Innovations in South Australian Cooper Basin Acreage Management*

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Abstract

Competitive acreage releases have been used successfully by the South Australian Department of State Development (DSD) to manage highly prospective Cooper Basin acreage since 1998. The expiry of long term exploration licenses in 1999 enabled the most significant structured release of onshore Australian acreage in the industry's history and has so far generated: * 38 PEL (Petroleum Exploration License) and 4 PEL Applications from ~80,580 sqkm acreage in 12 bid rounds, * over $0.5 billion in guaranteed work programs (2014 dollar value), * 239 conventional exploration wells, 39.3% of which achieved commercial success * 24 wells testing a continuous gas play resource, * 94 new field discoveries, * $272.3m royalties and $3.6b sales (2013/14 dollar value), and * increased gas supply-side competition. Cooper Basin acreage turnover has served the state and industry well, with good outcomes achieved during the initial phases of partial acreage relinquishments, which are required at the end of each 5-year PEL term. However, over time, relinquishments have generated progressively smaller and scattered blocks which are harder to explore. In addition, the new oil and gas play trends that have emerged over the last 5 years need longer timeframes to explore and evaluate than a PEL provides. License operators and DSD recognised change was needed, culminating in 2012, when the highest priority recommendation of the Roundtable for Oil and Gas in SA was aligning license terms with the longer timeframes needed to find, appraise, develop and produce these resources. A new approach through longer tenure Petroleum Retention Licences (PRL) has provided a solution. Exploration investment has been accelerated through PRL work programs and the trend towards ever-smaller PELs in the Cooper Basin has been arrested.
Reference Cited

INNOVATIONS IN SOUTH AUSTRALIAN COOPER BASIN ACREAGE MANAGEMENT

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Enablers

- Asset management /portfolio approach to acreage
- Cooper & Otway basins designated competitive tender regions
- Legislative and investment framework
- Easy access to digital data and information
- Open and transparent conjunctive agreements with Native Title claimants
- Access to multiple-use Innaminka and Strzelecki Regional Reserves
- Infrastructure
- Transparent application and bid assessment processes.
Cooper Basin then and now.....

February 1998

February 1999

September 2015
What we know now but didn’t know then…

Western flank oil play
Eromanga oil play
Deep coal play (Patchawarra Trough)
Southern Cooper coal play
Tight gas, shale gas, composite plays
Warburton Basin?
Others?
CO98 – the first release
Oct 1998
• Low oil price
• 11 flank blocks offered
• oil prone, range of plays
• 41 bids from 15 applicants
• New CO99 PELs granted from 2001 after RTN process successfully concluded

Winning bids 2015 $:
Guaranteed expenditure $35.4m
Non-guaranteed $36.7m
(Western Flank Oil Play)
CO99

Released April 1999 after expiry of PELs 5&6
- 8 core blocks offered
- more gas prone – concern about oil price impacting bidding
- range of plays
- 47 bids from 16 applicants
- new CO99 PELs granted from March 2003

Winning bids 2015 $:
Guaranteed expenditure $119.5m
Non-guaranteed $70.3m

Oil price from BP, 2015
Statistical Review of World Energy
CO2000

- 8 core and flank blocks
- range of oil and gas plays
- oil price increasing
- 32 bids from 10 applicants
- new CO2000 PELs granted from March 2003

Winning bids 2015 $:
Guaranteed expenditure $105.3m
Non-guaranteed $15.5m

Oil price from BP, 2015
Statistical Review of World Energy
CO2001 and CO2002

- Former PPLs Area 21.6 km²
- Based on small mapped prospects and leads
- Released only after industry requests
- CO2001 had cash bidding component
- Both rounds attracted no bids

Lessons learnt: blocks too small, land access costs and uncertainties in 2001, exploration access, cash bidding disincentive, low oil price?

