

Center for Strategic and International Studies, 1 May 2006, Washington, D.C.

***Meeting Global Energy
Challenges with Technology***

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President

ExxonMobil Upstream Research Company

ExxonMobil

Key Messages

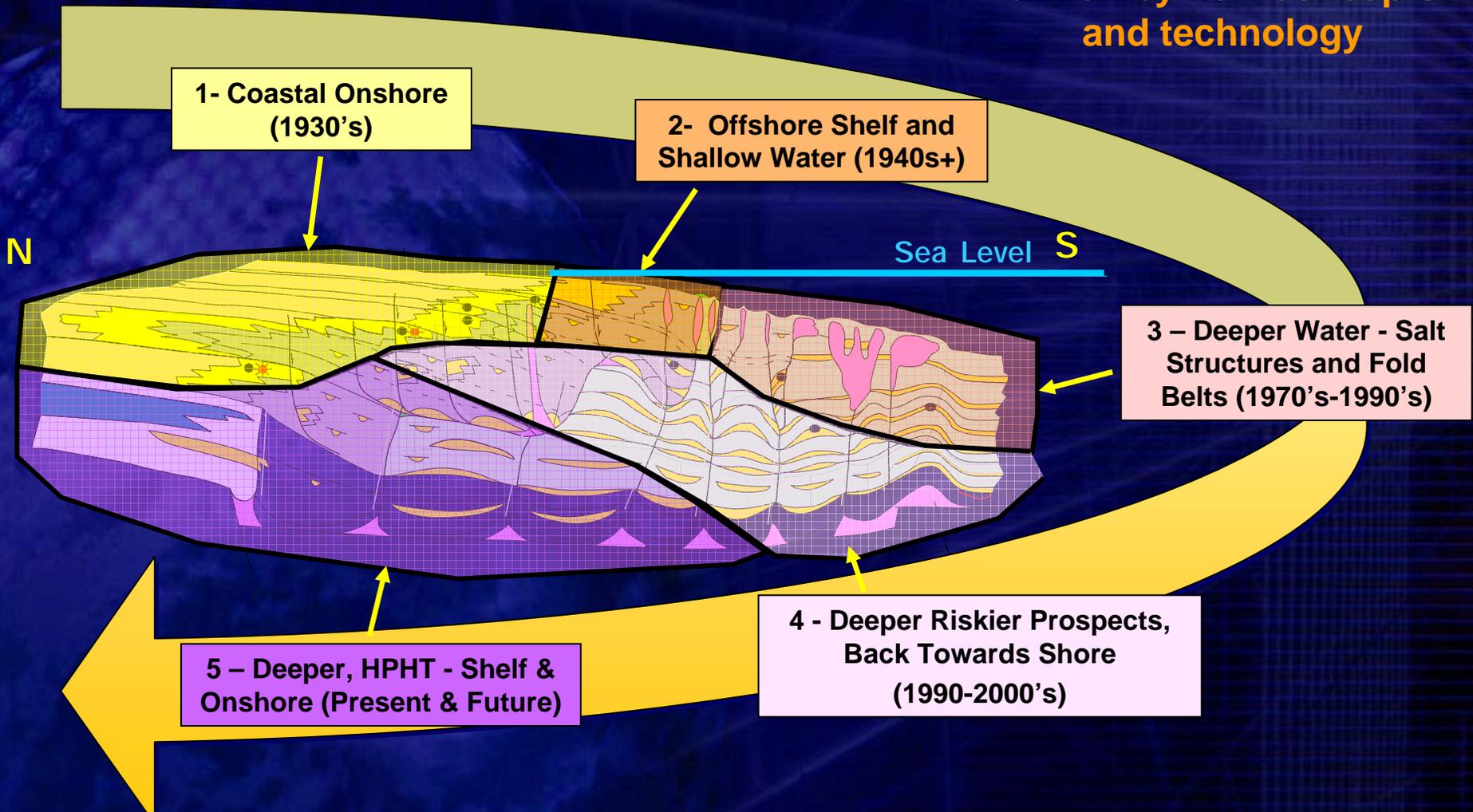
- **The Upstream O&G industry is a highly technical business**
...with a long history of innovation and accomplishment
- **Future opportunities will require substantial advances in technology**
... history suggests we are up to the challenge
- **A significant R&D effort will be required**
...focused on next-generation and breakthrough technologies

