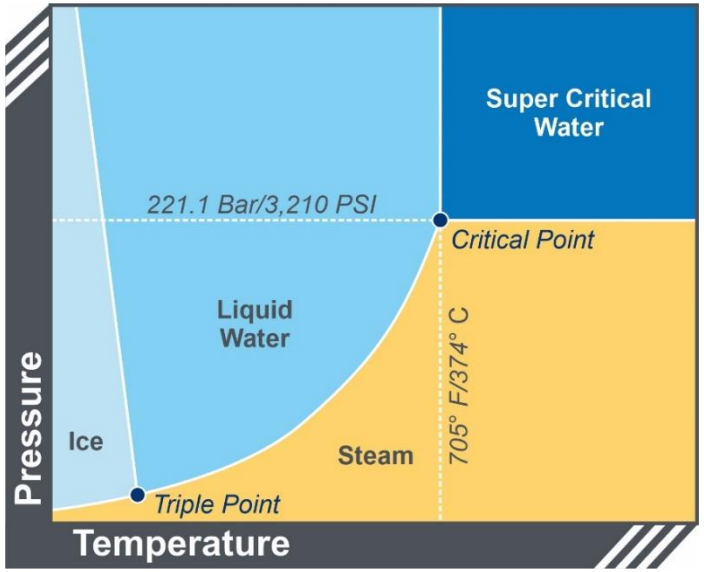
Company Introductions

- **Revive**
  - **David Trueba,** CEO
  - **Matthew Massey,** Head of Legal
- **374Water**
  - **Howard Teicher,** Advisor
  - **Steve McKnight,** Advisor
- **General Atomics**
  - **John Follin,** Director, Strategic Development
- **Akin Gump Strauss Hauer & Feld LLP**
  - **Arshi Siddiqui,** Partner
  - **Stacey Mitchell,** Partner

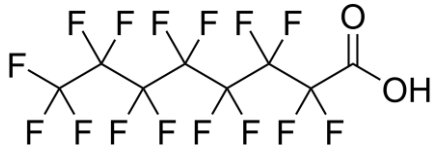
What is Supercritical Water Oxidation?

- Supercritical water exhibits unique properties
  - Gas and liquid phases become indistinguishable
  - Density is about 10% of water above the supercritical point
  - Water no longer behaves as a polar solvent
  - Oxygen is fully soluble

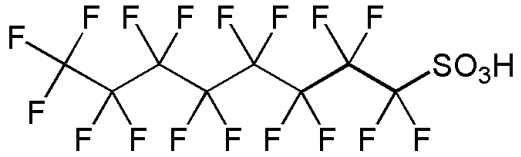


- High temperature in an oxidizing environment overcomes activation energy to break C-F bond

PFOA

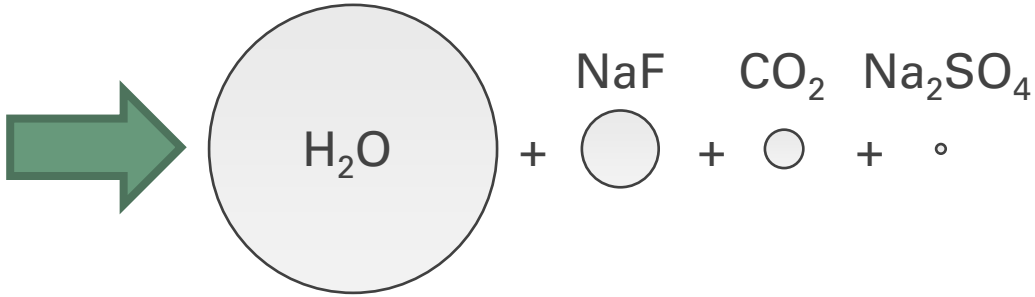


PFOS



+ H_2O_2 (oxygen source)

+ NaOH (Neutralization)



