



Getting to the core

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THERE is a plethora of excitement at the headquarters of Perth-based drilling technologist Coretrack as it nears completion of the revolutionary Core Level Recorder System.

The company – which has been developing the CLRS for a number of years – claims the technology will help the global oil and gas industry save hundreds of millions of dollars in coring operations when it becomes available later this year.

Coring is a critical component in the appraisal and development of petroleum fields but is susceptible to errors caused by core jams and the loss of milled core samples. These errors can result not only in a loss of valuable data but can also be very costly in terms of rig time.

Coring technology has remained largely unchanged over the years but, according to Coretrack, the primary technology gap has always been the lack of real-time data at the surface on core recovery.

As managing director Nanne van't Riet told *PetroleumNews.net*, the company is aiming to solve a problem that has been around for decades.

He said the aim of the CLRS, which is a measuring and recording device placed inside the inner core barrel, is to minimise coring errors by delivering pin-point real-time data on core recovery directly to the surface.

This real-time data will allow drill operators to instantly recognise signs of jamming or core milling and avoid the need to divert or redrill wells.

"There are two main benefits of the Core Level Recorder System," van't Riet said. "On the one hand, it gives geologists and reservoir engineers a very accurate reading about core intake into the core barrel – within 50mm accuracy.

"If you don't have a 100 per cent recovery of core, it tells you exactly where you have not taken core, for example where core has been milled or fallen out of the core barrel and it gives you that with 50mm accuracy.

"The second part of the equation that's probably more interesting for the industry from an economic standpoint is that this will be the first time the guys on the rig floor get information about core actually entering into the core barrel in real time."

Van't Riet says this is particularly important for the offshore oil and gas industry as it can bring significant cost savings.

"The guys on the rig floor get accurate data on what's happening inside the core barrel so they know exactly when to keep going or when to 'trip' out.

"A single 'trip in' and 'trip out' in the offshore environment where rig rates are about \$40,000 to \$50,000 per hour can be very costly as the trip in-trip out process itself can take 10 to 15 hours. If you are tripping in and out unnecessarily because of a lack of real-time data, you're looking at half a million dollars easily because you've tripped out when you shouldn't have. The financial consequences can be even more severe if you have to drill a deviated well because you have accidentally milled the original formation away on the first go," he said.

"Then you have to drill a deviated well to get the formation you were after in the first place and that could cost multiple millions of dollars."

In order to bring the tool to a commercialisation stage, the company carried out a series of bench tests late last year and travelled to Dongara, Western Australia, in May this year to test the core barrel telemetry system.



Coretrack managing director Nanne van 't Riet with the Core Level Recorder

The test was carried out in an old Arc Energy well but was not completely successful on the first go due to a larger-than-expected signal loss at the top of the core barrel.

Van't Riet told *PNN* the company was confident it could rectify the problem and expected to be back at Dongara to carry out a follow-up test in late July or early August.

"We are now at the tail end of our R&D, the product is near market-ready. We are all very excited about the prospect of getting back to Dongara very shortly and then into a field test with the entire system on an actual coring job before ramping up commercialisation.

"From there it is really a matter of us producing sufficient units to service the marketplace and, as you can appreciate, the market will be a worldwide market."

Coretrack is in discussions with a number of major oil and gas producers, as well as oil field service companies, over the future use of the CLRS.

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