



TREATING WATER. **BETTER.**TM



Robert Hanfling

- Chairman of the Board
- Founder
- Former Official in the U.S. Department of Energy
 - Energy, Water, Environmental Policy
 - Nuclear non-proliferation issues
- Energy Businesses
- Venture Capital/Corporate Management

Outline

- Introduction
- History
- How it Works
- Water Treatment Applications
 - Cooling Towers
 - Industrial Cooling Towers
 - Livestock Drinking Water
 - Aquaculture
 - R&D
- International Business

History

- 2005 – David Kolstad (Inventor) began research on Silver Bullet Technology
- 2009 – First commercial install
- 2011 – David Kolstad, David Sunshine, and Bob Hanfling start Silver Bullet Water Treatment Company, LLC
- 2011 – Cooling Tower sales begin
- 2012 – Silver Bullet wins the National Renewable Energy Laboratory (NREL) “Best Venture Award”
- 2012 – Agricultural Services Division is created
- 2013 – Wastewater Division is created
- 2013 – Silver Bullet wins Colorado Cleantech Industry Association (CCIA) “High Impact Company” of the year
- 2013 – Research begins to enter Shrimp Aquaculture market
- 2014 – Clear Comfort Water is formed (Swimming Pool Application)
- 2014 – Silver Bullet named a “Colorado Company to Watch” winner
- 2014 – Industrial Cooling Tower Division created

How it Works



Silver Bullet Water Treatment Company, LLC

The Silver Bullet System



TECHNOLOGY

- 💧 Advanced Oxidation Process (AOP) that provides:
 - POWERFUL BIOCIDES
 - SCALE PREVENTION
 - CORROSION CONTROL

BENEFITS

- 💧 NO toxic chemicals
- 💧 NO consumables
- 💧 Reduced Cost: water, electricity, labor
- 💧 Increased efficiency

RAW MATERIAL

- 💧 Ambient Air



RK Mechanical

MANUFACTURING PARTNER + DEALERS



Contract manufactures in Denver
1,000+ employees

Current Targeted Markets

Commercial Building Cooling Towers



💧 Biocide for waterborne pathogens; descaling; corrosion control

Industrial Cooling Towers



💧 Biocide for waterborne pathogens; descaling; corrosion control

Livestock Drinking Water Systems



💧 Biocide for livestock drinking water; descaling; corrosion control

Shrimp Farms & Hatcheries



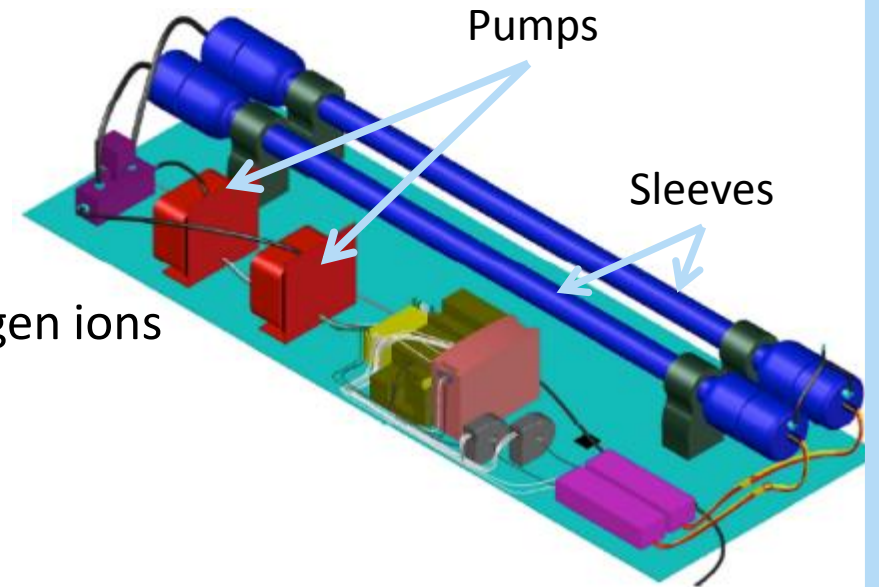
💧 Biocide to combat Early Mortality Syndrome (“EMS”) disease in shrimp farms

Future Markets:

- Irrigation Water
- Fracking & Extraction Water
- Bilge Water
- Industrial Wastewater
- Municipal Wastewater

