



## Field Trip November 2011

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**.... focus in investments, opening new exploration grounds for Repsol.**

**Marcos Mozetic**  
**MD Exploration**



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# Agenda



## 2011 – 2012 Exploration Activity



The Exploration Tanker



A brief visit to some recent ventures



Alaska



Russia Opportunity



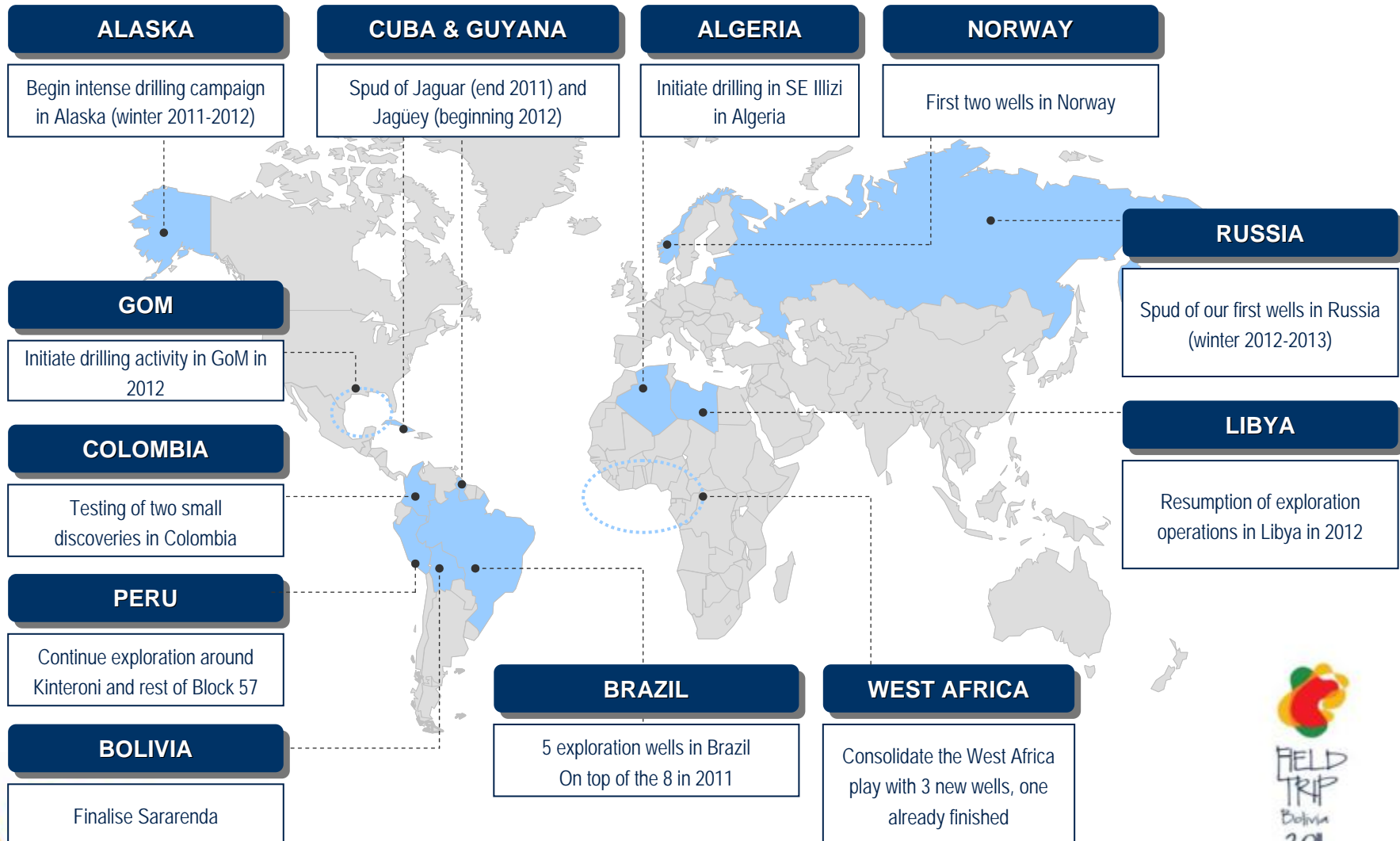
The Atlantic Margin



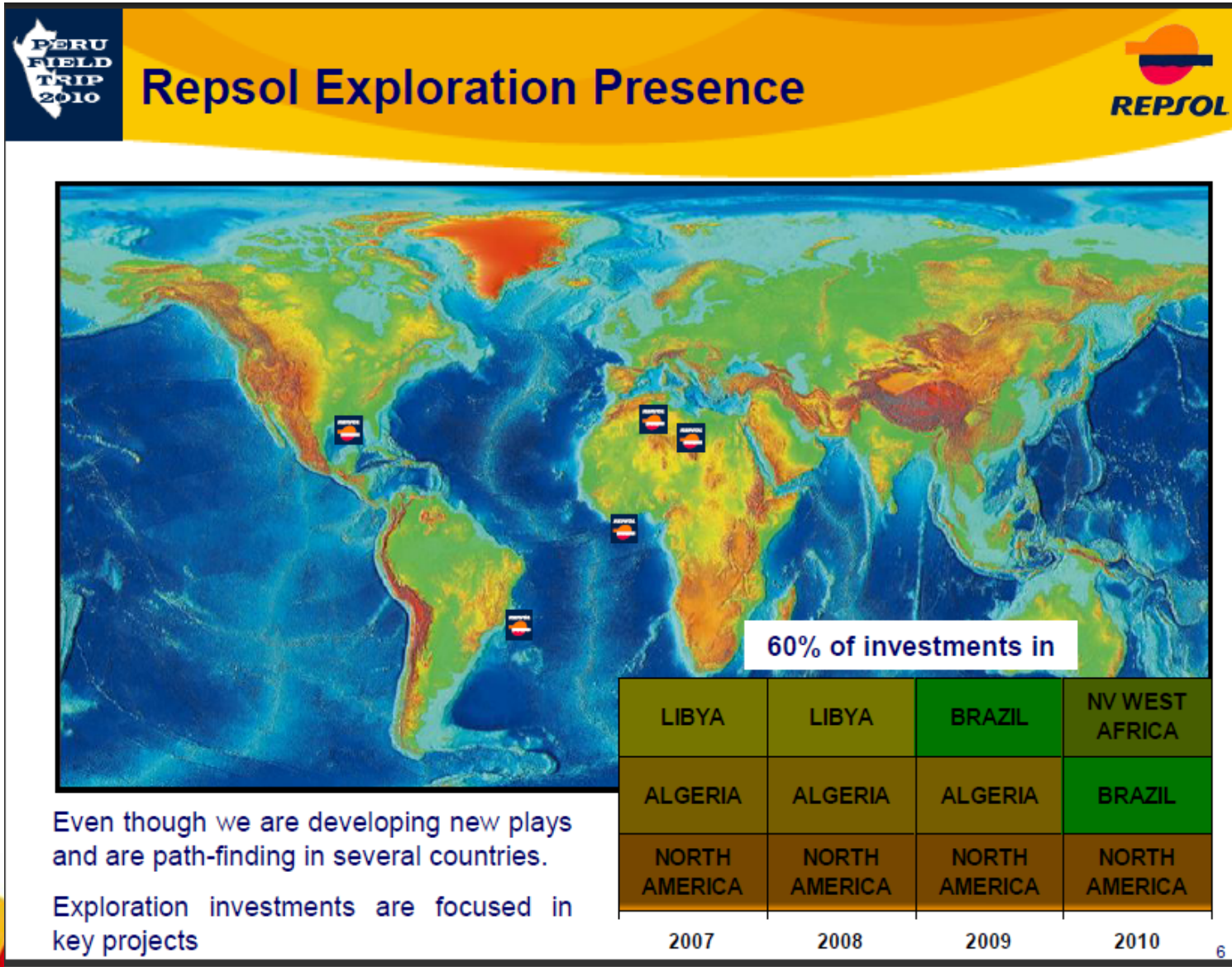
Final Thoughts



# Activity summary 4th quarter 2011 and 2012



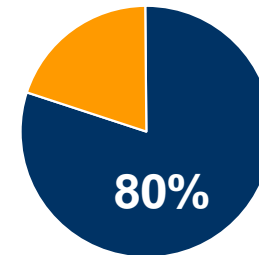
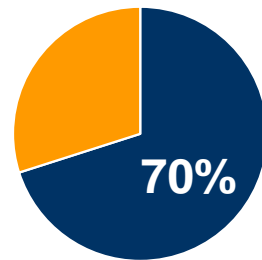
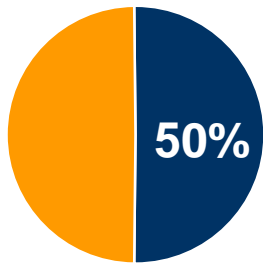
# Focus in investments 2007/2010



# Continued focus in 2012

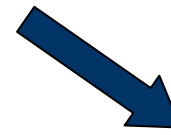
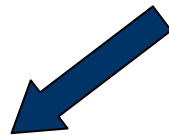


## 2012 Budget



- 50% in 3 countries
- Aprox. 70% in the Americas
- 80% in 9 countries

But to keep a healthy acreage position we cannot forget



**Opening known plays  
in new countries**

**Studying new plays**





# But knowledge-based opening of new grounds



## Expanding known plays

- Atlantic SA/WA Oblique Basin Play
- Carbonates in offshore
  - Angola subsalt
  - Offshore Colombia and Caribbean
- North Atlantic Margins ( with carbonates in Irish Atlantic) extending into Sub Arctic N. America and Norway
- Folded Belt Peru
- Colville High and down dip stratigraphic potential (Alaska)

