



inc. BIOLOGICAL CONSULTING SERVICES
OF NORTH FLORIDA, INC.

February 25, 2016

Icon Lifesaver Ltd.
Hall Chase, London Road
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CO6 1EH, UK
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RE: Biological filtration efficacy test study of the provided Icon Lifesaver® cube filter units CUB5k_5-7; BCS IDs 1602122, 1602123, and 11602124.

To whom it may concern,

We have conducted the requested filtration efficacy study on the filter units received on February 12th, 2016. The experimental set up and challenge of the water filters was designed to evaluate the filters microbiological contaminant removal efficacy. The contaminant species and water parameters selected were based on client's request and guidance from NSF/ANSI P231 water purifier test protocol. The units' challenge parameters were selected to simulate operation of the filter units by personnel.

In the following pages, you will find a summary of the methodology used and the results of our analysis. Should you have any questions or concerns, please do not hesitate to contact me.

Best Regards,

George Lukasik, Ph.D.
Laboratory Director

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BCS LABORATORIES, INC. - GAINESVILLE
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FL DOH #E82924, ISO/IEC 17025:2005 L2422 (L-A-B), EPA# FL01147

FILE: ICON LIFESAVER CUBE FILTER TESTING BCS 1602122-124 02.17.2016

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Project: Icon LIFESAVER® cube Efficacy Test
Sample(s): BCS 1602122, 1602123, and 1602124 received February 12th, 2016
Test: Filtration Efficacy – Challenge Test Water (CTW) Type 3
Test Parameter: Test Parameter: *Raoultella terrigena* (Bacteria), MS-2 Bacteriophage (virus), and 3.0 µM Fluorescent Microspheres as *Cryptosporidium parvum* oocyst surrogate
Test Date: February 16th, 2016

Challenge Species	Filter influent average concentration	Average percent removal** of the challenge species by:		
		CUB5k_5 BCS 1602122	CUB5k_6 BCS 1602123	CUB5k_7 BCS 1602124
Bacteria: <i>Raoultella terrigena</i>	5.8 x 10 ⁵ cfu/mL	> 99.9999%*	> 99.9999%*	> 99.9999%*
Virus: MS-2 Bacteriophage	4.8 x 10 ⁵ pfu/mL	99.99%	99.995%	99.99%
3.0 µM Fluorescent microspheres	4.0 x 10 ⁴ particle/mL	> 99.998%*	> 99.998%*	> 99.998%*

* No species were detected in the filter effluent for the total volume analyzed. Filter effluent samples were analyzed in duplicates at the minimum following collection.

** Purifier NSF/ANSI standard microbial removal claims are 99.9999% or greater for bacteria, 99.99% or greater for virus, and 99.9% or greater for parasite cysts.

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I hereby certify to the accuracy, quality, and data integrity of the reported study. I also certify that the study was appropriately executed and is fully defensible. All physical measurements and their source have been documented. Measurements were obtained using approved protocols and NIST traceable and/or validated instruments. Analysis execution and results were fully documented. Analytical methods used to produce the study's raw data are within the laboratory's ISO 17025 accreditation. The results and conclusions of the study accurately reflect the real raw data obtained in the study.

Signature of Sr. Analyst



David Sekora, M.S.

Date: 02/25/2016



George Lukasik, Ph.D.

Date: 02/25/2016

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of the individuals immediately responsible for obtaining the information, I certify the submitted information to be true, accurate, and complete. The data provided is solely representative of the analysis conducted on the material/samples/articles provided by the client (or client's representative) it's (their) condition at the time of study. They may not be representative of a process or product. The sample(s) were analyzed in accordance with the method described for each analyte. Due to the inherent limitation(s) of analytical method(s), BCS Laboratories offers no express or implied warranties concerning the quality, safety, and/or purity of any sample, batch, source, or the process they are derived from. The species analysis and corresponding presented results in this report meet the requirements of The NELAC Institute (TNI), ISO 17025, and The State of Florida Department of Public Health's Laboratory Certification Program, as applicable unless otherwise noted.

Signature of Study Director



George Lukasik, Ph.D.

Date: 02/25/2016

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