

# Cougar Energy

- Cleaner energy.
- Low cost energy.
- Efficient resource utilisation.



Presentation to 2<sup>nd</sup> Annual Victorian Coal and Energy Conference

31 March 2011

*Dr Len Walker, Managing Director, Cougar Energy Ltd*

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Cougar Energy Limited has developed an initial financial model of the Kingaroy power station project, which will undergo review during a banking feasibility study, and is therefore subject to change. The model currently indicates that the Kingaroy is capable of producing free cash flows after assumed debt servicing. The Board and senior management will review and approve the final version of the financial model during the bankable feasibility study.

This Presentation contains forward-looking statements regarding future events and the future financial performance of Cougar Energy Limited. These forward-looking statements are not guarantees or predictions of future performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Cougar Energy Limited, and which may cause actual results to differ materially from those expressed in the statements contained in this Presentation. The development of and timetable for the construction and commissioning of Cougar Energy Limited's proposed power plant at Kingaroy is dependent on the confirmation of Queensland Government approval of underground coal gasification technology and Cougar Energy Limited's program of commercial development.

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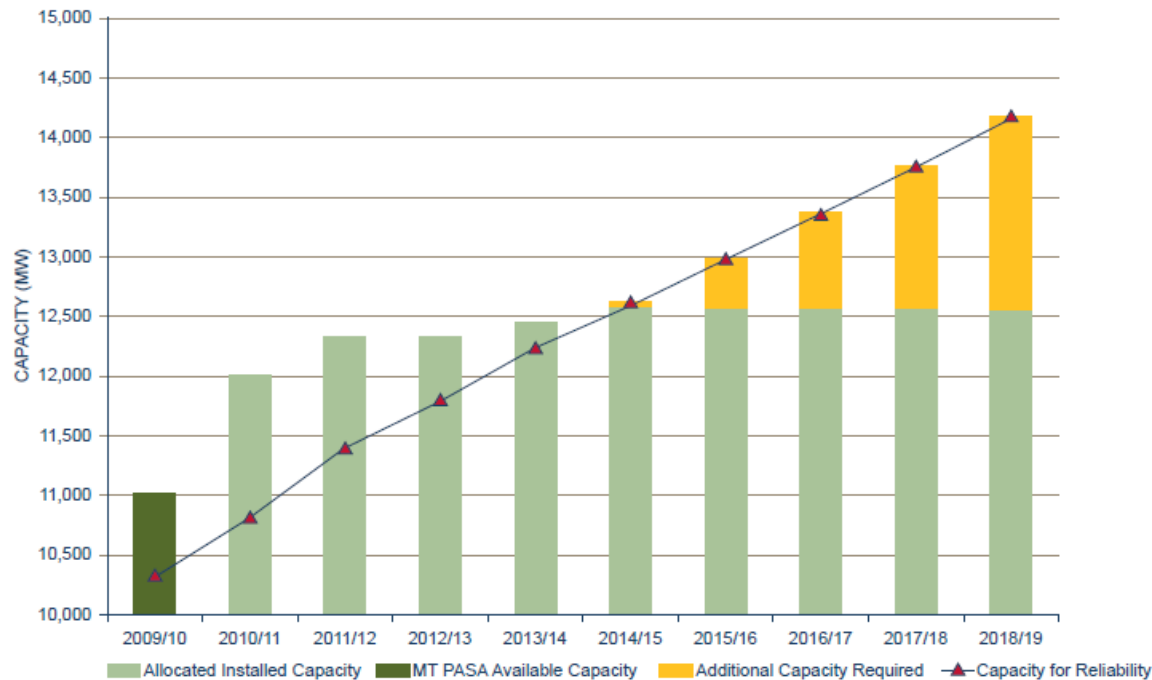
The information as it relates to coal resources in this Presentation is based on information compiled by Mr. Garry Leblang who is a Fellow of the Australian Institute of Mining and Metallurgy. Mr. Leblang is employed by Himap Pty Ltd., trading as Coal Search Consultants. Mr. Leblang has in excess of five years experience, and therefore sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2004 edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Leblang consents to the use of the resource figures in the form and context in which they appear in this Presentation.