## Entering New Plays

- Iraqi Kurdistan folded belt
- New basins in Indonesia
- W. Siberian Margins



# Agenda



 2011 – 2012 Exploration Activity

 **The Exploration Tanker**

 A brief visit to some recent ventures

 Alaska

 Russia Opportunity

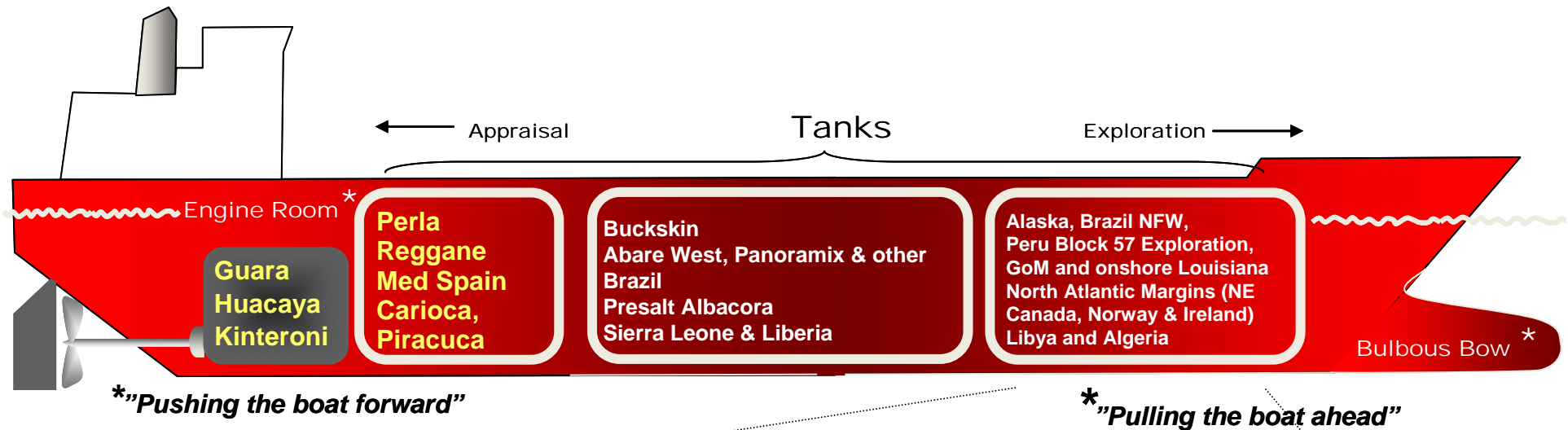
 The Atlantic Margin

 Final Thoughts





# Our Exploration “Tanker”



- Opening underexplored folded belts in Peru
- Iraqi Kurdistan folded belt
- Folded belt offshore Tunisia
- Unexplored offshore basins in Indonesia
- Exploring Russia
- Mediterranean unconventional
- Several Regional Assessments which will end in acreage positions in the future

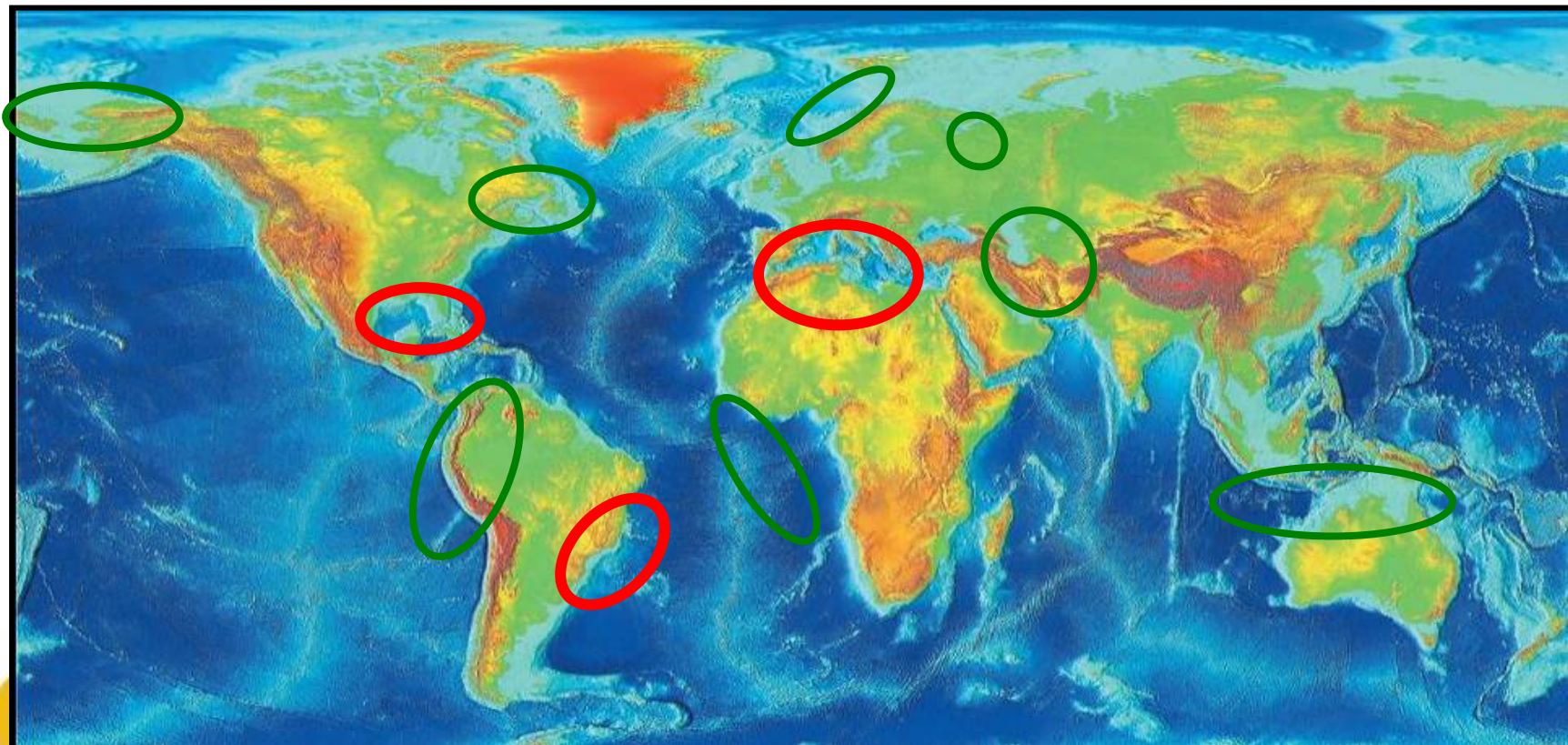


Yellow: transferred or on their way to Business units

# In Summary: Investment in Core areas and opening new Growth areas



In summary, to replace Brazil and North Africa, we have to be involved not only in proven areas with remaining potential like Norway, onshore and offshore GoM, onshore Alaska, but we need to complement these with less certain but measured entries into frontier basins or new ventures like offshore Indonesia, Kurdistan, Angola etc.