Expanding Exploration Opportunities

*“Where oil is first found...
is in the minds of men...”*

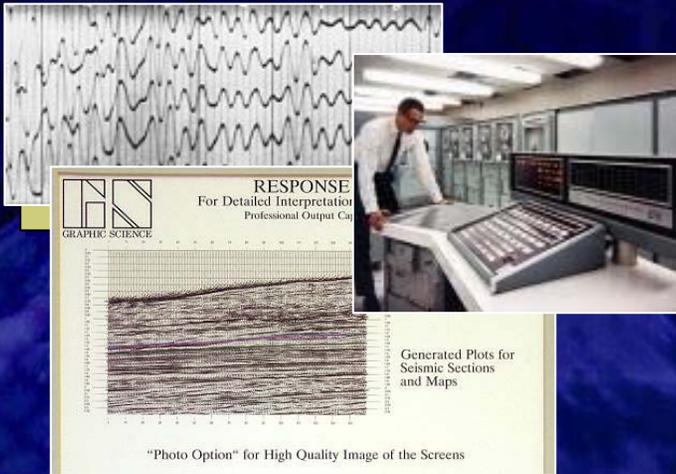
Wallace Pratt, 1952

History of Exploration
in the U.S. Gulf basin
driven by new concepts
and technology

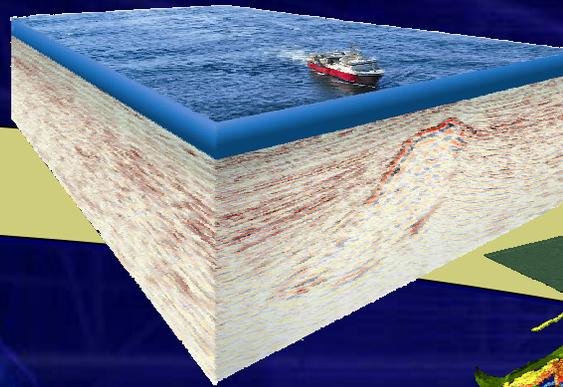


Imaging the Subsurface

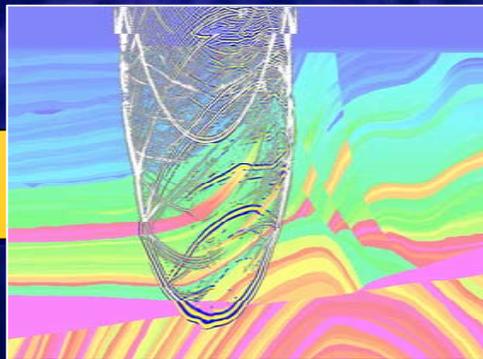
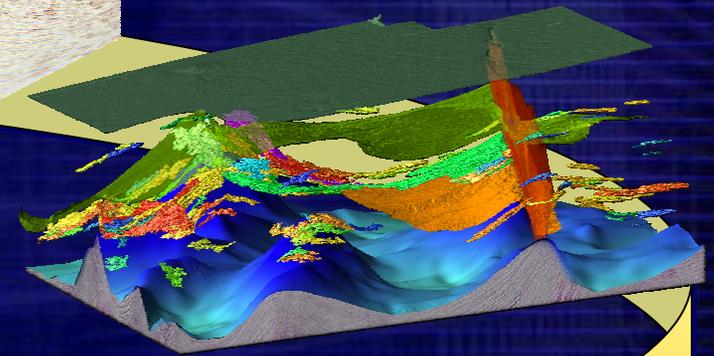
Analog to Digital Seismic