GENERAL ATOMICS

374WATER°

Revive environmental

Benefits of SCWO: Batch Tracking, Treatment, and Destruction

- **Batch-by-Batch Chain of Custody:** As a chemical process, SCWO allows for the detailed tracking of destruction on a batch-by-batch basis. Each batch received and processed via SCWO can be traced from receipt through discharge.
- **PFAS Destruction:** Supercritical pressures and temperatures result in the full mineralization of all organic compounds including all PFAS analytes. As a result, SCWO can achieve compliance with all current and proposed discharge standards.
- **Confirmation Through Analysis:** Regular sampling of all aqueous and vapor streams to ensure full destruction. Influent is tested prior to treatment, before and after any post-treatment polishing.
- **No Harmful Byproducts:** SCWO reaction results in clean water, de minimis carbon dioxide, and inert salts. The resulting liquid is capable of being discharged into sanitary sewers without concern.
- **Environmental Justice:** There are societal benefits to SCWO beyond the complete batch-by-batch destruction of PFAS and analytical verification. Many incumbent PFAS disposal methods are problematic because they are frequently located in or near low-income, minority communities, with a disproportionate negative impact. Because SCWO completely mineralizes PFAS without creating harmful byproducts, it is safe for every community.

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AirSCWO™ Omni-processor

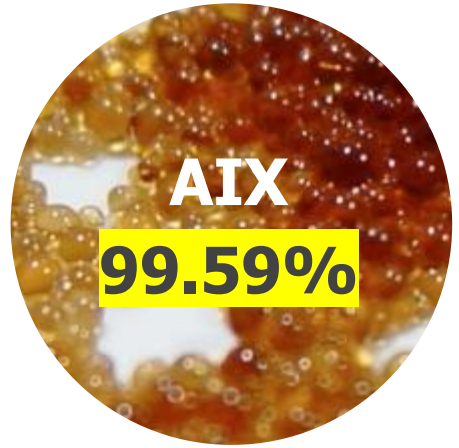
- AirSCWO is a waste-agnostic supercritical water oxidation process developed by 374Water Inc.
- AirSCWO transforms waste into reusable water, recoverable energy, and minerals
- AirSCWO systems are compact, modular, scalable, and energy efficient

AirSCWO Capacity and Performance

AirSCWO™ 6
6 WTPD at 2.5 MJ/kg
1,600 gallons per day

AirSCWO™ 30
30 WTPD at 2.5 MJ/kg
8,000 gallons per day

AirSCWO™ 200
200 WTPD at 2.5 MJ/kg
53,000 gallons per day



Summary of AirSCWO™ Treatment of PFAS and AFFF

- 374Water's AirSCWO™ effectively eliminates ALL PFAS and precursors
- We routinely observe >3-5 log reductions of all PFAS and organofluorine species
- Log reductions are tunable using temperature x reaction time
- We can treat a broad range of PFAS concentrations inputs (and co-pollutants) from >1000 ppm to low ppt
- Different matrices can be treated in our systems (sludge, concentrates, solids such as GAC and IX)
- At optimum conditions, there is no transformation of high molecular weight PFAS into smaller PFAS (no TFA or halomethane production)
- Under optimum conditions, there is no significant emission of volatile F species and closing F balance shows 100% mineralization of organofluorine to inorganic fluoride

Over 30 Years - How Did GA Get Here

1990s - 2012
Development & Select US Government Uses

2012 - 2014
First commercial sale (organic waste), continued Government use

2015 - Present
Successful Commercial and Government sales with aftermarket support

December 2021
iSCWO PFAS Destruction Testing Begins

Now
Systems Sales for Organic and PFAS Waste Destruction

iSCWO has been out of the lab and in the field since 2012. No R&D

PFAS Testing
EPA Evaluation – Verifies PFAS Destruction

What GA Offers Based on Years of Experience

Transportable iSCWO system

Fixed iSCWO system

- Available as fixed or transportable units for convenient on-site waste destruction without the need for additional infrastructure.
- Single or multiple iSCWO systems operating in parallel can be configured to support unique installation, waste, and throughput requirements.
- Systems range between 1 gpm to 5 gpm
- TRL 8 or TRL 9 – Depending on application
- EAR 99 Exportable