## Why develop UCG ?

- Energy alternative to solve current challenges in energy supply/demand imbalance
- Demand for electricity to exceed new supply in most Asian economies and Australia, particularly in Queensland
- **Low cost energy**
  - Cost effective fuel (ca. 50% cost of natural gas) for multiple uses
  - Significant capex savings and low production costs
  - Sustainable source of base load power
  - Affordable and secure energy supply to domestic market
- **Efficient utilisation of resources**
  - More efficient utilisation of resource than conventional mining
  - 15x less area than coal seam gas
- **Cleaner energy**
  - Lower emissions compared to coal-fired utilities (25-40%)
  - Minimal impact - nominal waste water, no surface ash disposal
  - Process allows carbon separation

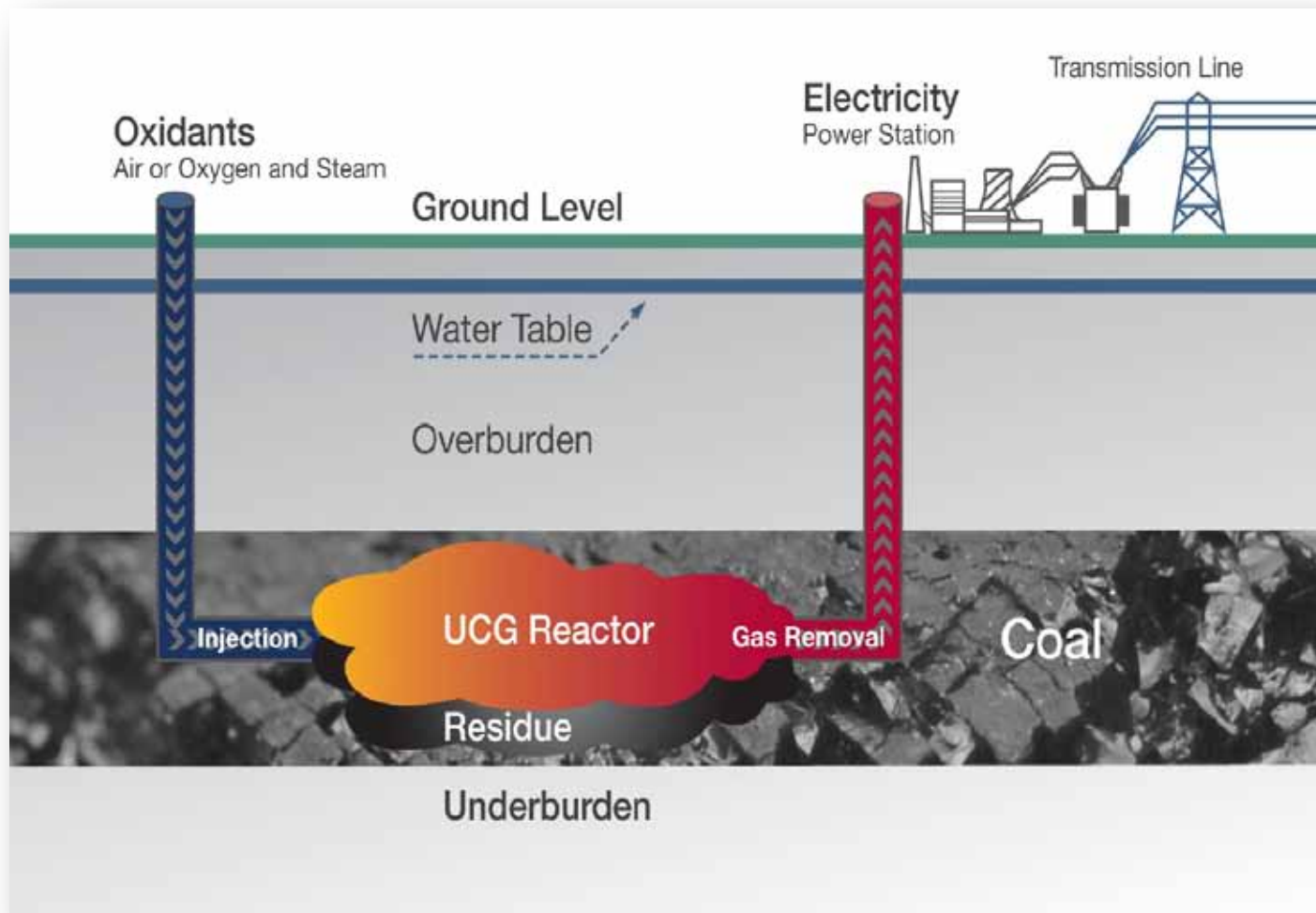
