BPH GLOBAL LTD
ACN 009 104 330

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Company Announcements Platform
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Positive Rare Earth Elements (REEs) assays from Seaweed Sample Batches 1&2 Harvested from the Johor Strait

Highlights

- **Lanthanum (La) Assays up to 2.98 mg/kg**
- **Yttrium (Y) Assays up to 1.53 mg/kg**
- **Neodymium (Nd) Assays up to 2.64 mg/kg**
- **Assays undertaken by Marchwood Laboratories on Seaweed Sample Batches 1 & 2.**
- **Seaweed harvested from the polluted, brackish waters in the West and East Johor Strait separating Singapore and Malaysia**
- **Further test work to be conducted on additional seaweed sample batches to be sourced from the Johor Strait**

The Board of **BPH Global Ltd (ASX: BP8)** (**BP8** or **Company**), a leading commercial seaweed research, development, and export company, is pleased to announce encouraging rare earth element **(REE)** assay results from the first two seaweed sample batches analysed by Marchwood Laboratory Services Pte Ltd **(Marchwood)** under the Company's existing Master Services Agreement with Marchwood.

Commenting on the assay results, BP8 Chairman Paul Stephenson said: "These first assay results from the Johor Strait seaweed sampling program mark an encouraging step forward in our collaboration with Marchwood Laboratory Services. The detection of measurable concentrations of certain key rare earth elements—lanthanum, yttrium, and neodymium—demonstrates the remarkable bio-accumulative capacity of seaweed in complex marine environments affected by industrial and maritime activity.

This data builds directly on the sampling phase we announced earlier this month, providing quantitative confirmation that seaweed can absorb and retain rare earths even in relatively low-concentration environments. Our next phase of testing will broaden the sampling base and begin to map how elemental uptake varies spatially across the Strait. These insights are essential to BP8's long-term goal of developing sustainable, seaweed-based pathways for mineral recovery and

environmental remediation. We are excited by the potential implications of these results for both clean-tech applications and the emerging bio-minerals sector."

Collection and Assays of Sample Batches

Seaweed samples were collected from two contrasting locations within the Johor Strait — the Western Channel **(WJ)** and the confluence of the Johor River with the Eastern Strait **(JR)**— both of which are influenced by heavy anthropogenic activities such as industrial discharge and heavy maritime activity. This assay program follows the Company's announcement on 4 September 2025, in which BP8 advised that Marchwood would conduct assays on seaweed samples for both mineral and rare earth element (**REE**) content to evaluate environmental bioaccumulation patterns.

Assays from these initial batches have now confirmed the presence of key REEs, including Lanthanum (La), Yttrium (Y), and Neodymium (Nd), at measurable concentrations ranging from 1.5–3.0 mg/kg. These findings support BP8's working hypothesis that seaweed cultivated in environmentally influenced waters can absorb and retain critical minerals and elements in direct proportion to surrounding conditions.

Table 1: Assay results of Sample Batches 1 and 2 utilising ICP-MS

Metal/Rare Earth Element	Batch 1 (sourced from within the western channel of the Johor Strait) mg/kg	Batch 2 (sourced from the confluence of the Johor River with the eastern Strait) mg/kg	LOR mg/kg
Silver (Ag)	ND	ND	1
Gold (Au)	ND	ND	1
Copper (Co)	2.7	8.3	1
Nickel (Ni)	ND	1.31	1
Lanthanum (La)	ND	2.98	1
Neodymium (Nd)	ND	2.64	1
Yttrium (Y)	ND	1.53	1
Terbium (Tb)	ND	ND	1

1. *LOR = Limit of Reporting, being the minimum concentration required to be reported as a detectable amount.*
2. *ND = Not detected. The data reported is less than the LOR.*

Conclusions and Analysis

In consultation with the Company's R&D consultant **Gaia Mariculture Pte Ltd**, the following conclusions have been drawn regarding the first assays conducted by Marchwood:

- **REE Detection:** Seaweed samples from the JR site exhibited detectable concentrations of three REEs — Lanthanum (La), Neodymium (Nd), and Yttrium (Y) — indicating their presence in the surrounding water and sediment within this brackish river basin.

