

Exploration Executive Panel

Outlook on Sustainability of the Exploration & Geophysical Industries

Leadership in
INNOVATION.
INSIGHT for
Energy.
2018 IAGC Annual Conference

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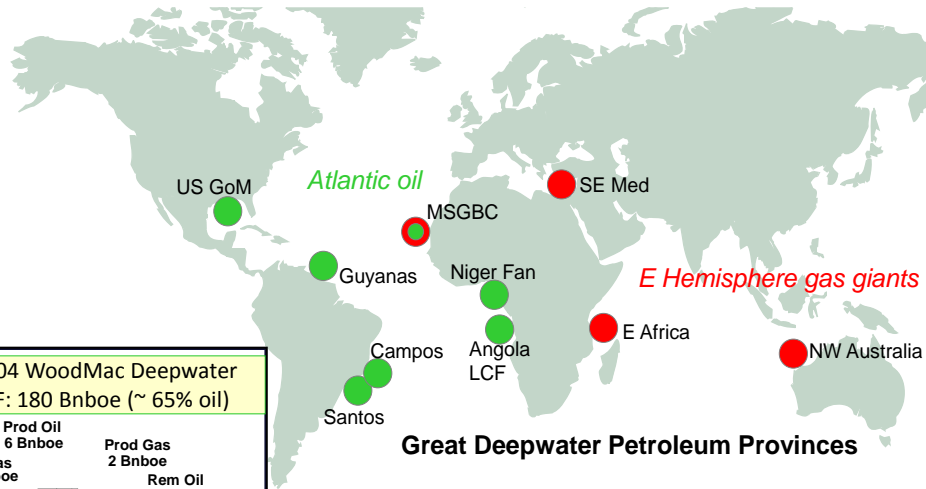
SECTION BREAK

Neil Piggott

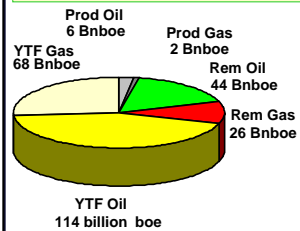
Hess Corporation: Deepwater Exploration

A Large Cap's perspective

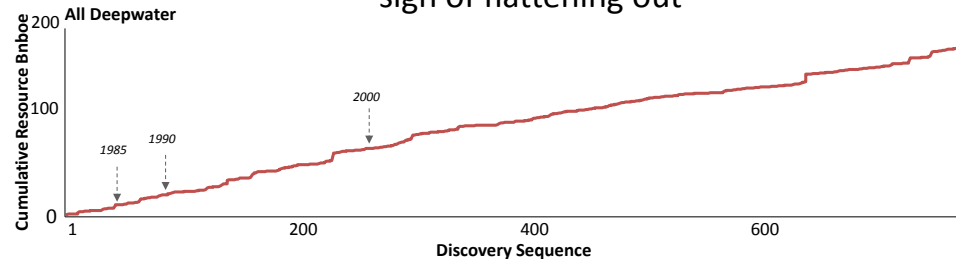
Deepwater Exploration The Prize



2004 WoodMac Deepwater
YTF: 180 Bnboe (~ 65% oil)



Since early 1980s creaming curve for Global Deepwater shows no sign of flattening out



WoodMac (2004) Future of Deepwater Study

- ~20% Global YTF...180Bnboe
- Atlantic “Golden Triangle”: GoM, Angola, Niger, Campos

Since then:

Santos Pre-Salt, Ghana, SE Med, E Africa

And most recently:

MSGBC and Guyana

Shift from structured fan plays to carbonates and passive margin strat traps

	Guyana Liza Phase 1 Development ¹	Delaware Basin Illustrative 50,000 Net Acre Development ²
Peak Production	120,000 BOED	120,000 BOED
Peak Production Oil	120,000 BOD	86,000 BOD
Initial Investment to Peak Production	3 years	10+ years
Reservoir Quality	Multi Darcy	Micro Darcy
Total Production Wells	8	1,400
Avg. EUR / Production Well	56 MMBO	0.9 MMBOE 0.6 MMBO
Development Capex	\$3.2 Billion	\$10.5 Billion
Unit Development Costs	~\$7/BO	~\$9/BOE ~\$12.5/BOE
Cost Environment	Deflating	Inflating
Required WTI price for 10% Cost of Supply	~\$35/bbl	~\$45/bbl

Offshore Guyana: Low Development Costs and Financial Returns
(from Hess Corp 2018 Investor presentation)

