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ASX Announcements
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OUTSTANDING PFAS DESTRUCTION RESULTS

- Following ongoing successful internal testing of PuriflOH's PFAS destruction technology the efficacy of the process has now been independently validated through test work at Osmoflo.
- Water samples from two PFAS contaminated sites, a South Australian municipality and an Australian Department of Defence base were treated.
- The PFAS contents were independently assayed by two NATA accredited laboratories.
- Trials achieved 100% PFAS destruction in runoff water (with PFAS concentrations of 200 – 500 ppt), and 99.5-100% PFAS destruction in highly concentrated Reverse Osmosis brines (with PFAS concentrations of 10,000 - 500,000 ppt) in short treatment cycles.
- Based on the achieved PFAS destruction efficacy, several key stakeholders expressed interest in setting up field trials and pilot plants
- The Company expects to be able to advise shareholders shortly of steps to be undertaken to reinstate the Company to ASX trading.

Dr Alex Sava, Technical Director of PuriflOH, said today that:

"*Another confirmation of efficacy of our technology is very pleasing.*

We have challenged the technology internally with numerous spiked synthetic water samples, trying to account for a range of anticipated co-impurities. Successful decontamination of field sourced water laden with co-impurities is an encouraging confirmation of many years of intensive lab-based research.

These results should help to significantly accelerate the commercialisation process, potentially cutting years from entry into the notoriously hard-to-enter water treatment market.

The scale of the addressable market is compelling and opens up a variety of avenues for commercial execution.".

Chief Technology Officer of Osmoflo, Mr. Neil Palmer also stated that:

"Osmoflo specialises in 'difficult-to-treat' water and has been pleased to work with PuriflOH on this challenging project. We look forward to further development towards a robust field system to concentrate and permanently destroy PFAS in solution."

PuriflOH Limited ("PuriflOH", "the Company", "PO3") announces that as part of the ongoing development of its proprietary PFAS destruction technology (FRG) - the Company has undertaken a critical project development milestone: Independent *verification and validation* - to ensure the technology *"…meets the needs and requirements of the intended user in the intended use environment*" as per ISO design and development of products and services requirements.

The validation was performed independently by Osmoflo Pty Ltd at its facilities in Burton, South Australia. To ensure reliable analytical results, the PFAS content of water samples was assayed separately by two NATA-accredited laboratories: ALS and Leeder Analytical.

PFAS Remediation Testwork

PO3's proprietary PFAS destruction technology (FRG) was challenged with contaminated water samples representing typical runoff water, with PFAS concentrations of 200 – 500 ppt, and typical highly concentrated reverse osmosis brines with PFAS concentrations of 10,000 - 500,000 ppt, usually stored onsite as hazardous waste.

Water from two key sites – a South Australian Managed Aquifer Recharge (MAR) well and an Australian Department of Defence base – was treated using PuriflOH's PFAS destruction process.

The Company's single-step, in-situ treatment technology achieved an unprecedented result of 99.5-100% destruction of harmful PFAS compounds in all tests. Short, energy-saving cycles (7-10kWh/tonne) achieved 100% PFAS destruction in runoff samples, and greater than 99.5% PFAS destruction in concentrated brines. 20 - 25kWhr/tonne cycles achieved 100% PFAS destruction in all samples, including concentrated brines.

Further, PO3's PFAS destruction technology fully mineralised all PFAS compounds, converting them to fluoride and carbon dioxide, thus rendering the treated water suitable for discharge into waterways (subject to presence of other contaminants).

This outcome demonstrates the robustness and effectiveness of the Company's Free Radical Generation (FRG) technology in intended use scenarios and positions PuriflOH as a unique provider of PFAS remediation solutions based on in-situ, single-step water decontamination.

The single step provides a distinct advantage over the traditional expensive and laborious two-step methodologies, in which PFAS is first concentrated on various carriers, followed by transport and incineration of the collected PFAS.

The results are as follows:

No	**Water Source**	**PFAS conc. BEFORE (as sum of PFHxS and PFOS)**	**PFAS conc. AFTER (as sum of PFHxS and PFOS)**	**Note**
1	Sample from Managed Aquifer Recharge (MAR) well water supplied by Salisbury Water Pty Ltd treated at 2 kWhr/tonne	230 ppt	0 ppt (below detection limit)	100% PFAS destruction Meets drinking water requirements for PFAS content
2	Concentrated brine from WTP supplied by the Department of Defence treated at 20kWhr/tonne. Stored as hazardous waste	158, 000 ppt	90ppt	>99.95% destruction. Slightly exceeds recreational water discharge guidelines (70ppt). Not a hazardous waste

3	Water from Area 2 supplied by Department of Defence treated at 15 kWhr/tonne. Stored as hazardous waste	167,000 ppt	680ppt	99.6% destruction, Not a hazardous waste
4	Same as 3 Treated at 23kWhr/tonne	167,000 ppt	0 ppt (below detection limit)	100% PFAS destruction Meets drinking water requirements for PFAS content. Confirms that PO3's technology could be easily optimised to meet customer's requirements

Technology

PuriflOH's proprietary PFAS destruction technology is designed to destroy PFAS and other organic contaminants in a single-step enhanced free radical generating (FRG) process. Unlike existing solutions, there is no need for an additional costly and labour-intensive incineration of hazardous foams or ion exchange resins.

