

Innovations in South Australian Cooper Basin Acreage Management*

Elinor Alexander¹ and Alan Sansome¹

Search and Discovery Article #70207 (2016)**

Posted January 25, 2016

*Adapted from oral presentation at AAPG International Conference & Exhibition, Melbourne, Australia, September 13-15, 2015.

**Datapages © 2015 Serial rights given by author. For all other rights contact author directly.

¹Energy Resources Division, South Australian Department of State Development, Adelaide, SA, Australia (elinor.alexander@sa.gov.au)

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

BP, 2015, Statistical review of world energy. Website accessed January 1, 2016,
<http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil-review-by-energy-type/oil-prices.html>.

INNOVATIONS IN SOUTH AUSTRALIAN COOPER BASIN ACREAGE MANAGEMENT

ELINOR ALEXANDER and ALAN SANSOME
Energy Resources Division
South Australian
Department of State Development



www.petroleum.statedevelopment.sa.gov.au

The information contained in this presentation has been compiled by the Department of State Development and originates from a variety of sources. Although all reasonable care has been taken in the preparation and compilation of the information, it has been provided in good faith for general information only and does not purport to be a professional advice. No warranty, express or implied, is given as to the completeness, correctness, accuracy, reliability or currency of the materials.

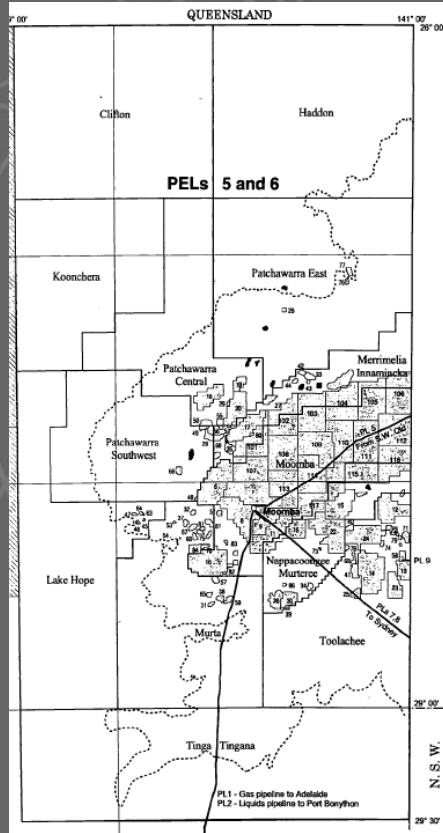
The Department of State Development and the Crown in the right of the State of South Australia does not accept responsibility for and will not be held liable to any recipient of the information for any loss or damage however caused (including negligence) which may be directly or indirectly suffered as a consequence of use of these materials. The Department of State Development reserves the right to update, amend or supplement the information from time to time at its discretion.



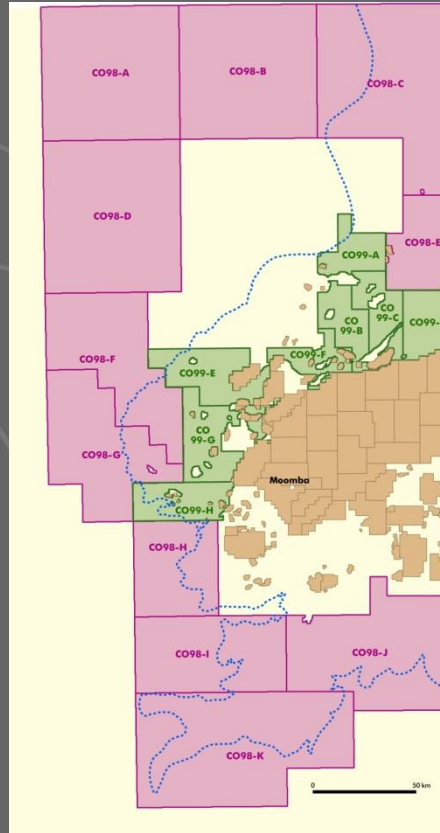
Enablers

- 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.

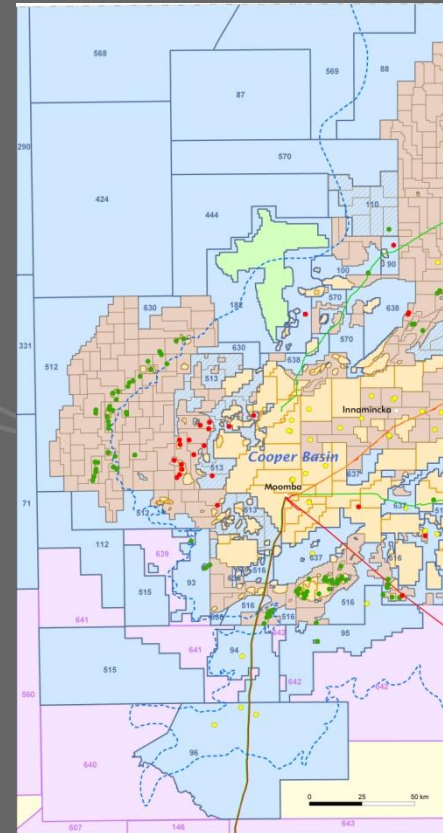
Cooper Basin then and now.....