2D to 3D Seismic



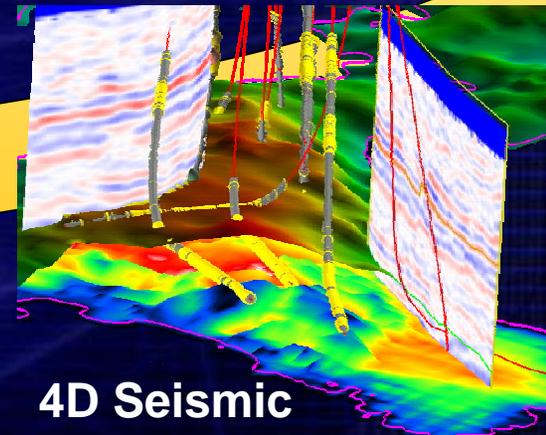
Volume Interpretation & Direct Hydrocarbon Indicators



Next Generation Imaging

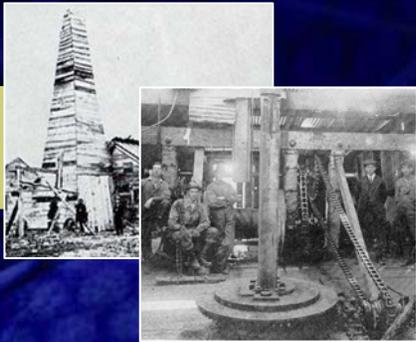


Advanced Electromagnetics

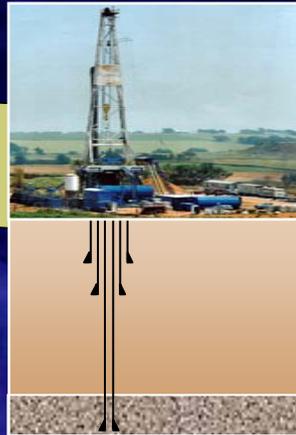


4D Seismic & Advanced Visualization

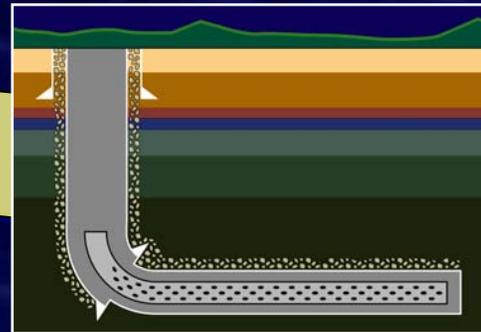
Extending Drilling Capabilities



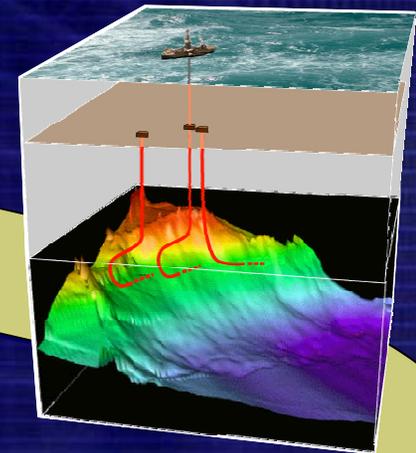
Cable Tool to Rotary



Deep Vertical

