



# Future of Coal Mining In the Illawarra

**Brad Elvy** Illawarra Coal  
27<sup>th</sup> June 2012



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# A coal region free of fatalities



1970 – 1979  
68 people



1980 – 1989  
25 people



1990 – 1999  
10 people

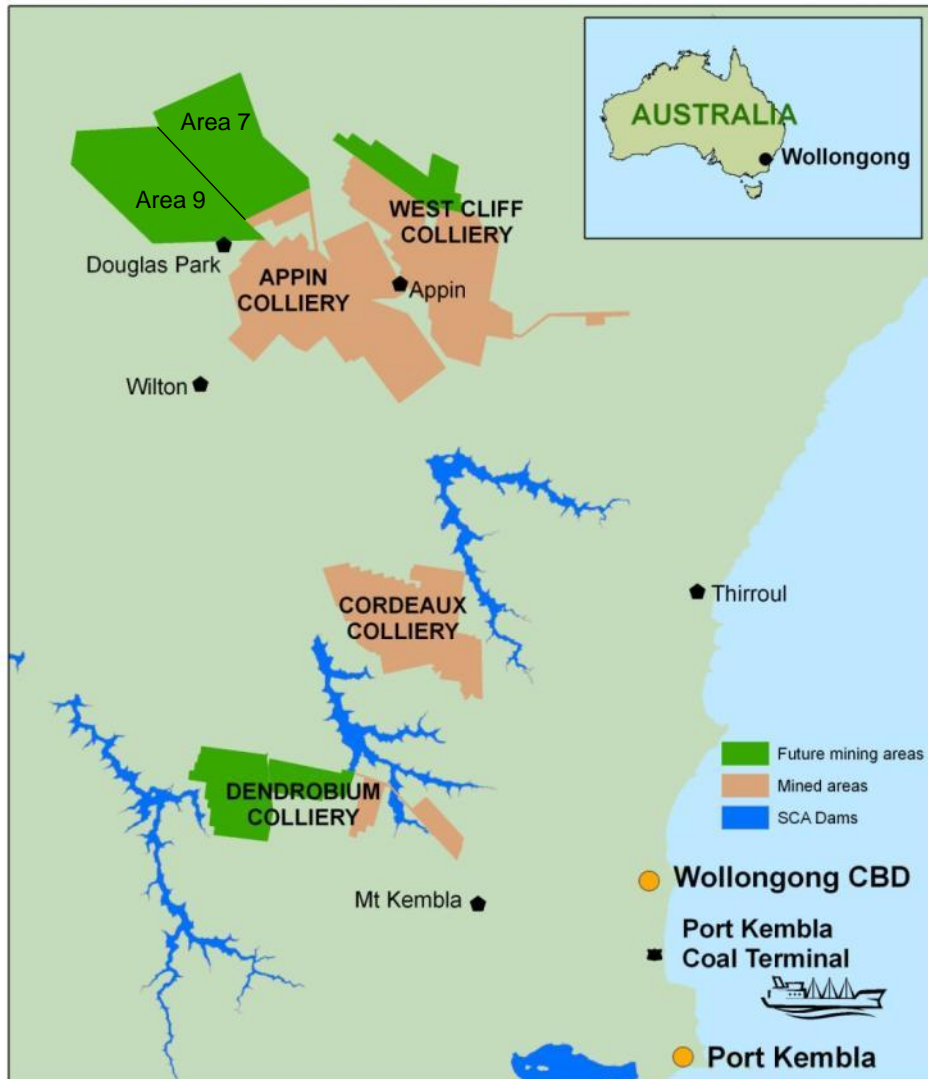


20<sup>th</sup> December 2000  