Use of GA's iSCWO in Industrial Environments – Business Areas

- PFAS and other fluorinated organic compounds
- Fire retardant materials
- Expired or obsolete pesticides, fertilizers, and fungicides
- Contaminated water (wastewater cleanup)
- Polychlorinated biphenyls (PCBs)
- Organic cleaning solutions and antifreeze
- Energetic Materials (explosives or propellants)
- Petroleum, oils, lubricants and/or petrochemical waste
- Sewage sludge/animal waste products
- Pharmaceutical waste
- Plastic waste
- Expired or obsolete paints
- Expired or obsolete pesticides
- Materials not suitable for normal transportation or disposal

iSCWO destroys PFAS with co-contaminants simultaneously with equal efficiency

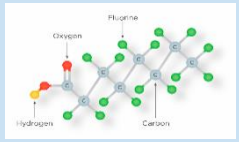
Helps to Have Demonstrated Multiple Options to Feed iSCWO

- **Liquid feed**
  - Generated by in-line process or liquids stored onsite
  - Pumped directly into the iSCWO system
- **Slurry Feed**
  - Powdered solids (e.g., explosives, pesticides, ..) in water
  - Ground-up solids (e.g., resins, GAC, …) in water solution
  - Size-reduced solids pumped directly into the iSCWO system
- **Reverse Osmosis (RO)**
  - Large Amounts of Contaminated Water
  - RO waste stream (stew) is pumped into the iSCWO system
- **Thermal Desorption (TD)**
  - Contaminated Soil Cleanup (e.g., PCB)
  - TD waste stream (scum) is pumped into the iSCWO system
- **Gaseous Diffusion (GD)**
  - Contaminated Hardened Material
  - GD waste stream is condensed and pumped into iSCWO

Summary of Previous PFAS Related iSCWO Testing

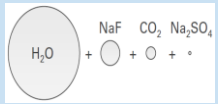
Test	Total Processed	Source of Material	Destruction Efficiency
Test 1 AFFF	253 gallons	Lightwater	99.9996%
Test 2 AFFF	252 gallons	Lightwater	99.9996%
6:2 FTS	350 gallons	Fire pit wash	99.9929%
PFOS	350 gallons	IDW	Non-detect
Test 1 AFFF	310 gallons	Aer-O-Water	~99.999%
Test 2 AFFF	302 gallons	Aer-O-Water	~99.999%
Test 3 AFFF	310 gallons	Aer-O-Water	~99.999%
Leachate	60 gallons	Landfill	99.999%
Biosolids	2000 gallons	Sanitation source	99.99%
Resin Beads	1080 gallons (slurry)	Sourced from Customer	99.99%
GAC	400 gallons	Sourced from Customer	Waiting for results

PFAS Annihilator® Differentiators



Up to 99.9999% Destruction

- Short- and Long-chain compounds
- Dilute or Concentrated streams



Minimal Waste

- PFAS is mineralized not moved
- By-products: Water, Inert salts, CO_2

Highly Efficient

- Short residence time (<10 seconds)
- Heat Exchangers for influent/effluent

Permit Ready

- Effluents below all state permit thresholds
- Process underway across other states

Complementary

- Works well with pre-concentration
- Not inhibited by organic co-contaminants

Commercially Available

- Commercially deployed since March ‘23
- Systems can process up to 700K gallons per year

PFAS Annihilator® Systems Operational

Bench/Lab Unit

- 2019 to present
- ~2 to 6 gallons per test
- Technology development
- Validate destruction of field samples
- Prepare for field deployment
  - Characterization
  - Optimization

