



*Development and Changes in
Gulf of Mexico Oil and Gas*

Offshore Technology Conference

Houston Texas - May 5, 2003

Chris C. Oynes

Regional Director
Gulf of Mexico OCS Region
Minerals Management Service

MMS

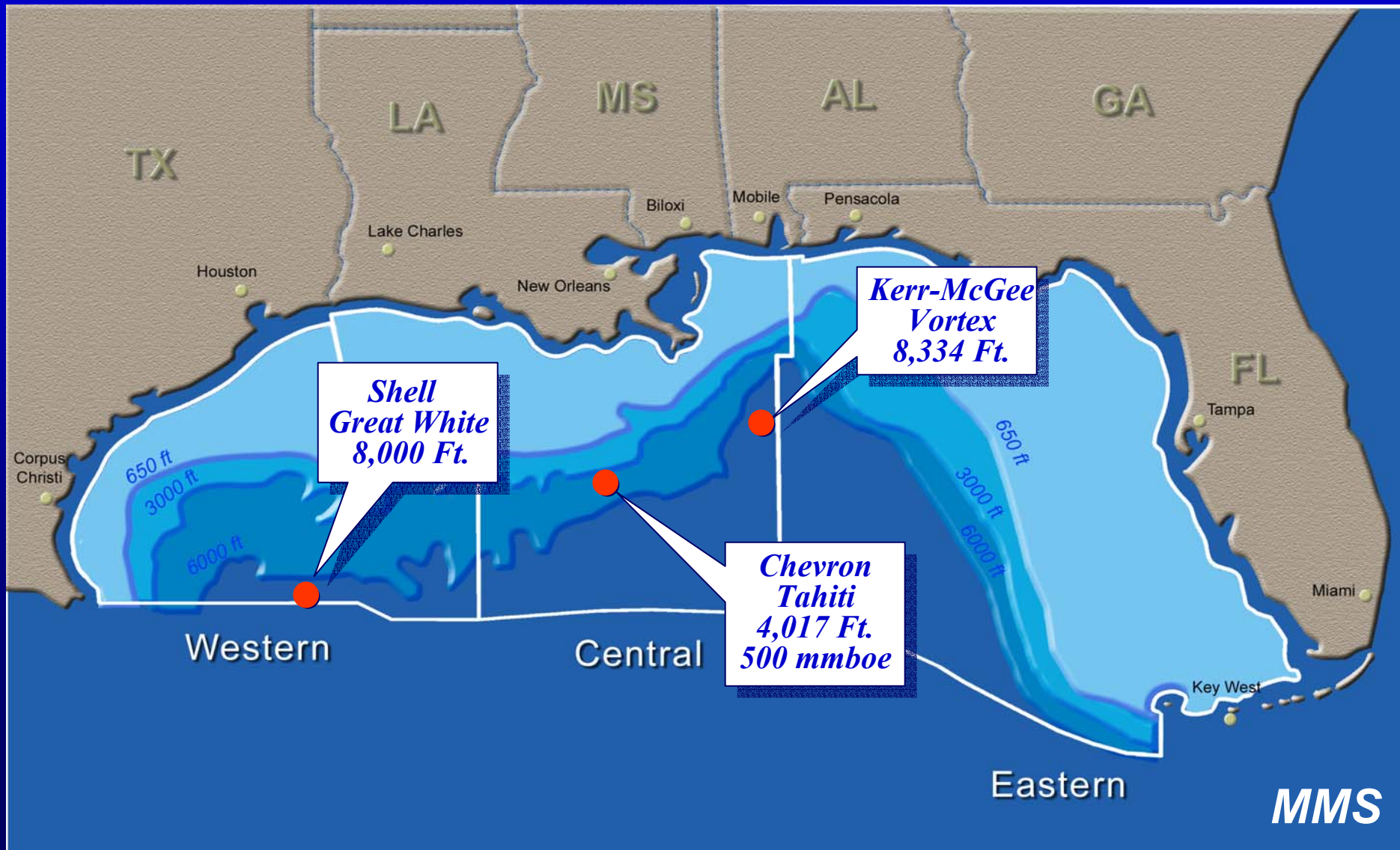
- This Year Marks the 50th Anniversary of the OCS Lands Act. We have come a long way.
 - From rigs that still touched the shore
 - To beyond the sight of land
 - Now some 200 miles from shore
- We have seen oil production rise 50% in 8 years
- As showcased at OTC we now have gas production from the Canyon Express project in 7,000'
- The Gulf of Mexico, even after 50 Years, Remains a Vibrant and Changing Hydrocarbon Basin.

