



February 27, 2008

Philip Wilson  
Director General  
Fábrica Ecofiltro Antigua  
Res. San Pedro Panorama, Casa No. 13 "A"  
University of Missouri Technology Park  
197 Replacement Avenue, Suite 106  
Antigua, Guatemala (Camino Ciudad Vieja)

*Via electronic mail*

Subject: January 2008 Ecofilter testing results

Dear Mr. Wilson;

On behalf of my students and me, I want to thank you and the Wilson family for allowing us to work with your organization as a part of our on-going research and instruction efforts regarding water supplies in rural Guatemala.

The students enrolled in my International Engineering and Design class used field analyses to perform a preliminary characterization of water treated using Ecofilters. These analyses are appropriate for engineering studies aimed at characterizing the filter performance, and the analyses are not intended to be a substitute for formal laboratory work typically required for public water supply testing.

The students tested several Ecofilters on or about January 10, 2008 using Coliscan Easygel kits to measure *e. coli* and total coliforms. Water containing fecal pathogens was obtained from a river and other surface water sources in Ciudad Vieja, and the total coliform units per 100 mL of water ranged from 1,200 to 15,000. These levels of coliform contamination are orders of magnitude greater than those we have measured in rural water supplies in Guatemala. The testing showed that all of the water samples contained no coliform colonies after being treated by the Ecofilters.

The students conducted other water quality testing, and the results indicate that there were changes in some of these parameters as a result of the filtering. The primary changes appeared to be associated with the transfer of clay minerals to the water. For instance, the clarity of the water was lower after treatment and relatively low concentrations of potentially naturally-occurring arsenic were measured. Silver was also measured in the treated water, but lead was not detected. It appears that the silver in the treated water originates with the colloidal silver painted on the filter. These results are preliminary, and we are interested in characterizing the water quality after a significantly larger volume of water has been treated over a long time period.

In general, our field testing results are similar to results published by University of Virginia researchers who worked with laboratory analyses and laboratory-produced filters. We can provide the details of our analyses to you upon request.

We look forward to working with you and your staff during our March 2008 and other future trips to Guatemala.

Very truly yours;

Curt Elmore, Ph.D., P.E.  
Associate Professor

Cc (via electronic mail):  
Mrs. Mercedes Wilson (President, Familia de las Americas)  
Maribel Ixcajoc Arevalo (Ecofilter)