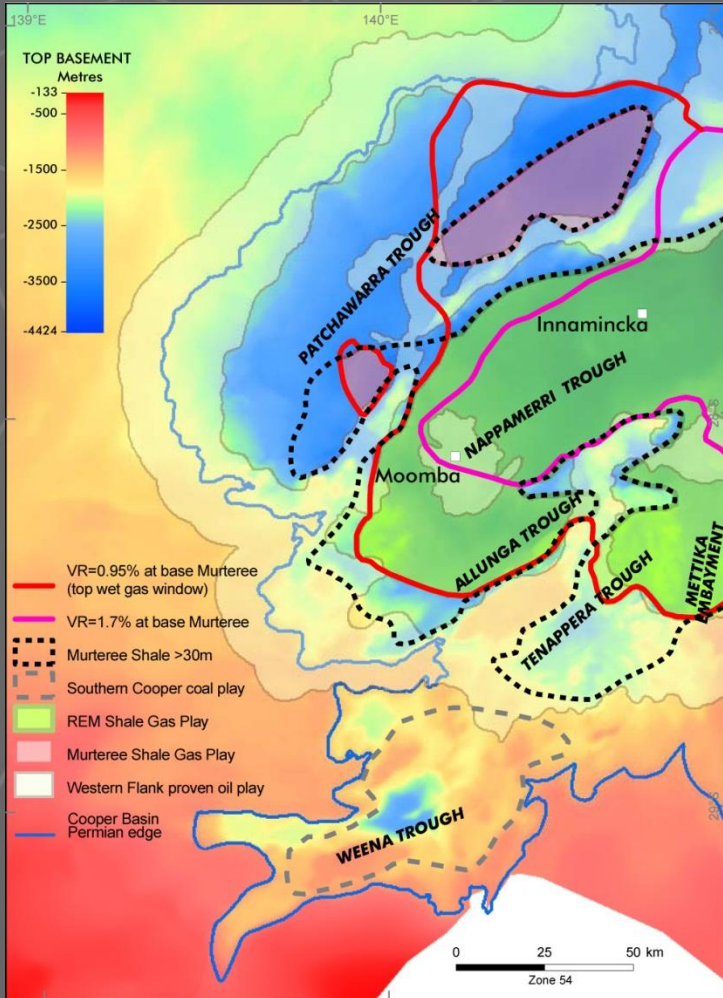
February 1998



February 1999



September 2015



What we know now but didn't know then...

Western flank oil play

Eromanga oil play

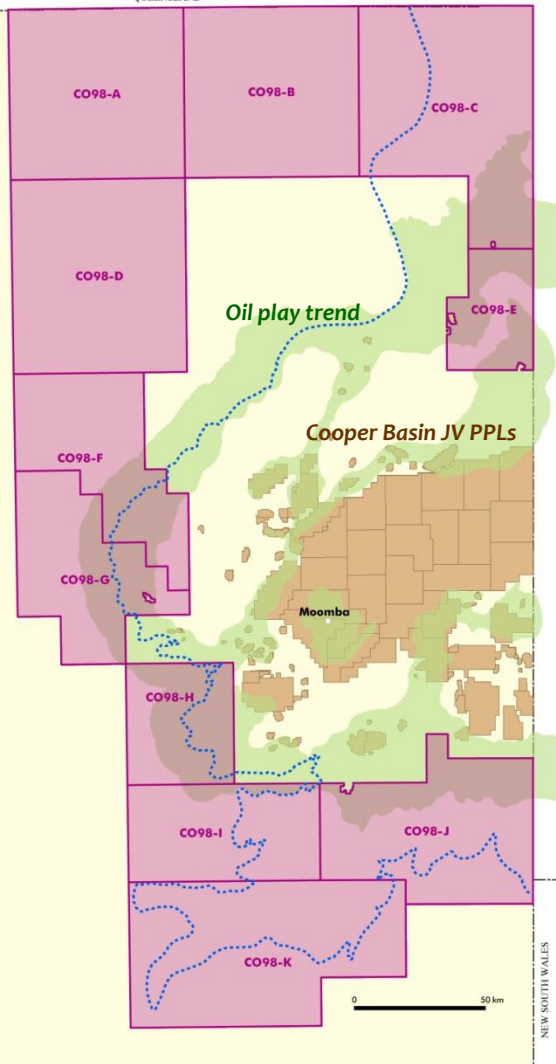
Deep coal play (Patchawarra Trough)

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 \$:

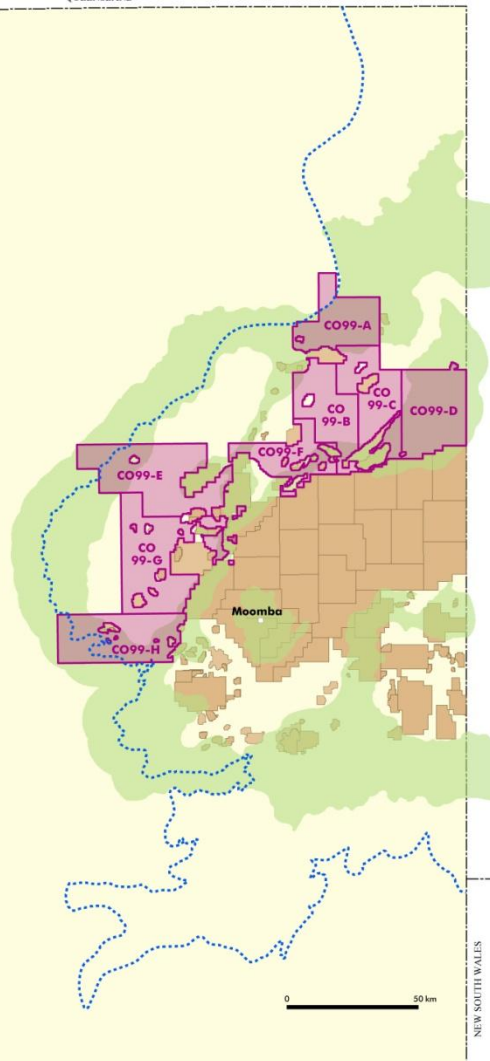
Guaranteed expenditure \$35.4m

Non-guaranteed \$36.7m

(Western Flank Oil Play)



Oil price from BP, 2015
Statistical Review of
World Energy



CO99

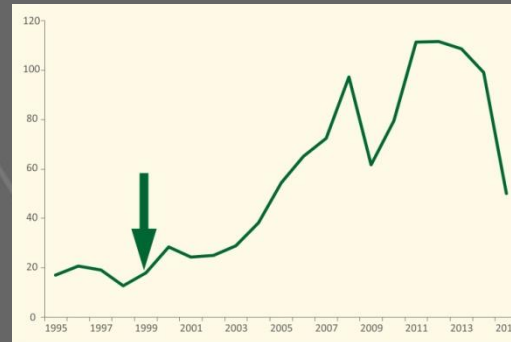
Released April 1999 after expiry of PELs 5&6