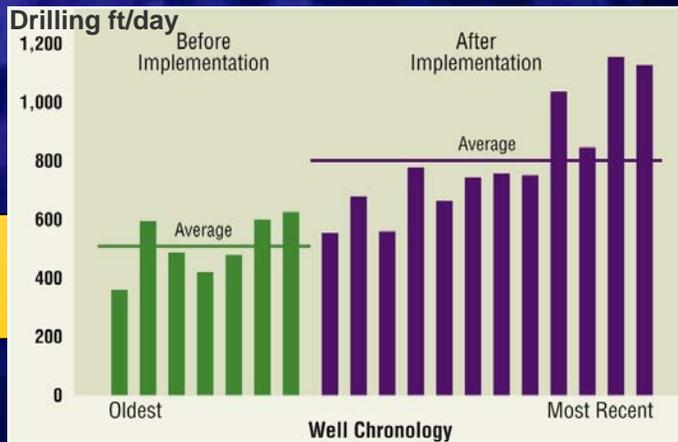


Horizontal

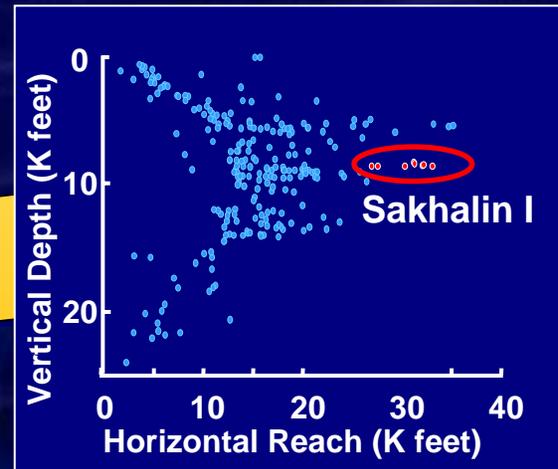


Complex / Offshore

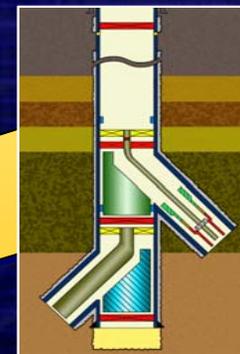
ExxonMobil FastDrill Process



Driving Toward the Physics- Based Limits



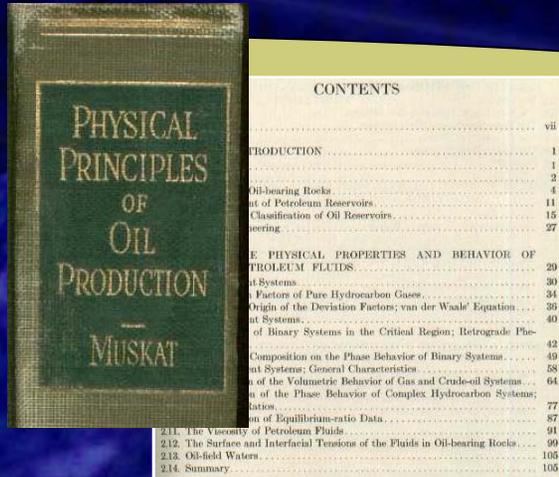
Extended Reach



Multi-Laterals

Optimizing Reservoir Recovery

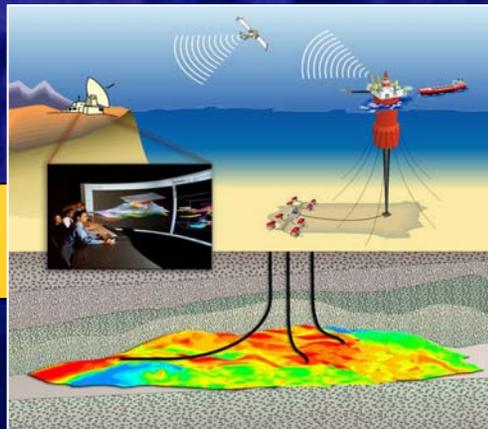
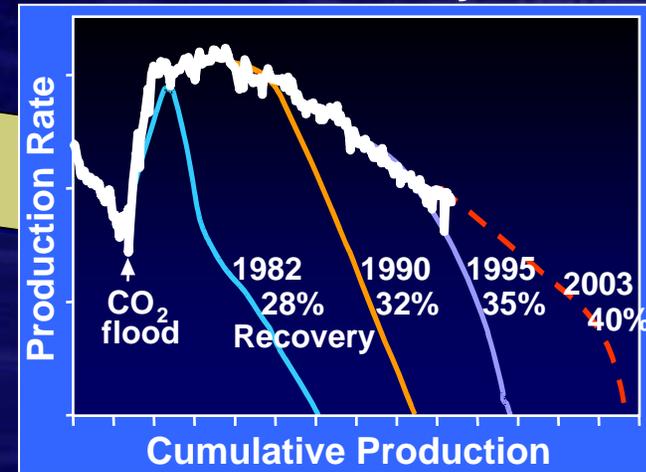
Birth of Reservoir Engineering



