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

LEAD REDUCTION TEST REPORT

Report # 16-101-Lead Reduction Test (Gravity Black Berkey Filter).
Customer Name: New Millennium Concepts, Ltd.
Report Date: 04/18/2016.

EXECUTIVE SUMMARY

Two hundred gallons of tap water was spiked with Lead Standard Solution to have a final concentration of 1000 ± 100 µg/L, the spiked tap water was filtered through the filter element and tested; the Lead Standard Solution in the tap water was reduced by at least 99.0%.

INTRODUCTION

Two hundred gallons of tap water was spiked with Lead Standard Solution to have a final concentration of Lead of 1000 ± 100 µg/L, the spiked tap water was filtered through the filter element, the spiked solution and the filtered solution were tested following the EPA method 200.9; the Lead Standard Solution in the tap water was reduced by at least 99.0%.

REAGENTS AND LAB EQUIPMENT

Gravity Black Berkey Filter.
Lead Standard Solution Inorganic Ventures Catalog # CPB.
Atomic Absorption Spectrometer, Perkin Elmer SIMAA 6000.
Type A glassware necessary to perform the EPA 200.9 method for drinking water analysis.

PROCEDURE

Two hundred gallons of tap water was spiked with Lead Standard Solution in a Tank and mixed well; this solution was tested and adjusted to have a final concentration of 1000 ± 100 µg/L of Lead, the results are summarized in Table 1, and 3 below. The solution was filtered through the Black Berkey Filter and tested following the EPA method 200.9. The results are summarized in Table 2, and 4 below.

RESULTS

Table 1
Spiked Tap Water Properties

Parameter	Influent Water Properties	Target
pH	6.55	6.25 to 6.75
TDS	53 mg/L	200 to 500 mg/L
Temperature	21.5 °C	20 ± 2.5°C
Turbidity	0.65 NTU	< 1 Nephelometric Turbidity Units
Lead	949.0 µg/L	1000 ± 100 µg/L
EPA Maximum Contaminant Level (MCL)	15 µg/L	<10 µg/L

Table 2
Lead Filtered Water Results

Accumulated Volume	Gravity Black Berkey Filter Effluent Water Result	% Reduction
10 gallons	<0.5µg/L	99.9+ %
20 gallons	<0.5µg/L	99.9+ %
30 gallons	<0.5µg/L	99.9+ %
40 gallons	<0.5µg/L	99.9+ %
50 gallons	<0.5µg/L	99.9+ %
60 gallons	<0.5µg/L	99.9+ %
70 gallons	<0.5µg/L	99.9+ %
80 gallons	<0.5µg/L	99.9+ %
90 gallons	<0.5µg/L	99.9+ %
100 gallons	<0.5µg/L	99.9+ %

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Table 3
Spiked Tap Water Properties

Parameter	Influent Water Properties	Target
pH	6.65	6.25 to 6.75
TDS	75 mg/L	200 to 500 mg/L
Temperature	21.5 °C	20 ± 2.5°C
Turbidity	0.75 NTU	< 1 Nephelometric Turbidity Units
Lead	1010 µg/L	1000 ± 100 µg/L
EPA Maximum Contaminant Level (MCL)	15 µg/L	<10 µg/L

Table 4
Lead Filtered Water Results

Accumulated Volume	Gravity Black Berkey Filter Effluent Water Result	% Reduction
110 gallons	<0.5µg/L	99.9+ %
120 gallons	<0.5µg/L	99.9+ %
130 gallons	<0.5µg/L	99.9+ %
140 gallons	<0.5µg/L	99.9+ %
150 gallons	<0.5µg/L	99.9+ %
160 gallons	0.5µg/L	99.9+ %
170 gallons	6.1µg/L	99.4 %
180 gallons	10.1µg/L	99.0 %
190 gallons	10.1µg/L	99.0 %
200 gallons	8.7µg/L	99.1 %

CONCLUSION
The Gravity Black Berkey Filter reduced the Lead concentration in the tap water by at least 99.0 %. The EPA limit for Lead is 10 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
Lab Director