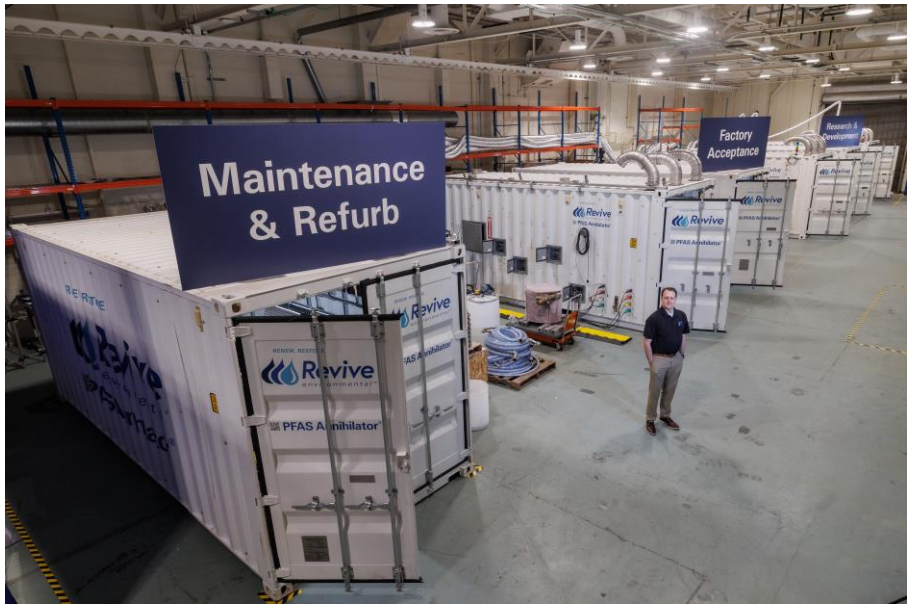
Pilot Mobile Unit

- Jan 2020 to present
- 30 to 50 gpd
- Longer-term operation than bench-scale
- Technology development (longer-duration tests, salt removal)
- Field demonstrations/validation