- 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

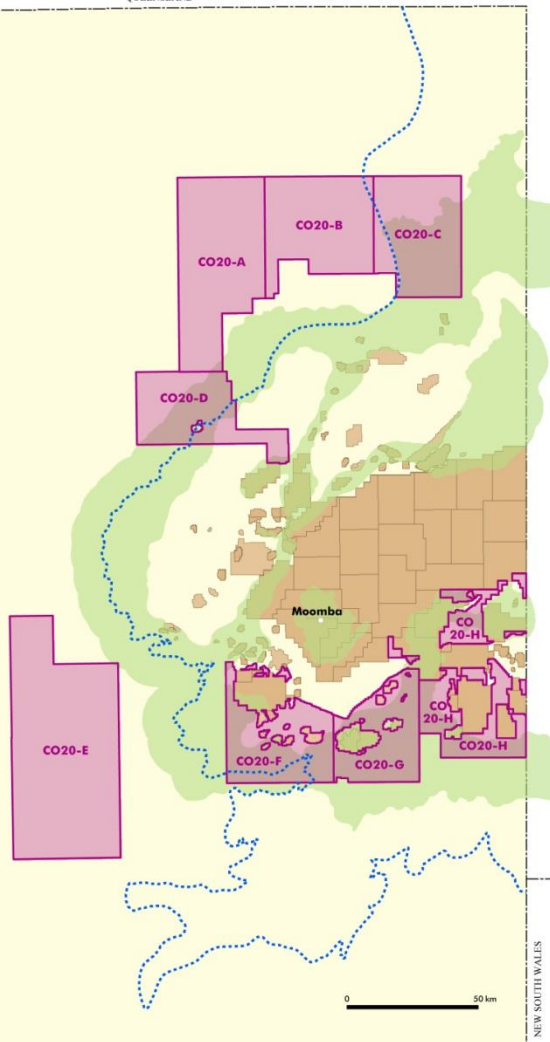
Winning bids 2015 \$:

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

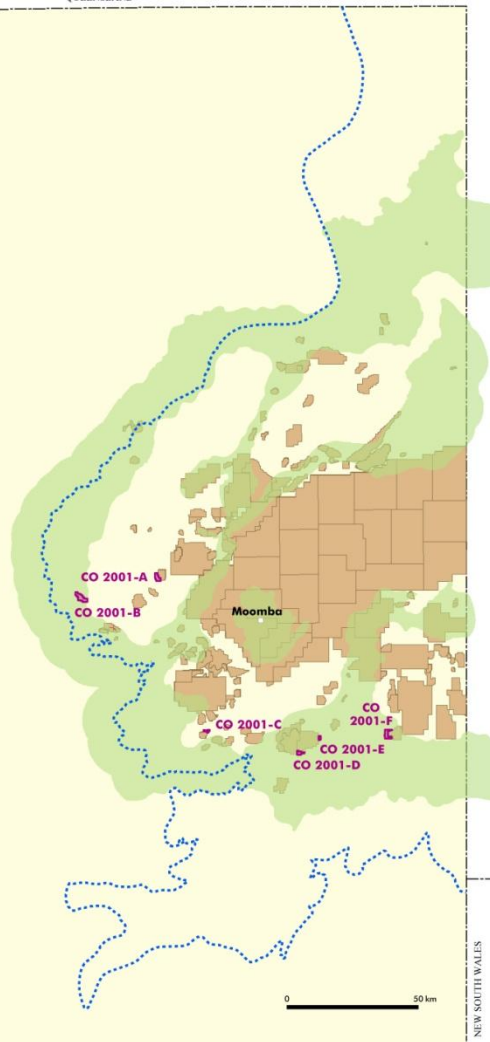
Winning bids 2015 \$:

Guaranteed expenditure \$105.3m

Non-guaranteed \$15.5m



Oil price from BP, 2015
Statistical Review of
World Energy

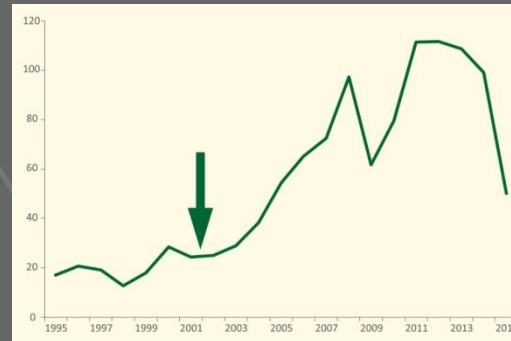


CO2001 and CO2002

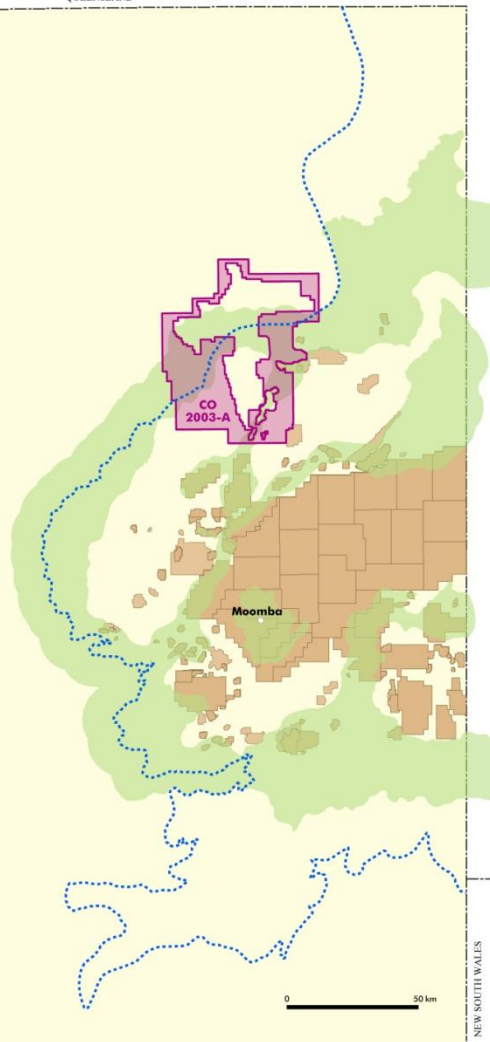
- Former PPLs Area 21.6 km²
- Based on small mapped prospects and leads
- Released only after industry requests
- CO2001 had cash bidding component
- Both rounds attracted no bids