- **Precious Metals:** ICP–MS analysis showed that both sites contained undetectable levels of gold and silver (<1 mg/kg), although nickel was detected at the JR site.
- **Hyperaccumulation Capacity:** Results reaffirm that the seaweed species *Sesuvium portulacastrum* (used in both the Marchwood and earlier Temasek Polytechnic assays) is a hyperaccumulator of REEs. It is anticipated that this species would exhibit higher REE concentrations if cultivated in waters adjacent to REE-rich soils or mining sites.
- Tolerance and Uptake Mechanisms: *Sesuvium portulacastrum* demonstrates the ability to hyperaccumulate REEs without suffering from toxicity — a rare trait among seaweed species — likely facilitated by unique metal-binding proteins that regulate uptake and intracellular transport.

Environmental and Geological Context

The West Johor Strait **(WJS)** lies between Singapore and Malaysia along the western coast of Singapore. The Johor River, the principal river in the state of Johor, flows roughly north–south and discharges into the eastern Johor Strait.

The Johor River basin experiences significant sediment disturbance due to extensive aquaculture activities, including large-scale shrimp farming pond excavations along the riverbanks. Such disturbances can release sediment-bound metals and minerals into the surrounding waters, potentially enabling hyperaccumulator aquatic plants or seaweed species to absorb and retain these elements in their tissues through bioaccumulation over time.

BPH also notes that in earlier assays, gold and silver were intermittently detected at certain sampling points but were absent upon re-sampling. This variability is likely due to the intermittent transport and deposition of metallic ions influenced by the tidal ebb and flow along the coastline. These dynamics create cycles of resuspension and settling of metal-laden sediments, affected by tidal currents, salinity, and the concentration of dissolved metals — producing short-lived peaks during certain tidal stages and lower concentrations as waters homogenise.

Next Steps

BPH will focus on the cultivation of seaweed and sea plants in two key types of environments to optimise targeted metal hyperaccumulation:

1. Coastal sites adjacent to mining areas, where metal leaching is prevalent; and
2. Brackish, riverine basins characterised by moderate salinity and mineral inflow.

These environments will allow BPH to further evaluate the bioaccumulation potential of marine macroalgae for both metal recovery and environmental remediation applications.

This announcement has been authorised by the Board of Directors.

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For further information, please visit our website at www.bp8global.com or contact the Company Secretary on 03 9088 2049.

Appendix 1: Disclosure Table providing key details of assay results

Activity	Description
Cultivation & Harvest Site:	The biomass samples of *Sesuvium portucalastrum* seaweed were harvested from the Johor Strait coastline, nearshore in two locations: • the western channel (**Sample Batch 1**); and • the confluence of the Johor River with the eastern Strait (**Sample Batch 2**).
Cultivation Date:	The harvested seaweed was naturally occurring in the areas specified above (Johor, Malaysia)
Harvest Date:	11 October 2025
Harvest Time:	Sample Batch 1: 11:55 Sample Batch 2: 10:50
Post harvest storage pending transport to TPIH:	The samples were stored in separate large low density polyethylene bags.
Mode and duration of transport from harvest site to TPIH:	The bagged samples were transported by vehicle to the testing facility at Marchwood Laboratories' premises.
Moisture content in seaweed on arrival at TPIH:	The moisture content of the seaweed wasn't measured by Marchwood Laboratories upon delivery. The Sample Batches were dried during preparation prior to analysis.
Processing method and Assay equipment:	The seaweeds were left to air-dry overnight (~16 hours) to remove surface water. A small sample was taken for moisture and metal content determination. The remainder, some of which will be sampled as further batches for assay testing, (approximately 3kg) were then mass grinded and laid out on pans for oven drying at 70°C within seven days. Seaweeds which were not processed immediately were stored in the cold room at 4 degrees Celsius.

	The samples from each Batch that were allocated to assaying for metal content were selected on a random basis. These selected samples were digested using concentrated nitric acid and hydrogen peroxide. Between 30-35g of these samples, randomly selected, were dried, and subsequently one (1)g of the dried samples, again randomly selected, were used for metal quantification. The one (1)g of the dried samples were then filtered and diluted to facilitate metal determination using Inductively Coupled Plasma– Mass Spectrometry (ICP-MS). The one (1)g of the dried seaweed samples were digested using 15 ml of concentrated nitric acid at 80°C for two (2) hours. Five (5) ml of hydrogen peroxide (15 %) was then added, and the mixture was maintained at 80°C for another two (2) hours. The mixture was then cooled to room temperature and filtered. The filtrate was diluted to enable metal determination using Inductively Coupled Plasma – Mass Spectrometry (ICP-MS). Digestion of samples using nitric acid and hydrogen peroxide is a commonly used procedure for metal extraction from seaweed biomasses. ICP-MP is the standard instrumentation used for metal detection and quantification.
Processing date:	11 October 2025