Topics

- Deepwater Development
- 5 Year Production Projection
- Deep Gas on the Shelf
- Ongoing Activities

Deepwater Development

Gulf of Mexico New Large Discoveries



Gulf Deepwater Discoveries-2002

Prospect	Operator	Area / Block	Water Depth'
Vortex	Kerr-McGee Oil & Gas Corp.	AT261	8,334
Cascade	BHP Billiton Petroleum (GOM) Inc.	WR206	8,143
Great White	Shell Offshore, Inc.	AC857	8,009
Shenzi	BHP Billiton Petroleum (GOM) Inc.	GC654	4,394
Tahiti	Chevron USA Inc.	GC640	4,017
West Navajo	Kerr-McGee Oil & Gas Corp.	EB689	3,905
Slammer	Samedan Oil Corp.	MC849	3,599
Quatrain	Murphy Exploration & Production	GC382	3,328
Deimos	Shell Offshore, Inc.	MC806	3,003
-----	LLOG Exploration Offshore Inc.	GB205	1,330
-----	Mariner Energy Inc.	MC066	1,144
-----	Anadarko Petroleum Corp.	MC401	1,134

Development

- 65 deepwater projects were in production at the end of 2002
- As many as 18 - 19 new production projects are planned in 2003
- 16 more planned in 2004