Technology: Revolutionary AOP

1. Ambient Air pumped into patented sleeves containing UV lamps surrounded by permanent magnets.
2. In the Sleeves, oxygen molecules (O_2) are converted into oxygen ions (O^-).
3. The (O^-) ions are introduced into water via gas diffusers. (O^-) ions bond to water (H_2O), to form hydroxyl radicals ($-OH$).
4. The ($-OH$) and (O^-) ions kill bacteria => **BIOCIDE**
5. (O^-) combine with (H_2O) to form (H_2O_2) => **Residual Biocide**
6. (O^-) ions react with positively charged ions and hold minerals in solution => **Removes and Prevents Deposits**



US 8,361,384B
PATENT

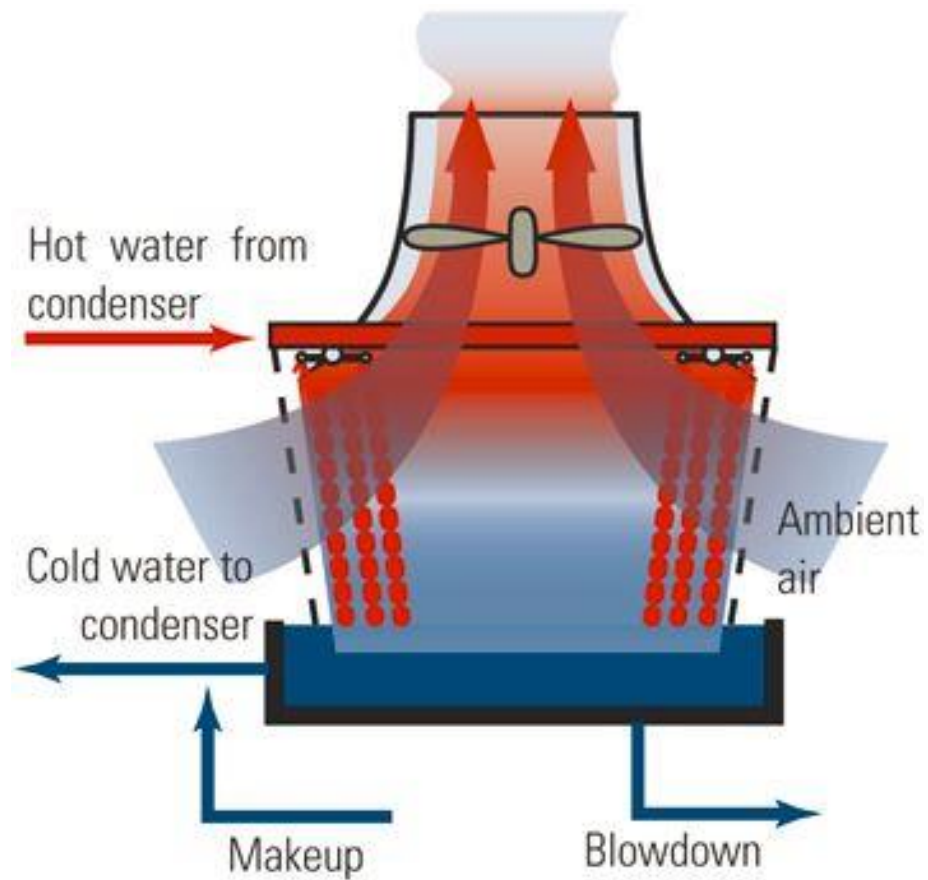
Product Versatility



- 💧 Easily adaptable for multiple end uses
- 💧 Can meet any customer specification
- 💧 Current product line consists of 9 models leasing from \$75 to \$10,000 per month

Cooling Towers

Cooling Tower



Maintenance Issues

- Mineral Buildup = **Bleed off and refill**
- Bacteria growth = **Toxic Biocide**
- Corrosion of tower = **Chemical corrosion control**

