



Seismic Window



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Save the bees

As geoscientists we are all very aware of environmental issues and, being responsible individuals, we want to minimise damage that may be caused by our activities at home or at work. So, with this in mind, I recently went to the local Eco Fair organised by our council hoping to learn more about recycling, LED lights, solar hot water and other useful things we can do to minimise our use of resources. There were over 70 stalls but two in particular caught my attention – I'll call them 'get fracked' and 'save the bees'. Both stalls had petitions to sign. Many people simply signed the petitions on request, but very few discussed the issues or asked questions about what they were signing.

The 'get fracked' group was petitioning against hydraulic fracture stimulation and contamination of aquifers with toxic chemicals. When I challenged the petitioner they backed away from the aquifer contamination assertion (it is not defensible because there are no known cases of fracking causing aquifer contamination in Australia) but persisted with the toxic chemicals argument. Well these chemicals or similar can be found in almost everyone's kitchen and probably in stronger concentrations. Two recent publications, one for the SA Government and another for the US Congress, have confirmed the safety of fracking. As an aside, in the well-known Australian book, *A town like Alice*, written by Nevil Shute, there is a description of the local inhabitants heading out to an artesian bore and lighting the water for amusement (Box 1). This book is set in the late 1940s and

published in the 1950s, long before any hydrocarbon exploration in the area and yet it documents gas in the bore water.

I found an even more misleading diatribe at the 'save the bees' booth. As I approached a young gentleman asked me if I'd like to sign a petition to save the bees. Well I like bees, even though they are Australia's most dangerous animal, so I asked what was happening to the bees. Well apparently 'they' are going to do a seismic survey in a bee keepers reserve over several hundred square kilometres just north of Perth and will build a road every 400 m, bulldozing all the trees, ripping up the roots and top soil and the bees will die.

Now I know enough about seismic surveys to suggest that the process is benign and the vegetation will simply be rolled flat or, at worst, cut above ground level to maintain root stock, and would be rehabilitated. 'But I've got photographs' responded the bee's advocate. So I asked to see them. Unfortunately they were not available. I suggested that if they existed they were not modern photographs but could date back to the 60s when bulldozing lines was the norm. But we have moved on from those days and seismic acquisition is no longer so destructive.

Here are some facts about the Arrowsmith Seismic Survey, which was recorded earlier this year in Perth Basin

Box 1. Quote from *A town like Alice*, Nevil Shute 1950

As the light faded Pete and Al went out and lit the bore for Jean. They struck half a dozen matches and got it to light; a flame shot upwards from it and lit up the whole town, playing and flickering amongst the water and the steam till finally extinguished by a vomit of water. They lit it again, and Jean admired it duly; it was clear that this was the one entertainment that the town provided, and they were doing their best to give her a good time. 'It's wonderful', she said, 'I've never seen anything like that in England'.

They were duly modest. 'Most towns around here have a bore like that, that you can light.' they said.

permit EP413 for Norwest Energy (Figure 1). This is the survey referred to by the bee's saviour and interestingly it completed recording on the day of the Eco Fair. The survey covered 106 km² of which only 2% was disturbed and this is being rehabilitated. About 25% of the survey area was in the Beekeepers Nature Reserve, which forms part of the greater Beekeepers Lesueur-Coomallo area, and Nambung National Park, which has an area of 1350 km². There were no roads built, the topsoil was left in place and access lanes were created by cutting the vegetation above ground. Detours were made around large trees and the surface mulched to aid rehabilitation. Less than 0.55 km² of the Beekeepers Reserve was disturbed.

After explaining this the stall holder informed me that 'seismic may be safe but it leads to drilling and fracking'. The bees are being used as pawns in a greater game (Figure 2).

Suggested reading

The facts about fracture stimulation in South Australia: The South Australian Department of State Development: <http://www.statedevelopment.sa.gov.au/resources/the-facts/fracture-stimulation-in-south-australia>



Figure 1. Location map showing Arrowsmith seismic survey area EP413 (blue outline), area of 3D survey (red) and beekeepers reserve (green).

Environmental Protection Agency report on fracking for US Congress: Article in *The Australian*, 5 June 2015: <http://www.theaustralian.com.au/business/news/fracking-causes-no-widespread-harm-to-water-but-questions-remain/story-e6frg906-1227384414702>

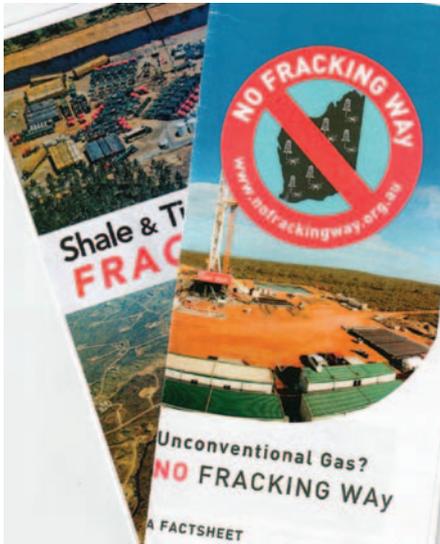


Figure 2. Examples of quasi-scientific literature distributed at my local Eco Fair. The exploration industry needs to counter these false claims in similar public forums.