1 person



1<sup>st</sup> decade with  
No fatalities

# Illawarra Coal

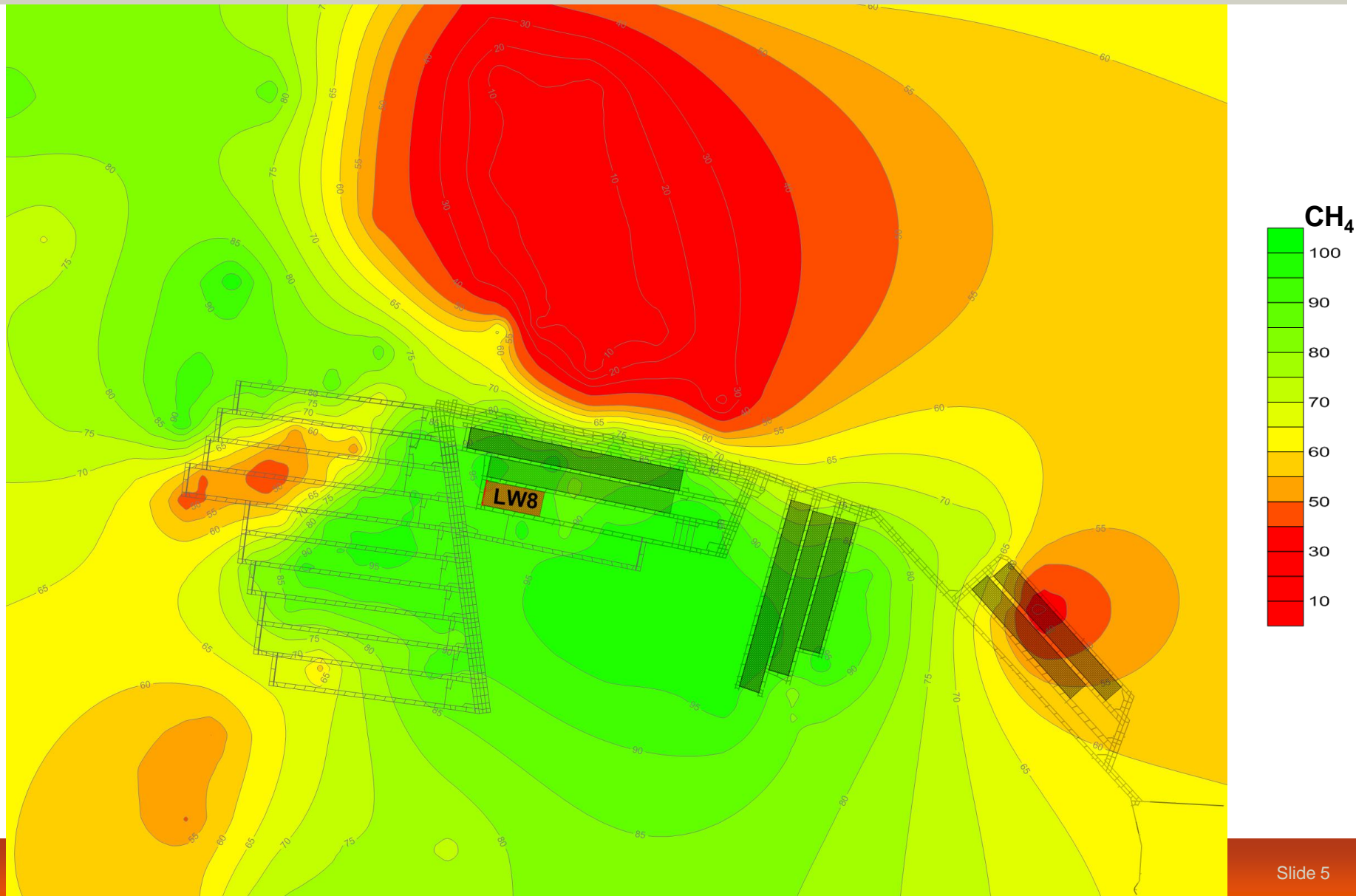


- Resources 1.2 billion tonnes
- Three mines
- Operate in two seams
- 300-620 metres deep
- High gas contents in the Bulli Seam
- Igneous intrusions
- Faults
- 7Mt clean metallurgical coal produced in FY11
- 10Mt ROM production for FY12



