



Tenure Matters

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A column by Sue Slater, Senior Advisor Petroleum, RLMS

Welcome back. This month it seems timely to discuss the Cooper Basin following the announcement on August 28 2014 of the Queensland Government's deep oil and gas framework. We should anticipate that deep unconventional hydrocarbons, or shale gas/oil, will be the next CSG in terms of regulatory attention. Certainly the framework recommendations discussed below support this view. So what exactly is this framework about?

First, let's review some history and context: The Cooper Basin has a long history of exploration and production both in Queensland and South Australia. The first commercial gas discovery was made at the Gidgealpa field in 1963; with the first Permian oil discovery made at the Tirrawarra field in 1970 and Jurassic oil discovered in the Strzelecki field in 1978¹. The basin has approximately 190 gas fields and 115 oil fields currently on production, feeding production facilities at Moomba and Ballera. It would be reasonable to say the easy pickings are gone, and indeed not that long ago, the basin was considered to be in decline. Enter the deep tight gas play, or better yet, the deep tight wet gas play. Beach Energy had unexpected and early success from the REM formations in 2011 with Holdfast 1 and Encounter 1 drilled in PEL 218 in South Australia. From these two wells alone Beach booked a resource of 2 trillion cf of gas. This has obviously provided great impetus not just for Beach Energy, but also for other players. In Queensland, Beach, Senex Energy, Drillsearch and Santos and others are all actively exploring the Cooper Basin for deep oil and gas, either from tight sands or shales.

The Cooper Basin is often seen as the basin that might replicate the success of shale gas and oil in the US. With good initial flow rates from most hydraulically-fractured wells, and existing infrastructure in place from the long history of conventional production, the Cooper Basin seems to be in a box seat, compared to some of the other potential deep oil and gas plays in Queensland, such as the Georgina Basin (remote and little infrastructure) and the Maryborough Basin (numerous social and land use

¹ Source Santos

constraints). But this is not going to be a short-term fix – if the deep oil and gas plays come to fruition in the Cooper Basin, it is more likely to see medium to long term results. Many of the majors like Chevron, BG and Origin Energy, have interests in exploration areas through JV arrangements. As the understanding of the resource grows, and perhaps more importantly the understanding of the economics of the resource grows, it will be interesting to see how the tenure landscape evolves.

Drilling some of these plays is expensive, and currently the wells in Australia cost about twice those in the US. But as we saw with the CSG development in the Surat and Bowen Basins, over time, companies will refine drilling techniques; learn which completion method gives the best result for the area; and economies of scale start to kick in with large drilling campaigns and better resource utilisation.

Another development we are likely to see, is an increased level of regulatory and public scrutiny, such as that dealt out to the emerging CSG industry once the environmental activists got the front page and headlines in the Courier Mail on a weekly basis. The regulatory focus is likely to expand to make sure shale gas, and the impacts of deep fracking, large frac spreads, water requirements and the like, are adequately regulated, as they of course should be. However, the development of CSG regulation over the last 4 years has shown that this tends to be a blunt instrument approach, rather than the scalpel blade it needs to be. There were adverse impacts on CSG exploration tenures resulting from, for example, significant approval delays for environmental authorities, overly prescriptive and onerous conditions designed for production wells, and difficulties in gaining land access agreements. Care needs to be taken to balance the regulatory changes so that the industry is appropriately regulated without stifling exploration.

With many shale gas wells in the US displaying a steep and early production decline necessitating the drilling of new wells at a rapid rate to maintain field production, it is quite likely that when (or if) production commences in the Cooper Basin, the resulting field development is going to more closely resemble CSG field development than conventional hydrocarbon fields. Even in a remote area like the Cooper Basin, this will require good management of all the issues around land use, environment, visual amenity, water use and impacts on water, that have been, and continue to be, hot buttons for CSG field development.

Meanwhile, various analysts have expressed some concern about the commerciality of Australia's unconventional hydrocarbon projects. Decreasing competitiveness of Australia in the global market will only exacerbate these concerns. Gas pricing is also critical. Currently, much of the domestic gas in Queensland is coming off contracts worth \$2-3/GJ. The price on the eastern seaboard has risen because of the LNG projects, and new contracts have been in the order of \$8 to 8.50/GJ. Is this a high enough price though to support shale gas production? Fields with a liquids component are seen as being easier to commercialise, but the Cooper Basin shales have largely been dry. It is early days yet, but there is likely to be a steep learning curve for both industry and regulators as, or if, these projects develop.

The Queensland Government has identified four areas of potential deep gas and oil resources: these are the Cooper Basin in the southwest, Southern Georgina Basin in the central west, the Isa Superbasin in the northwest and the Bowen Basin and Maryborough Basin in the southeast. Of these, the Government has identified the Cooper Basin as the most likely to produce deep gas and oil. Although this production is likely to be sometime in the future, the government has developed "A framework

for the next generation of onshore oil and natural gas in Queensland” to ensure that the region develops within a “best practice and environmentally responsible regulatory framework”.

The framework makes 12 recommendations “aimed at encouraging ongoing investment in deep gas and oil exploration in Queensland”. These include a range of regulatory and legislative changes, together with additional geological research and long term infrastructure planning. Some of the legislative review is already underway, under broader agendas. Some of the proposed changes build on work done for the CSG sector, such as implementing the compliance unit and standardising Codes of Practice.

The recommendations are:

1. Provide greater tenure security for industry. (legislative change)
2. Develop a Cooper Basin Industry Development Strategy.
3. Increase subsurface knowledge.
4. Improve inter-jurisdictional collaboration. (legislative change)
5. Identify and support infrastructure needs. (long-term planning)
6. Review and streamline electrical standards. (regulatory changes)
7. Review hydraulic fracturing conditions. (regulatory changes)
8. Update Environmental Impact Statement guidelines. (regulatory changes)
9. Update the regulatory framework for the management of underground water. (legislative changes)
10. Expand the role of the Queensland Government CSG Compliance Unit.
11. Amend current codes of practice. (regulatory changes)
12. Proactively engage and inform the community.

The issue of tenure security and the ability to retain prospective areas is probably one of the most critical for exploration, although the recent changes allowing a two year extension to ATP work programs (a once-off allowance) has provided some better flexibility where the tenure is administered under the 2004 Act. However longer term, there needs to recognition that any production from deep tight formations is likely to require larger lease areas than are currently accommodated for under the 2004 Act, and therefore the ability to retain most if not all of the granted ATP area in order to have an economically viable project.

Any regulatory reform that results in less duplicative processes between jurisdictions will be to the benefit of industry as a whole. Identifying and supporting the infrastructure development is a long-term objective, but will be critical in determining the commercial viability of any future production project.

You can read the documents about the deep oil and gas framework at:

<http://www.dnrm.qld.gov.au/our-department/policies-initiatives/mining-resources/deep-gas-oil>

I am happy to hear suggestions about topics you would like covered. Feel free to email me at sue.slater@rlms.com.au with the subject heading Tenure Matters.

In the meantime, remember “Tenures make the Project; the Project doesn’t make the Tenures”.

RLMS covers the project spectrum from planning through to State and Federal government approvals, including land access, compensation, environmental impact statements and work schedules for clients ranging from entrepreneurs to major corporations, from start-ups to government agencies, and state significant projects such as Queensland's LNG giants. Contact RLMS at:

*Level 14, 10 Eagle St
BRISBANE QLD 4000
P. +61 7 3229 8472
E. rlms@rlms.com.au*