Vacant acreage ultimately incorporated into CO2009

Oil price from BP, 2015 Statistical Review of World Energy
CO2003

- Coongie Lakes region not released previously pending environmental access negotiations
- CO2003 released in July 2003
- oil and gas plays
- Acrasia 1 oil discovery 2002
- Sellicks 1 oil discovery in mid 2002 – Western Flank exploration underway

5 applications
Winning bids: 2015 $
Guaranteed expenditure $22.8m
Non-guaranteed $6.7m
**CO2004 and CO2005**

- Former Cooper Basin JV PPLs
- Tight gas and Eromanga oil potential (pre-shale gas)
- Oil price increasing

**CO2004**: No applications!
**CO2005**: 2 applications
Winning bids: 2015 $
Guaranteed expenditure $16.8m
Non-guaranteed $15.6m
CO2009

- First release of dropped exploration acreage
- Increasing block complexity, lots of small scattered parts
- 20 bids from 11 applicants

Winning bids: 2015 $
Guaranteed expenditure $117.3m
Non-guaranteed $51.5m
CO2010

- Acreage from partial relinquishments
- 11 bids from 6 applicants

Winning bids: 2015 $
Guaranteed expenditure $54.2m
Non-guaranteed $4.9m

Oil price from BP, 2015
Statistical Review of World Energy
CO2012

- Acreage from partial relinquishments

3 applications
Winning bids: 2015 $
Guaranteed expenditure $17.6m
Non-guaranteed $8.6m

Oil price from BP, 2015
Statistical Review of World Energy
CO2013

- Acreage from partial relinquishments and new areas suggested by Industry
- 15 bids from 8 applicants

Winning bids: 2015 $
Guaranteed expenditure $93.0m
Non-guaranteed $14.9m

Oil price from BP, 2015
Statistical Review of World Energy
Results since 1998

• 12 acreage releases, first 27 blocks covered ~94% vacant Cooper acreage
• 38 PELs and 4 PELAs from 82,582 km² acreage,
• $582m guaranteed work program bids (2015 dollars),
• 253 conventional exploration wells, 41% of which achieved commercial success
• 25 wells testing the continuous gas play resource
• 104 new field discoveries so far
• $348 million royalties & $4.5 billion sales
• no second bidders ‘impugned’
• innovative work program compliance measures
• increased gas supply-side competition
• Fair and sustainable RTN, ILUA access agreement models
• Retention Licences to provide fit for purpose tenure for operators on proven play trends
Seismic and drilling since 2000

- Santos JV very active in PPLs – 3D and drilling
- PEL exploration - pushed out into the basin flanks, with extensive 3D and drilling
- Massive effort on western margin oil play trend
- 253 conventional exploration wells drilled since 2002
Cooper Basin drilling since 1959

- **Wells drilled**
  - Exploration and appraisal
  - Development
  - Liquids scheme, accelerated gas etc.
  - Inc. activity prior to PEL 5&6 expiry in 1999
  - ‘New entrant’ plus Santos JV

- **Gidgealpa discovery**
Oil discoveries

Cooper Basin oil exploration well

Oil price (2014 US $/bbl)

Stuart (Senex) Acrasia 1 (2002)
### Cooper Basin region raw oil production

<table>
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<th>New explorers</th>
<th>Acrasia 1</th>
<th>Flooding</th>
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**Barrels**

- **Santos JV**
- **New explorers**
- **Acrasia 1 by trucking**
- **Flooding**
All Cooper Basin winning bid values in $ /sqkm/year

$ per sq km per year

Square Km Area of PEL

Average for High Bids: $4,435 per sq km per year

\[ y = 16418e^{-1E^{-03}x} \]

\[ R^2 = 0.6809 \]
Petroleum Retention Licences – a new way of managing Cooper Basin acreage

Provides fit for purpose licence term (15 years) that recognises the life-cycle for finding, appraising, developing and producing resources.

The PRL Subject Area Arrangements:

Avoid 18 -24 months delay caused by intermittent relinquishments; call for bids; bids; negotiation of land access agreements; and grant of successively smaller and more complex PELs - delivers royalties, jobs and production sooner;

Accelerates investment at contestable levels in ways not achievable with PELs - $4,500 sqkm/year for oil trend, $7,000 sqkm/year for gas plays – based on average winning bids since 1998;

Industry as a whole has greater investment efficiency;

Attains very competitive levels of investment without the perverse outcome of ‘winner’s curse bidding’ – whenever smaller licences were attracting ~$20m bids, stretching the financial competence of ASX IPOs.
Current status

- Most PELs are in their second or final term
- Exploration investment has been accelerated - 2014 set a drilling record
- The drift towards ever-smaller and complex exploration licenses has halted
- Turn-over in the SA Cooper Basin has served its purpose - the priority now is fit for purpose tenure to efficiently explore play trends
- \(~13,000 \text{ km}^2\) of PELs have been converted to PRLs
Acknowledgments

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The new phase in detail

Wells drilled

- Santos JV exploration
- Santos JV appraisal and development
- New explorers exploration
- New explorers appraisal and development