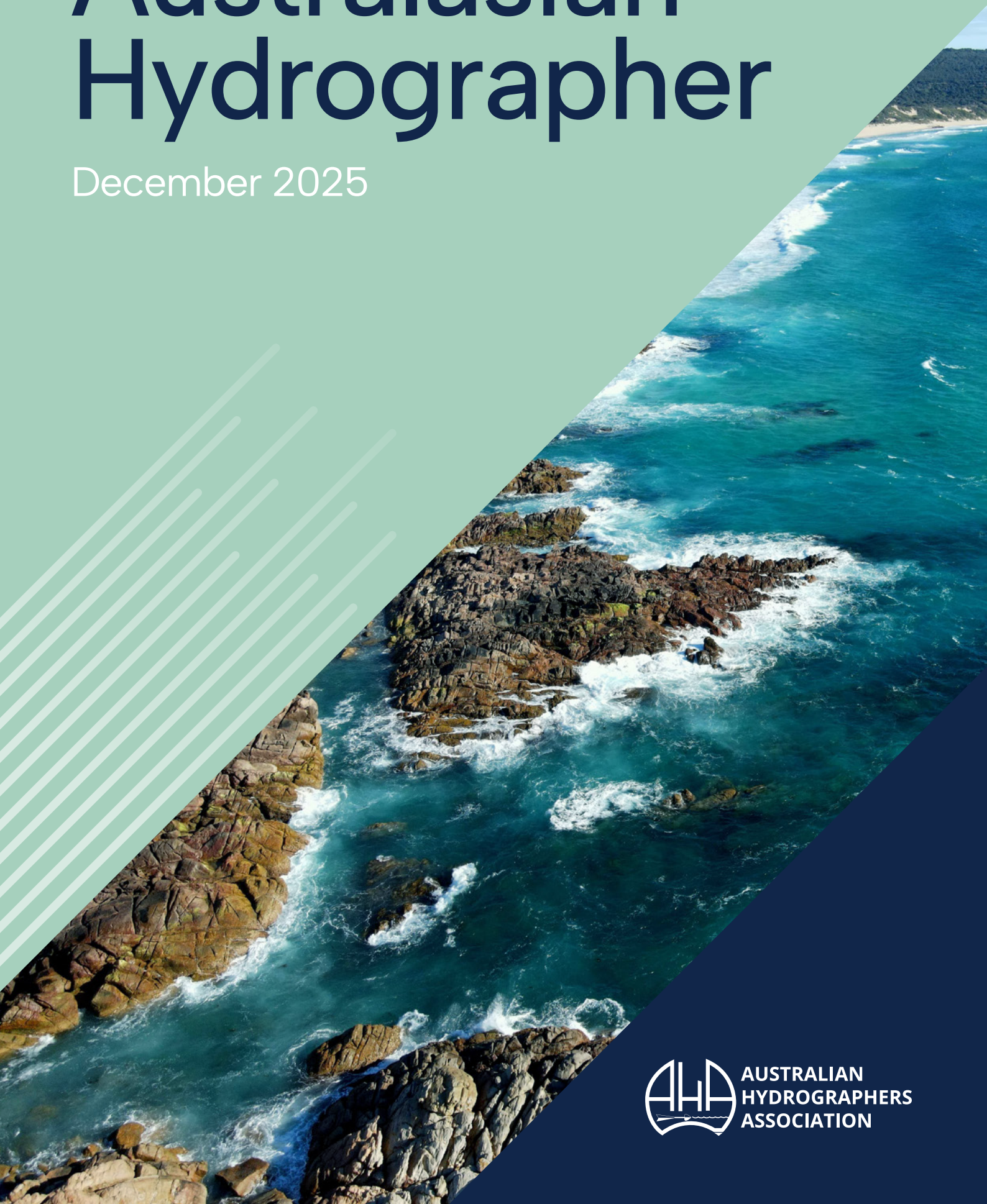
Australasian Hydrographer

December 2025



AUSTRALIAN HYDROGRAPHERS ASSOCIATION

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Acknowledgement of Country

The AHA acknowledges the Australian Aboriginal and Torres Strait Islander peoples of this nation. We acknowledge the traditional custodians of the lands on which our association is located and where we conduct our business. We pay our respects to ancestors and Elders past, present and emerging. The AHA is committed to honouring Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to the land, waters and seas and their rich contribution to society.

