Impacts of Deepwater Drilling in the Gulf of Mexico

2008 API Tanker Conference – San Diego

POTEN & PARTNERS

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Agenda

- Crude oil in the US Gulf
- Existing projects and partnerships
- Shuttle tanker project summary
- Shuttle tanker size alternatives
- Market potential

Crude oil in the US Gulf

- US Gulf production generally categorized as follows:

  Shallow Water <1,000 feet – fixed structures

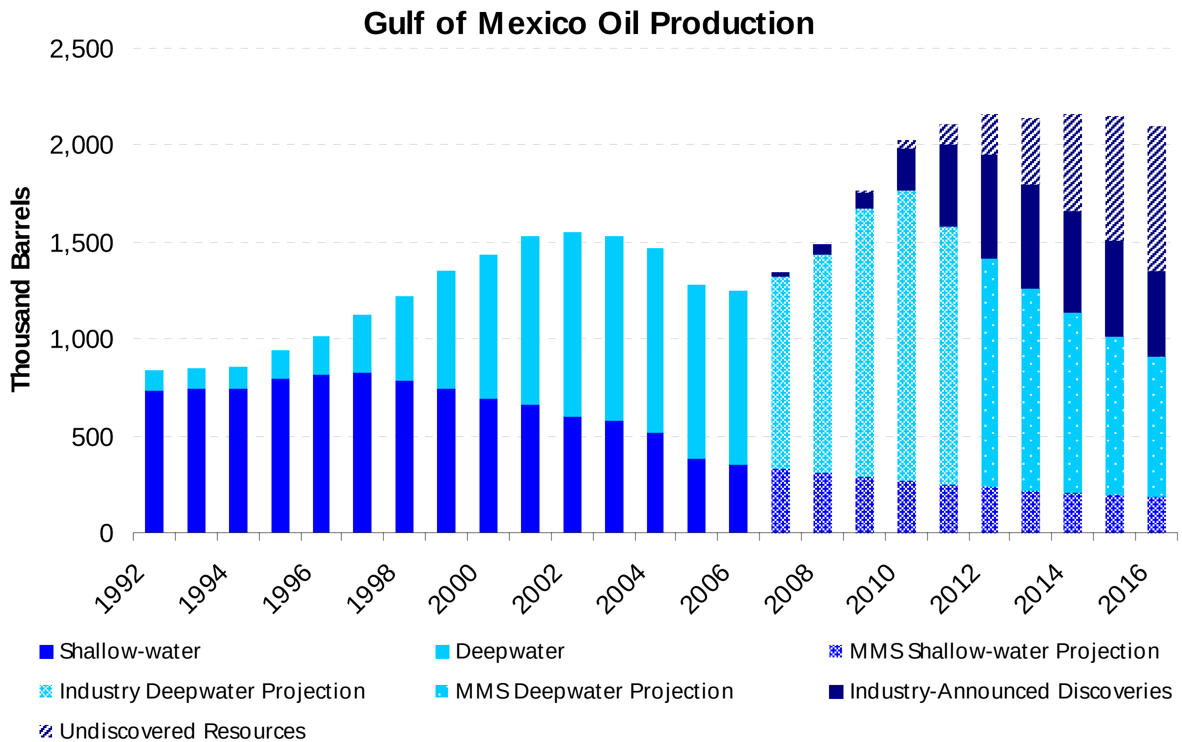
  Deep Water 1,000 – 7,500 – floating production structures

  Ultra Deep Water >7,500 – floating production and storage structures

- 43 million leased acres on the total outer continental shelf account for about 27% of America's domestic oil production

- 55% of those in the Gulf of Mexico are considered to be in "deep water" or "ultra deep water"