Smarter use of coal

## AEMO supply-demand outlook for Queensland



- Forecasts that Queensland will experience reserve deficits from 2014/15

*Source: Australian Energy Market Operator "Electricity Statement of Opportunities For the National Electricity Market" Executive Briefing 2009  
Queensland Summer Outlook page 7*



Proven commercial UCG technology: Ergo Exergy Technologies Inc.

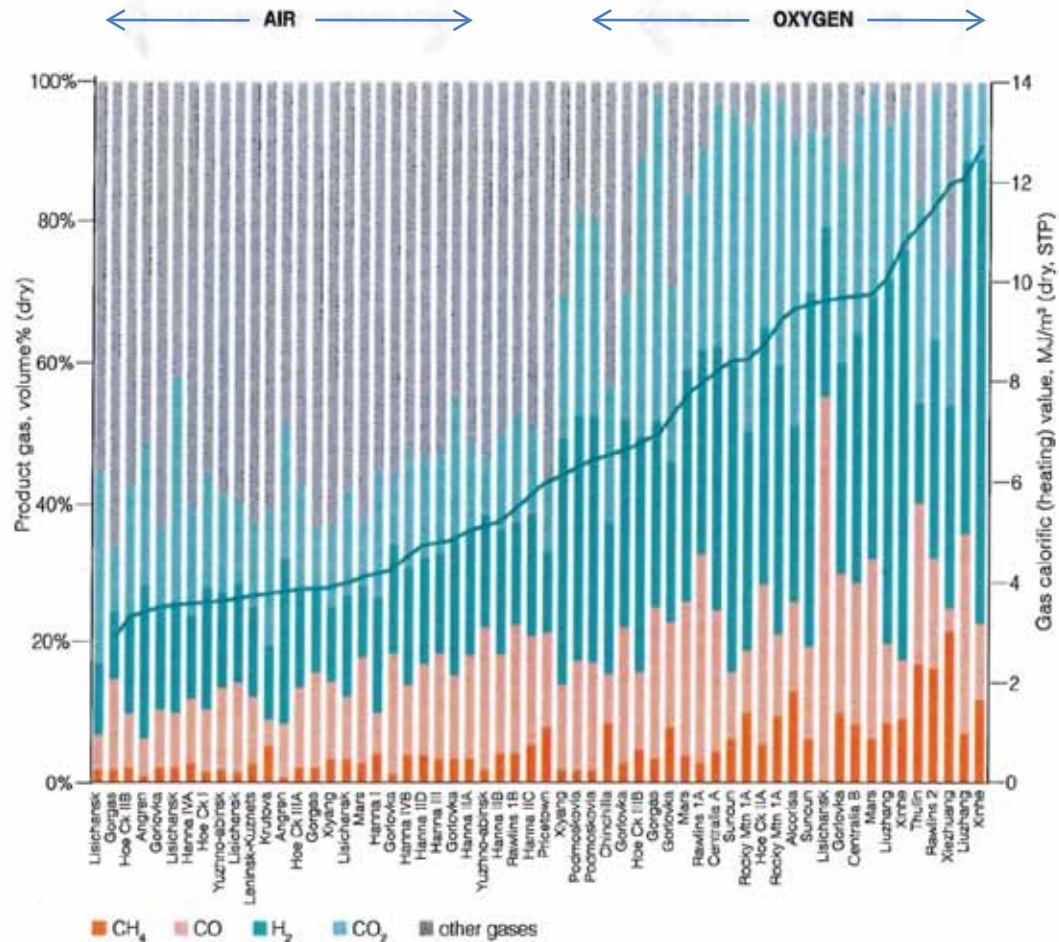
- Former Soviet Union – over 15 million tonnes coal gasified since 1950s
- Approximately two-thirds of this at the Angren plant in Uzbekistan
- Angren has been the only commercial size UCG plant generating gas for 100-150 MW of power with a cost of production estimated at USD 1.00 / GJ
- USA / European Union – less than 100,000 tonnes gasified (RM1 test in 1987/88 gasified 10,000 tonnes)