Analog to Digital Simulation

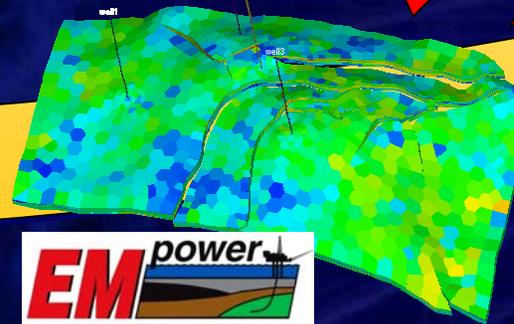


Enhanced / Improved Oil Recovery

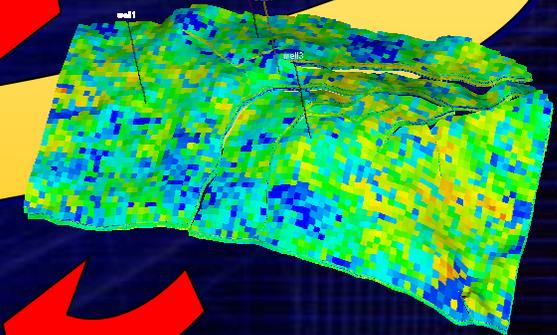


Real-Time Management and Optimization

Reservoir Simulation



Geologic Model



Integrated Geologic Modeling and Reservoir Simulation

Commercializing Gas

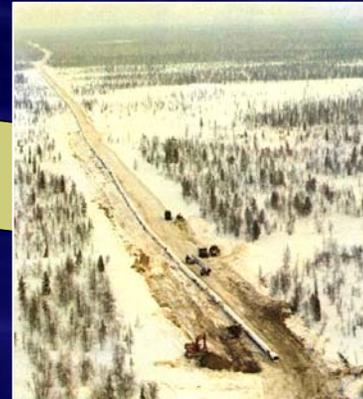
Developing Pipeline Networks

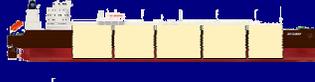


Early LNG



Trans-National Pipelines



Conventional 138,000 m ³	
Q-Flex 216,000 m ³	
Q-Max 260,000 m ³	