Projected production



Source: U.S. Minerals Management Service

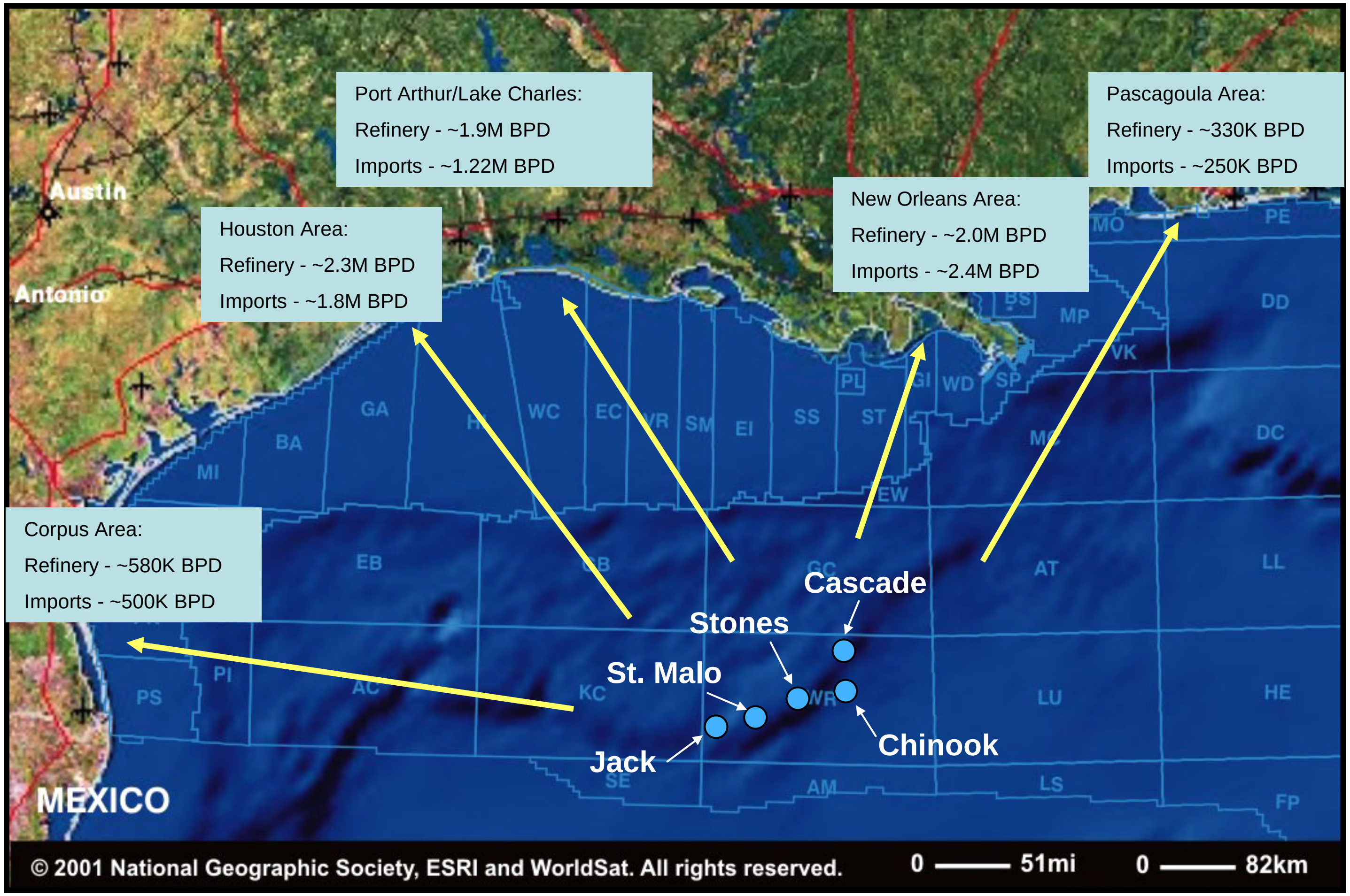
- Majority of new discoveries are projected to be in deep water and ultra-deep water regions
- Undiscovered resources are those that are expected to be leased and developed
- Committed production scenario to peak at 1.7 million barrels per day in 2010
- MMS projected full-potential to reach 2.1 million barrels per day in 2011

Selected projects and partnerships

Operator	Fields	Partners	Location	Depth	Transportation Plans
Petrobras	Cascade / Chinook	Devon, Total	165 miles South of Louisiana	8,200’	Shuttle tankers
Shell	Perdido Region (GreatWhite, Tobago, Silvertip)	Shell, Chevron, BP, Nexen	200 miles South of Freeport, TX	7,500 – 10,000’	Pipeline currently under construction
Hess	Pony	No partners	130 Miles South of New Orleans, LA	3,500’	Plan to tie in with nearby existing pipeline infrastructure
Chevron	Jack Well # 2	Devon, Statoil	270 miles Southwest of New Orleans, LA	7,000’	Undecided

- Other companies that have ultra-deep water interests include Anadarko, BHP, BP, Marathon, Murphy, Nexen, Statoil

Key US Gulf reserves in Walker Ridge



Cascade and Chinook project summary

Cascade and Chinook - Petrobras America-led project in >8,100 feet of water

- Company drew on existing FPSO and shuttle tanker operational experience to become "first movers" on use of shuttle tankers in the US Gulf
- Executed feasibility study that closely examined cost/benefit relationship between pipeline and shuttle tankers
- Concluded that shuttle tankers would provide safe, reliable and cost effective solution compared to a pipeline
- Sophisticated dynamic positioning systems not required for shuttle tankers as weather conditions in US Gulf are considerably more favorable than North Sea
- Partnered with first-class operators
  - BW Offshore will be providing the *BW Pioneer* (600,000 bbl) FPSO
  - OSG America is set to deliver two 330,000 bbl shuttle tankers *Overseas Chinook* (1q2010) and *Overseas Cascade* (1q2011)

FPSO and shuttle tanker key considerations

- Potentially higher crude price realizations
  - No downgrade in crude quality
  - Discharge location flexibility

- Weather
  - Fog can cause port delays
  - Hurricanes can disrupt fixed systems

- Cost
  - Distance from existing pipelines
  - Underlying terrain
  - Availability of pipeline capacity

Shuttle tanker size alternatives

Production (barrels per day)	ATB 300,000 barrels	Handymax Tanker 330,000 barrels	Aframax Tanker 600,000 barrels
190,000	3.3 vessels required $1.35 - $1.51 per barrel	2.9 vessels required $1.20 - $1.35 per barrel	1.6 vessels required $1.40 – 1.55 per barrel
140,000	2.4 vessels required $1.35 - $1.55 per barrel	2.1 vessels required $1.60 - $1.80 per barrel	1.2 vessels required $1.85 - $2.05 per barrel
90,000	1.6 vessels required $1.40 - $1.60 per barrel	1.4 vessels required $1.65 - $1.85 per barrel	0.8 vessels required $1.45 - $1.60 per barrel

- Per barrel costs assume that number of required vessels is always rounded up
- With shared transportation among fields unit costs would be lower due to increased fleet utilization

Shuttle tanker market potential

- Most recent Gulf of Mexico oil and gas lease sales sold for a record $3.7 billion
- Growing interest in the deeper water areas, as shallow water reserves are mostly developed. Expect considerable interest in the next round of lease sales in August 2008
- Material constraints in the short-run may limit the ability of operators to procure rigs and other fixed structures
- Projected demand for as many as 15 – 20 shuttle tankers in the US Gulf. This type of activity would likely lead to a North Sea type shuttle tanker operating system further reducing costs

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