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

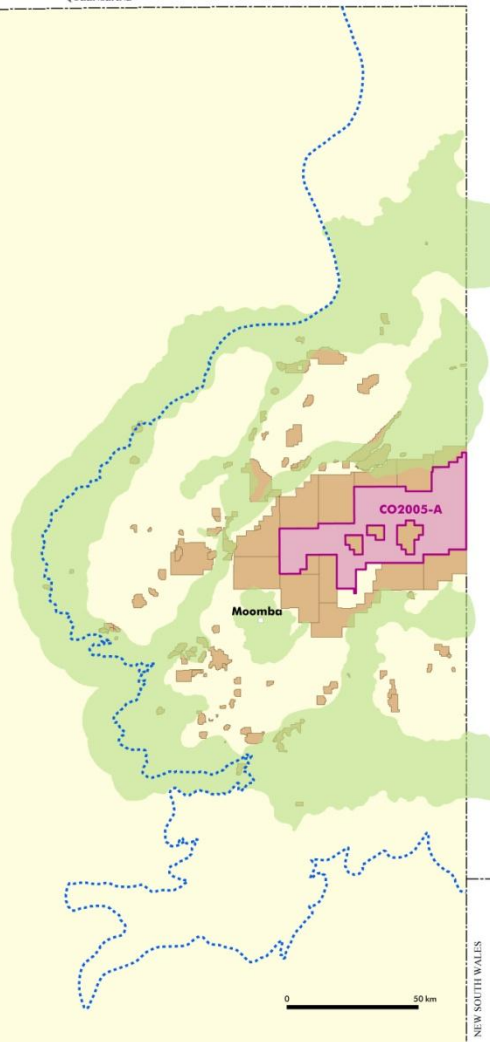
Winning bids: 2015 \$

Guaranteed expenditure \$22.8m

Non-guaranteed \$6.7m



Oil price from BP, 2015
Statistical Review of
World Energy



CO2004 and CO2005

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

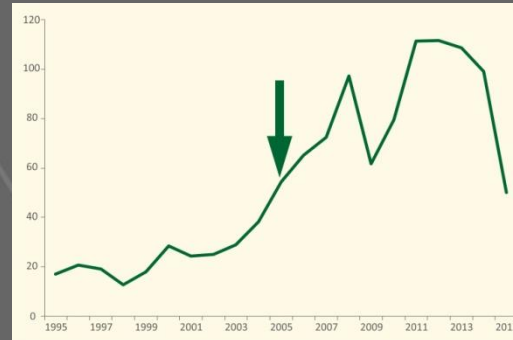
CO2004: No applications!