# Agenda



2011 – 2012 Exploration Activity



The Exploration Tanker



**A brief visit to some recent ventures**



Alaska



Russia Opportunity



The Atlantic Margin

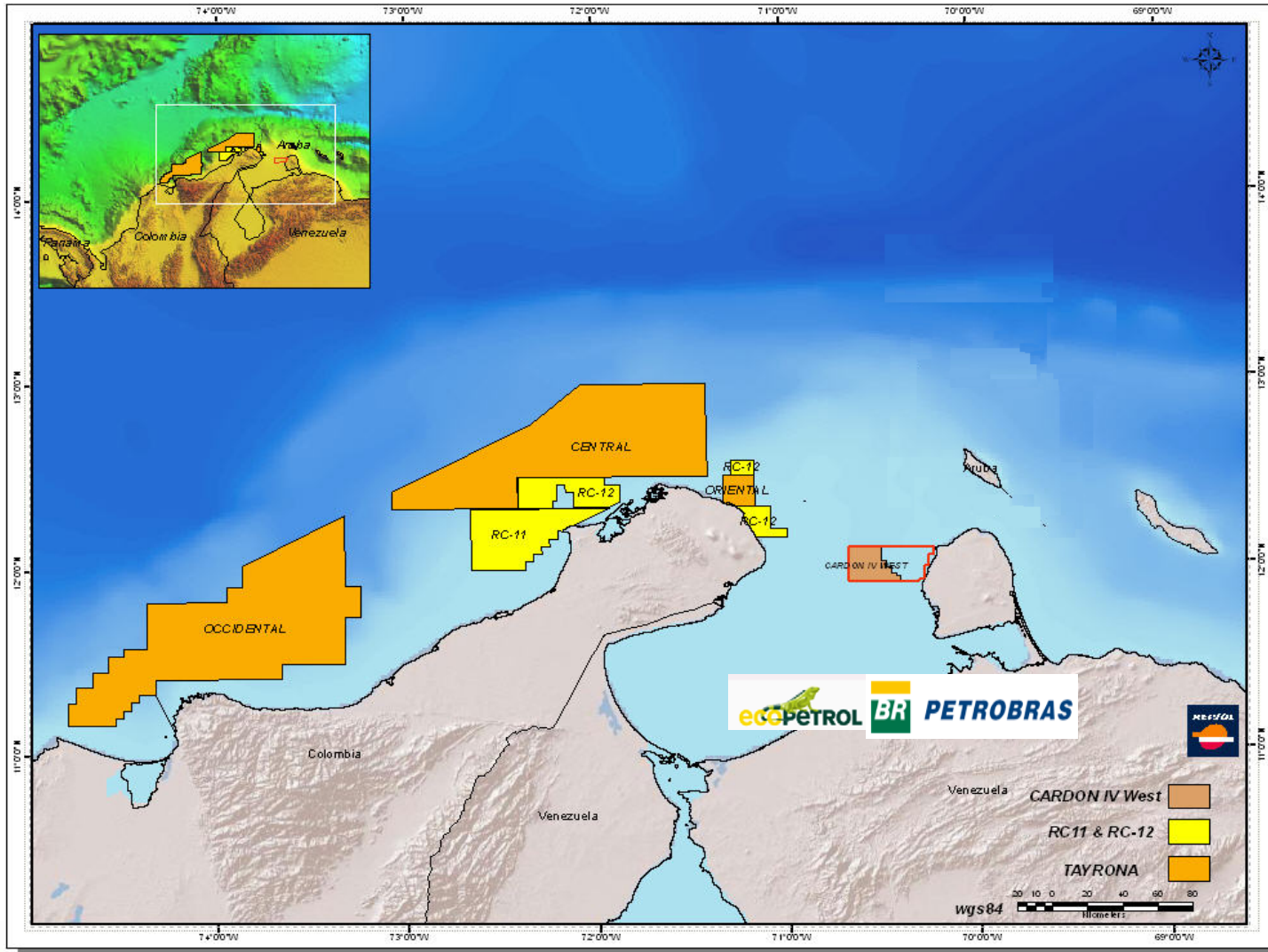


Final Thoughts





# New Ventures in Colombia

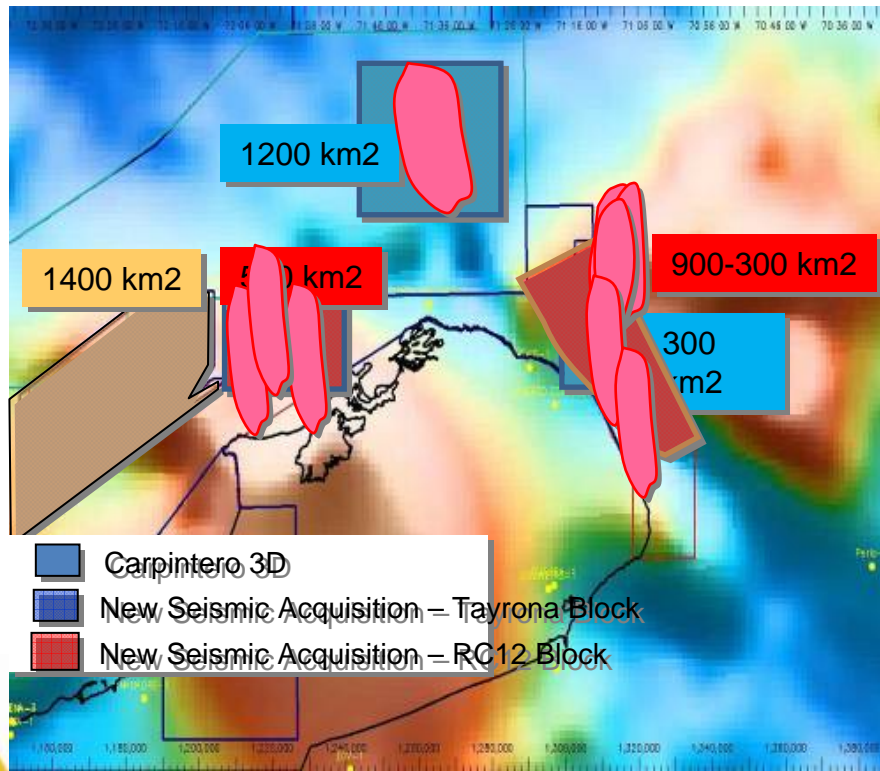


# Guajira Peninsula in Colombia

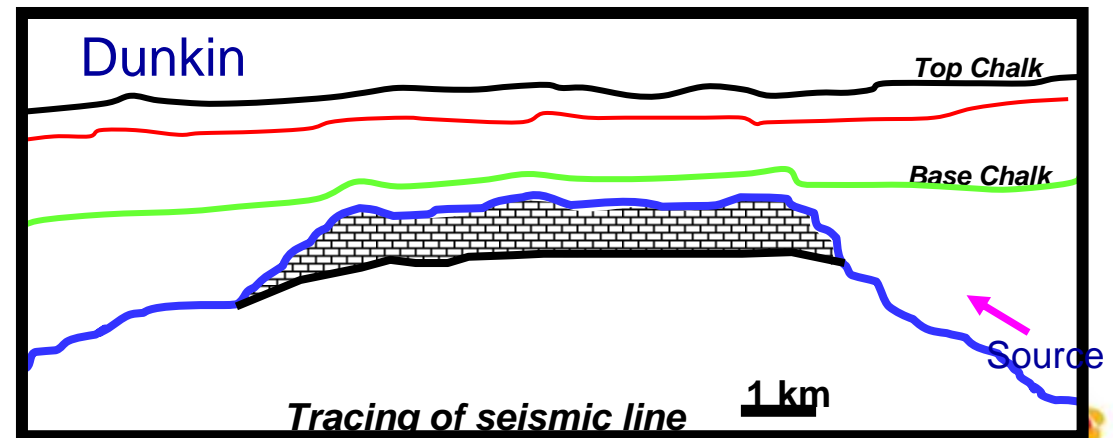
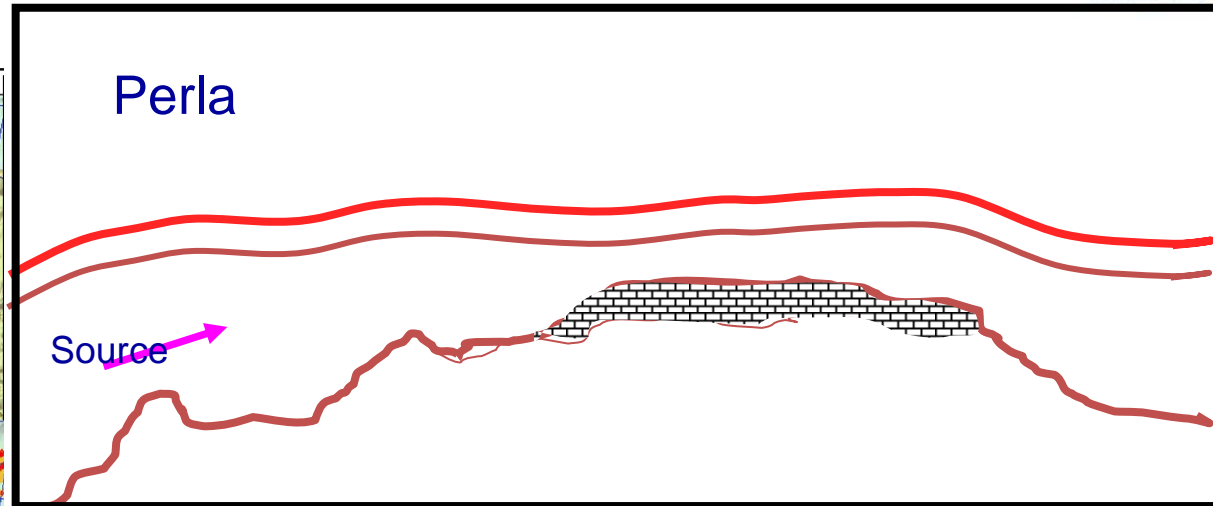
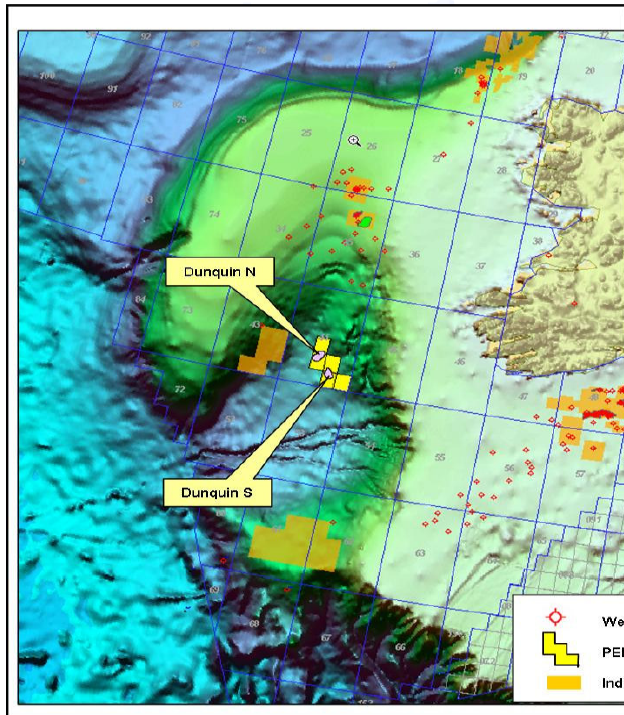


## Extending the Tertiary Carbonate Play

- Finalising official procedures for formal entry into Tayrona and RC 11&12 offshore blocks in Colombia. Cayos round award was suspended
- Already shooting a large 3D surveys to confirm and define prospects



