

Exploring by remote



Michael Quinn, 20 Sep 2017

WHEN Wallis Drilling unleashed its automated exploration drilling rig on the Western Australian Pilbara it also shed some light on a possible exploration future.



The Wallis Delta 1 rig is an automated rig. It can load and thread the drill rods itself and trip them out of the hole itself too. The system actually slows, and even reverses, the rotation to ensure the thread on each rod is not damaged.

Watching the rig in action it is more telling to see what the driller does not do rather than what they actually do.

That driller is operating the rig via a wireless control panel several metres from the rig – well clear of the fall zone around the mast where most of the drill controls usually are.

That wireless connection is via Bluetooth, although there are cable back-up options available if necessary.

There is no need for the drilling offsider who traditionally would have to stand in the fall zone and help load the rods.

The other thing Wallis has done is move the sample collection point several metres up the rig so the offsider collecting the samples is again out of the fall zone.

That means nobody has to be in the fall zone while the rig is operating.

The rig will do away with at least one offsider. That is one offsider who will not need to be flown to site and accommodated.

Great for Wallis and the guys operating it on Rio Tinto's West Angelas iron ore mine.

However, imagine if it was autonomous, instead of just automatic.

It seems that with a few tweaks of the system, the drill operator will not really need to be there and the machine could start drilling for itself.

Autonomous blast hole drill rigs are becoming more common in the Pilbara. Why not a reverse circulation drill rig looking after its own drilling?

Assume also that the rig can drive itself out to the exploration site and back again.

That sort of technology is not beyond the realms of possibility. Supply Side will admit that while there are a number of autonomous haul trucks running around it is a bit of stretch to go from a fairly well defined haul road to handling off road conditions. All the same, autonomous driving systems are available and the problems presented by off road driving can be surmounted.

So assume there is no need for the driller and no need for the driver. Does that mean the offsider just has to along for the ride?

Well, no and better yet, the geologists back at camp or even back in the city could possibly even get assay results as the rig is working.

Just look at the lab-at-rig technology that has come out of the Deep Exploration Technology Cooperative Research Centre in South Australia.

That technology and other lab-at-rig technologies are being commercialised by Australian Securities Exchange-listed company Imdex.

Those systems take the drill samples as they come out of the rig and turn out an almost instant reading of what is there.

Put all these things together and we may not be too far away from a situation where the rig drives itself out to the area to be explored, sets itself up, drills, analyses its drill samples and reports back.

Imdex global product manager geosciences James Cleverly said the idea of a fully automated lab-at-rig set up was not reality – yet.

“We’re still a way off that,” he said.

“Automation is a very complex beast.

“One of the challenges we face in our industry is for people to understand what they need in real time as opposed to in 24 hours or six weeks’ time.

“There is a cost to automation and that has to be reflected in the price.”

However, he agrees that the technology is reaching a point where what seemed the realms of science fiction could soon become science fact.

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