# **GOM Outlook**

# **Energy Summit 2004**

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## Disclaimer



This presentation contains forward-looking statements that are subject to risk factors associated with the oil, gas, power, chemicals and renewables businesses. It is believed that the expectations reflected in these statements are reasonable, but may be affected by a variety of variables which could cause actual results or trends to differ materially, including, but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, the risks of doing business in developing countries, legislative, fiscal and regulatory developments including potential litigation and regulatory effects arising from recategorisation of reserves, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.



# **Gulf of Mexico - Attractiveness**

## **Gulf of Mexico Business Environment**





- 5-10 year leases
- Access issue +/- 50% off limits

- 3 mile sq. leases drive complex JV's
- Tax royality stable terms

### **Gulf of Mexico - Exploration Frontlines**



- 1983 Paradigm "No sand beyond the shelf edge"
- 1990 Ram Powell (1985) 1<sup>st</sup> discovery, Auger (1987) 1<sup>st</sup> DW Hub, Mars (1989) Giant Field
- 1995 Declining field sizes in discovered plays
- 2000 New Play Models Atlantis (1998), Thunder Horse (1999) Giant Fields
- 2003 New Plays Frontier areas with technical challenges Great White (2002) opens Perdido play

### **Gulf of Mexico – Creaming Curves**





Deepwater Gulf of Mexico 2002: America's Expanding Frontier – OCS Report MM 2002-021

### Gulf of Mexico Deepwater resource added by Industry



Industry Deepwater GoM >1500' (source MMS)

## **Gulf of Mexico Plays**



**Conventional Amplitudes** (above salt)



**New/Emerging plays** (largely sub-salt)

#### **Mineral Management Service 2004 estimate:** - Shelf ultimate recovery 65 bln boe Yet-to-find - 15 bln boe (Deep Shelf - Gas)

- Deepwater ultimate recovery 71 bln boe Yet-to-find - 56 bln boe

### Significant Gulf of Mexico Wells in 2004



GP040139.PPT DAF 10/13/04

### **GOM Lease Expiry Outlook**



### **Ultra - Deepwater Rig Requirements**







# **Gulf of Mexico - Technology**

## **Technological Advance**





Royal Dutch / Shell Group of Companies

## GOM Development Milestones – A Step Change



### Mars Basin







Royal Dutch / Shell Group of Companies

### Major Projects – Shell Gas & Power





### LNG – Gulf Landing Terminal

•38 miles offshore Louisiana

•A concrete, gravity-based structure, which will be floated to the site and lowered to rest on the seafloor in about 55 feet of water.

•The facility will include a berth for mooring LNG carriers, LNG storage and regasification facilities, and pipelines to connect with existing natural gas pipeline systems in the Gulf of Mexico.

•Gas output will be delivered into as many as five major interstate pipelines serving Louisiana and parts of the US Southeast, Midwest, Northeast and Mid-Atlantic.



Royal Dutch / Shell Group of Companies



### **Real Time Operations Center - New Orleans**



### Vision:

- Provide State-of-the-art well visualization
- Efficiently drill and complete wells
- Achieve lowest unit technical cost (UTC)



### Achievements:

- 17% reduction in trouble time during 2003
- RTOC savings exceeds investment
- Global Reach



# **Gulf of Mexico - Access**

### Access: Key to the North American Energy Potential





- Federal Lands Open to Energy Leasing
- Federal Lands Closed to Future Energy Leasing
- Offshore Planning Areas Closed to Future Energy Leasing
- OCS Planning Areas

### **Eastern Gulf of Mexico**





### Access Challenges

- NIMBY
- Industry image
- NGO opposition
- Education
- Political support
- Environmental concerns

## Sustainability in the Offshore





#### Health and Safety



#### **Engaging stakeholders**





Technology → *Minimizing our impact* 



#### Education and research

Environment





# BACKUP



U.S. Gas Supply is migrating to more remote, technically challenging sources

## Access: Key to the North American Energy Potential



### 2004 Exploration – Gulf of Mexico



## Major Projects - Nakika





- First deepwater semi-sub host for Shell
- Deepest permanent moored semi-sub
- World's largest pipe in pipe risers
- First gas lift risers in the GoM
- First electrically heated flowlines/risers
- One dual frac pac SMART well
- Three triple frac pac SMART wells
- Excellent ramp-up & up-time

## **Public Policy**



### **Issues:**

### •Domestic energy second largest contributor to Federal Treasury

- Access to off-limit areas of the U.S. is good for the country and Louisiana
- MMS has been a great steward of our offshore resources
  - Coastal states competitiveness with OCS, especially in regard to Shelf Deep Gas
  - GOM getting squeezed with no access on the Mexico and Florida flanks
- Canada, Mexico and U.S. cooperation on cross border resource
  - Provides growth and stability for each countries economy and citizens
- Technology key to unlocking plays & reducing footprint

## **Public Policy**



### What can we do?

- Grass-roots programs in the coastal states.
- Provide input into the MMS's next 5-year plan ('07-'12) this winter
- Revenue sharing options with coastal states that support responsible development.
- Stakeholder engagement strategy
- Congressional and Executive Moratoria changes when Public Opinion changes.