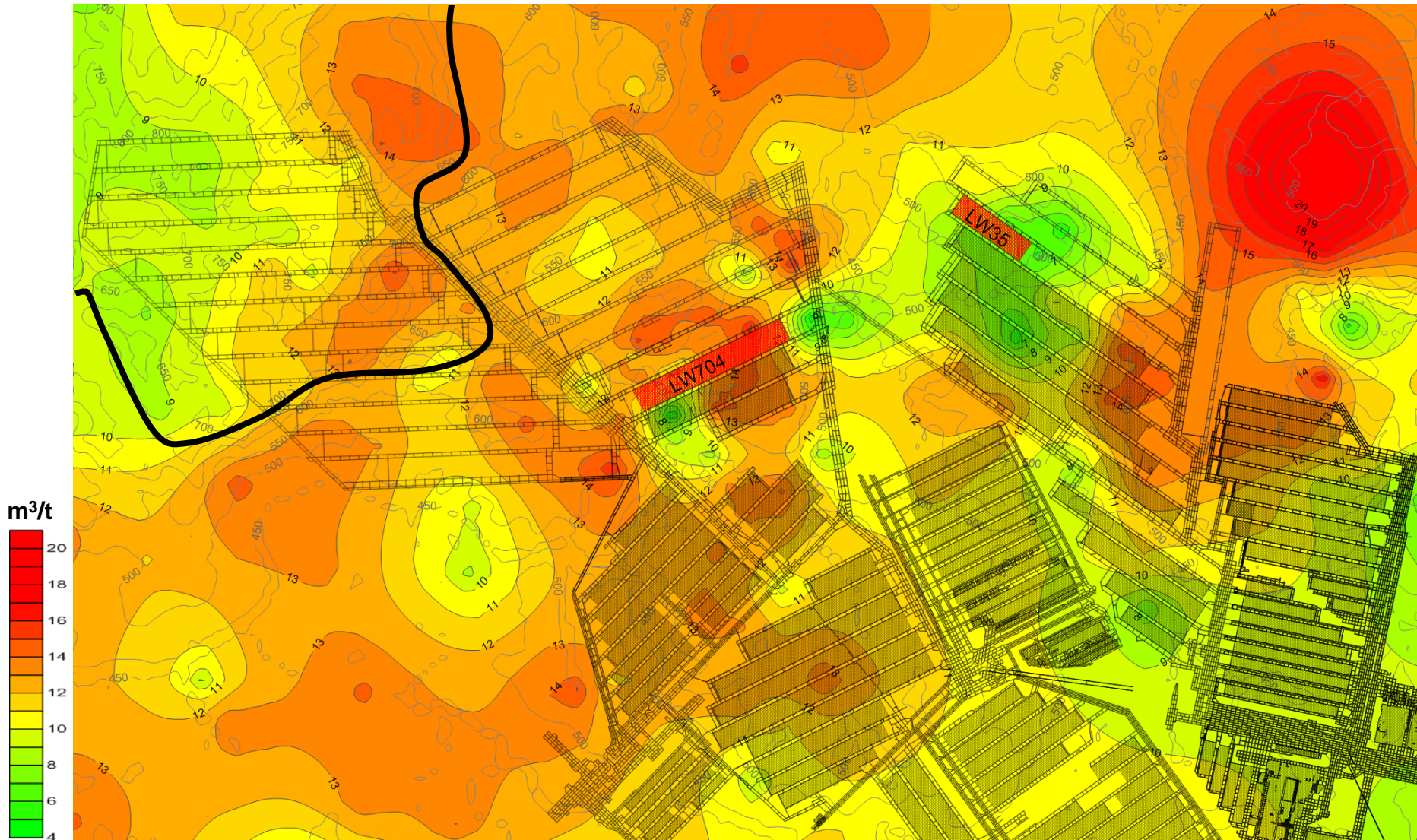
# Dendrobium Mine

## CH<sub>4</sub> : Co<sub>2</sub> Composition Ratio



# Appin and West Cliff Mines

## Gas Content



### CAMGAP – Capture As Much Gas As Possible

- Consists of
- Execution
- Modelling
- Improving
- Planning
- Developing

#### Model M

Gas F  
underst  
mo

Real time  
of gas d  
quant  
comp

Key  
PDCE –  
MAD

3 Headin

Longwall

#### Emerging Technologies

TRD SIS

TRD SIS - Lower seams

TRD upper Strata

Nitrogen Injection

Water Jet Drilling

Pressure balance drilling

Large Diameter Drilling

#### Enabling Technologies

MWD Measure while drilling

Inseam wireless drilling communications

Super loggers

Fibre optic gas flow monitoring

### DIRECT RELATIONSHIP WITH OUTBURST MANAGEMENT

#### In Execution

MRD SIS drainage

MRD Goaf drainage

Surface upper strata drainage

Underground upper strata drainage

Steered cross measure drainage

#### Model Measure Plan

Gas Reservoir understanding and modelling

Real time monitoring of gas drainage flow quantities and compositions

Key Metrics  
PDCE – HPGCE –  
MAD - GHGE

3 Heading Gateroads

Longwall panel widths

#### Emerging Technologies

TRD SIS

TRD SIS - Lower seams

TRD upper Strata

Nitrogen Injection

Water Jet Drilling

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#### Enabling Technologies

MWD Measure while drilling

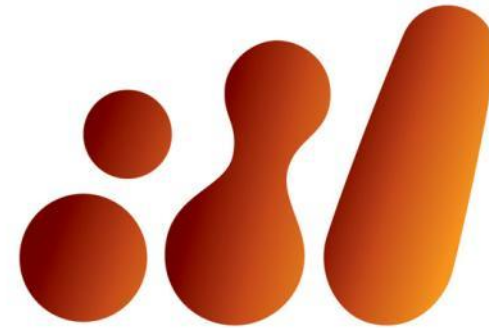
Inseam wireless drilling communications

Super loggers

Fibre optic gas flow monitoring



- Remote cutting
- Remote shuttle car flighting of coal.
- Remote development
  - Completely automated development process.



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