2015 Offshore Petroleum Exploration Acreage Release

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On 18 May 2015, the Hon Ian Macfarlane MP, Minister for Industry and Science, launched the 2015 Offshore Petroleum Exploration Acreage Release. Those of us actively involved in petroleum exploration are aware of all the details, however for those interested but less active individuals some pertinent points are included below.

The release comprises 29 areas across eight basins in Commonwealth waters; offshore the Northern Territory, Western Australia, the Territory of Ashmore and Cartier Islands, South Australia, Victoria and Tasmania (Figure 1). Twenty-three areas are available for work programme bidding and six areas are available for cash bidding.

Yes, cash bidding is back but in a slightly different form to the system used last century. Another change, announced by the Minister at this year's APPEA Conference, was the amalgamation of the primary term work commitments into one three-year block. Previously the primary

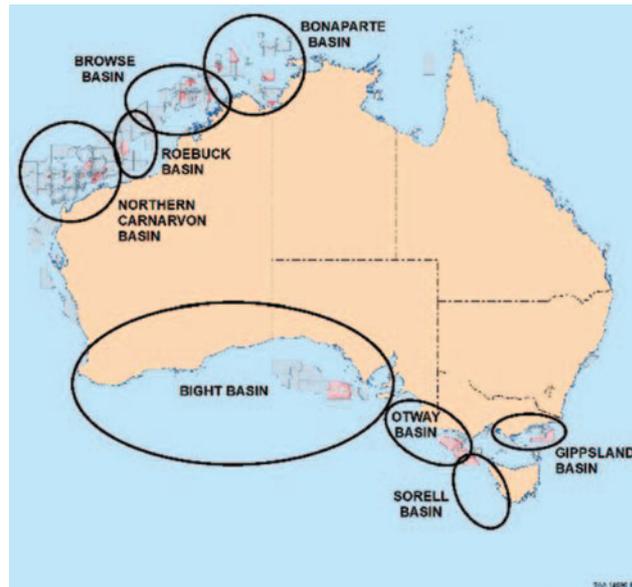


Figure 1. Map showing areas of 2015 petroleum exploration acreage release. Detailed maps can be seen on the Geoscience Australia acreage release website: <http://petroleum-acreage.gov.au/2015/2015-release-areas>.

term of a permit consisted of three years with a work commitment separately specified for each year. Now the primary term commitments can be carried out at any time in the three year period. This change is viewed as a flexible approach for exploring in offshore areas and reduces the administrative burden on explorers and the overseeing body – NOPTA (National Offshore Petroleum Titles Administrator).

In addition three areas not attracting bids in previous rounds have been re-released for bidding.

The 2015 release consists of three rounds – two work programmes and one cash bid round with the following closing dates:

Round	Bid close
Round 1 work programme: 12 areas	Thursday 29 October 2015
Re-release areas: 3 areas	Thursday 29 October 2015
Cash bid round: 6 areas	Prequalification: Thursday 15 October 2015 Cash bid*: Thursday 4 February 2016
Round 2 work programme: 11 areas	Thursday 21 April 2016

*Only prequalified applicants will be invited to submit a cash bid.

Cash bidding

The guaranteed work programme system is fairly well understood but the cash bidding process is new. Here's how it works. Firstly each applicant who intends to place a bid for a cash bid area must prequalify with the Joint Authority by

providing evidence of their technical and financial competence. One prequalification application can be submitted for all cash bid acreage release areas that the applicant intends to bid on. The applicant may be a joint venture comprised of more than one company. An electronic copy of the prequalification application for each applicant, along with the relevant application form and application fee, must be received by NOPTA on behalf of the Joint Authority by 4:00 pm (WST) on Thursday 15 October 2015.

Applicants who satisfy the prequalification criteria will be advised of their eligibility to submit a cash bid application for the area or areas. Cash bid applications must be received before 4:00 pm (WST time) on Thursday 4 February 2016. Details of how to submit a cash bid, including the process for payment of the 10 per cent deposit (in AUD), will be provided in the notice of invitation to bid following prequalification. More details of the cash bidding process can be viewed on the NOPTA website: http://www.nopta.gov.au/_documents/guidelines/cash-bidding-guidelines-20140624.pdf

In general the cash bid blocks are small with good coverage of seismic or wells that make the work programme system inappropriate.

Full details of the block offer, including instructions on how to bid and a brief synopsis of each area, can be found at the acreage release website: <http://petroleum-acreage.gov.au/2015>