Cooling Tower

Safe and Efficient Treatment

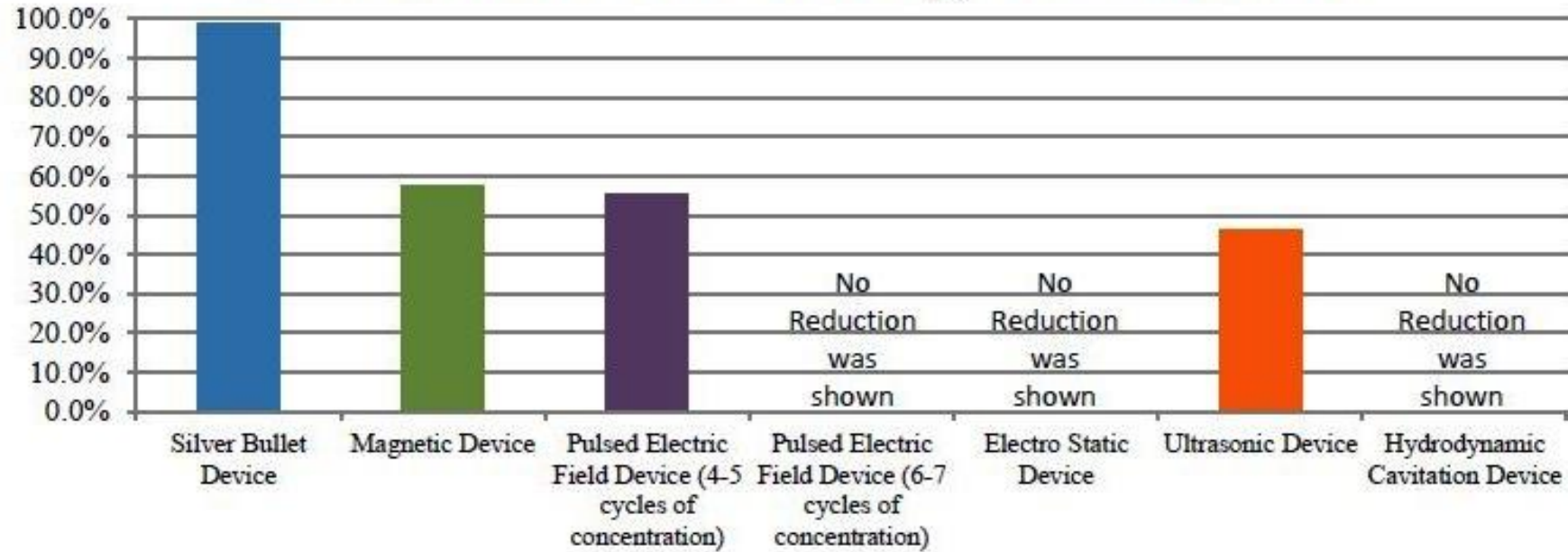
- ✓ Triple effect:
 - + Biocide
 - + Descale
 - + Reduced Corrosion
- ✓ Reduced Labor
- ✓ No Chemical Feedstock



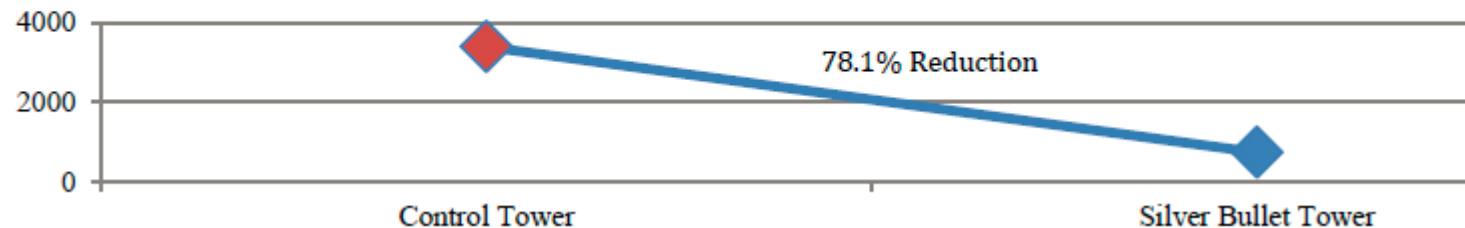
Cooling Tower Test Results

Vidic, Radisaz D., et. Al, (2012). *Pilot- Scale Evaluation of the Silver Bullet Device in Controlling Biological Growth in Cooling Tower Systems*. Special Pathogens Laboratory, Pittsburgh, PA.

