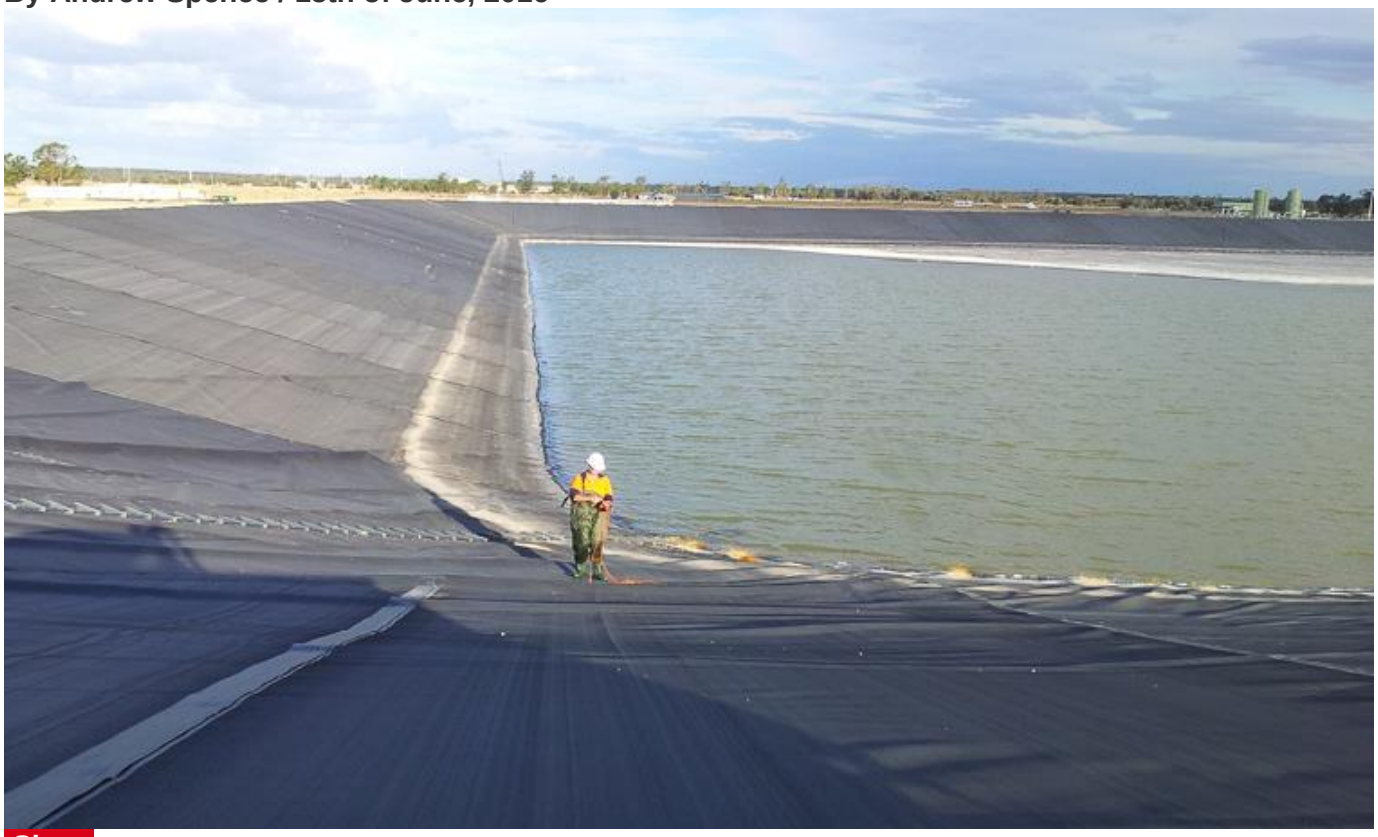
Leak detecting system is dam good idea

By Andrew Spence / 15th of June, 2016



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A MINING service exploration company looking for new revenue streams to help it survive an industry downturn in Australia has developed a device for detecting leaks in holding ponds.

South Australian company **Zonge Engineering** created **Liquid Integrity Systems** after it was asked by a coal seam gas supplier in Queensland to develop something to help it meet its EPA guidelines.

Its wireless solar-powered electronic leak detection system features electrodes that sit on or below the pond liner. An electrical current runs through the electrodes once a day to detect leaks.

Changes in the current are mapped to pinpoint leaks, which can be detected down to breaches as small as one millimetre.

The stand alone cyclone-proof control box on the side of the pond sends the daily results remotely to a smart phone, tablet or a computer.

The device also measures pond telemetry including temperature, depth and salinity. Systems can be installed at the time of pond construction or retrofitted to an existing pond.

“Most current systems don’t have anything like that, they have bores around the edges that might be checked every so often,” Zonge Engineering Managing Director Kelly Keates said.

“But the issue with that is it’s not giving immediate results and also not finding out what potentially is leaking straight down.

“Our system will reduce potential pollution to the surrounding environment with instant detection so pond owners can act immediately.

“Our vision is to change the reliability and community trust of liquid waste facilities and create a new way to improve environmental compliance and best practice for the future.”

Preventing liquid wastes contaminated during the mining process from polluting the surrounding area are among the greatest environmental concerns facing the mining industry.

Adelaide-based Liquid Integrity Systems has so far installed four systems in coal seam gas ponds in Queensland but is also building demonstration models for use in gold and copper mines in Western Australia.

The technology is applicable to any new or existing lined liquid or solid waste facility including tailings dams.

Keates said while it had so far been targeted at the mining industry, the device could also be used for holding ponds in the wastewater, agriculture and wine industries.

She said typical ponds ranged in surface area from about 15,000sq m to 120,000sq m.

“It’s a unique system that can help protect the environment and is more cost effective than the current systems,” Keates said.

“The cost on a big pond is about $2.50 a square metre whereas a double-lined system is about $20 a square metre so it’s much more cost effective.”

The emergence of Liquid Integrity Systems comes at a time when the Australian mining industry is in the midst of a downturn thanks to a fall in global commodity prices and the rising value of the Aussie dollar.

“We’ve had an incredible downturn in exploration,” Keates said.

“There’s a lot of interest in the device but not a lot of purchase orders at this stage – everybody says it’s a great product so we’re just waiting for the mining downturn to turnaround.”

Keates said the device was the first of its kind in Australia and had the potential to be a global product.

“Our issue is trying to get others to realize the value of the product - we’ve got a couple of clients interested in us doing demos so that’s the way we think it is initially going to work for us,” she said.

“People also seem to be interested in rental systems where they put the system in and do testing for a couple of weeks then fix any leaks and come back a year later and test again.

“It just depends on how much the pond is used and how toxic the liquid is that is in the pond.”

South Australia is a globally important producer of copper, uranium and zircon, and is stepping up production of iron ore and graphite.

The state also produces zinc, lead, silver, industrial minerals such as salt, silica sand and gypsum and extractive materials including dimension stone and opal.