2004 Projected Deepwater Production Starts

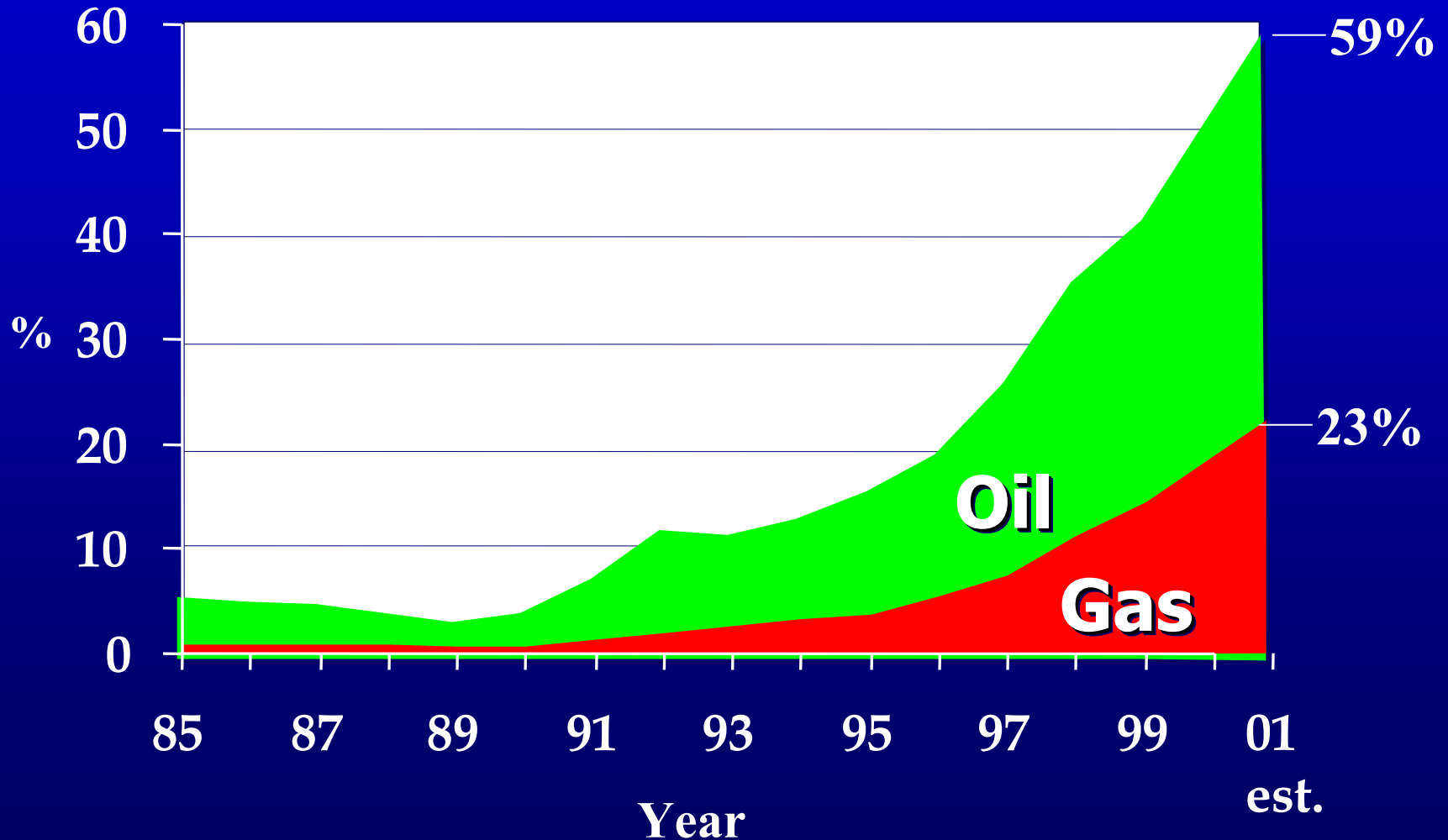


2004 Production Starts Using Spars

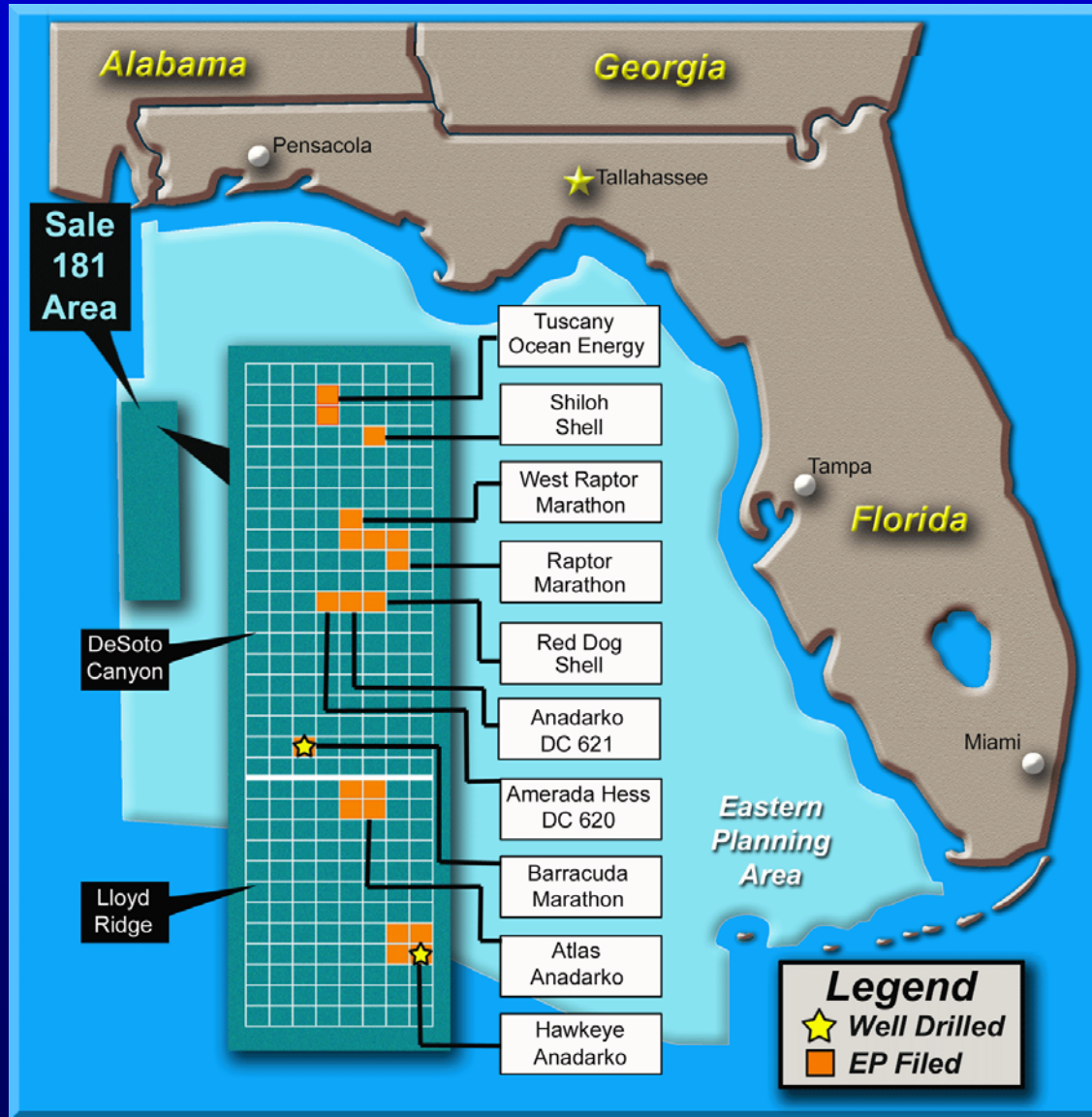
Mad Dog	4,951 ft.	Truss
Red Hawk	5,300 ft.	Cell
Gunnison	3,100 ft.	Truss
Front Runner	3,500 ft.	Truss
Holstein	4,300 ft.	Truss