CO2005: 2 applications

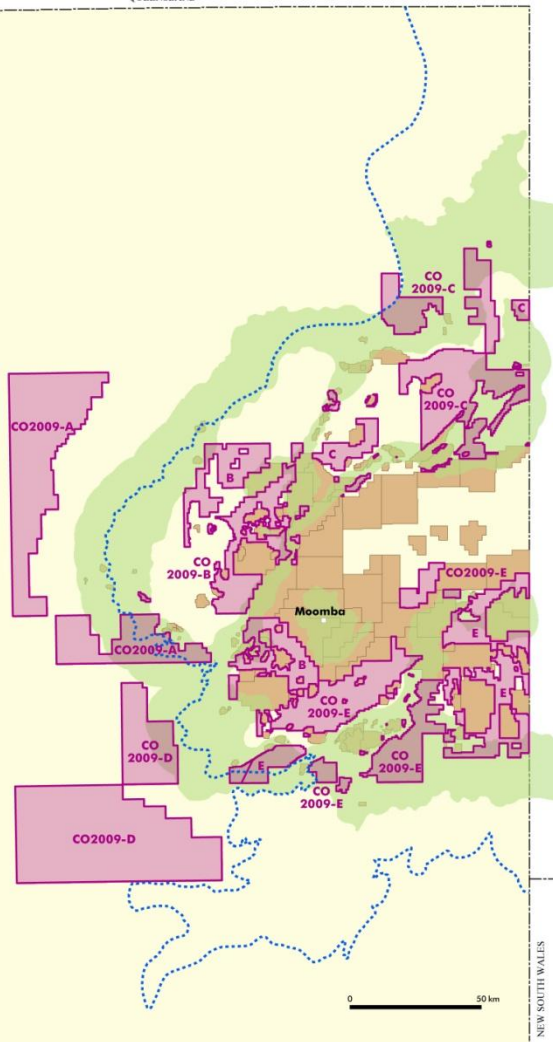
Winning bids: 2015 \$

Guaranteed expenditure \$16.8m

Non-guaranteed \$15.6m



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



CO2009

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

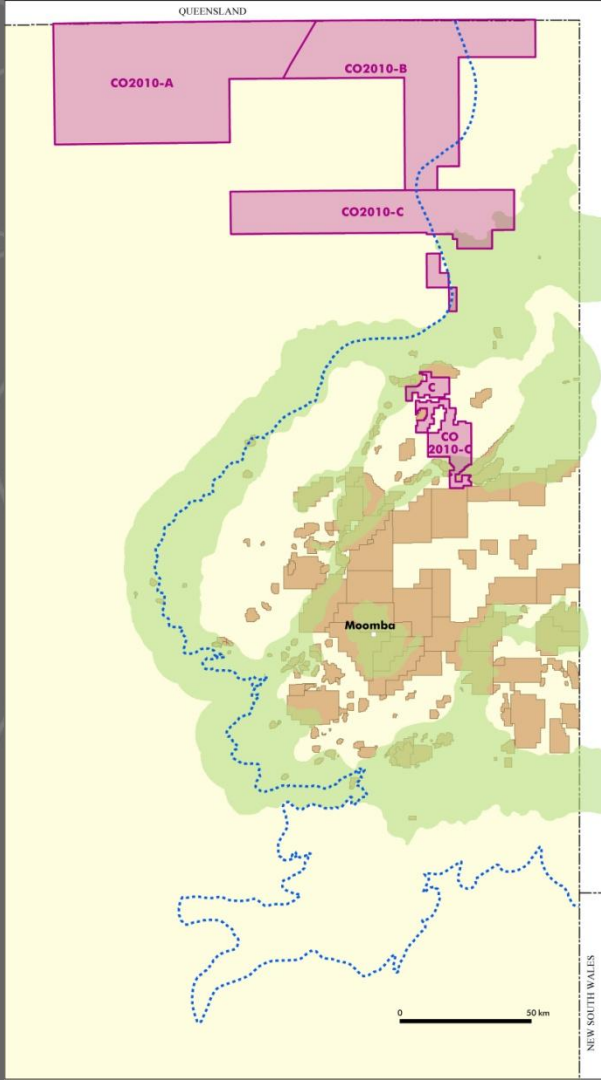
Winning bids: 2015 \$

Guaranteed expenditure \$117.3m

Non-guaranteed \$51.5m



Oil price from BP, 2015
Statistical Review of
World Energy



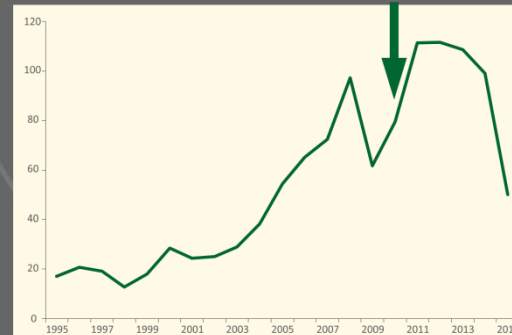
CO2010

- Acreage from partial relinquishments
- 11 bids from 6 applicants

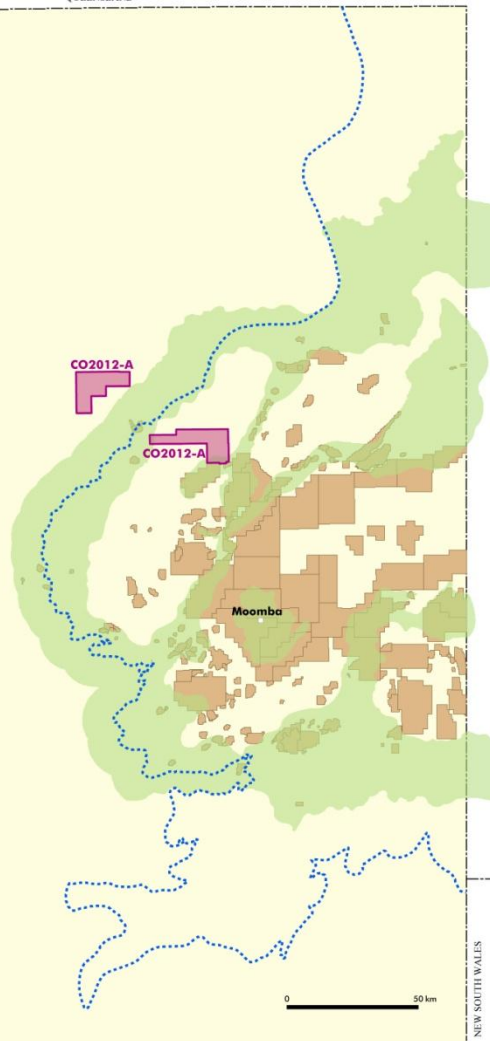
Winning bids: 2015 \$

Guaranteed expenditure \$54.2m

Non-guaranteed \$4.9m



Oil price from BP, 2015
Statistical Review of
World Energy



CO2012

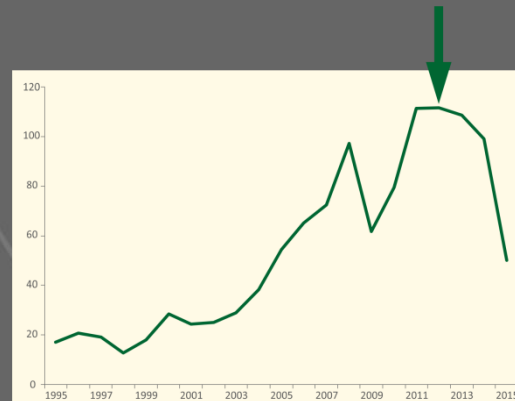
- Acreage from partial relinquishments

3 applications

Winning bids: 2015 \$

Guaranteed expenditure \$17.6m

Non-guaranteed \$8.6m

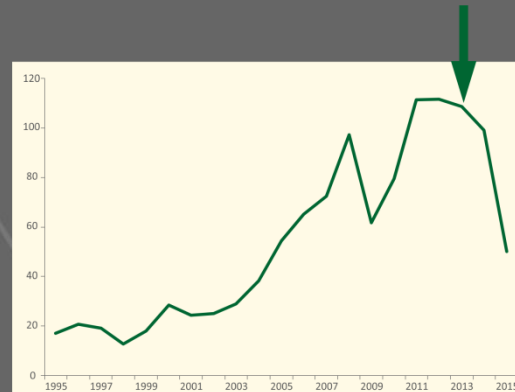
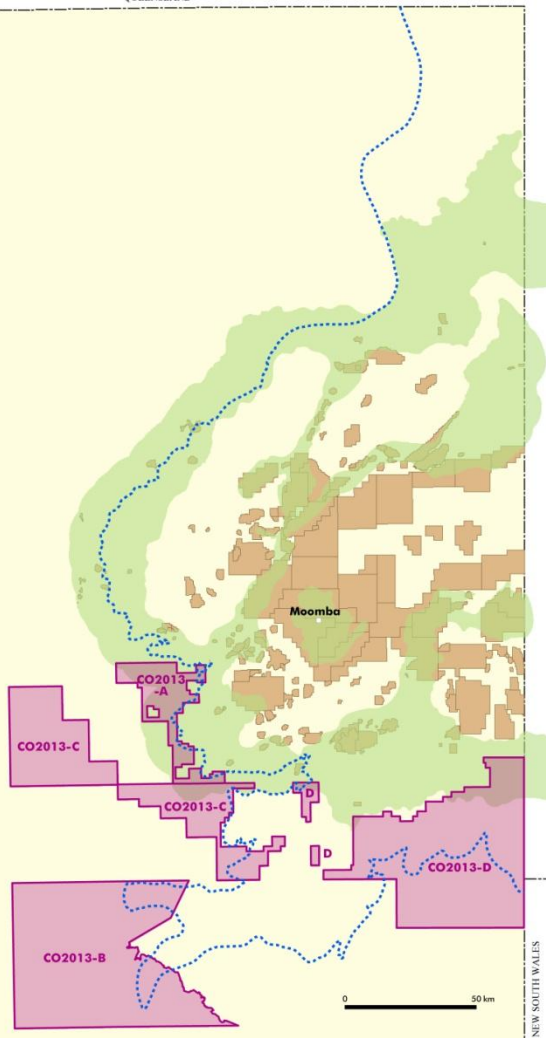


