Composite energy

Mining Institute Presentation
13th December 2006
CBM in UK

- First licences issued in early 90’s
- Exploratory drilling activity throughout 90’s
  - Evergreen Resources
  - CBM Ltd
  - Stratagas plc
  and others…..

- UK gas and electricity prices all time low around 2001
- Very little activity since
Composite Energy

- Company formed in July 2004
- PEDL 133 licence secured through out-of-round application in September 2004
- Area previously licenced for CBM but relinquished in 2003
- Work programme to drill one multi-lateral well in coal
  - to deploy ‘new’ technology
  - to demonstrate commerciality
- Purchased drilling rig in October 2004
  - rig owner and operator
- Completed work programme commitment March 2005
US versus UK

- US CBM has been exploited in a wide range of plays
- Thick shallow coals have permeability but low gas yield
- Thin deep coals have higher yields but low permeability
- Horizontal well drilling is being employed on the more challenging deep, thinner coals with great success

- UK coals exhibit same range of properties as US
- Gas yield exceeding 400 scf/t, permeability not clearly demonstrated
- CBM largely discredited by planning failures and poor technical application / rigour
PEDL 133 – Licence Area and Regional Geological setting
Cross section through coal measures

PEDL 133 – Regional Geology, Limestone Coal Group
PEDL 133 setting

- A largely agricultural setting with an industrial backdrop and long coal mining heritage
- Plentiful data, local demand for gas and convenient access to the Firth of Forth for water disposal
- New investment is welcomed and encouraged
- Composite has established a track record of land purchase, planning consent, drilling and water disposal operations
- Gas resource estimated to exceed 3 TCF
Multiple commercialisation options

- Access to local, regional and national power and gas infrastructure

- Substantial local industrial demand
  - Scottish Power – Longannet
  - Grangemouth Refinery
  - Nexfor CHP plant
  - Alloa Glass
Composite approach

- Rig owner and operator
  - manage costs
  - rig availability
- Development using horizontal, multi-lateral in-seam wells
- Open hole completions using PCP and/or ESP pumps
- Pilot developments to demonstrate commerciality
- Appraisal wells to delineate licence
- Production cluster concept for central gathering and processing
PEDL 133 work programme

• Phase 1 work programme
  – 4 appraisal wells to confirm licence reserves
  – 6 well Pilot development at Airth
    – On site generation
    – Permanent water disposal facility
  – 6 well Pilot development at Longannet
  – Full development studies

• Full development 2008
  – Up to 4 rig programme
  – Up to 4 production clusters developed simultaneously
  – First gas late 2008
Down dip - Australia

Composite energy

[Diagram showing geological formations and drilling depths with labels for different formations such as Coal Measures, Lower Coal Measures, Passage Formation, Upper Limestone Formation, and黎煤等。]
Operational building blocks

- **Typical well**
  - Horizontal – up to 1000 m
  - 1 km2 well spacing
  - Open hole completion
  - PCP down hole pump
  - Wellhead compression

- **Production Cluster concept**
  - Low pressure HDPE pipelines
  - Centralised power generation or export compression
  - Import power and controls
  - Directional wells give flexibility on surface location selection
Where are we now?

- Drilled and completed the first horizontal in seam coal well in UK
- Completed first vertical intersection well in Europe
- Currently drilling the third multi-lateral production well on the first of two 6 well development pilots
- Field Development Plan (FDP) submitted to UK authorities for the first pilot development
- Expect to declare commerciality end 2007
Airth #6 well
The End
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The Composite rig fleet

- Drillmec G55 bought new 2004
- Ram rig with top drive and fully automated pipe handling
- Modified for full oil and gas certification
- 55 tonne pull back capability
Composite rig fleet

- Drillmec HH102 under construction
- Delivery February 2007
- Ram rig with top drive and fully automated pipe handling
- Fully oil and gas certified
- 102 tonne pull back capability