GOM OCS Deepwater Production

(% of total Gulf of Mexico)



2003 Exploration Eastern Gulf of Mexico

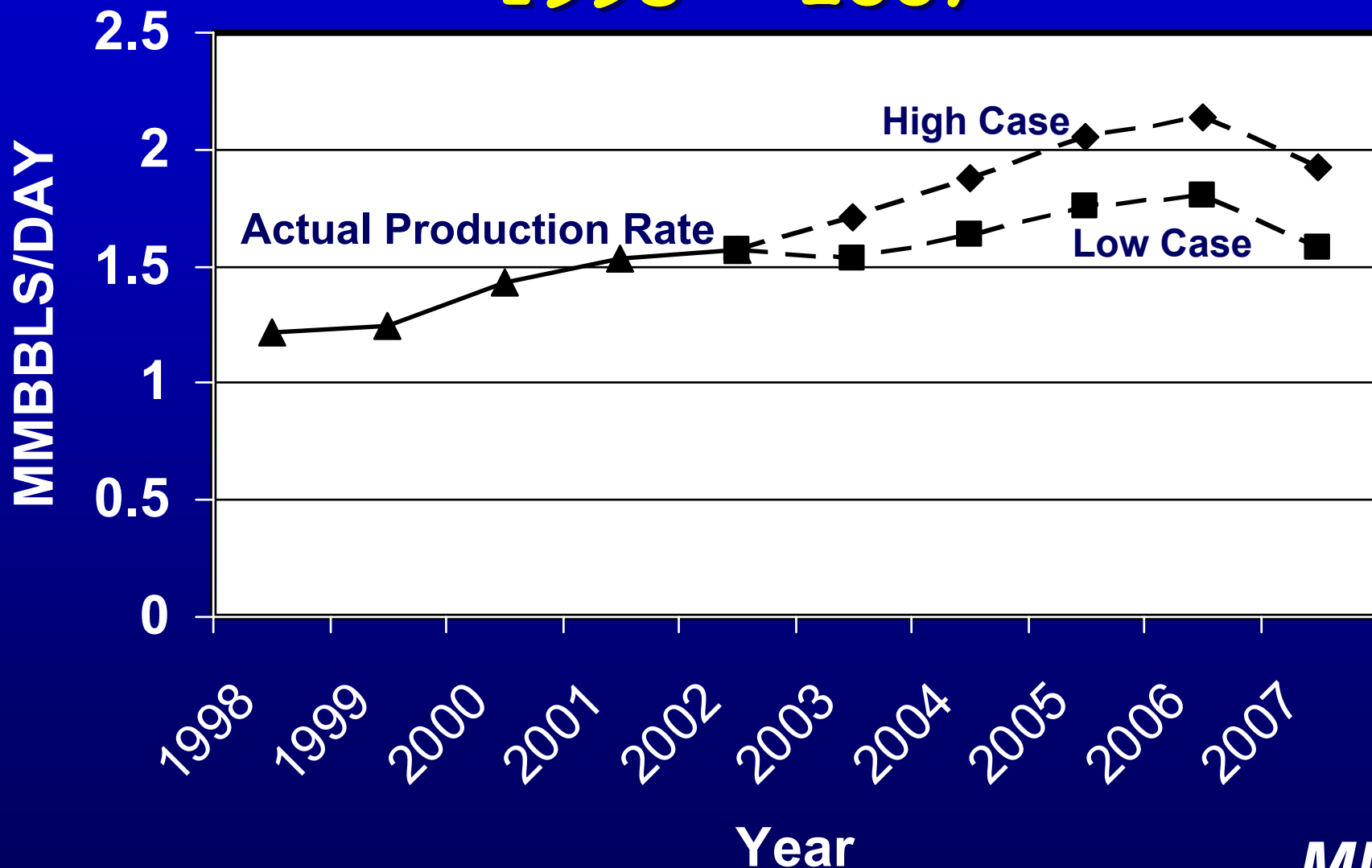


Deepwater Millennium Drilling for Anadarko on Lloyd Ridge Block 360 in 9098 feet of Water