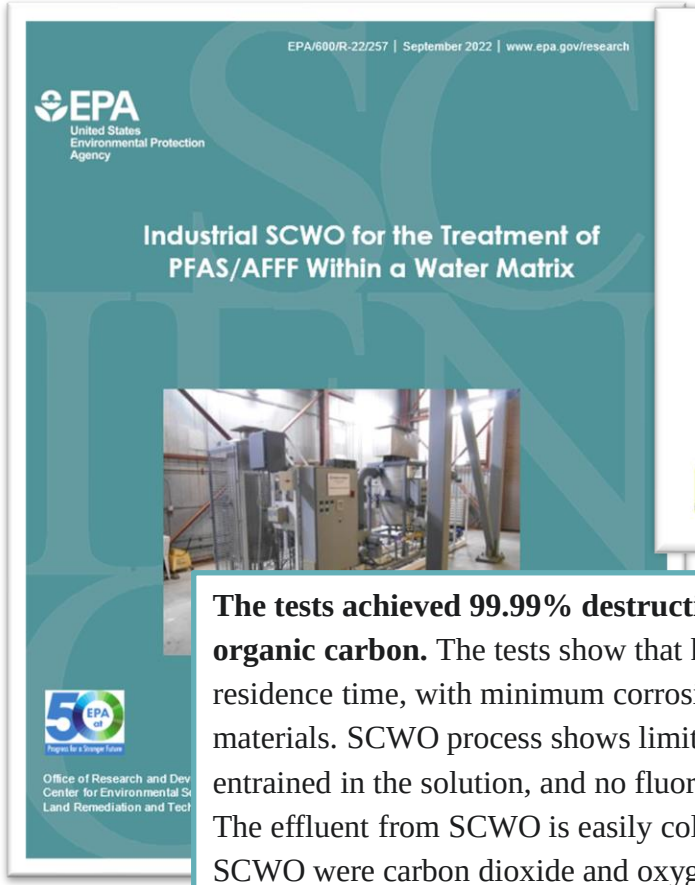
Commercial Mobile Units

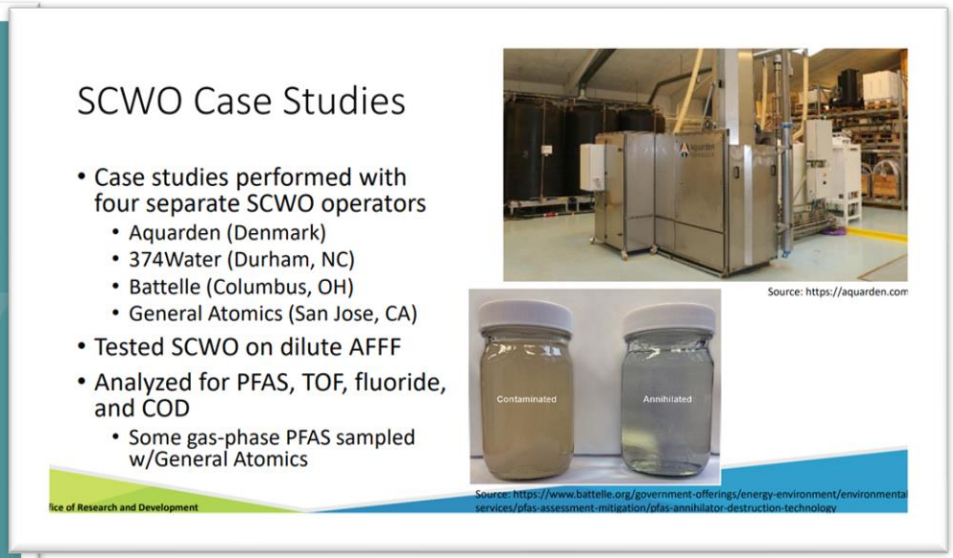
- March 2023 to present
- 300 to 500 gpd
- Continuous operation
- Fully permitted for operations today
- Field demonstrations
- Destruction of stockpiled waste
- Seven operational units as of Jan 2024

PFAS ANNIHILATOR™ Deployment and Production



EPA Case Studies on SCWO





The tests achieved 99.99% destruction and removal efficacies of targeted PFAS and total organic carbon. The tests show that hydrothermal flame as an internal heat source reduces residence time, with minimum corrosion, by controlling the wall temperature and construction materials. SCWO process shows limited partial and incomplete oxidation products that are entrained in the solution, and no fluorinated compounds were detected in the stack gas emission. The effluent from SCWO is easily collected, analyzed, and can be recycled. Gaseous effluents from SCWO were carbon dioxide and oxygen with traces of carbon monoxide and trace quantities of hydrothermal heat source oxidized products. The hydrogen fluoride formed within the reactor was neutralized, precipitated from the SCWO reactor water solution, and removed from the SCWO reaction vessel. The study provided additional data on the effectiveness of SCWO as an alternative technology for treating high PFAS-concentrated aqueous waste.

EPA studied efficacy of SCWO for PFAS destruction:

- SCWO purports to destroy PFAS and decomposing the material into a non-toxic waste stream
- SCWO's previous applications to destroy chemical warfare agents, PCBs, and halogenated compounds makes it a potential alternative for PFAS destruction
- Effective mineralization (>99%) of all PFAS (short and long chain) and PFAS precursors in a variety of matrices
- Air testing shows only traces of volatile organic fluorine in vent gas

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Advancements in SCWO Since Dec. 2020 Guidance

- PFAS Destruction: All 3 SCWO providers achieve broad and complete destruction (99.999+% of short and long-chain PFAS)
- Capitalization: All three companies with sufficient capital to build capacity
- Customer Base: Revive's OH and NH AFFF take back program
- Local and state regulatory acceptance:
  - Revive's PFAS Annihilator operating within discharge requirements in multiple municipalities and states;
  - 374 Water's AirSCWO was granted an experimental research operations permit from California's SCAQMD (South Coast Air Quality Management District) for its deployment to Orange County Sanitation District;
  - General Atomics GA has multiple Government contracts demonstrating the use of our its commercial iSCWO for the destruction of large volumes of AFFF, leachates, biosolids, airport fire water, GAC, resin beads, and SAFF.

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Policy Recommendations

- Urge EPA to revise and update their forthcoming *2024 Draft PFAS Destruction Guidance* to include SCWO as a validated PFAS destruction technology.

In the Alternative:

- Urge EPA to clearly indicate in the *2024 Draft PFAS Destruction Guidance* :
  - The significant advances in SCWO technology for the destruction of PFAS since 2020;
  - The work EPA has done on SCWO regarding the capabilities and advantages of SCWO;
  - Any remaining questions so that industry may respond directly about the benefits of SCWO; and
  - Commit that the Agency will issue a stand-alone document validating SCWO once they finalize any outstanding testing.

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