

# ENVIROTEK LABORATORIES, INC.

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## PURINIZE WITH FILTRATION SYSTEM CRYPTOSPORIDIUM PARVUM TEST REPORT

Report # 13-382 ((Purinize with filtration system)

Report Date: 12/02/2013

Customer Name: H<sub>2</sub>O Technologies, Inc.

### EXECUTIVE SUMMARY

The H<sub>2</sub>O Technologies, Inc. Purinize mineral solution with the filtration system were tested for Cryptosporidium parvum oocyst reduction following the NSF Standard 53 section 7.3.2.1. The H<sub>2</sub>O Technologies, Inc. filter system combined with the Purinize mineral solution reduced the Cryptosporidium parvum by 97.1%.

### INTRODUCTION

Tap water adjusted and spiked with Cryptosporidium parvum oocyst was treated with H<sub>2</sub>O Technologies, Inc. Purinize mineral solution for 24 hours then filtered through the H<sub>2</sub>O Technologies, Inc. filtration system and tested using Standard Methods for the Examination of Water. The H<sub>2</sub>O Technologies, Inc. filter system combined with the Purinize mineral solution reduced the Cryptosporidium parvum by 97.1%.

### REAGENTS, MATERIALS, AND LAB EQUIPMENT

AmScope Microscope MD-600, Barnstead Lab-Line Incubator.

Cryptosporidium parvum oocyst.

Polyoxyethylene sorbitan mono-oleate.

Fluoroscein.

Sterile water, phosphate buffer.

H<sub>2</sub>O Technologies, Inc. Filtration System.

H<sub>2</sub>O Technologies, Inc. Purinize mineral solution.

### PROCEDURE

Flushed the filter system with approximately 1 gallon of sterile water. Prepared 2 liters of challenge water with Cryptosporidium parvum at  $5 \times 10^4$  oocyst/L. Table 1 summarizes the Influent water properties. Added 4 mL of Purinize and let it sit for 24 hours. Passed the 2 liters of influent water through the H<sub>2</sub>O Technologies, Inc. filtration system. Collected the effluent water and analyzed the filtered water for Cryptosporidium parvum following the Standard Methods of Analysis of Water 21<sup>st</sup> Edition, method SM 9711-B. The results are summarized in Table 2 below.

### RESULTS

**Table 1**  
**Influent Challenge Water Properties**

Parameter	Influent Challenge Water	Target
pH	6.80	7.00 to 8.00
Temperature	18.5 °C	20 ± 2.5°C
TDS	450 mg/L	200 - 500 mg/L
Turbidity	0.58 NTU	<1 Nephelometric Turbidity Units
Cryptosporidium parvum	$5.2 \times 10^4$ oocyst/L	$5 \times 10^4$ oocyst/L

**Table 2**  
**Adya Clarity Filtration System Test Results**

Micro-organism Tested	Influent Water Concentration	Purinize Filtered Water Concentration	% Reduction
Cryptosporidium parvum	$5.2 \times 10^4$ oocyst/L	1,500 oocyst/L	97.1

**Jaime A. Young**

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