# Ireland



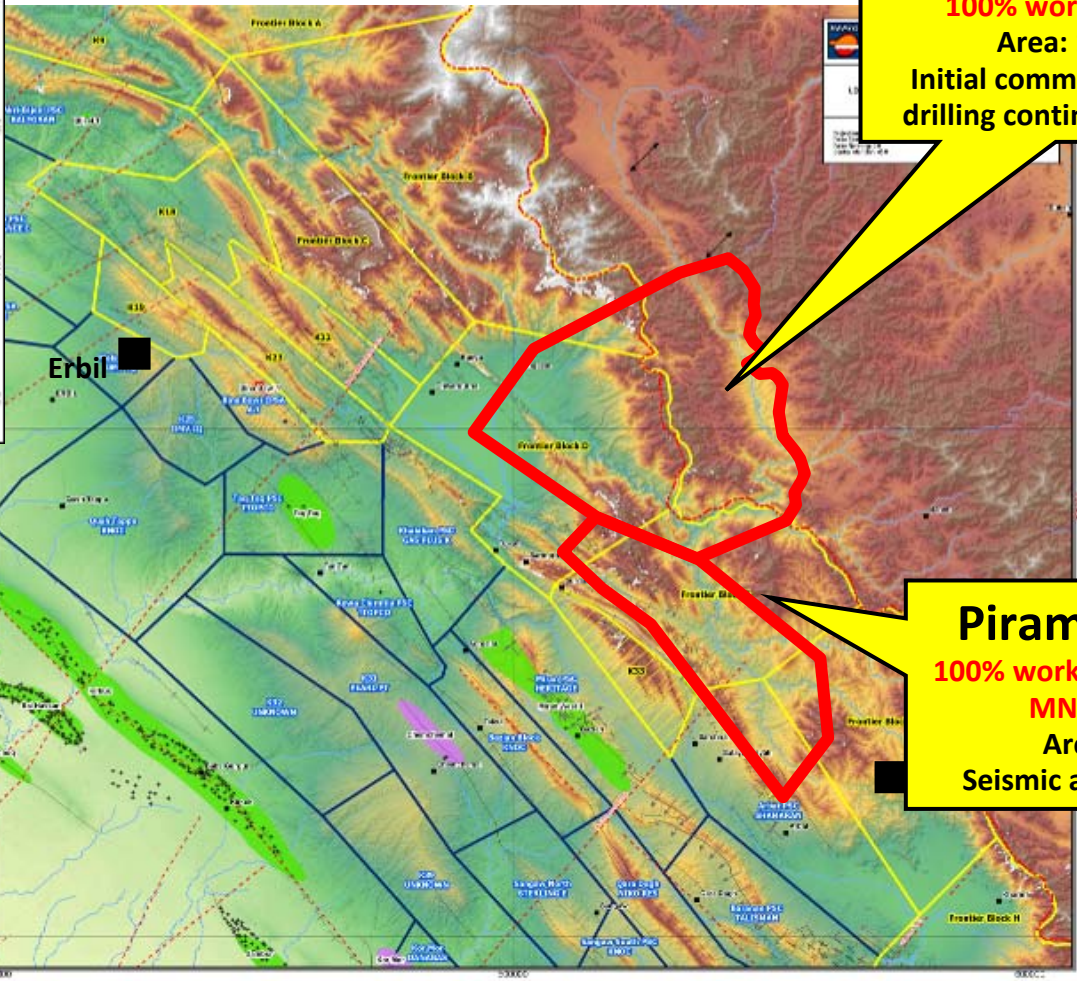
FIELD TRIP  
Bolivia  
2011



# Kurdistan Exploration - Piramagrun and Qala Dze PSC's



## Applying Folded Belt experience



**Qala Dze PSC**  
100% working interest  
Area: 1852km<sup>2</sup>  
Initial commitment seismic,  
drilling contingent to seismic

**Piramagrun PSC**  
100% working interested by  
MNR to Repsol.  
Area: 901km<sup>2</sup>  
Seismic and one firm well

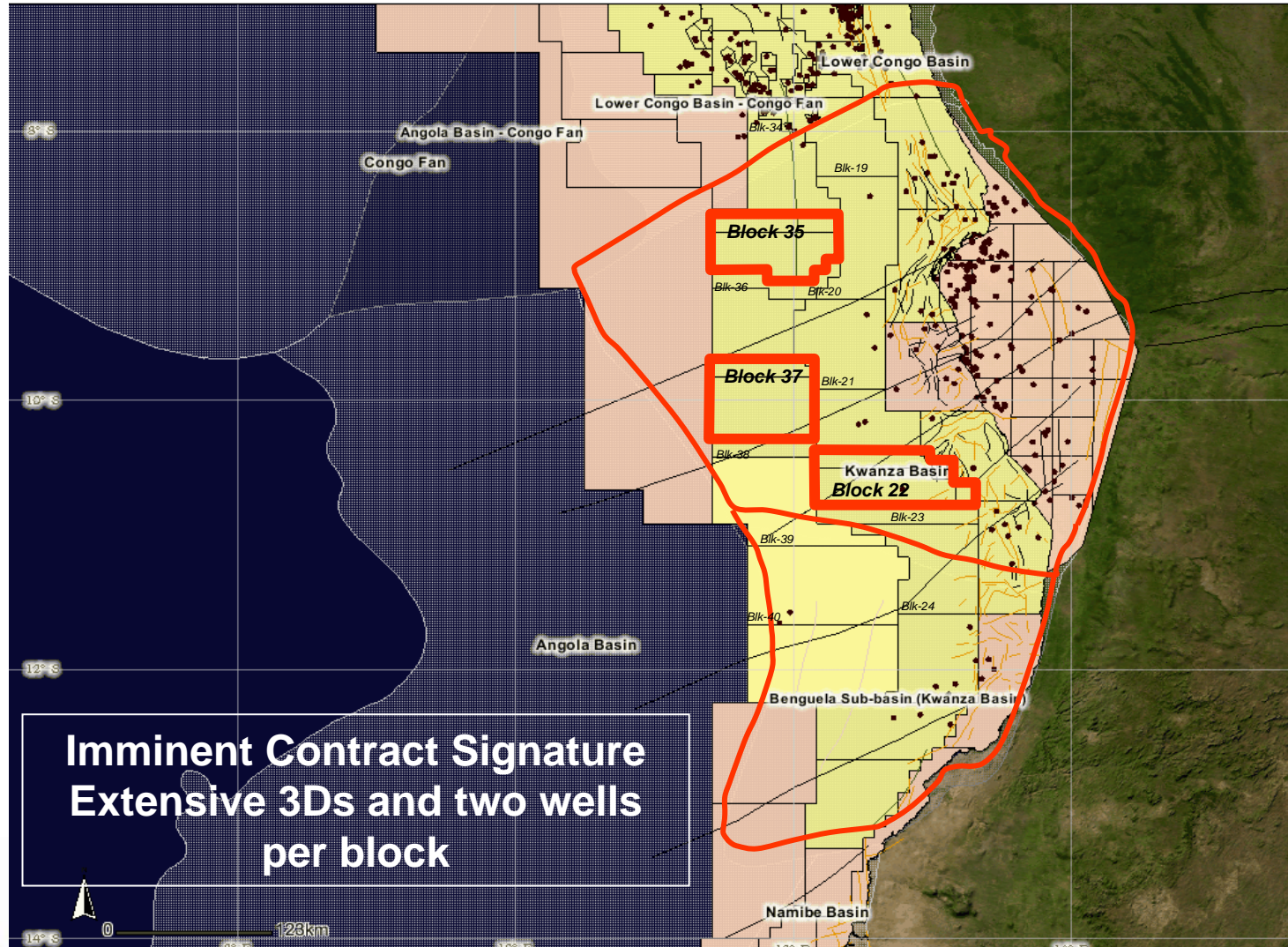
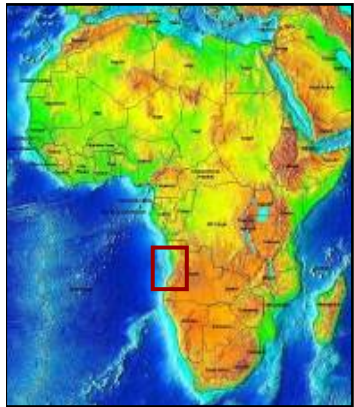




