REPORT # 16-101-GROSS BETA REDUCTION TEST REPORT

Customer Name: New Millennium Concepts, Ltd.
Report Date: 04/09/2016.

EXECUTIVE SUMMARY

Fifty 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 Beta Alpha Standard Solution in the tap water was reduced by at least 95.3%.

INTRODUCTION

Fifty 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 95.3%.

REAGENTS AND LAB EQUIPMENT

Gravity Black Berkey Filter.
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

Fifty 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 through the Black Berkey Filter and tested following the EPA method 900.0. The results are summarized in 2 below.

RESULTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Influent Water Properties</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.55</td>
<td>7.00 to 8.00</td>
</tr>
<tr>
<td>TDS</td>
<td>400 mg/L</td>
<td>200 to 500 mg/L</td>
</tr>
<tr>
<td>Temperature</td>
<td>21.5 °C</td>
<td>20 ± 2.5°C</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0.65 NTU</td>
<td>&lt; 1 Nephelometric Turbidity Units</td>
</tr>
<tr>
<td>Gross Beta</td>
<td>100.1 pCi/L</td>
<td>100 ± 25 pCi/L</td>
</tr>
<tr>
<td>EPA Maximum Contaminant Level (MCL)</td>
<td>15 pCi/L</td>
<td>&lt;5 pCi/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter Tested</th>
<th>Gravity Block Filter Effluent Water Result</th>
<th>% Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 gallons</td>
<td>2.3 pCi/L</td>
<td>97.7%</td>
</tr>
<tr>
<td>20 gallons</td>
<td>2.8 pCi/L</td>
<td>97.2%</td>
</tr>
<tr>
<td>30 gallons</td>
<td>2.8 pCi/L</td>
<td>97.2%</td>
</tr>
<tr>
<td>40 gallons</td>
<td>3.9 pCi/L</td>
<td>96.1%</td>
</tr>
<tr>
<td>50 gallons</td>
<td>4.7 pCi/L</td>
<td>95.3%</td>
</tr>
</tbody>
</table>
CONCLUSION
The Gravity Black Berkey Filter reduced the Gross Beta concentration in the tap water by at least 95.3%. The EPA limit for Gross Beta is 15 pCi/L; the Gravity Black Berkey Filter meets the EPA requirements for drinking water.

Potential Gross Beta contaminants in water:

Gross Beta emitters:
Actinium-227
Californium-251 and -252
Cesium-137
Cobalt-60
Iodine-129 and -131
Lead-210
Nickel-63
Promethium-145
Strontium-90
Technetium-99

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