

**Adamson Analytical Laboratories, Inc.**

Company: Kadesh, Inc.

Contact Person: Jason Koo

Sample Name: Puriton

Sample Description: Liquid plastic bottle bulk

AAL Number: M1606100023

Date Received: 06/10/2016

Date Reported: 06/28/2016

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**1. Analysis**

AAL compared various bacteria growth between purified water and water sample (M1606100023) over a period of 24 hours and 7 days for a microbial challenge. AAL exposed a varying quantity (CFU/mL) of five different strands of bacteria:

1. *Escherichia coli*
2. *Staphylococcus aureus*
3. *Pseudomonas aeruginosa*
4. *Salmonella typhimurium*
5. *Candida albicans*

to a determined amount of purified water and water sample.

**2. Results**

Bacteria Type	Baseline (CFU / mL)	Sample Type	Plate counts after 24 hours (CFU/ mL)	Plate counts after 7 days (CFU/ mL)
<i>E. coli</i>	$5.0 \times 10^5$ (Figure 1A)	Purified Water	$3.5 \times 10^0$ (Figure 1B)	-
		Water Sample	0 (Figure 1C)	0 (Figure 1D)
<i>S. aureus</i>	$4.5 \times 10^6$ (Figure 2A)	Purified Water	$8.0 \times 10^5$ (Figure 2B)	-
		Water Sample	0 (Figure 2C)	0 (Figure 2D)
<i>P. aeruginosa</i>	$3.6 \times 10^5$ (Figure 3A)	Purified Water	$5.7 \times 10^0$ (Figure 3B)	-
		Water Sample	0 (Figure 3C)	0 (Figure 3D)
<i>S. typhi</i>	$1.0 \times 10^5$ (Figure 4A)	Purified Water	$4.7 \times 10^0$ (Figure 4B)	-
		Water Sample	0 (Figure 4C)	0 (Figure 4D)
<i>C. albicans</i>	$6.3 \times 10^5$ (Figure 5A)	Purified Water	$5.6 \times 10^0$ (Figure 5B)	-
		Water Sample	0 (Figure 5C)	0 (Figure 5D)

