Emerging Technology
Acid Gas Removal

EPA’s Natural Gas STAR Program,
Pioneer Natural Resources USA, Inc., and
The Gas Processors Association
June 17, 2003
New Developments in Acid Gas Removal Technologies

- Typical Amine Process
- IGT & Uhde Morphysorb® Process
- Engelhard Molecular Gate® Process
- Comparison
Reducing Emissions, Increasing Efficiency, Maximizing Profits
Reducing Emissions, Increasing Efficiency, Maximizing Profits

Morphysorb® Process

- Crude Gas
- Lean Solvent
- Semi Lean
- Absorber
- Flash Recycle
- Flash 1
- Flash 2
- Flash 3
- Clean Gas
- Sour Gas
- c. w.
The process is ready for commercial-scale application

One field test unit at Shell's Exploration and Production facilities in Fandango, Texas, USA

Feed capacity: 1 MMscfd

Source: Morphysorb® Process.
IGT & Uhde Technology Profile
Molecular Gate® CO₂

Reducing Emissions, Increasing Efficiency, Maximizing Profits
Tidelands Molecular Gate Unit

- First commercial unit started on May 2002
- Separate recycle compressor is required
- No glycol system is required
- Heavy HC removed with the CO₂
- Tail gas used for fuel is a key optimization
- 18% CO₂ removed to pipeline specifications
- C₂ + losses makes the applicability site specific

## Comparison

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