Reduction of Free-floating HPC Bacteria



Differences in Free-floating *Legionella* Counts



Industrial Cooling Towers

Industrial Cooling Towers



- Similar problems as Commercial Cooling Towers
- Mission Critical Operation = No room for failure
- **Huge** consumer of water and electricity
- Traditional treatment requires rail cars of toxic biocide

Industrial Cooling Towers

- Same benefits as Commercial Towers
- Potential environmental benefits are far greater
- Eliminates security and health risk of toxic chemical use



Livestock Drinking Water

Livestock Drinking Water

- Waterborne bacteria cause loss of productivity, sickness and even death
- Mineral buildup clogs pipes and leads to costly repairs
- Chemical biocides are off-putting to livestock and are dangerous for employees



Livestock Water

Outperforms Current Chemical Treatments



Clean Water = Healthier and More Productive Herd

Chlorine

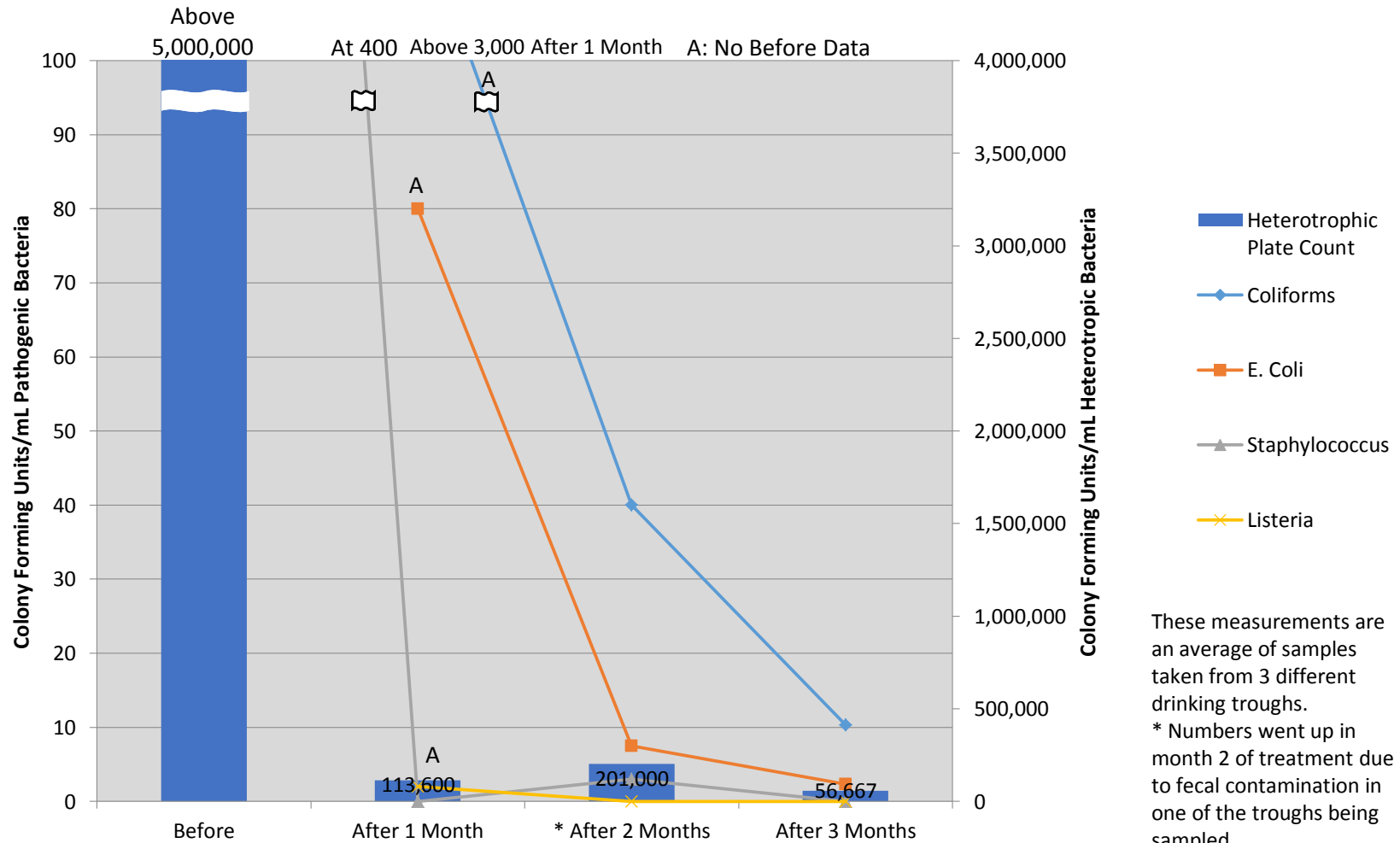
- ✗ Toxic
- ✓ Just a biocide
- ✗ Requires multiple injection points
- ✗ Off gas through lines
- ✗ Requires purchase, handling & disposal