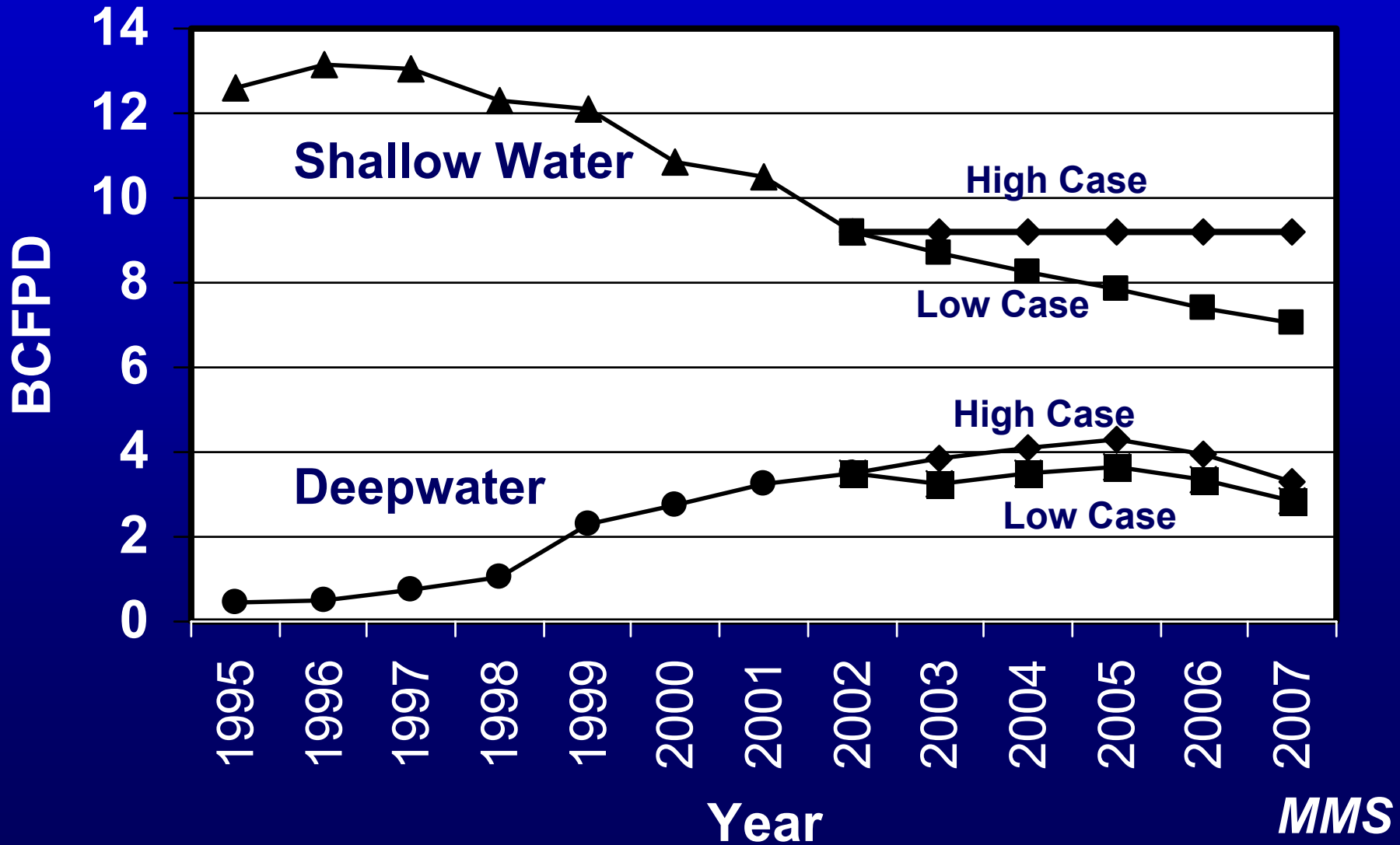


5 Year Production Projection

GOM Oil Production Rate Projections 1998 - 2007

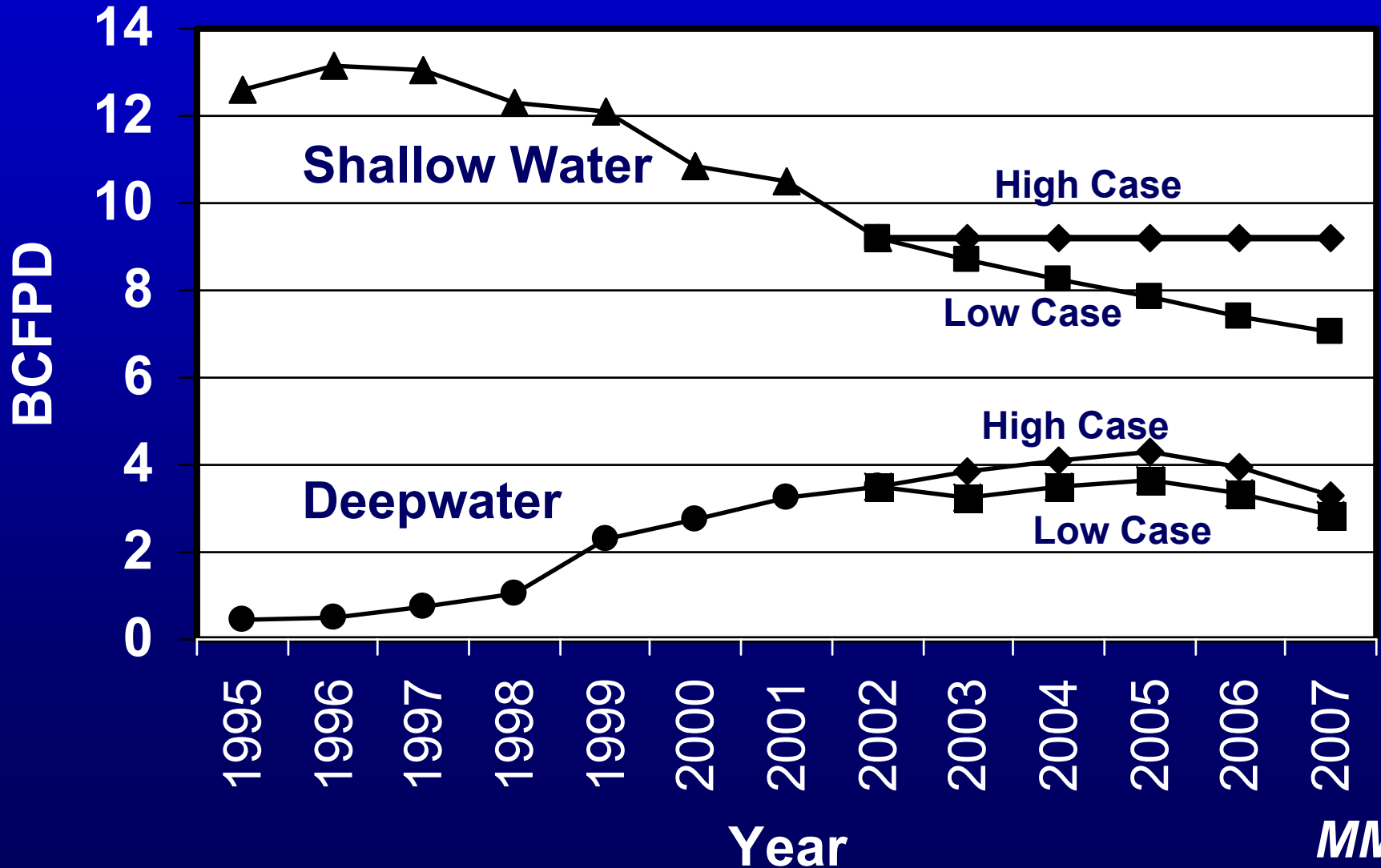


GOM Gas Production Rates Shallow and Deepwater



Deep Gas on the Shelf

GOM Gas Production Rates Shallow and Deepwater



- Shallow water gas production is in a steep slide
- Yet 80 percent of Gulf gas comes from shallow water
- Policy implications are important

Deep Shelf Drilling Continues at a Modest Pace.

Deep Shelf Wells Started

1995	1996	1997	1998	1999	2000	2001	2002
58	62	68	57	59	86	75	64

The Potential is Attractive but Largely Unknown

- Relative few wells have characterized its potential. Only 5 percent of wells have gone below 15,000 feet.
- MMS and companies see many untested large structural closures.
- Imaging is poor.