Oil price from BP, 2015
Statistical Review of
World Energy

CO2013

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

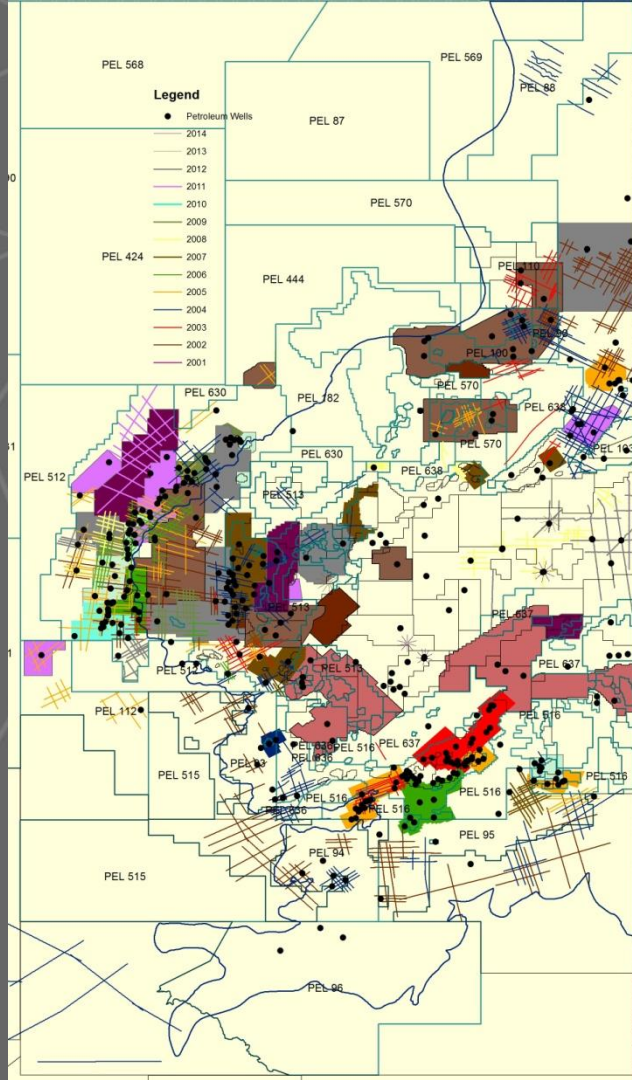
Winning bids: 2015 \$
 Guaranteed expenditure \$93.0m
 Non-guaranteed \$14.9m