Silver Bullet

- ✓ Non-Toxic
- ✓ ✓ Biocide & Scale Inhibitor
- ✓ Single injection point, reduces maintenance
- ✓ Residual reaction of H₂O₂ and O⁻ ions
- ✓ No chemical feedstock or disposal

Dairy Test Results

Actual SilverBullet Customer Test Results



These measurements are an average of samples taken from 3 different drinking troughs.
 * Numbers went up in month 2 of treatment due to fecal contamination in one of the troughs being sampled.

Shrimp Aquaculture



Shrimp Aquaculture

Prevention of Early Mortality Syndrome (EMS)

The great shrimp shortage of 2013

An outbreak of disease overseas has driven prices to record levels

By Harold Maass | August 16, 2013



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TOP STORES IN BUSINESS

1 of 12



CVS Says It Will Stop Selling Cigarettes



Microsoft Prescription: More Bill Gates

2 of 12



GM's Chairman Makes Himself Heard

3 of 12

ASIAN BUSINESS NEWS

Disease Kills Shrimp Output, Pushes U.S. Prices Higher

- ✓ Tested by three laboratories and 1 large farm scale application
- ✓ Not harmful to shrimp
- ✓ Operator and Environmentally Safe
- ✓ Replaces the need for disinfectants, probiotics, and antibiotics