LNG Economies of Scale

Commercializing Challenged Gas

Protecting the Environment

Subsea Well Control



**Biodegradable
Drilling Fluids**



**Reducing the
Operational Footprint**



Sensitivity to Marine Life



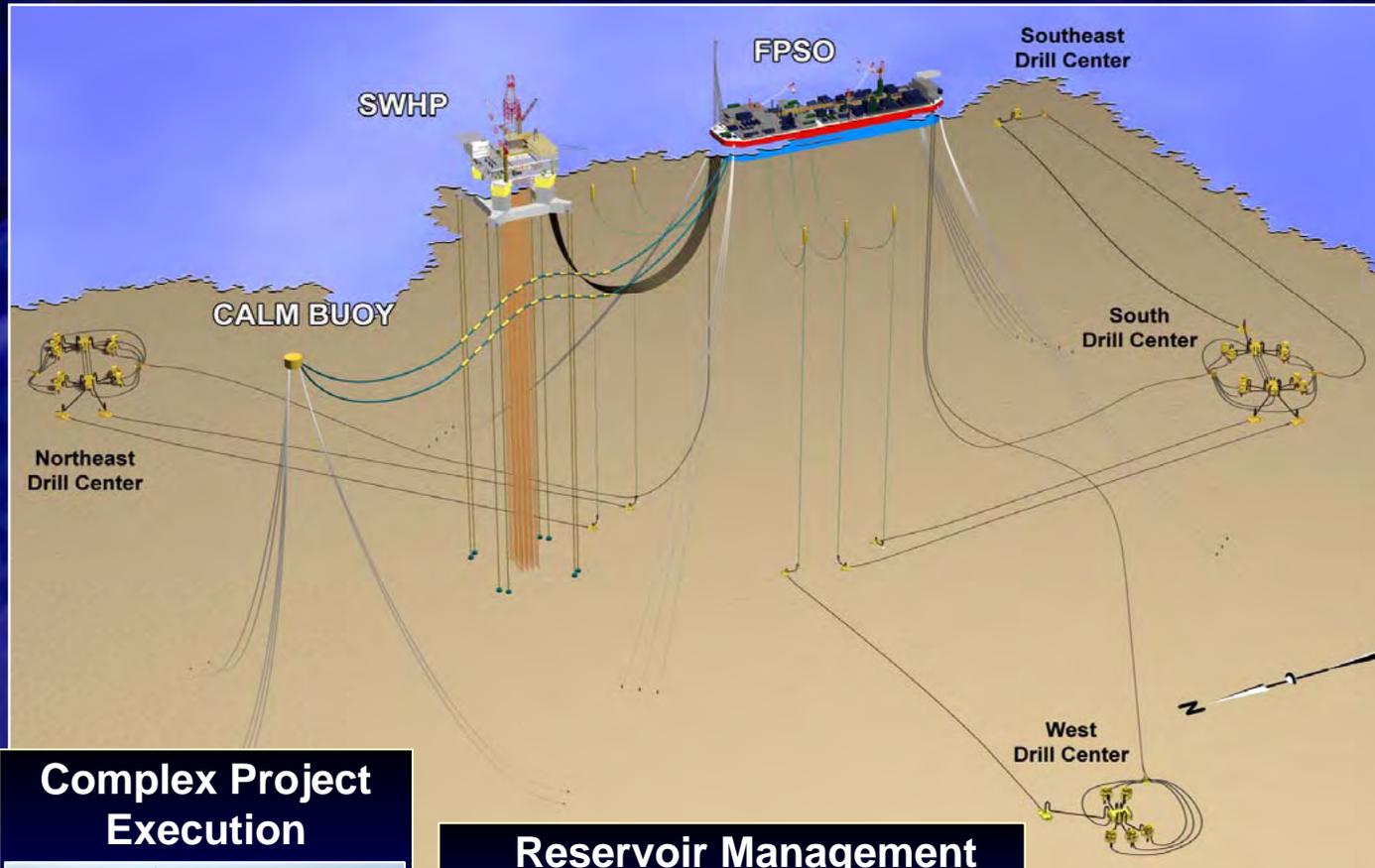
Christopher Richter for the Minerals Management Service

**Carbon Capture and
Sequestration Research**

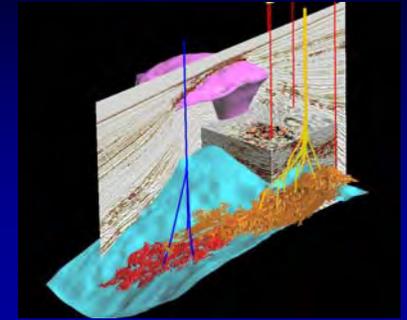


Developing Deepwater

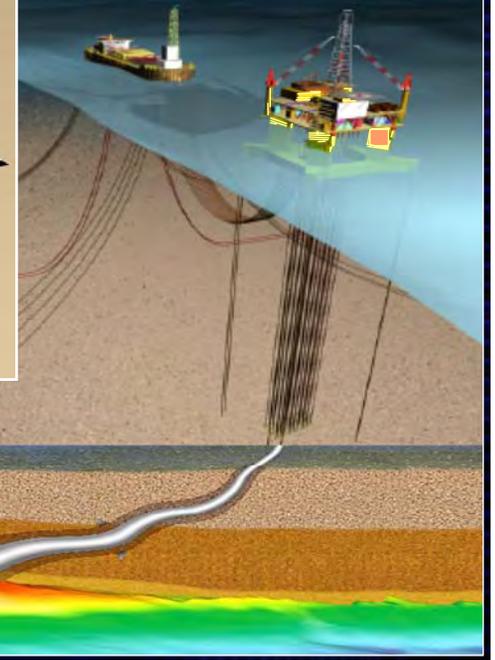
Kizomba A: The Integration of Technology on a Massive Scale