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

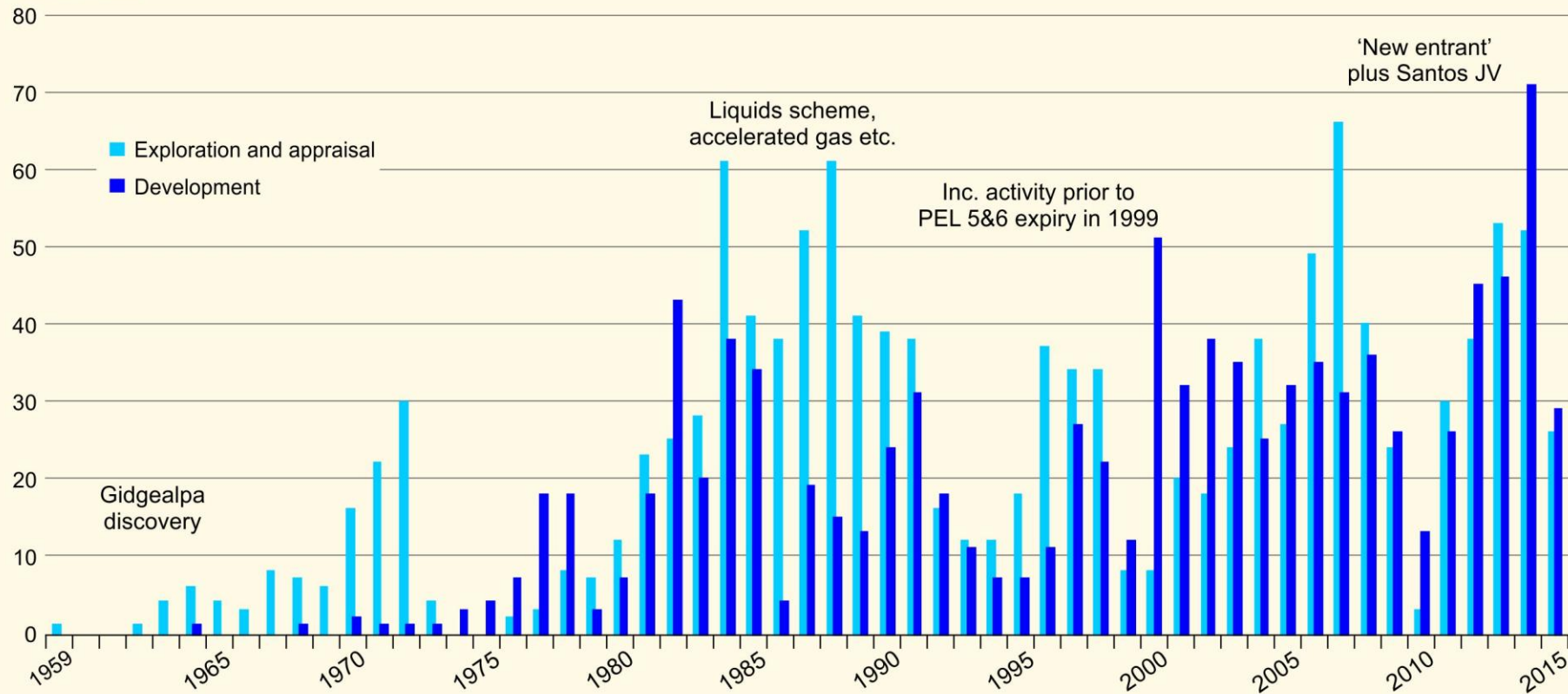


Seismic and drilling since 2000

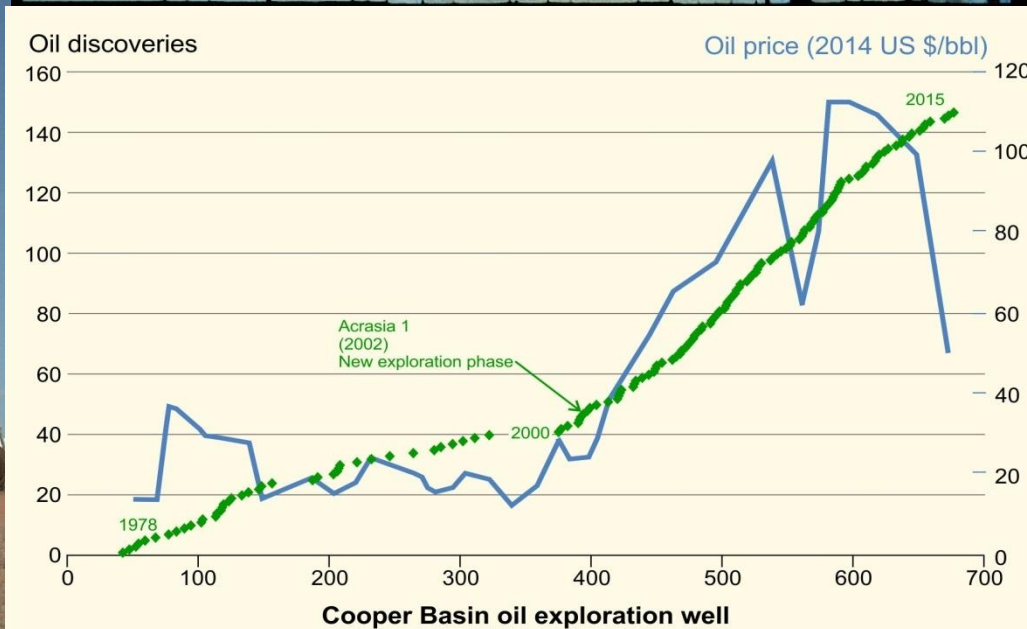
- Santos JV very active in PPLs – 3D and drilling
- PEL exploration - pushed out into the basin flanks, with extensive 3D and drilling
- Massive effort on western margin oil play trend
- 253 conventional exploration wells drilled since 2002

