German Creek Gas Management History

- **Central Colliery**
  - Pre-drainage, Goaf Drainage late 1980s

- **Southern Colliery**
  - H2S management, CH4 drainage for frictional ignition hazard

- **Grasstree Colliery**
  - Outburst threshold content from start

- **Gas Utilisation**
Central Colliery Pre-Drainage Plan (typical)
Central - Gassiness

CH4 - m³/hr

Central Colliery Gassiness

Predrained
Goafdrained
Goafblow
Ventilation

May-85  May-86  May-87  May-88  May-89  May-90  May-91  May-92  May-93  May-94  May-95  May-96  May-97  May-98  May-99  May-00  May-01  May-02  May-03  May-04
In Seam Drainage Plant
Goaf Drainage Systems - Central

Connection goaf hole to range

Goaf drainage plant

Free vent holes

Goaf fan site
Central – Panel Avg. Specific Emission

Total SE values for Central Longwall Panels

Panel

SE

200 201 202 203 204 205 206 207 208 209 210 301 302 303 304 305 306 307 308 309 310 311
Outburst site in gate road heading

80 tonnes, 1500m³ CH₄
Southern Gas Drainage

• Drain to 5.75 m

• Frictional Ignition prevention

• Steered inseam holes vented through risers

• Good drilling & drainage conditions

• H₂S drainage in places
Grasstree Gas Drainage

• Pre-drainage of shaft bottom (TRD)
• Pre-drainage from shaft bottom – inseam drilling
• Mains extension
• Flank drilling with MRD
• Optimised spacing
• Increasing length holes
• Compliance drilling confirmed successful drainage
• Retaining options for MRD or cross-panel
• Goaf drainage for longwall
GT#2 TRD Surface Pre-drainage

Stage 1
Stage 2
Stage 3
TRD Holes intersected in heading
GC - Gas Utilisation

- Goaf gas flared in past

- Electricity generation planned for 2006
  - Energy Developments Limited (EDL)
  - 32MW (16 units), start-up mid 2006
  - consume 2.5 – 3 PJ/yr
  - sourced from Grasstree (plus Central goaf?)
  - abates 1.1 Mt/yr of CO2 equiv
    (= 1.6 mill trees or 250,000 cars)
  - 66kV exported to National Grid
  - revenue from electricity, NGACs, GECs, GGAP

- Gas to liquids opportunity?