Contents

From the Editor-In-Chief

Zac Ward

Another year, another bunch of droughts, floods, extreme weather events and most impressively a new crop of qualified hydrographers for our mighty hydrometric measurement industry.

Thanks to everyone involved with the AHA across 2025 for their huge achievements & efforts including (but not limited to) John Skinner and the AHA Training Team mentioned in the short update below. A new Groundwater Training unit which is now available will be a hugely beneficial tool for organisations and hydrographers wanting to refine their skill sets in this underground measurement space.

Additionally, we have a brief update from the President & Secretariat regarding the recent AHA AGM and current state of the organisation. Excited to see what 2026 & beyond brings with many changes, updates and improvements afoot. A short publication for this time of the year but as I'm sure everyone can appreciate resources are limited as holidays are nigh.

For now, rest up, relax and rejuvenate over the end of the year making sure to focus on what is truly important to one another across all walks of life. Lookout for your fellow humans and as always stay safe.

Please get in contact should you have articles/case studies you wish to share with the wider AHA Community and here's to an exciting 2026.

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Cheers,

Zac

From the President

Arran Corbett

**Taken from the AGM Presidents Report*

Over the past year, the AHA has continued to strengthen its position as the peak body for hydrography in Australia. Despite another demanding operational season, our members have delivered high-quality monitoring services that underpin National water management. Strategically, we advanced several key initiatives: the release of the new AHA website, continued development of Nationally accredited training pathways, and delivery of high-value technical workshops and field days across multiple jurisdictions.

A major highlight was the 2025 Launceston Conference, which delivered record attendance, strong technical content, and exceptional industry engagement—demonstrating the strength and maturity of our profession. We continue to focus on long-term capability building, ensuring our training framework, professional standards, and member programs remain aligned to the evolving needs of governments, utilities, and the broader water sector.

I thank the Executive, volunteers, and partners for their commitment to strengthening our profession and supporting the AHA's strategic direction.

Key Highlights

- Highly successful 2025 Launceston Conference with record engagement
- Launch of the new AHA website to modernise member services
- Strengthened accredited training pathways and national capability development
- Delivery of high-impact technical workshops and field days
- Continued focus on professional standards and workforce capability
- Outstanding commitment from members during another demanding wet season

Best regards,

Arran Corbett

President, Australian Hydrographers Association

45th Annual General Meeting of Australian Hydrographers Association (Friday 12th December 2025)

Submitted by Edna Coetzee – AHA Secretariat.

Overview

The 45th Annual General Meeting (AGM) of the Australian Hydrographers Association (AHA) was held on Friday, 12 December 2025, during which the Members approved the minutes of the 2024, 44th AGM held 20 November 2024, and the minutes of the Special General Meeting held 13 May 2025.

The AHA President, Arran Corbett, delivered his President's Report (which will now also be the President's Blurb – (above)

The AHA Treasurer, Waldemar Varela, provided an overview of the audited Financial Report for the year ended 30 June 2025 and confirmed that AHA received an unqualified audit report. From a revenue perspective the AHA made a profit of $46,662 and the Balance Sheet is looking healthy with total equity of $529,617.

Lastly, the AHA President provided the following update and the members noted the following regarding the transition of AHA to a Company Limited by Guarantee:

1. An application was lodged for the transfer with NSW Fair Trading and approved
2. An application to reserve the name of the Company as Australian Hydrographers Association Limited was successful
3. Application for registration of a body corporate as a company with ASIC was lodged. ASIC received the application and requested the most recent approved audited Financial Report
4. Next steps:

- Submit the approved Financial Report with ASIC
- Once the Company is registered, an application will be made to ACNC to register as a charity

This concluded the 2025 AGM.

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AHA Training Update

John Skinner – AHA Training Coordinator (CPH FAHA)

Overview

It has been a good year for AHA Training with a high level of participation and enrolments in the Diploma NWP50118. There are currently 71 students enrolled, of which 4 students are completing the Skill Set NWPSS00013. This year we will have 12 students complete their Diploma – congratulations to those students! Balancing work, private life, and study, especially remote learning, can be a real challenge.