New Deep Gas Discoveries on the Shelf



El Paso ST 204 Production

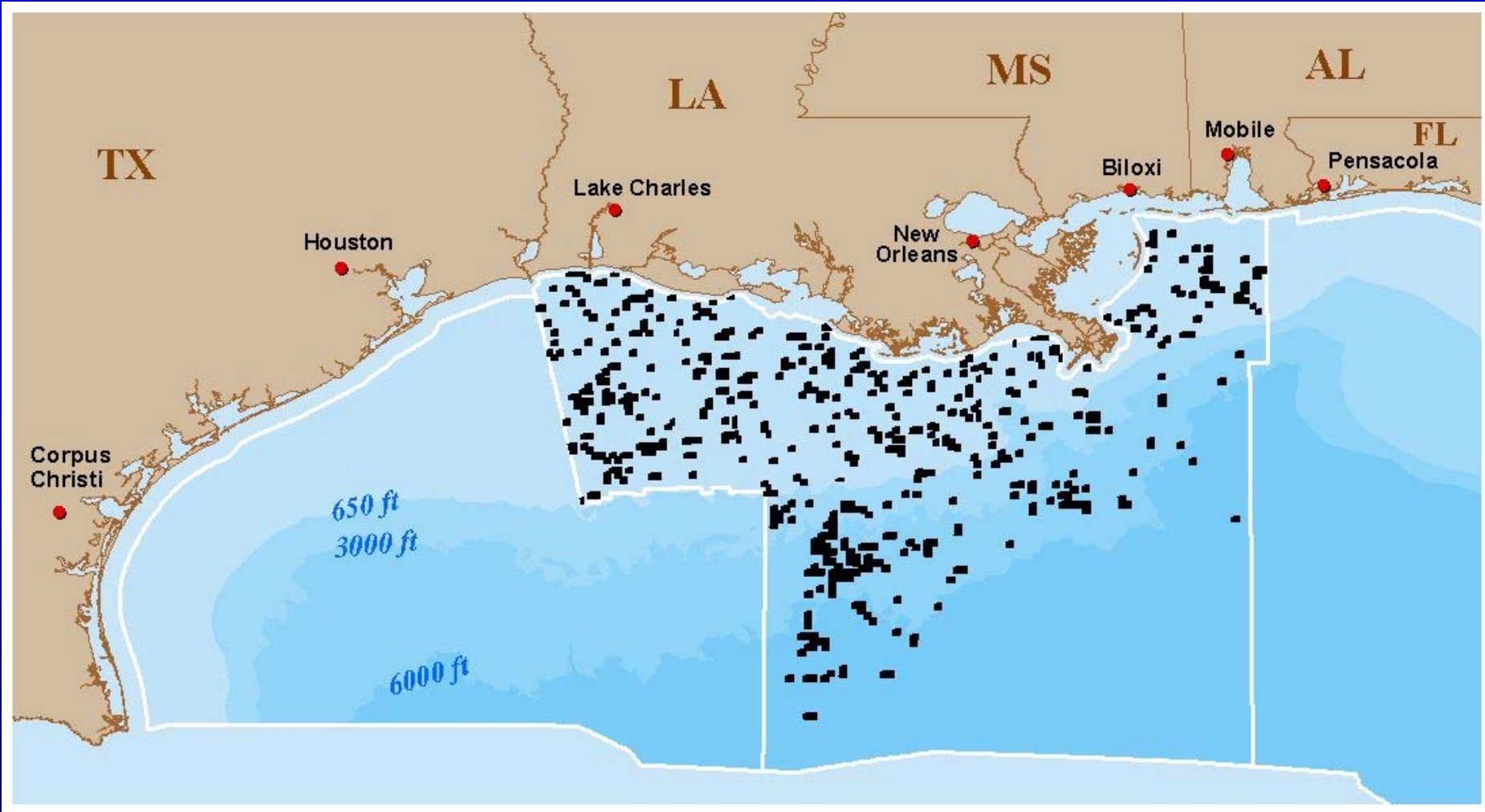


What Role Could it Play?

Incentives

- MMS has offered the first 20 Bcf of gas production royalty free on new leases.
- Several companies have acquired new shelf leases.
- Majors have come back on the shelf.

Bids in Central Gulf Sale 185 March 2003



What Role Could it Play?

- MMS has proposed a rulemaking to apply the royalty relief to existing leases.

Well Tests for Deep Shelf Wells 2001 - 2002

True Vertical Depth
(Sub-sea Dimensions in feet)

>15,000	27.7 mmcf/d
>15,000 - 15,999	13.8 mmcf/d
>16,000 - 16,999	32.2 mmcf/d
> 17,000	44.8 mmcf/d

