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ONGOING POSITIVE RESULTS FROM PFAS TESTWORK

- PuriflOH Limited ("PuriflOH," "PO3" or "Company") has progressed the applicability of its new PFAS removal technology, substantially decreasing the energy consumption and contact time requirements.
- When challenged with levels of PFAS typically found in contaminated water, an improved FRG-based system also demonstrated capability to destroy PFAS within minutes and at a power consumption of approximately 0.0001 KWhr/litre. This is 10-15 times faster and with 20-30 times less power consumed than previously reported.
- The achieved process parameters indicate a potential breakthrough in PFAS removal industrial solutions, where PFAS could be substantially removed in a simple in-line flow-through process as opposed to current state of the art batch processes that require storage of large volumes of contaminated water.
- Since PFAS represent the worst-case scenario of industrial water contamination with stable organic compounds, PuriflOH's proprietary solution could be applicable to any land remediation or decontamination processes required for reclaiming industrial sites and mining waste.
- PuriflOH's PFAS removal process has a carbon footprint that is a fraction of that of activated carbon. Activated carbon provides similar removal efficiency of PFAS but requires incineration of filtration material, incurring high costs and energy consumption. On the other hand, PuriflOH's process is designed to destroy PFAS compounds via complete oxidation without any by-products.
- Results are likely to be enhanced further with more optimization testing, which is now underway.

Dr Alex Sava, Technical Director of PuriflOH, is an expert physical chemist with dozens of successfully commercialized patented inventions to his credit. He said today that: "*PFAS removal is an incredibly challenging task because of the inherent chemical stability and immense variety of compounds that are defined under the umbrella of PFAS. PuriflOH's technology provides a break-through method for PFAS destruction that has potential to lead the world in terms of both low treatment time and operational expenses. We will continue to optimize the method and strive towards a commercially successful PFAS removal system. An economical solution to this serious global problem would provide immense commercial benefits.*"

Testing Methodology and Results:

The company has been optimizing its treatment system for removing per- and polyfluoroalkyl substances (PFAS) from water. After initial trials of PO3's PFAS removal technology achieved promising >98% PFAS destruction in batch-recirculation process, the company has been working on a more commercially viable flow-through process to reduce treatment time, process setup and operational costs to align with commercial realities.

Results have yielded the following substantive conclusions:

1. **Broad Concentration Range:** The FRG-based system, together with new improved proprietary enhancements designed by the PO3 team, has exhibited exceptional versatility by consistently destroying PFAS and PFOA compounds, encompassing levels as low as parts per trillion (ppt) to several hundred parts per million (ppm).

2. **Preservation of Compound Integrity:** A distinctive advantage of the PO3 system lies in its capacity to prevent the conversion of larger PFAS compounds into smaller, often more hazardous by-products, which is a common disadvantage of Advanced Oxidation Processes (AOPs) for PFAS removal.

3. **Economic Viability:** A proprietary PuriflOH method has substantially reduced the time required to destroy PFAS compounds in water, significantly enhancing its commercial viability and allowing for conversion from notoriously expensive and difficult batch recirculation systems to a simple in-line flow-through process. The levels of PFAS in treated water are below the EPA-regulated levels for discharge into conventional sewers and even waterways.

These findings represent pivotal advancements in our pursuit of an efficient and commercially viable PFAS removal system. The system's adaptability across a wide concentration range, its integrity-preserving attributes, and the reduction in treatment time with minimal energy consumption underscore its promise as an innovative and effective solution for addressing the pressing global issue of PFAS contamination in water.

Commercially, PuriflOH envisions that it can work in partnership with Osmoflo to destroy highly concentrated PFAS in the brines generated by Osmoflo's Reverse Osmosis treatment. It is also believed that the possible array of commercial opportunities available to the Company would be vast and discussions have already commenced with other possible small-scale partners operating in high value target industries as a first step.