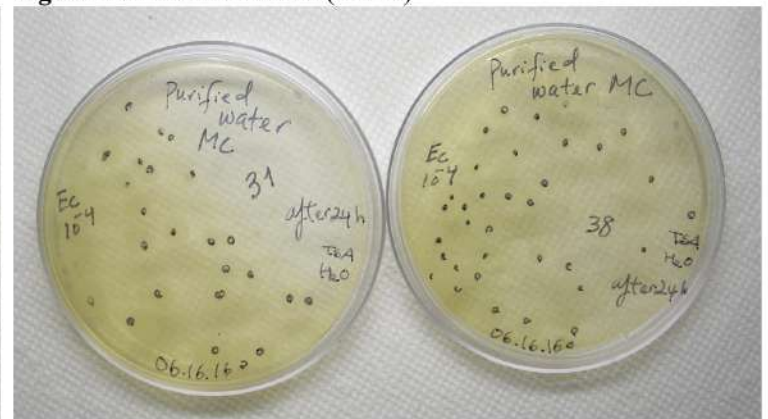
V. J. Koo 6/28/2016

## 2.1. *Escherichia coli*

**Figure 1A - Baseline**



**Figure 1B - Purified Water (24 hrs)**



**Figure 1C - Water Sample (24 hrs)**



**Figure 1D - Water Sample (7 days)**



## 2.2. *Staphylococcus aureus*

**Figure 2A - Baseline**



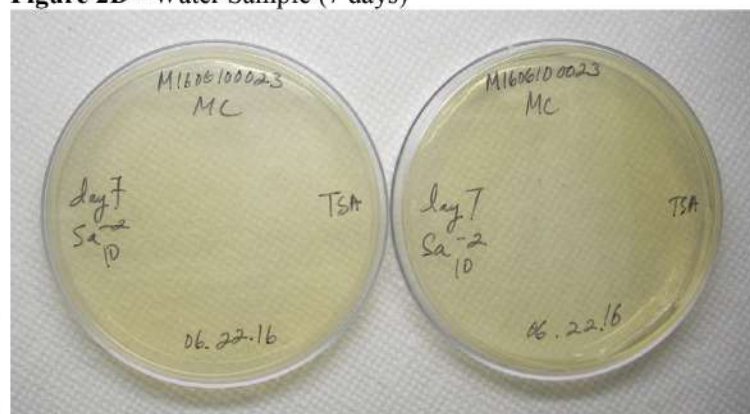
**Figure 2B - Purified Water (24 hrs)**



**Figure 2C - Water Sample (24 hrs)**



**Figure 2D - Water Sample (7 days)**



### 2.3. *Pseudomonas aeruginosa*

**Figure 3A - Baseline**



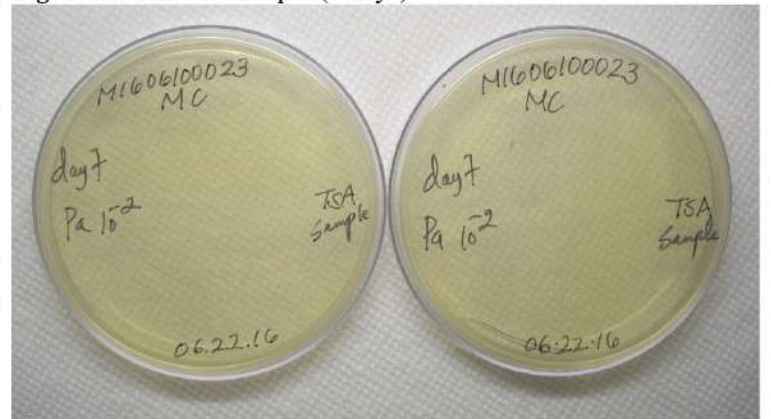
**Figure 3B - Purified Water (24 hrs)**



**Figure 3C - Water Sample (24 hrs)**



**Figure 3D - Water Sample (7 days)**

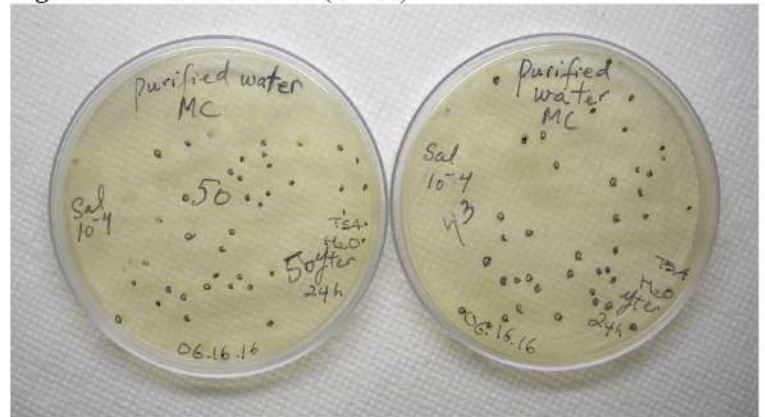


#### 2.4. *Salmonella typhimurium*

**Figure 4A - Baseline**



**Figure 4B - Purified Water (24 hrs)**



**Figure 4C - Water Sample (24 hrs)**



**Figure 4D - Water Sample (7 days)**

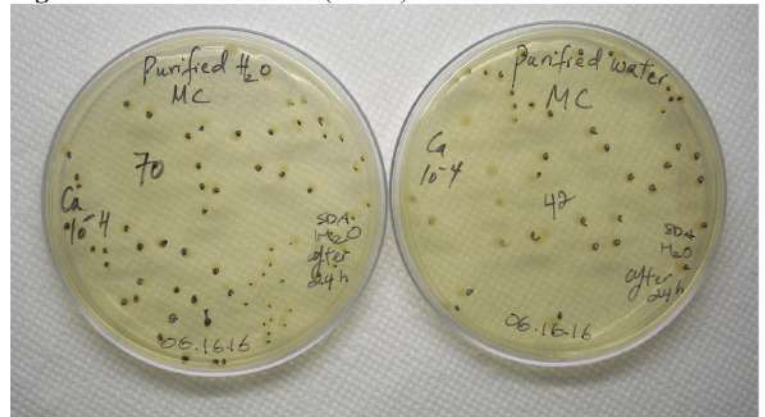


## 2.5. *Candida albicans*

**Figure 5A - Baseline**



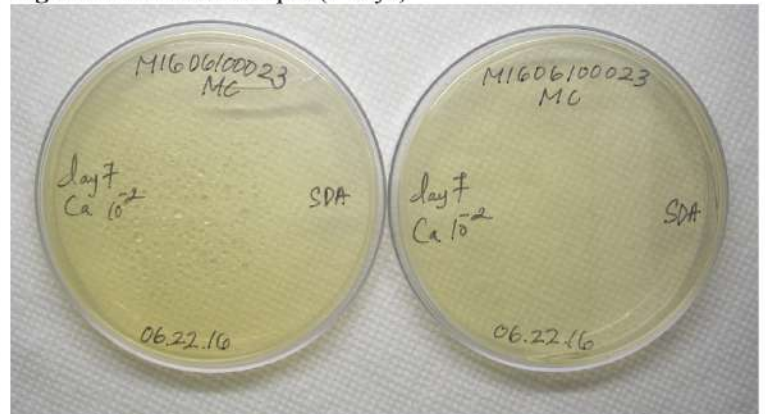
**Figure 5B - Purified Water (24 hrs)**



**Figure 5C - Water Sample (24 hrs)**



**Figure 5D - Water Sample (7 days)**



### 3. Conclusions

In the purified water, the concentration of bacteria had either remained or grown in size after the 24 hour period. In contrast, the water sample M1606100023 yielded no bacteria after the same period of 24 hours. Additionally, within a period of 7 days, no bacteria had regrown in the water sample.

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Reviewed By: Vicky Seto

Signature: 

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