We have again been able to run a face-to-face 'Introduction to Hydrometric Monitoring' course in WA this year. This course provides great value to those new to the industry or consultants wanting to get an overview of hydrometric monitoring. The AHA Training Team are happy to provide this introductory course anywhere in Australia, or in fact any specific course (e.g. Diploma units including Groundwater Training) providing we can get numbers to make it financially viable.

The AHA in conjunction with HydroTerra are now pleased to be able to provide a new Groundwater Training unit (see below). This unit will be of benefit to anyone required to monitor a groundwater resource. Additionally, *'Collect and Evaluate Groundwater - MSS025034'* is an elective in the Diploma NWP50118. It can be delivered face-to-face or via remote learning as a standalone training package or Diploma subject. Thanks to Annabelle McPhail of HydroTerra for her great input in getting this unit up and running. Please contact the AHA Training Team if this subject is of interest to you or your respective organisation.

https://www.aha.net.au/training-certification/industry-training

Thanks to the AHA Trainers and Assessors for their continued support of the industry. They devote their time to ensure student progress in the industry – marking, assessing and holding webinars. Anyone interesting in becoming involved with Training, we'd be happy to explore options.

We also had a recent change in Training Administration with Ellie graduating and moving on in her career. Ellie has been a great asset to the AHA Training Team - thanks Ellie for all your contributions. Rebeccah Konigson is our new Training Administration Officer, and she is quickly learning the ropes and filling Ellies shoes.

In other news, at the end of this year I am handing over the baton as AHA Training Coordinator. Thanks to the Training Team, students and the industry for all the support over the past nearly 10 years. Best of luck to all students currently enrolled in the Diploma.

Working as a Hydrographer is one of the most rewarding careers you will find. It is both challenging and varied and can take you wherever you wish to go in your working life.

Scott Walker and Matt Pilkington will be the new Training Coordinators, and I am sure under their leadership the AHA Training will go to a new and even higher level.

Bay of Plenty Regional Council Raises the Bar for Environmental Data Management

Submitted by Brigitta – Media Relations for Aquatic Informatics

Introduction

The Bay of Plenty Region on New Zealand's North Island has an extremely diverse landscape - from pristine coastlines and geothermal wonders to native forests and fertile plains. As caretakers of this ecosystem, the Bay of Plenty Regional Council (BoPRC) faces the complex task of monitoring and collecting data on environmental aspects across land, air, and water ecosystems.

With over 9,000 monitoring stations and counting, the council's environmental data collection has expanded significantly. Team Leader for Environmental Data and Information at BoPRC, Angela Perks, explains.

> *" Our mandate continues to expand to include broader environmental, social, and cultural interests of our community. This has pushed our team to expand the capabilities of our data management system."*

From Hydrology to Holistic Environmental Monitoring

In 2014, BoPRC implemented AQUARIUS as their data management platform, initially focusing solely on hydrological data—rainfall, groundwater, river levels, and flow measurements. The success of this implementation quickly revealed expansion opportunities.

> *"What began as a hydrology-focused deployment evolved into our central environmental data hub," says Perks. "We've methodically expanded our use of the platform to integrate discrete water quality data from our LabWare system, air quality monitoring data from the Mount Maunganui area, coastal ecology datasets, water use data, geothermal information, and so much more."*

This evolution has transformed how the council approaches environmental monitoring. By consolidating diverse datasets in one system, BoPRC can now identify correlations and patterns that would potentially have previously gone unnoticed. For instance, when air quality sensors in the Mount Maunganui area detected elevated levels of particulate matter less than 10 microns (PM10) in 2018, the Council could correlate these readings with industrial activities, weather conditions, and other environmental factors.

The Mount Maunganui airshed was gazetted in 2019 and designated as polluted that year due to breaches of New Zealand's National Environmental Standards for Air Quality for particulate matter (PM10), primarily from industrial discharges. This designation has enabled the Council to impose stricter rules and resource consent decisions, and along with changes by key industries, there have been measured improvements since. The airshed will remain classified as polluted until there are no breaches of the Standard for five consecutive years.