# Angola: Block Location



## Looking for Brazilian Presalt Analogues

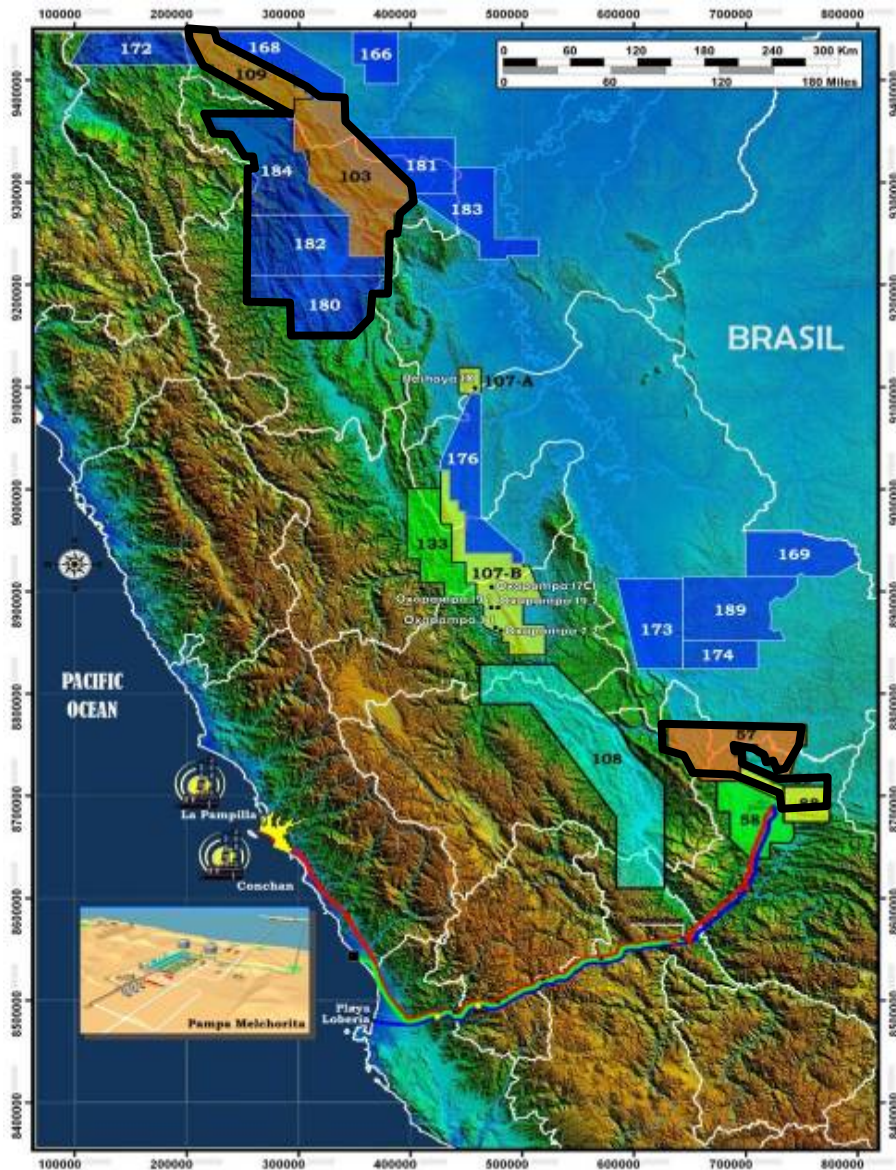


- Basin Name - Main Basins
- Basin Name - Sub Basins
- Coastline
- Country Limits
- Exploratory Wells
- Oceanic Magnetic Anomalies
- Structural Features
  - Anticline
  - Inferred Anticline
  - Syncline
  - Inferred Syncline
  - Monocline
  - Inferred Monocline
  - Fault
  - Inferred Fault
  - Normal Fault
  - Inferred Normal Fault
  - Reverse Fault
  - Inferred Reverse Fault
  - Thrust Fault
  - Inferred Thrust Fault
  - Strike-slip Fault
  - Inferred Strike-slip Fault
  - Other
- Oceanic Tectonic Features
  - Active Ridge
  - Inactive Ridge
  - Transform Fracture Zone
  - Trench
  - Other
- Valid Contract Blocks
- Open Areas
- Sub Basins
- Main Basins
- World Satellite 1km

From IHS



# Central Peru Foldbelt

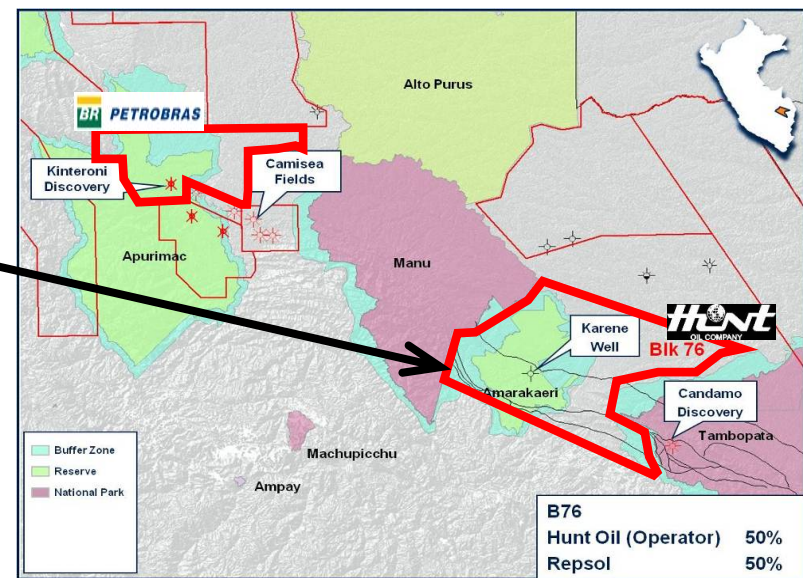
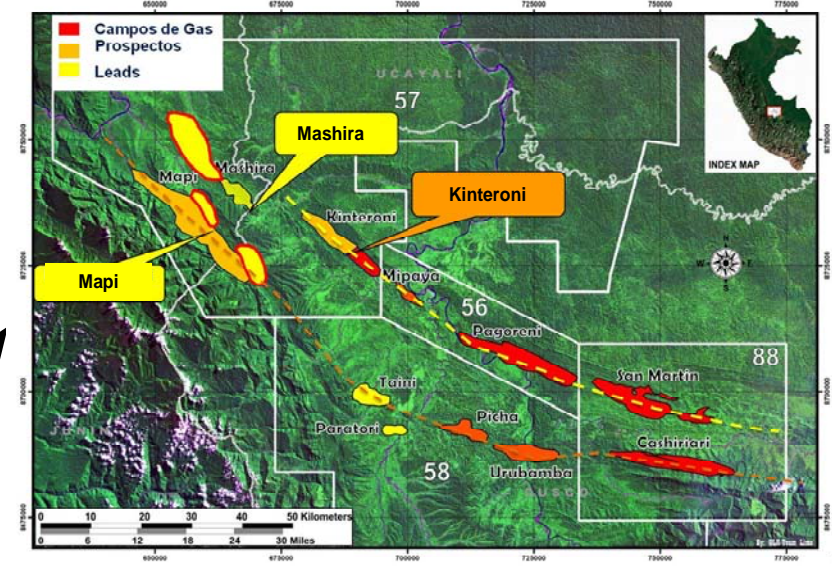
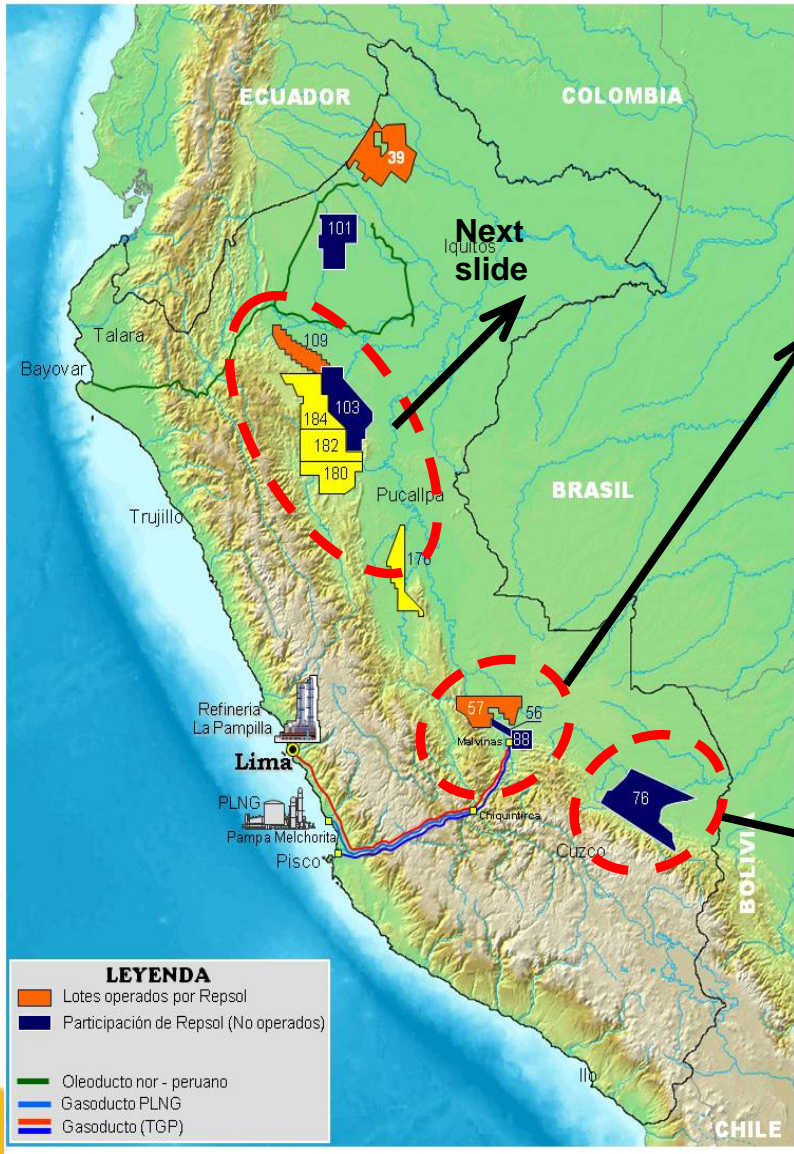


- The Peruvian Foldbelt is largely under explored with a very low well density due to logistical challenges.
- Repsol YPF has a long history and has built its expertise in Andean foldbelts, from Argentina to Venezuela.
- Despite the complexities of this operational environment, Repsol YPF aims at building a leading position in this play.