*Cougar Energy is using the only UCG technology which has been proven at genuine large scale levels of commercialisation ...*

# UCG SYNGAS PROPERTIES



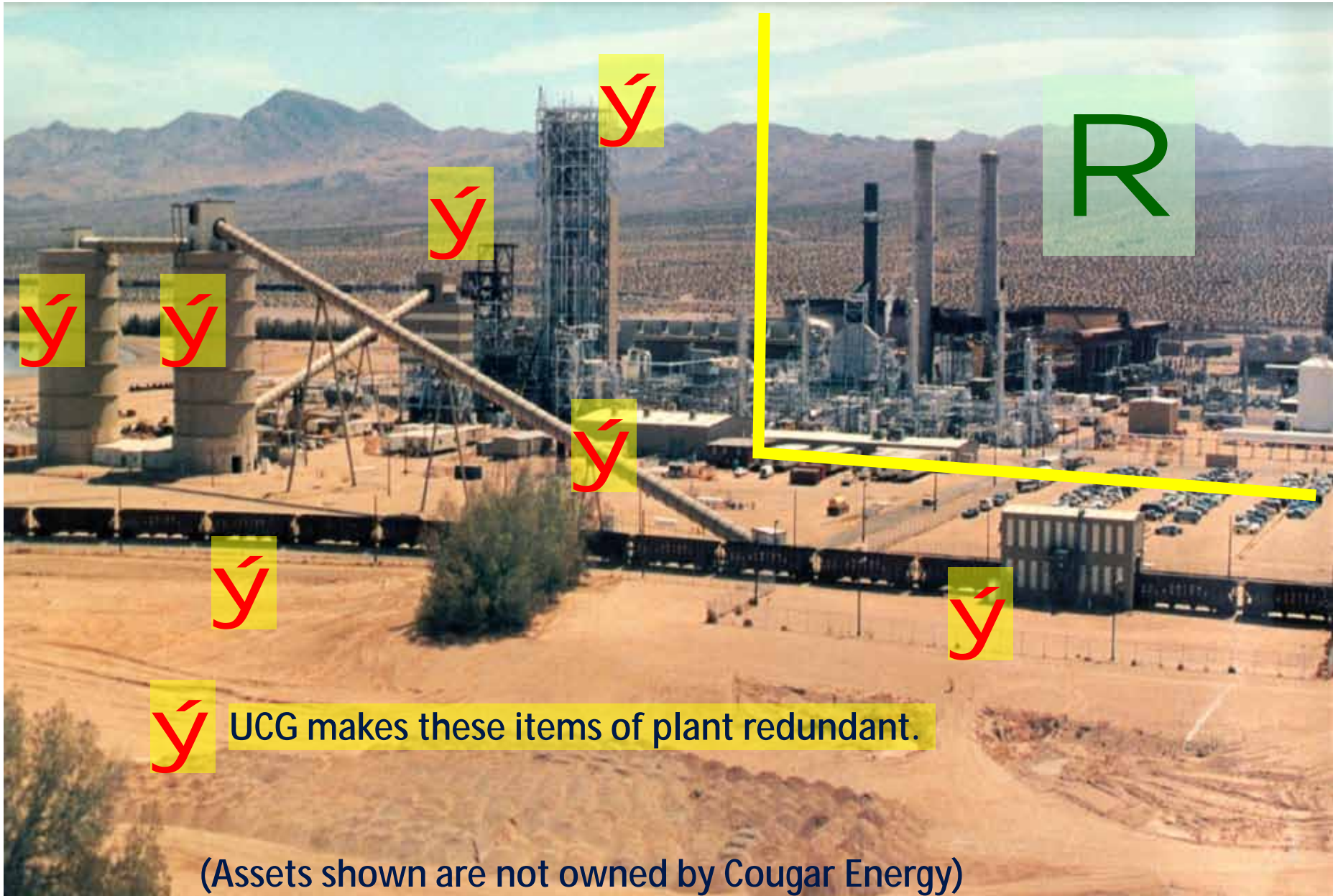
THE NEW POWER IN AUSTRALIA



Source: "Underground coal gasification" Gordon Couch, IEA Clean Coal Centre - July 2009





