/L}$	97.0 %



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CONCLUSION

The Gravity Black Berkey Filter reduced the Uranium concentration in the tap water by at least 97.0 %. The EPA limit for Uranium is 30 µg/L; the Gravity Black Berkey Filter meets the EPA requirements for drinking water.

CERTIFICATION OF RESULTS:

I certify in writing that all analyses, and reporting performed herein, comply with all requirements set forth in N.J.A.C. 7:9E and N.J.A.C. 7:18, and hereby certify that this laboratory is in compliance with all laboratory certification and quality control procedures and requirements as set forth in N.J.A.C. 7:18; the NYCRR Subpart 55-2 and the National Environmental Laboratory Accreditation Conference (NELAC) Institute Standards.

Disclaimer: The test results are only related to the filter sample tested.

Jaime A. Young

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