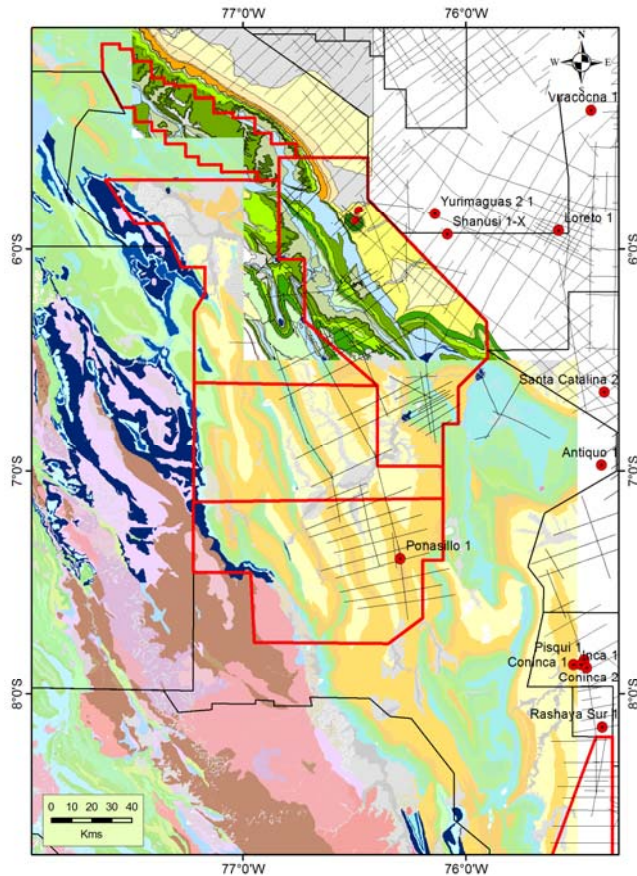


# Perú: Huallaga – Ucayali – Madre de Dios

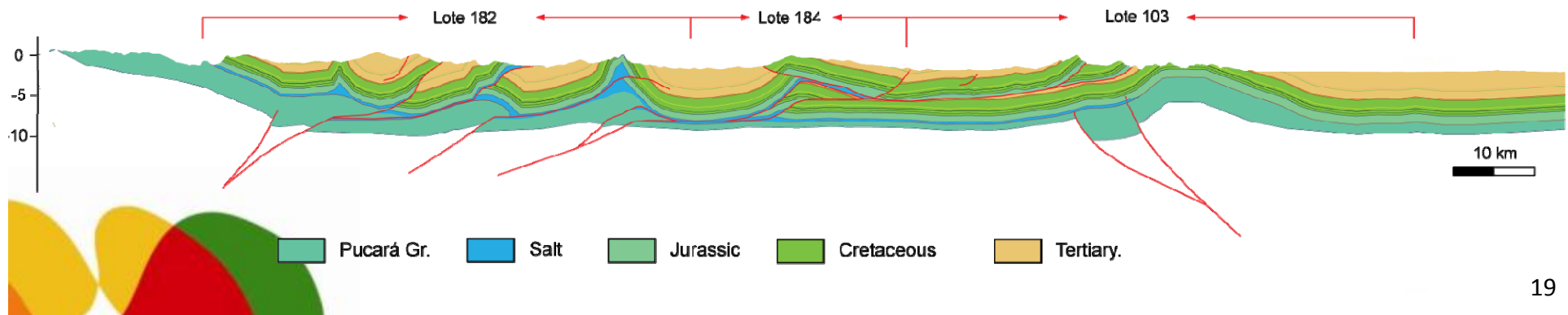




# Perú: Huallaga Foldbelt Venture



- **Frontier Venture:** 6 Blocks, 30000 km<sup>2</sup>, 1 well, 3000 km 2D, multiple partners
- **Initial focus** on regional structural work and characterization of the carbonates of the Pucara Fm. From outcrops and seismic.
- Significant HSE and Communities challenges.
- **2012:** G&G, HSE, 2D seismic acquisition planning
- **Budget 2012:** 8.2M\$ Rep Net







# Agenda



2011 – 2012 Exploration Activity



The Exploration Tanker



A brief visit to some recent ventures



**Alaska**



Russia Opportunity



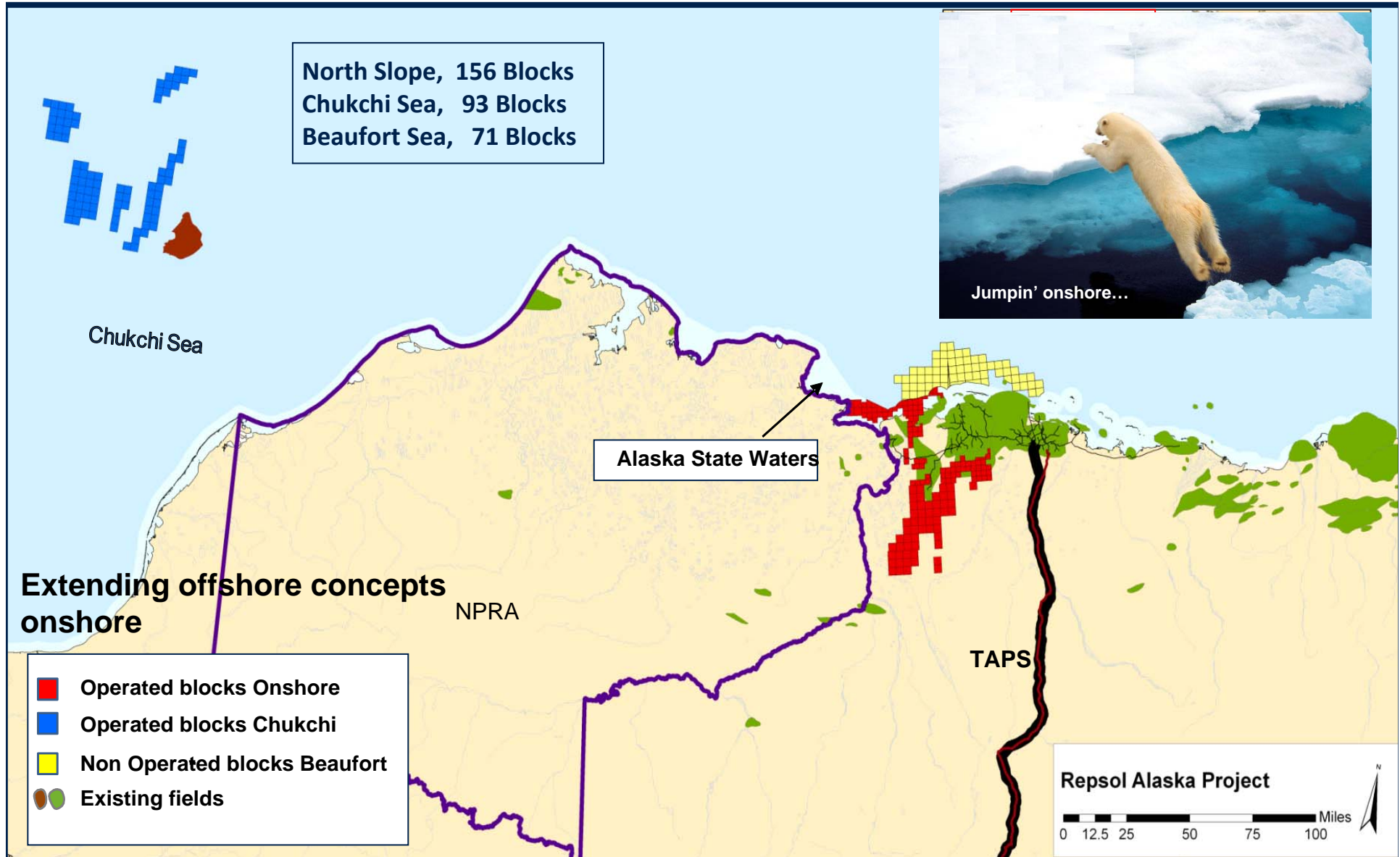
The Atlantic Margin



Final Thoughts

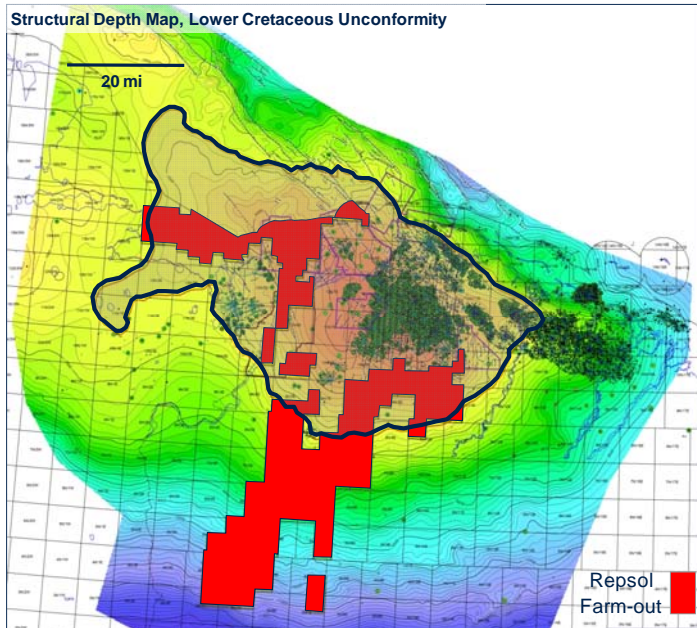


# Our current position in Alaska





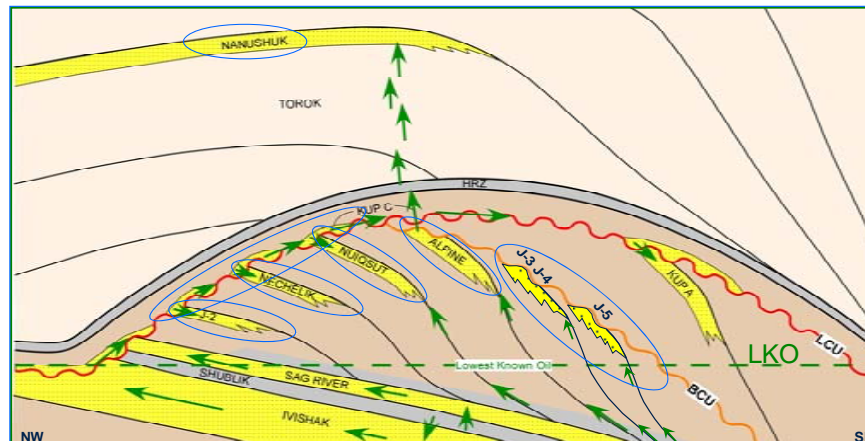
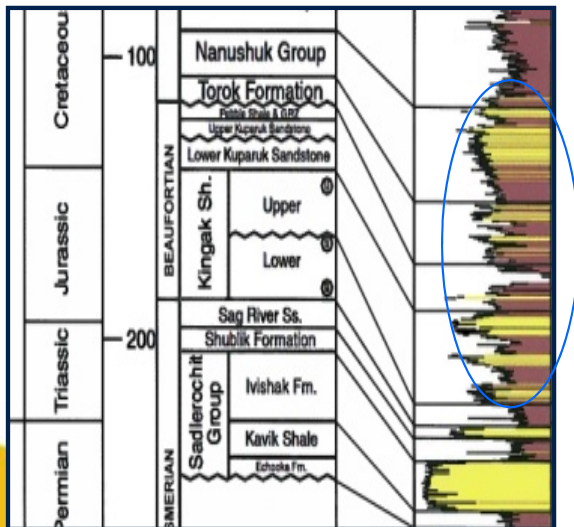
# The Mega-Structure “Colville High” The Multi-Reservoir Project