The Gold Standard in Data Quality

By adopting the NEMS quality coding framework in AQUARIUS, BoPRC has elevated its environmental data to nationally consistent, high quality and high-confidence data. "Adopting NEMS standards has been a great achievement," notes Perks.

> *"These represent rigorous standards for data collection, accuracy, validation, and reliability, making our environmental data more trustworthy for high-stakes decisions and public reporting."*

This improvement has been aided by the platform's metadata capabilities, which link critical details, such as field visit measurements, photographs, comments, and measurement method metadata to each dataset. The system maintains comprehensive audit logs of all corrections and metadata changes, supporting data integrity and defensibility.

> *"The data review toolbox is my all-time favourite feature," says Perks. "It allows for simultaneous raw and corrected data viewing with a comprehensive audit trail, which is invaluable for maintaining data quality and transparency.*

Innovation in Field Collection and Qualitative Data

The Council implemented Survey123 for field data capture in December 2020. Automating the collection process ensures information is available immediately after collection, rather than being delayed until field staff return to the office. This approach minimizes input errors from transcribing handwritten notes and allows field crews to enhance datasets with supporting images and contextual information in the field visit sections.

For geothermal monitoring, which includes bore temperature profiles, surface feature monitoring, and fluid chemistry, BoPRC developed a method to convert qualitative observational data into numerical data. This enables a more comprehensive view of geothermal resources and supports BoPRC in delivering key functions under the Resource Management Act and other statutory or non-statutory requirements.

> *"We've found creative ways to represent qualitative information through qualifiers, notes, and legends,"* explains Perks.

Haparapara Rain Gauge

"For example, observational data, such as odour and water colour of geothermal surface features, can indicate changes in chemical composition and activity. This data, previously hidden in attached Excel files, is now visible as time series alongside measured data, which also enables trend analysis."

Blending Cultural Knowledge with Data Science

A new forward-thinking initiative involves exploring ways to incorporate Mātauranga Māori – traditional Māori knowledge – into data management practices.

Mātauranga Māori is a holistic, place-based, and intergenerational perspective that often complements scientific approaches. In Māori culture, descriptions of the environment go beyond data. BoPRC is looking for a richer understanding of environmental phenomena by bringing both qualitative and quantitative aspects to data. By embedding values such as kaitiakitanga (guardianship), whanaungatanga (relationships), and tikanga (customs), the council is hoping to make data collection more culturally relevant and locally informed.

"Indigenous knowledge systems provide insights that conventional monitoring might miss," says Perks. "By creating space for Mātauranga Māori within our data frameworks, we're acknowledging that effective environmental stewardship requires more than just scientific measurements."

Empowering Stakeholders Through Data Access

BoPRC uses AQUARIUS WebPortal to provide public access to quality-assured environmental data. This self-service approach has reduced the time staff spend fulfilling manual data requests, while empowering diverse stakeholders, such as consultants, universities, farmers, and community members, to engage with environmental information.

The Council has developed custom reports for specific user groups. Farmers, for instance, can access specialized reports on soil moisture and other agricultural indicators to make informed irrigation decisions. Universities and research institutions use the data portal to support environmental studies.

"Our data portal has democratized access to environmental data," says Perks. "When people can easily access and visualize information about their local environment, they become more engaged and can make better decisions about protecting our resources."

Tauranga River Flow Gauging with Q Boat

Looking Ahead: The Future of Environmental Data Management

As BoPRC continues to expand its monitoring networks, the council continues to push the boundaries of what is possible in its data management systems.

The Rating Review Toolbox has become increasingly valuable as climate change affects rainfall in the region. Having centralized storage of all environmental data, metadata, and supporting documents in one system enables the council to respond more effectively to these emerging environmental challenges.