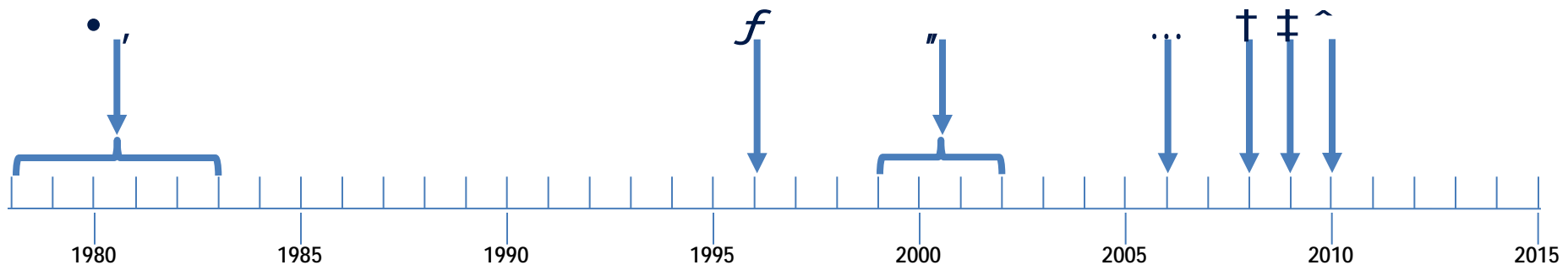




# AUSTRALIAN UCG TIME LINE



- 1) 1978 - 1983 University of Newcastle laboratory work
- 2) 1981 - 1983 Government funded Leigh Creek UCG-to-power feasibility study  
60 MW (electrical)
- 3) 1996 Linc Energy founded to commercialize UCG in Australia
- 4) 1999- 2002 Chinchilla Pilot Plant,  $\pm 5$  MW (thermal): 35,000 tonnes coal gasified  
(Ergo Exergy technology)
- 5) 2006 Cougar Energy founded and listed on the ASX
- 6) 2008 Carbon Energy commences pilot test burn at Bloodwood creek
- 7) 2010 Kingaroy Pilot Plant, 10 MW (thermal), ignition in March 2010
- 8) 2010 10 ASX companies promoting UCG in Australia and internationally



# UCG TIMELINE IN QUEENSLAND



- 1999 - 2002 Successful Chinchilla Pilot Burn
- 2007 Linc Energy, Carbon Energy and Cougar Energy developing pilot burns
- 2H 2008 Queensland Government considers 3 years moratorium for UCG
- Feb. 2009 Government announces UCG Policy
  - Only 3 pilot burns allowed in Queensland
  - Final decision on allowing technology in Q'ld June 2012
  - Independent Scientific Panel (ISP) to review pilot burns
- May 2010 Government advises that 30 MW of power generation is permitted as part of UCG trials
- July 2010 Cougar Energy pilot burn shut down, all pilot burns subject to Environmental Evaluation Notices
- Dec. 2011 ISP to report to Government on three pilot burns
- June 2012 Government to determine whether UCG operations to be permitted in Queensland