Test work was overseen by PuriflOH Director, Dr. Alexei Sava, who's background is summarised below. Testwork was conducted internally by Vigneswaran Appia with all required water testing conducted by an external accredited laboratory.

About Dr Alexei Sava:

Best known for his invention of the aerosol hydrogen peroxide disinfection process ('nanonebulant'), that became a core technology of ASX200 company, Nanosonics Limited (NAN.ASX). Dr. Sava also has extensive experience commercialising his inventions in numerous international markets. This has provided Dr Sava with strong regulatory and commercial experience which will be of specific relevance to the Company as it embarks on commercial execution.

Dr. Sava holds the following credentials:

M.Sc. in Chemical Engineering from the Ukrainian Academy of Science;

Ph.D. in Physical Chemistry from the Ukrainian Academy of Science;

Over 35 years' experience in microbiology, chemistry, and biochemistry;

Holding over 100 international patents;

Authoring over 50 scientific articles;

Dr. Sava has achieved commercial execution with several inventions.

Next Steps:

Given the success of these latest results, further optimization of the process now will continue, especially in concert with Osmoflo, to ensure repeatability, reliability, and further enhancement. Following this, PuriflOH and Osmoflo intend to perform pilot testing at a PFAS contaminated site in the United States in the New Year with the aim of providing conclusive proof of the system's effectiveness and commercial viability.

This release is approved by the Board of PuriflOH.

Background to PFAS Removal and PuriflOH's unique advantages.

Per- and polyfluoroalkyl substances (PFAS) are a group of human-made chemicals that have been used in a wide range of industrial and consumer products due to their water- and grease-resistant properties. PFAS chemicals are of increasing concern due to their persistence in the environment with the inherent difficulty for removal, potential health risks, and widespread contamination of water sources. There are currently a few commercially executed methods for PFAS removal, each with its associated drawbacks. Here are some of the common methods:

Method	Description	Issues
Granular Activated Carbon Filtration	PFAS molecules are sequestered on the surface of activated carbon particles as water flows through the filter medium.	• Limited effectiveness for short-chain PFAS compounds due to weaker affinities. • GAC saturation necessitates frequent regeneration or replacement, leading to operational disruptions. • Disposal of spent GAC loaded with PFAS raises concerns, as these compounds remain bound to the carbon substrate, posing environmental challenges.
Ion Exchange	Ion exchange resins facilitate PFAS removal by exchanging PFAS ions with counter ions (typically chloride) in the water.	• Periodic regeneration or replacement of PFAS-laden resins is required, creating disposal complexities. • Selectivity of ion exchange resins varies, resulting in differential removal efficiencies for different PFAS species.
Standalone Reverse Osmosis (RO):	Semipermeable membranes separate PFAS from water, preventing their passage while allowing clean water to permeate.	• Disposal of PFAS-enriched brine concentrate generated during RO treatment poses disposal challenges. However, it can lead to reduced treatment volume if the brine can be further treated with a PFAS destruction module.

Method	Description	Issues
Traditional Advanced Oxidation Processes	Chemicals such as Hydrogen Peroxide are mixed with water and subjected to ozonation/UV.	• Necessitates the use of highly hazardous chemicals and associated expenses and risks • Variable effectiveness and risk of partial oxidation leading to conversion of more stable PFAS compounds.

PuriflOH's unique advantages:

In comparison, PuriflOH's system is an energy efficient process that is sustainable, continuous and does not require process interruptions. The technology introduces a range of distinctive advantages that distinguish it from existing methods in the realm of PFAS removal and water treatment:

- Inherently Low Energy Consumption.
- Modularity and Scalability.
- Low Maintenance Due to Material Selection.
- Reliability due Power Supply and Reactor Design.
- Commercial Viability Due to Low capital outlay and Low energy consumption and operational expenses.

A compelling feature of FRG technology is its economic viability. It presents an attractive cost structure, encompassing both the initial investment and ongoing operational expenses.