Liza Phase I offers breakevens superior to U.S. shale plays

Deepwater Costs

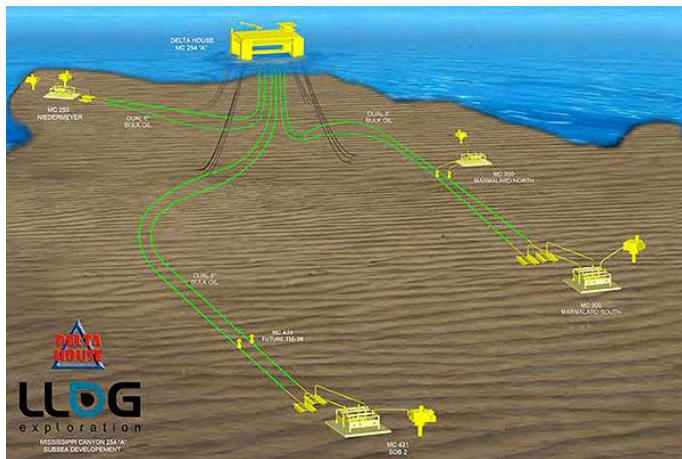
Conditions right to invest counter-cyclically in the Deepwater:

- Deepwater activity low; 50% of 2013, projected to be flat to 2017 levels for 3 years
- Overall drilling spread rate and seismic costs down ~40% since 2013; “hangover” of 2014 long-term contracts meant cost reductions were slow

Other factors:

- Delivering top quartile drilling performance offers further Deepwater well cost reduction opportunity
- High well rates and EUR/well
- Drilling performance offers further improvements

Permian reportedly experiencing 5-20% cost inflation in 2017 after seeing immediate deflation in 2015



Deepwater Value Maximization

Standardization of projects drives cost efficiencies

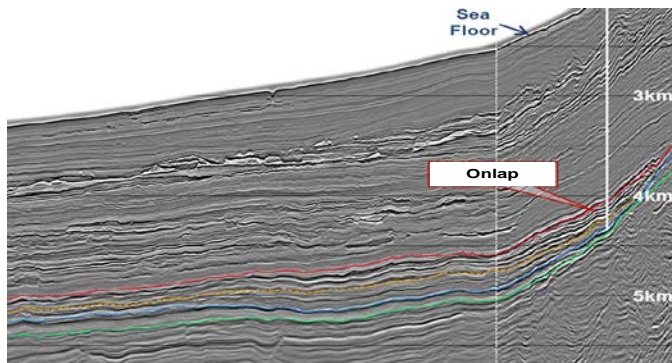
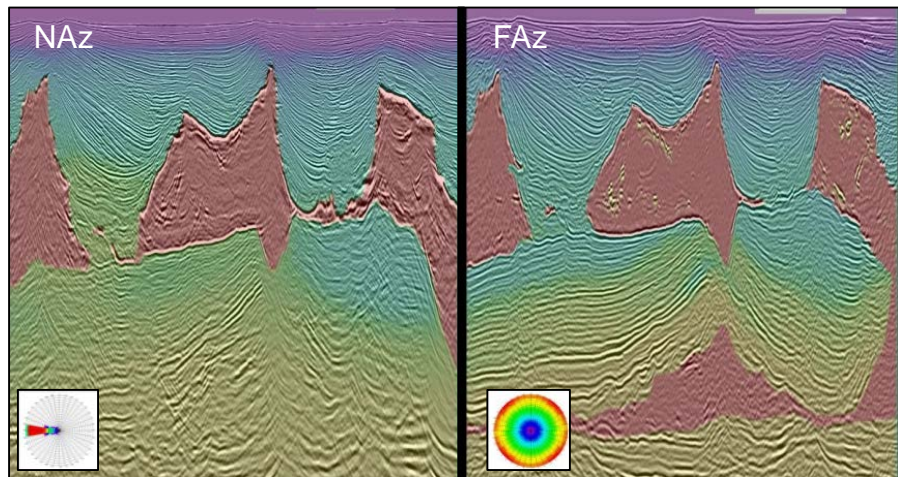
Shorter cycle time to first oil and gas:

- GoM Miocene ILX specialists
- Guyana
- Pre-Salt EWTs and EPS
- Zohr gas project

Gas management and exploitation:

- Reinjection for EOR
- FLNG for associated gas (e.g Angola)
- FLNG for remote areas: e.g. Coral





Deepwater Exploration Challenges/Technology

Imaging under salt: (Pre-Salt and sub-salt canopies):

- Microbiolites, coquinas and hydrothermal mounds
- Marine carbonate platforms
- Turtles and 3-ways to stems (OBN technology for max signal)

De-risking subtle stratigraphic traps (by seismic attributes):

- Onlap terminations/MTC cut-offs (fluid effect)
- Channelized sand fairways