1. All PFAS compounds are fully mineralised, i.e., broken down to carbon dioxide and fluoride with no short-chain or toxic by-products, thus rendering treated water suitable for direct discharge in recreational water aquifers or even meeting drinking water guidelines for PFAS.

2. The same PuriflOH installed equipment could be used for treating both concentrated RO brines with high PFAS content as well as low-PFAS content runoff water.

3. Unlike existing technologies, PuriflOH's PFAS-destroying efficacy is not affected by the co-impurities and water salinity, with the salinity of treated samples ranging from 150 to 4,000 ppm.

4. Easy to install, customise and adjust process to meet client's requirements.

Implications for PuriflOH

The success of the verification and validation milestone of the technology development project has several important implications for the Company:

1. **Market Positioning:** With regulatory pressures and public awareness around PFAS contamination intensifying globally, PuriflOH's ability to deliver 99.5-100% destruction of PFAS indicates a compelling market positioning in the rapidly growing PFAS remediation market.

2. **Commercial Opportunities:** The demonstrated success of the Company's technology with highly contaminated Reverse Osmosis (RO) brine samples, such as those from the Department of Defence, opens significant markets.

   The confirmed capability to quickly and cost-efficiently decontaminate concentrated brines alone offers significant opportunity, as hundreds of thousands of tonnes of these brines are stored at massive costs as hazardous waste around the world.

3. **Strategic Partnerships:** The Company's ongoing collaboration with Osmoflo continues to yield positive results. PO3's technology's proven effectiveness will be instrumental in securing additional contracts and service agreements, particularly within the defence and environmental sectors.

Market Potential

Per- and poly-fluoroalkyl substances (PFAS) are manufactured chemicals that resist physical, chemical, photolytic, and biological degradation, making them persistent and stable in the environment. PFAS encompass more than 4,000 synthetic compounds that have been used in various industrial and consumer products since the 1950s.

Whilst the effort to replace PFAS is continuing worldwide, the industry is still struggling to develop suitable replacements for one of the largest PFAS pollutants - firefighting foams -that meet the Federal Aviation Administration and Department of Defence requirements for aircraft firefighting (U.S. EPA, 2023). Similarly, another large polluter, chrome-plating/finishing utilised in motor vehicles and industry corrosion prevention, is still seeking to develop PFAS-free alternatives.

At present, there is no clear commercial solution to destroy PFAS in situ. The PFAS-contaminated waste must be stored on-site or disposed of in hazardous waste landfills. Recent data indicating a higher rate of PFAS leaching from standard hazardous waste landfills (U.S. EPA, 2024) indicate that costly on-site storage with suitable containment is the only viable option for managing PFAS-contaminated waste.

No reliable data is available on the global number of PFAS-contaminated water storage sites however, it is well understood as a major issue in developed countries. Many government facilities and local councils are funding containment strategies to prevent PFAS-contaminated runoff from entering waterways. The annual costs to taxpayers and ratepayers range from $0.5 million - $10 million per site.

The global PFAS water treatment market was valued at approximately US$250 billion in 2022 (Markets & Technology in Remediation & PFAS Environmental Business Journal Vol 35 No 7/8: 2022). Of this, in excess of US$200 billion is estimated as the addressable market for engineering and consulting services to identify, treat, and remediate PFAS in water, wastewater, and the environment.

The recent tightening of regulatory standards, particularly in the United States where the Environmental Protection Agency has lowered the allowable PFAS concentration in potable water from 70 parts per trillion (ppt) to 4 ppt, is expected to drive even more significant growth of the PFAS decontamination market size.

Technology background

The PFAS remediation technology discussed within has been built on over 15 years of intensive and extensive investment in hardware-focused R&D, including over 10,000 hours of operations.

The initial core technology considered use in water, medical sterilisation, and air treatment. Through these years of testing, the fundamental science and nature of oxidative radicals involved became well understood.

The PFAS treatment application was identified as an opportunity in late 2022/early 2023 due to increasing public awareness of the problem. With the foundation for this application already in place, as outlined above, the team has been aware of the system's ability to destroy complex organic contaminants through work related to landfill leachate treatment.

Since early 2021, PuriflOH has benefited from the expertise of **Dr. Alexei Sava**, a highly experienced physical chemist with dozens of patents and extensive commercialisation experience.

Dr. Sava’s contribution to the Company’s PFAS treatment technology has been pivotal. His mechanistic understanding, coupled with his experience developing free radical-based technologies, has allowed for several enhancements to the process, which have been vital in achieving the results the Company is now producing.

This work has not been capital intensive for the Company, and so PO3 has been able to leverage years of investment to arrive at an elegant solution for the destruction of PFAS.

Moving Forward

PuriflOH is focused on scaling its technology and pursuing strategic market opportunities. The Company is in discussions with several global operators with a view to identifying strategic partners to deploy its PFAS destruction technology to contaminated sites.

Additionally, PO3 is exploring further collaborations and partnerships to accelerate the commercialisation of its solutions for government agencies and environmental remediation firms seeking effective and sustainable remediation solutions for PFAS contamination.

Authorised for release by the Board of PuriflOH Limited

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