- Colville High is a 1.28 MM ac. (5,180 km<sup>2</sup>) four way closure structure
- Not a single wet well drilled in Jurassic reservoir within the Colville High.
- The main proven play present in the area is related to the Jurassic shallow marine sandstones (J-2, Nechelik, Nuiqsut, Alpine, J3-J4 & J-5) truncated by the Early Cretaceous unconformities. Others proven plays are, the transgressive sandstones (Alpine C, Kup C & J-5C) and the shallow marine sandstones (Nanushuk)

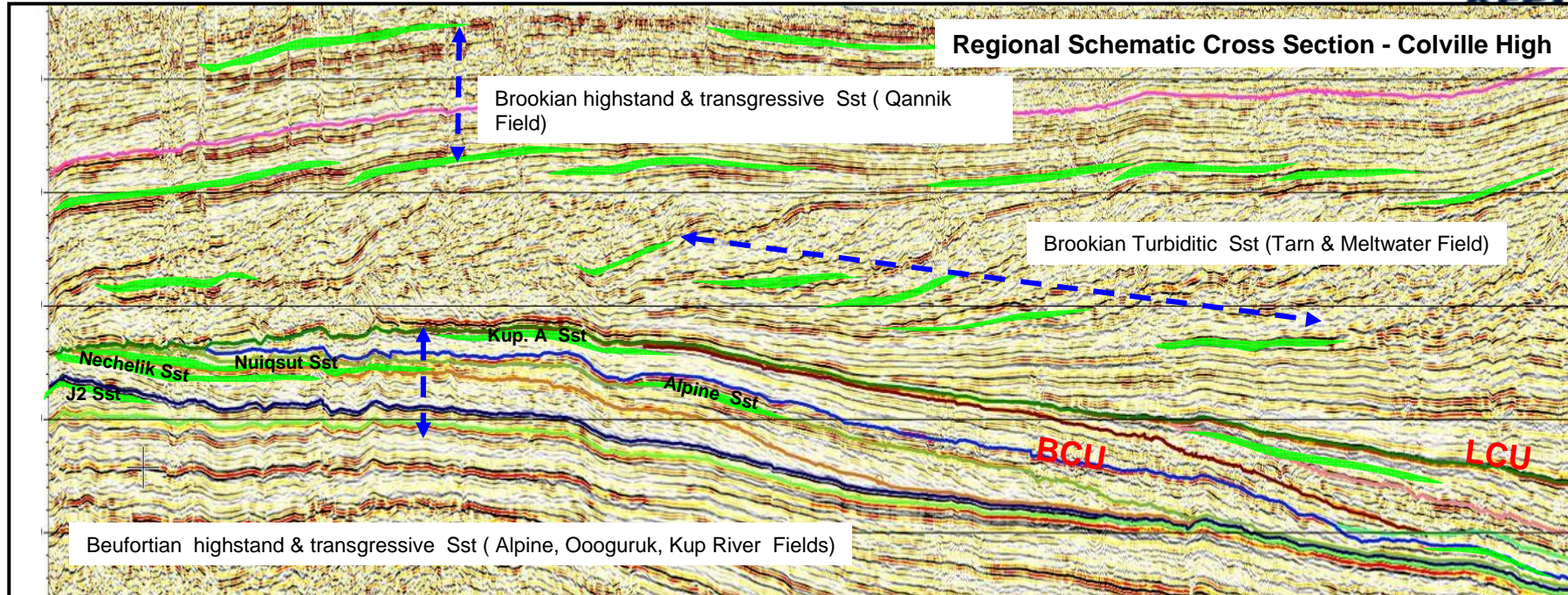
## Repsol's Assets Alaska North Slope

- ✓ 25 Projects from 17 reservoirs:
  - 8 Projects are within possible extensions of productive Oil Fields
  - 12 Projects having some previous indication of net pay
  - 5 Project never tested before analogous to existing Field



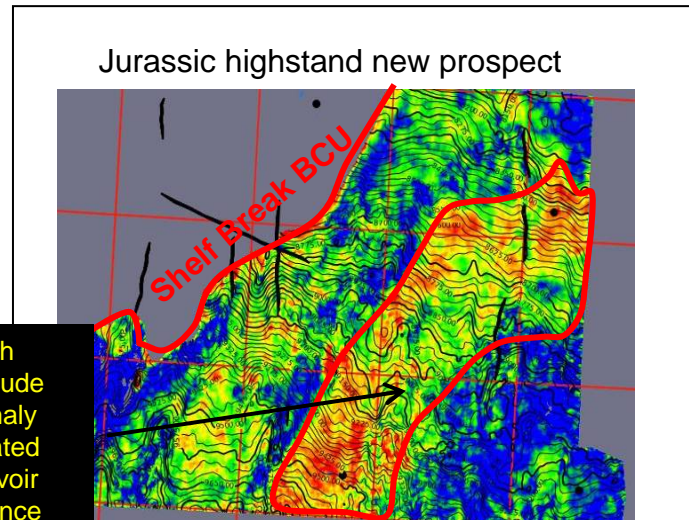
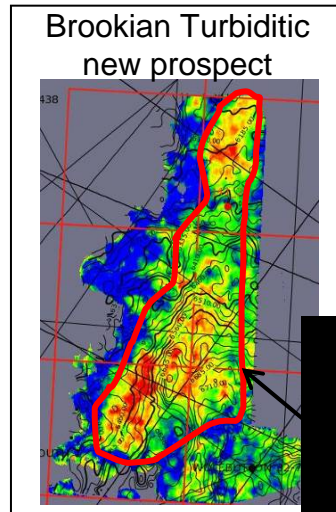


# North Slope Project - Exploration Potential



**Repsol 's New Exploration Opportunities in the North Slope**

- Several new exploratory prospects have been defined using seismic data 3D\2D in the North Slope.
- No wet wells drilled in Jurassic reservoir within the Colville High



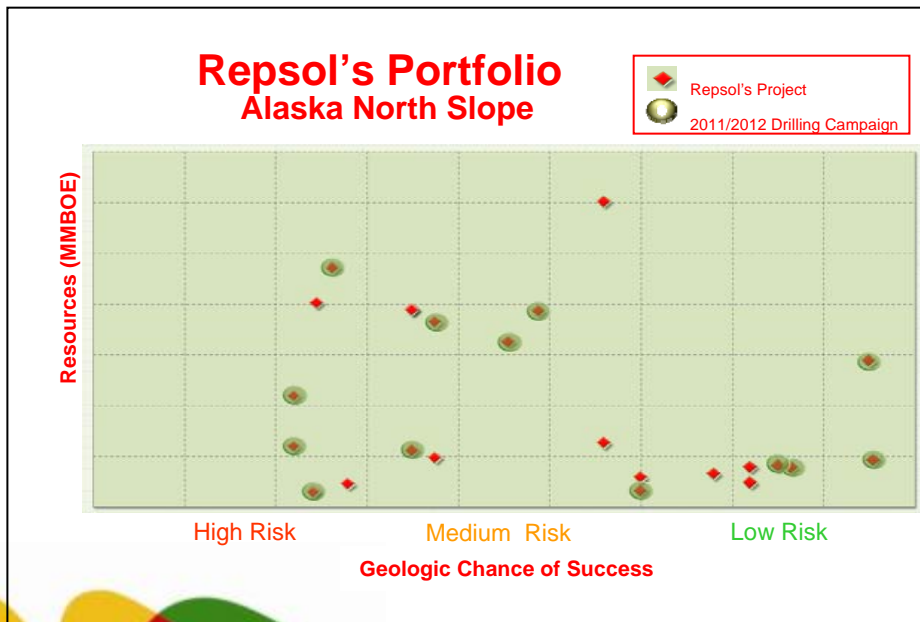
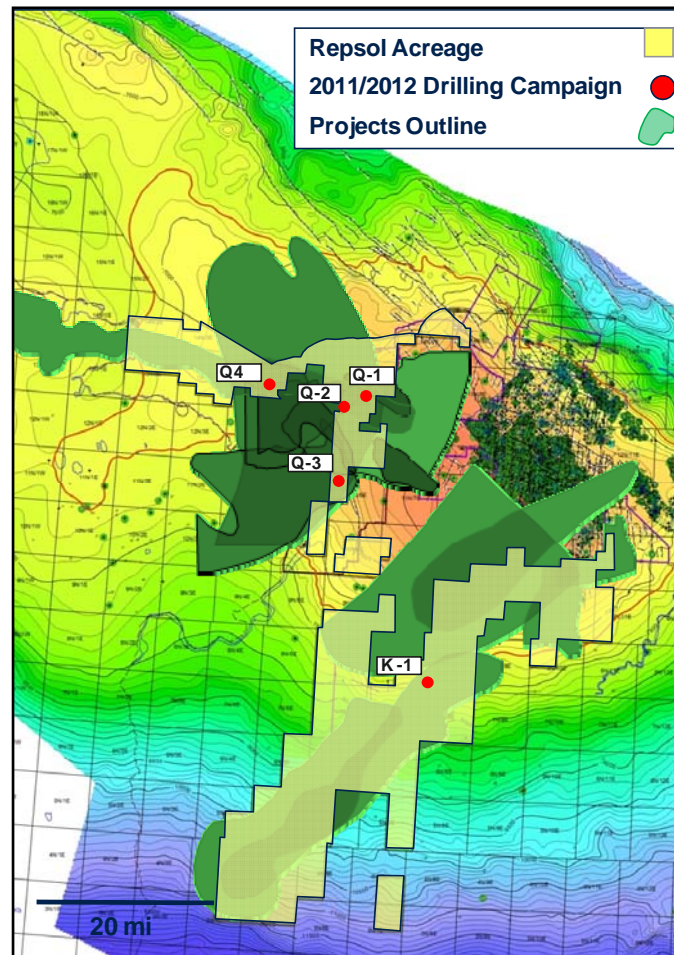