Cooper Basin drilling since 1959

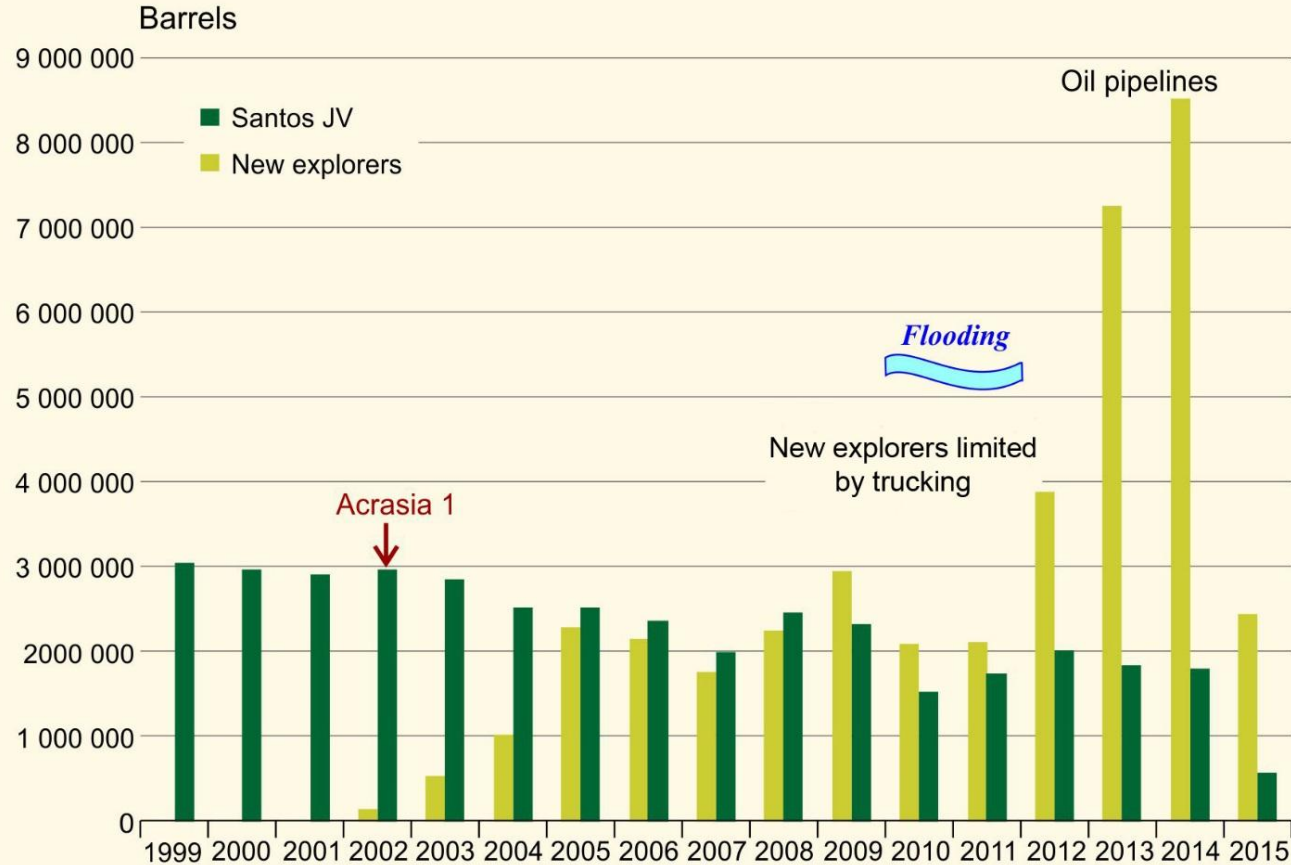
Wells drilled



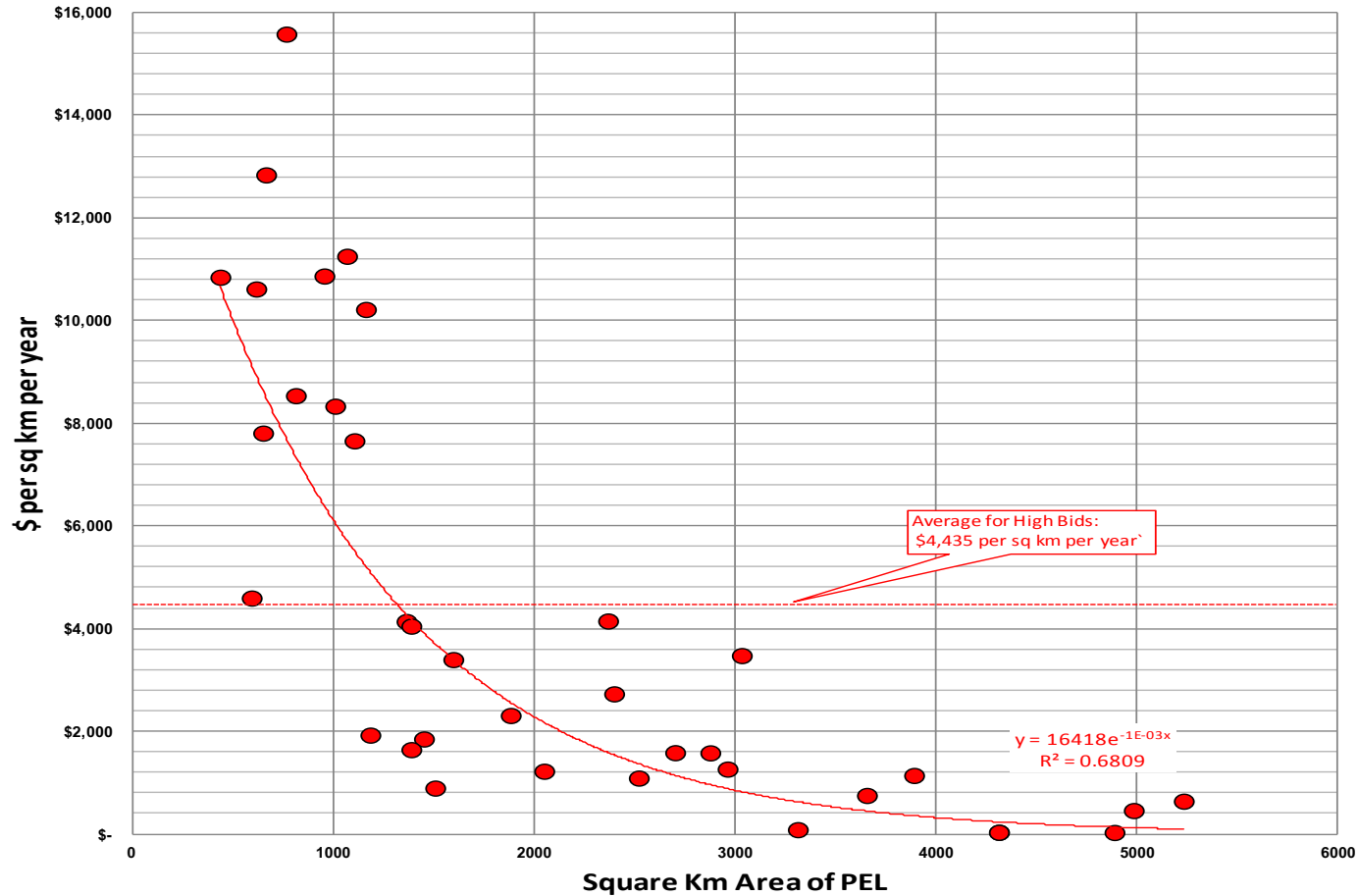
Stuart (Senex) Acrasia 1 (2002)



Cooper Basin region raw oil production



All Cooper Basin winning bid values in \$ /sqkm/year



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;

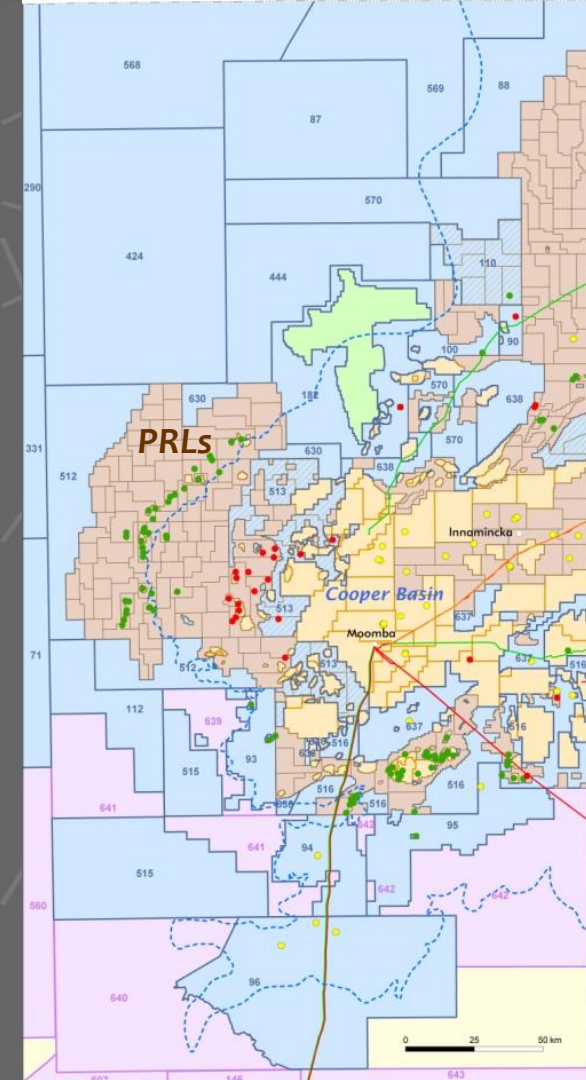
- Accelerates investment at contestable levels in ways not achievable with PELs - \$4,500 sqkm/year for oil trend, \$7,000 sqkm/year for gas plays – based on average winning bids since 1998;

- 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 km² of PELs have been converted to PRLs



Acknowledgments

Alan and I would like to thank Barry Goldstein and other DSD Energy Resource Division colleagues, plus Carice Holland for drafting work.



Back up slide

The new phase in detail

