

# Minjng Journal

## New direction for core logging

Changing ingrained habits of thousands of geologists around the world is a lofty enough ambition. But for Imdex (ASX: IMD) business unit Reflex and its global product manager – geosciences, Michelle Carey, it could be just the start of something truly ‘disruptive’.

[Richard Roberts](#) 01 Sep 2016



*Drill core is extracted from drill rods*

Reflex is focussed on changing the mineral drilling business from top to bottom with new technologies and the IQ-Logger – which caused a bit of a stir at this week’s 35th International Geological Congress (IGC) in Cape Town, South Africa – is the latest piece in the puzzle.

The patented battery-powered core scanner allows geologists to collect structural readings on diamond drill core at 10 times the speed of current devices, including Imdex’s own EZ-Logger, Kenometers, and of course the ubiquitous ‘rocket launcher’. No-one, it seems, has a definitive estimate for the number of gadgets the IQ-Logger might replace, but it’s clearly in the thousands.

In a live pre-IGC demo, *Mining Journal* witnessed how quickly and easily Carey took measurements as the blue, mouse-like logger (*pictured below next to a current EZ-Logger device*) was run along an orientation line on some diamond drill-core. In the field, the device records depth as it goes and the user simply presses a button to take an orientation measurement. There is no need to take core from a tray.



REFLEX IQ\_LOGGER



REFLEX EZ-LOGGER

Reflex's IQ-Logger software instantly showed the structural readings via a stereographic projection on a computer screen (and wireless connection). Its interpretive software also adds valuable metadata and assay data when linked to Reflex's ioGAS HUB data management service.

Carey said the workflow was basically the same as with current devices: the speed and outcomes were very different. QA/QC and data editing were done at the point of data collection to ensure accuracy, and data could then flow digitally, without manipulation or error, from the field to an office. Digital transfer of logging data also creates a 'clean' audit trail.

Geologists get the understanding of the orientation of ore controlling structures they need, while geotechnical engineers can use the IQ-Logger data for better mine design. That's the aim anyway.

Imdex already supplies drilling survey tools used by many of the world's top drilling contractors, and exploration and mining companies, and this provides a window into some odd behaviour. For example, while only deposits not controlled or impacted by structure (!) have no call for drill-core orientation logging, many operators don't do it, or do it sparingly.

There is a lot more diamond drilling in North America than Imdex's domestic market, Australia, which has a higher dependency on reverse circulation drilling to greater depths, but also a more core-orientation averse culture.

"One story I hear a lot is that in North America, because they only drill for a few months of the year, drillers are prone to forgetting how to do core orientation so geologists give up on the process because it fails at the first hurdle of orienting the core," Carey said.

"In South America it seems to be education related.

“We have been running seminars on the importance of doing it and they have had material impact on core orientation [tool] rentals.

“People not even orienting drill core will be the hardest [behaviour] to change.

“People only collecting a handful of readings on a given hole ... I think we will change fast as they are already at the core farm doing the job, they will just ... collect more data.

“Those outsourcing the logging of just a few key holes to third party consultants – again, I think we will be able to change this [because] \$20 a day for your own staff to do it versus \$800-plus for a consultant is a bit of a no brainer.”

More universally, core logging is often avoided due to the time consuming and repetitive nature of the activity. Making it easier, and more valuable, could be transformative particularly in terms of downstream impact.

“Geologists will have more time to do interpretation and indeed have better data to base it off of so it should lead to better decisions on where to drill the next hole to discover the orebody, or the rest of the orebody, and in the end how to design mine plans,” Carey said.

She maintains many big miners and service firms are among the users of 25 IQ-Logger prototypes undergoing final field testing over three months. That will mainly influence the final design of the hand-held device, which will be rented not sold.

“I think all [users] will take the HUB component as it allows them to manage the legend being used to log structural data,” Carey said.



“I think at least 70% of the market will use the HUB to integrate the structural readings with their survey data because that’s such an elegant time saving workflow instead of having to kludge things together in excel or similar.”

Imdex had a market capitalisation this week of about A\$162 million (US\$122 million).