Deepwater Reservoir Description



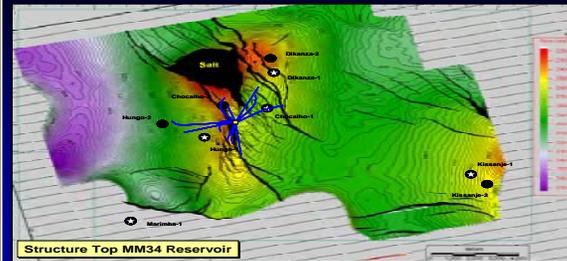
Complex Drilling and Completions



Complex Project Execution



Reservoir Management



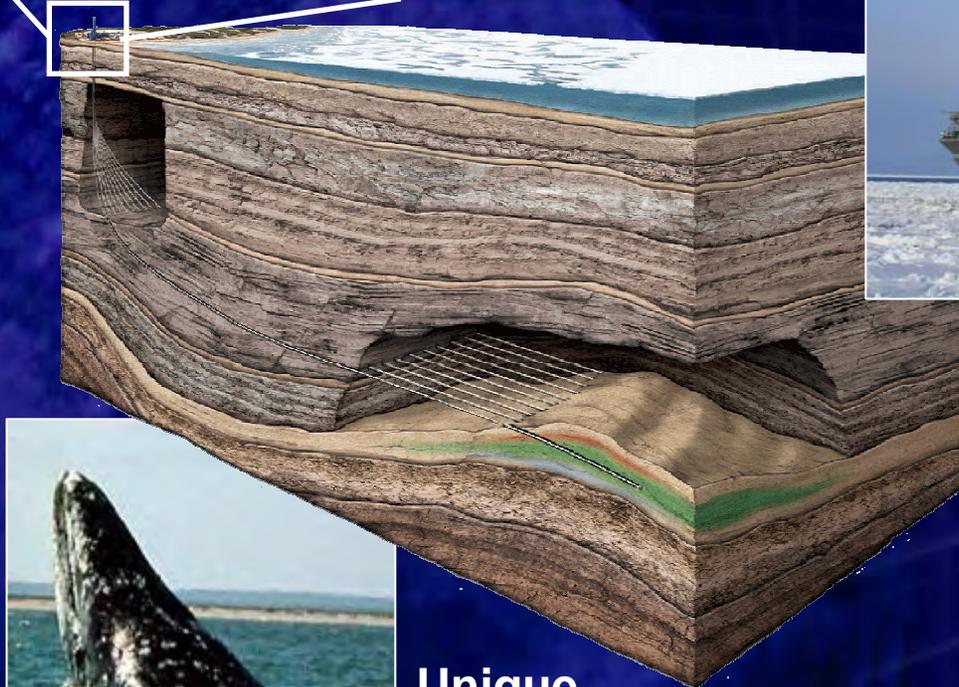
Pioneering Arctic Development

Sakhalin I: Technologies for a Challenging Environment



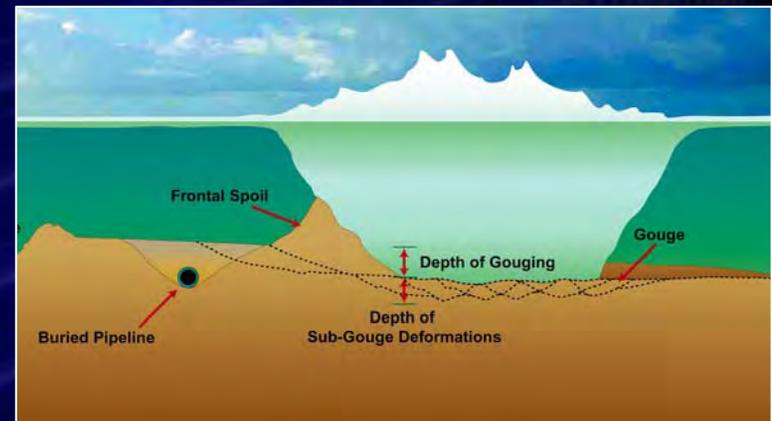
Drilling and Completions of World-Class Complexity

Complex Designs for Year Round Operation



Unique Environmental Considerations

Pipeline Design Considering Ice Grounding



ExxonMobil

Taking on the world's toughest energy challenges.™