PLANT SITE LAYOUT

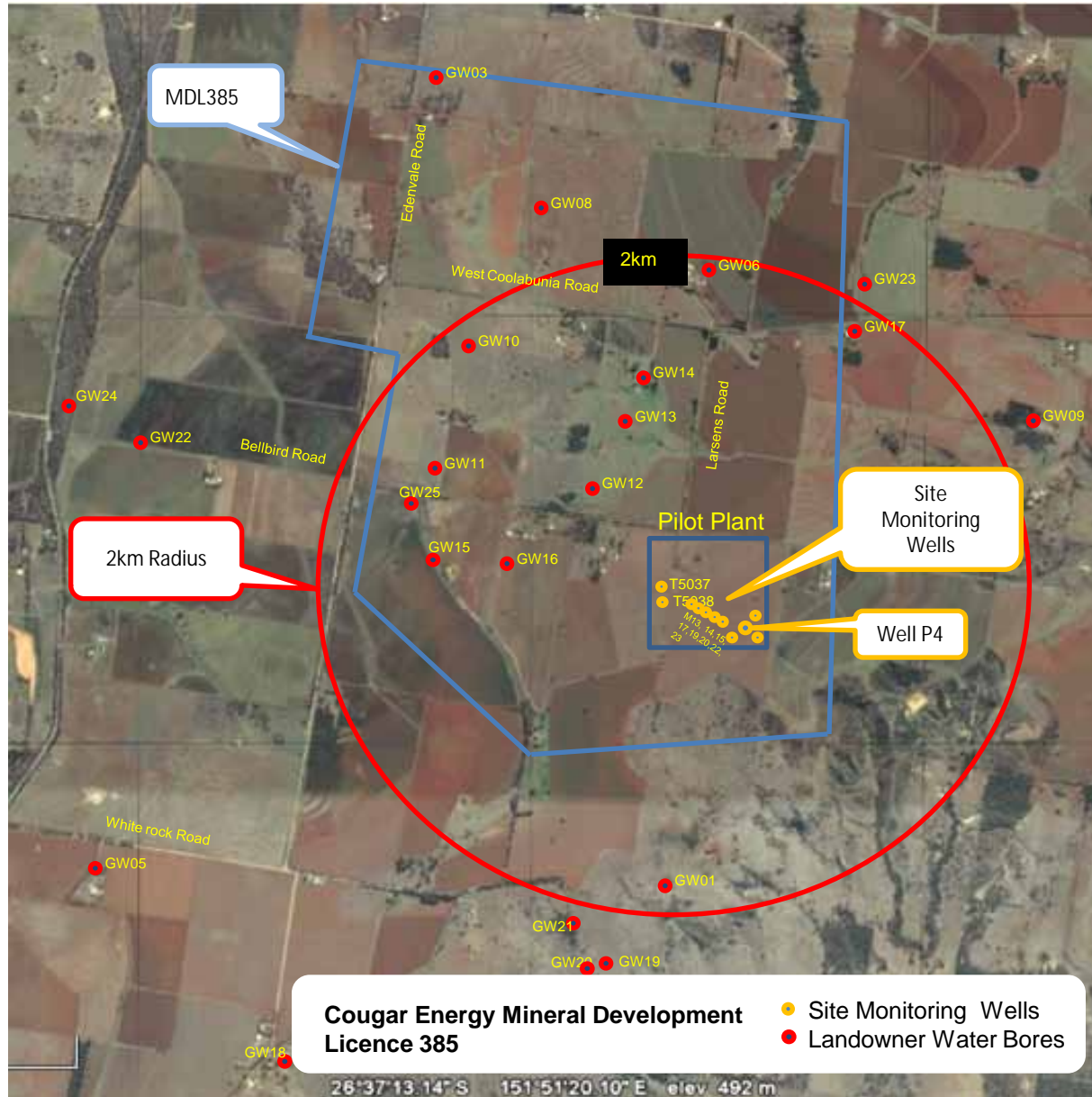


**GAS PROCESSING PLANT**





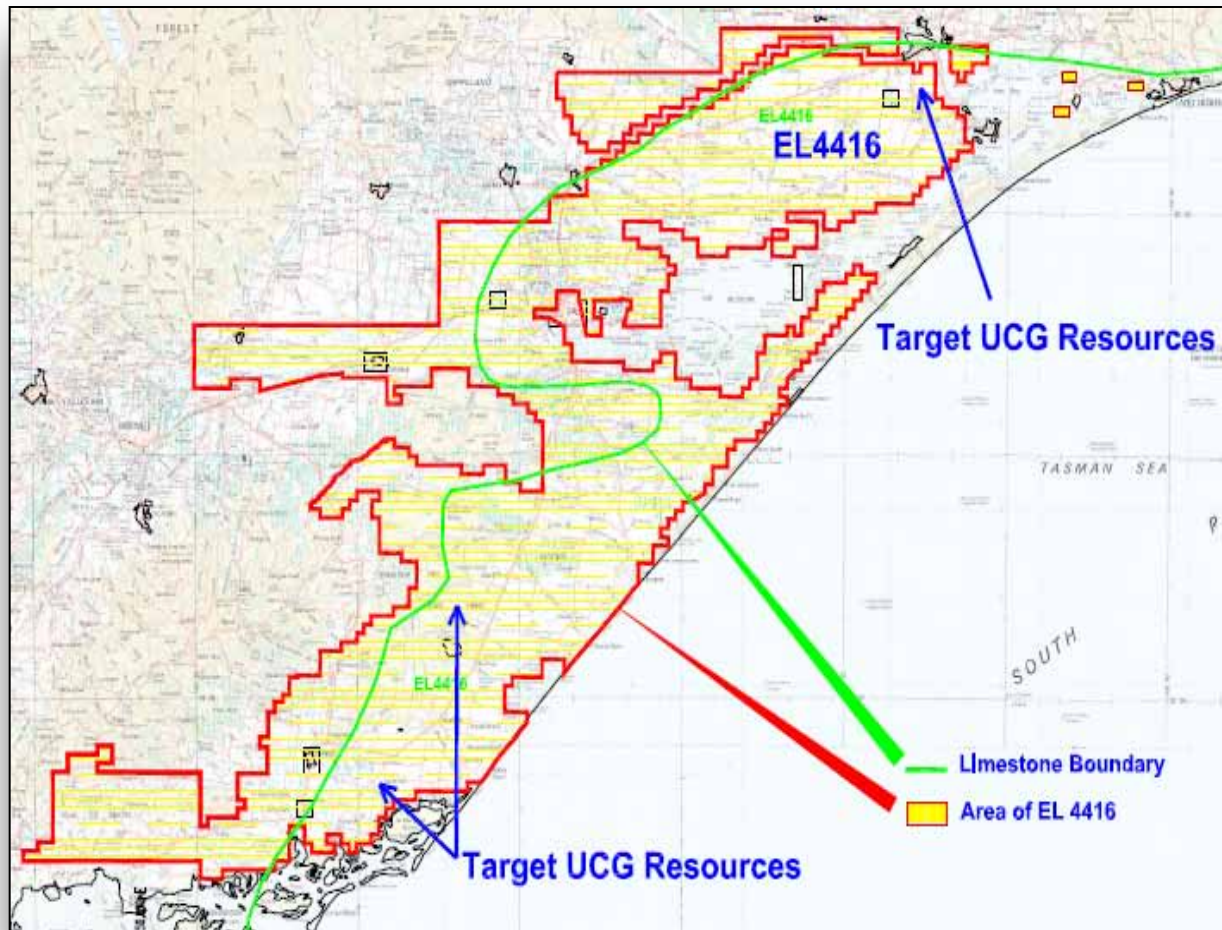
# KINGARROY AERIAL VIEW



## ALTERNATIVE ALLOWABLE LEVELS IN UPPER AQUIFER

- Benzene
  - ADWG 1ppb (applicable at Kingaroy)
  - WHO 5ppb
  - USDWG 10ppb
  - Limit of Detection (LOD) 1ppb
- Toluene
  - ADWG 800ppb (applicable at Kingaroy)
  - Limit of Detection 2ppb
- Kingaroy observations on Benzene
  - Approx. 400 water samples taken in 33 monitoring and water bores
  - More than 13,000 chemical tests undertaken
  - Two isolated and transient readings of 2ppb in one monitoring bore sampled in May 2010 250m from production area
  - No subsequent measurements above ADWG in any bore
  - All water bore measurements below LOD

- Cougar Energy and IER proposal for UCG project in Victoria



- Cougar Energy has accelerated development of projects in Asia
- Two key projects in China – Inner Mongolia and Xin Jiang Province
- Thar coal field project in Pakistan
- Prospects under examination in India, Mongolia, Indonesia, and Malaysia
- Company continues to receive unsolicited proposals to consider joint ventures for prospective UCG sites in Asia
- International activity advanced with 4 year pilot burn in South Africa, and pilots proposed in New Zealand, Alberta and Wyoming