> *"What began as a solution for hydrology data has evolved into the backbone of our environmental monitoring and management program," concludes Perks. "By raising the bar for data confidence, integration, and accessibility, we're better positioned to fulfill our mandate as caretakers of the Bay of Plenty's natural resources for current and future generations."*

Lake Tarawera Level

Waipapa River Flow Gauging with FlowTracker

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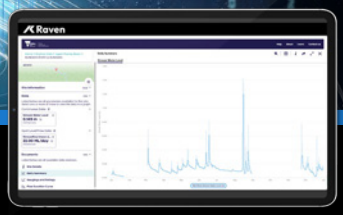

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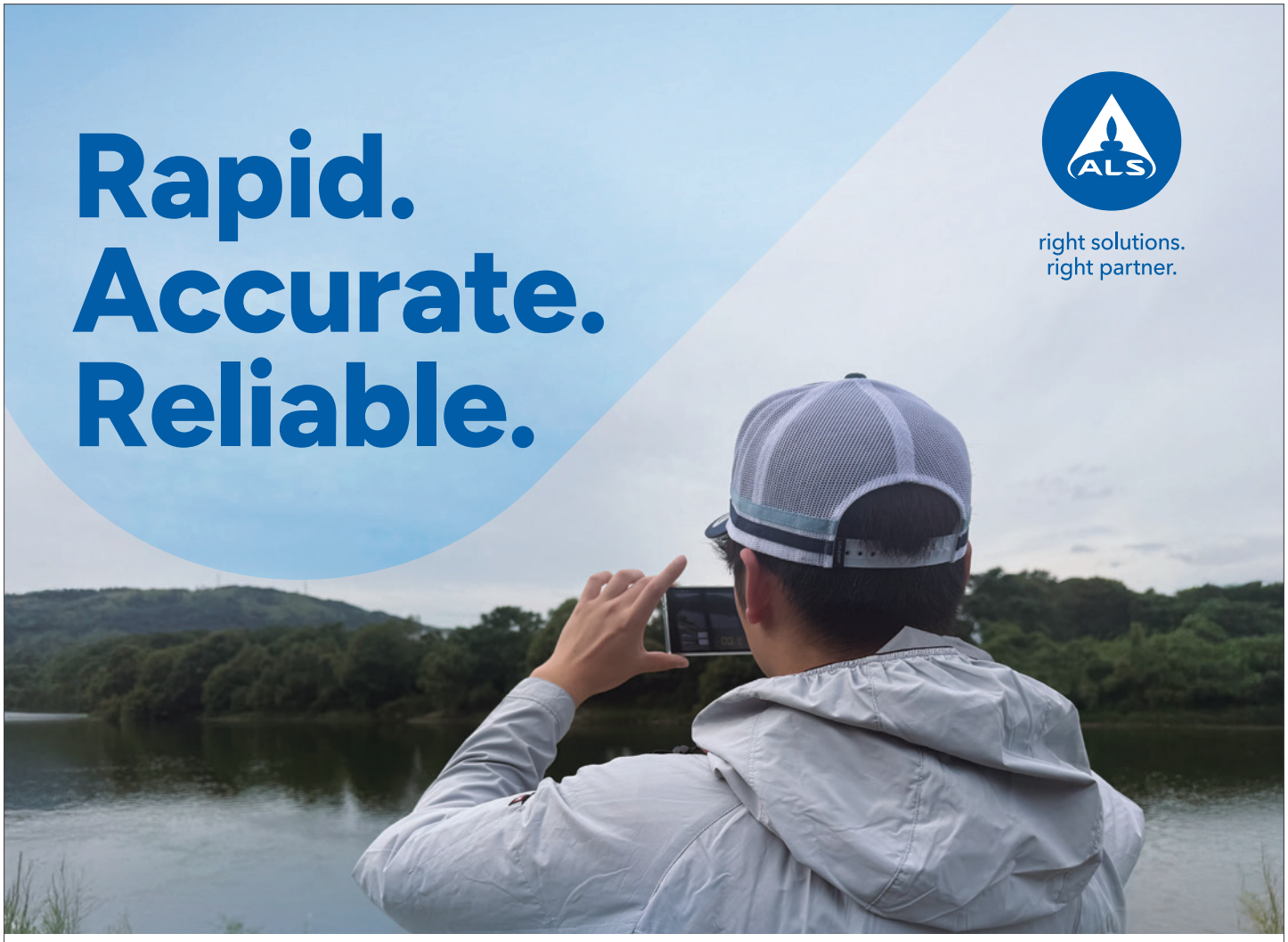

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