Ongoing Activities

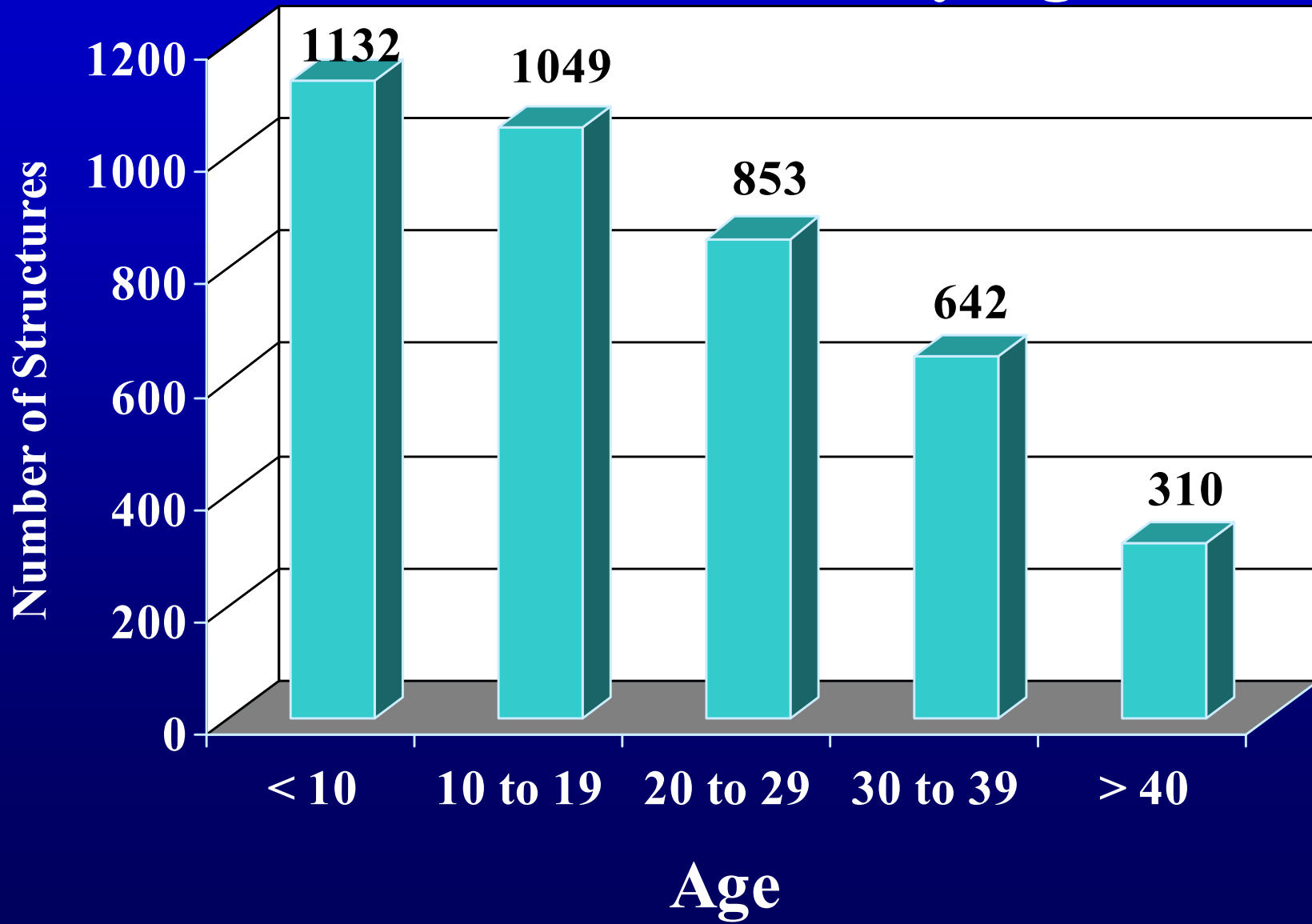
Ongoing Activities

Cranes

- Crane Operations and accidents continue to be a concern
- Improper maintenance and no inspections are violations we see
- Rental Cranes are especially troublesome
1 Fatality and 3 near misses
- Workshop on crane safety June 24-25 in Lafayette

Average Age GOM ~20 Years

GOM Structures by Age



Aging Platforms



Ongoing Activities

Aging Infrastructure

- MMS Issued a Final Rulemaking on April 21, 2003
- Incorporates 21st edition of API RP 2A (RP for Planning, Designing and Constructing Fixed Offshore Platforms - Working Stress Design) (Replaces 19th and 20th edition) (30 CFR 250.198)

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Ongoing Activities

Aging Infrastructure

RP 2A

- Section 17

- Designed to evaluate fitness for purpose of existing structures
- NTL to be issued by MMS:
 - Will set a timeframe to demonstrate compliance (Acceptable level of risk)

- Section 15

- Reuse is used for evaluation of new operations

Ongoing Activities

New Research In FY 2003

- Large scale polyester rope JIP
- Composite tendons
- Composite production riser - comparative risk assessment