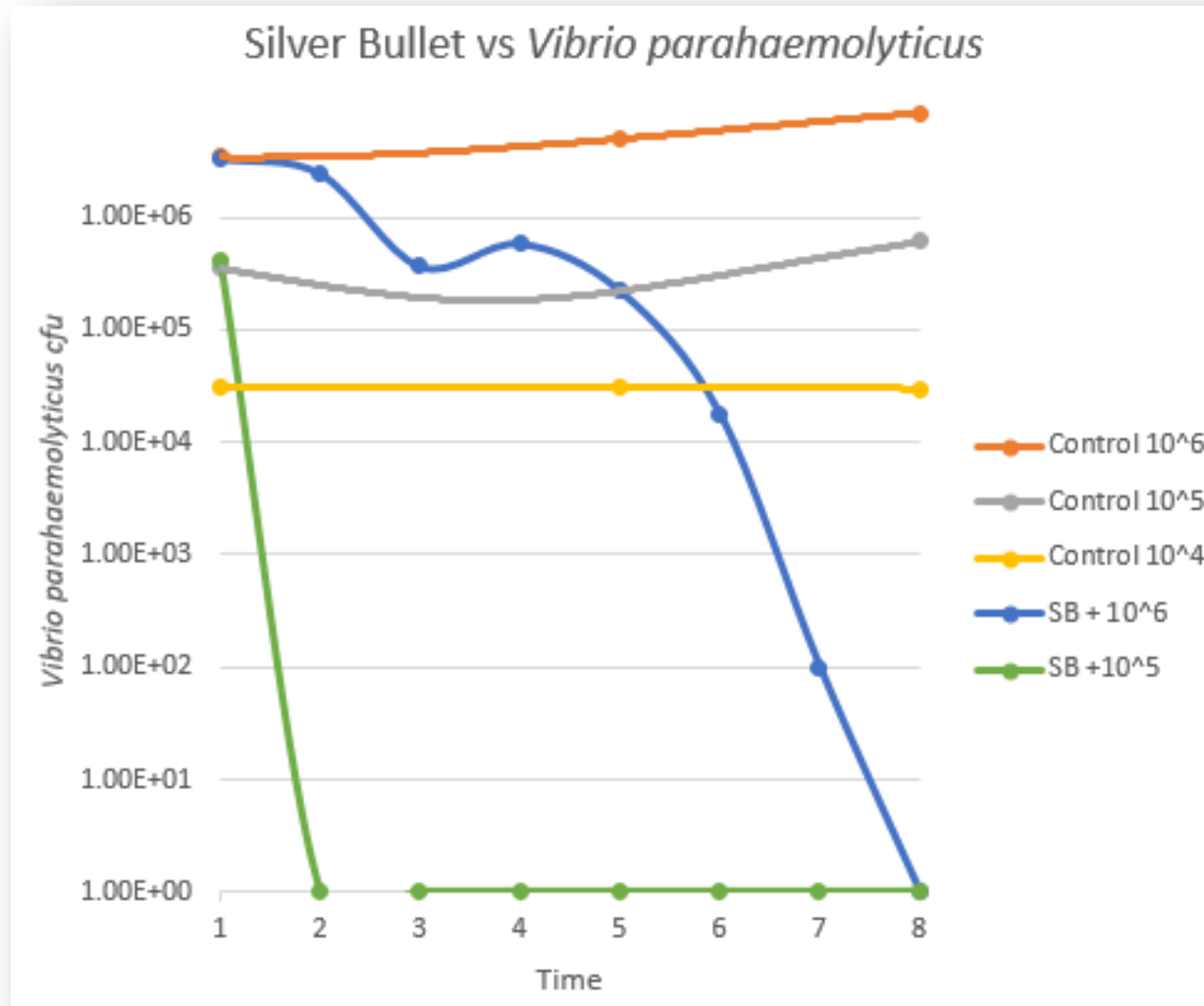
2/9/2015



CIAD Shrimp Farm: Test Site

Shrimp Test Results

Test conducted by Dr. Silvia Gomez at the Centro de Investigacion en Alimentacion y Desarrollo (CIAD), Hermosillo, Mexico.



Sinaloa, Mexico

Shrimp Field Trial

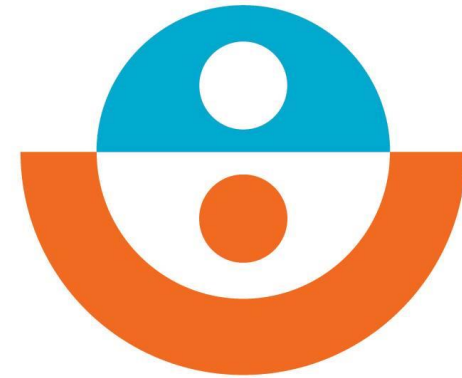




Each farm is VERY different:
Photos: Trat Province, Thailand

Clear Comfort Water

- Swimming Pool Application for both commercial and residential
- Eliminates need for chlorine



Research & Development

Future Development & Markets

- Irrigation
 - Drip
 - Pivot Spray
- Fracking and Extraction Water
- Bilge Water Treatment
- Wastewater (Industrial & Municipal)



International Business












Present:

- Mexico
- Canada
- Israel

Proposed:

- Brazil
- Thailand
- South Africa
- Saudi Arabia

Accreditation & Recognition

	Accreditations & Recognitions	Summary
	<ul style="list-style-type: none"> Four tests conducted by the Linden Research Group at the University of Colorado, Boulder 	<ul style="list-style-type: none"> Verified as an Advanced Oxidation Process (AOP)
	<ul style="list-style-type: none"> Study completed by Colorado State University 	<ul style="list-style-type: none"> Confirmed effectiveness of Silver Bullet System in eliminating bacteria in cattle drinking troughs
	<ul style="list-style-type: none"> Study completed by University of Pittsburg 	<ul style="list-style-type: none"> Confirmed effectiveness of Silver Bullet System in reducing biological growth in cooling towers
	<ul style="list-style-type: none"> Registered with the United States Environmental Protection Agency 	<ul style="list-style-type: none"> Registered as a biocide device
	<ul style="list-style-type: none"> Registered with UL International 	<ul style="list-style-type: none"> Verified for safe electrical operation
	<ul style="list-style-type: none"> Certified by NSF International 	<ul style="list-style-type: none"> Certified NSF/ANSI Standard 61: Drinking Water Systems Components – Health Effects
	<ul style="list-style-type: none"> Recognized by the National Renewable Energy Laboratory 	<ul style="list-style-type: none"> 2012 Best Venture Award
	<ul style="list-style-type: none"> Recognized by the Colorado Cleantech Industry Association 	<ul style="list-style-type: none"> 2013 High Impact Company of the Year Award
	<ul style="list-style-type: none"> Recognized by <i>Colorado Biz Magazine</i> 	<ul style="list-style-type: none"> Named 2014 “Colorado Company to Watch”

High Profile Clients



Tyson Foods, Inc.



OVER 1,000 Systems installed and operating



TREATING WATER. BETTER.™

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