# 2012 Drilling Campaign and Exploration Potential



## Objectives - 2011/2012 Drilling Campaign

- Gather enough information to support the sanction of some objectives located in the same structure and stratigraphically analogous of adjacent producing fields.
- Apprise a number of projects, extensions of already discovered and producing fields.
- Start exploring additional potential in the North Slope Area. At Colville High Repsol has identified several new opportunities with same play concept of existing producing fields (Jurassic shallow marine sandstones-transgressive sandstones- Turbiditic)



# Agenda



2011 – 2012 Exploration Activity



The Exploration Tanker



A brief visit to some recent ventures



Alaska



**Russia Opportunity**



The Atlantic Margin



Final Thoughts



# Entering Russia

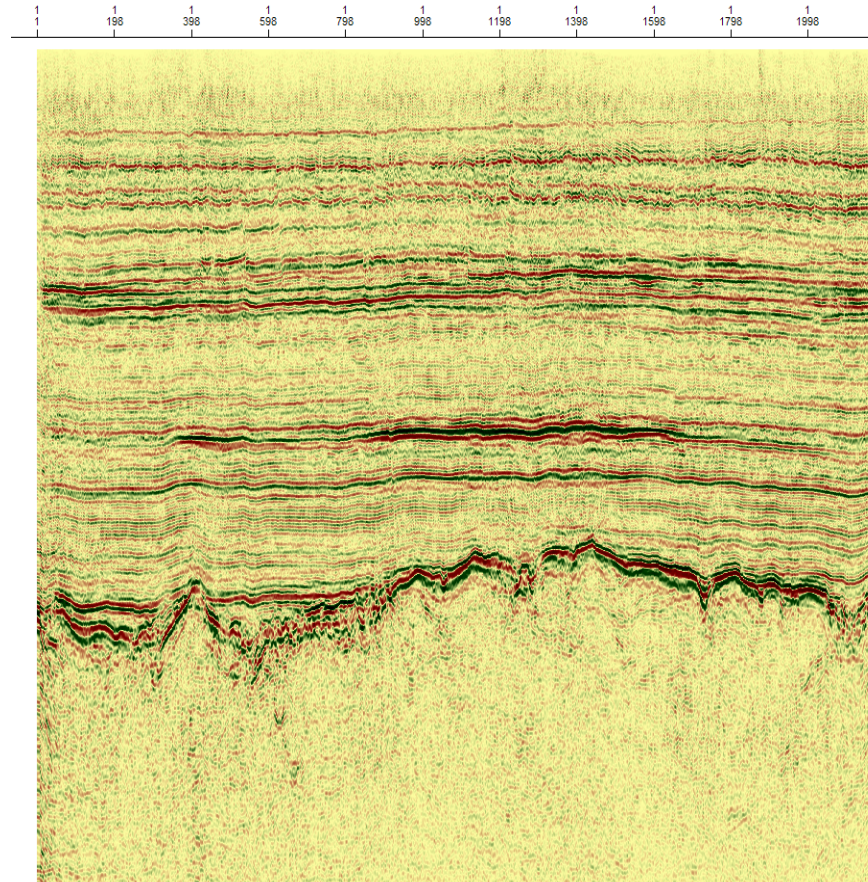
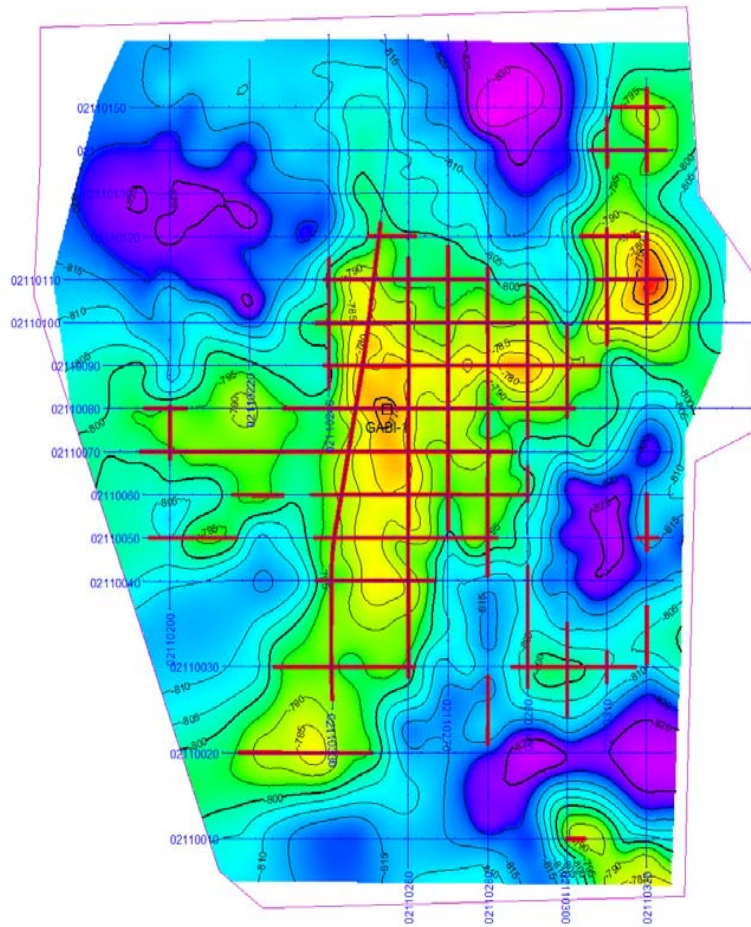


- In both margins, West and East, we have identified new plays after a regional study involving the reprocessing of 10000 km of 2D seismic.
- In the Western margin we shot 550 km of 2D seismic and will be ready to drill soon.
- In the Eastern margin we will be shooting 810 km of 2D seismic in the winter 2012/3
- We are actively looking for similar plays





# West Siberian Margins - Still prospective



# Agenda



2011 – 2012 Exploration Activity



The Exploration Tanker



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Alaska



Russia Opportunity



**The Atlantic Margin**

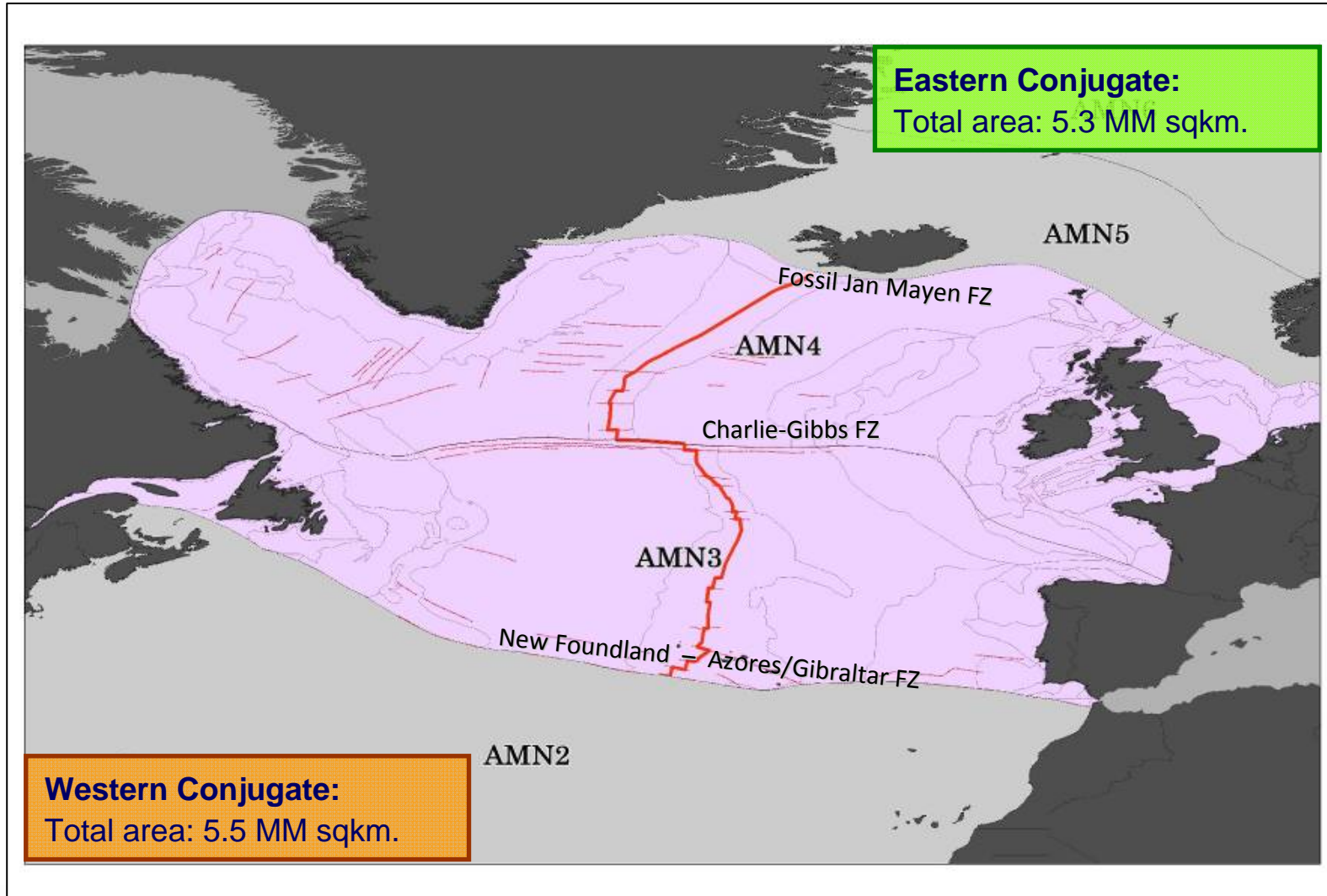


Final Thoughts

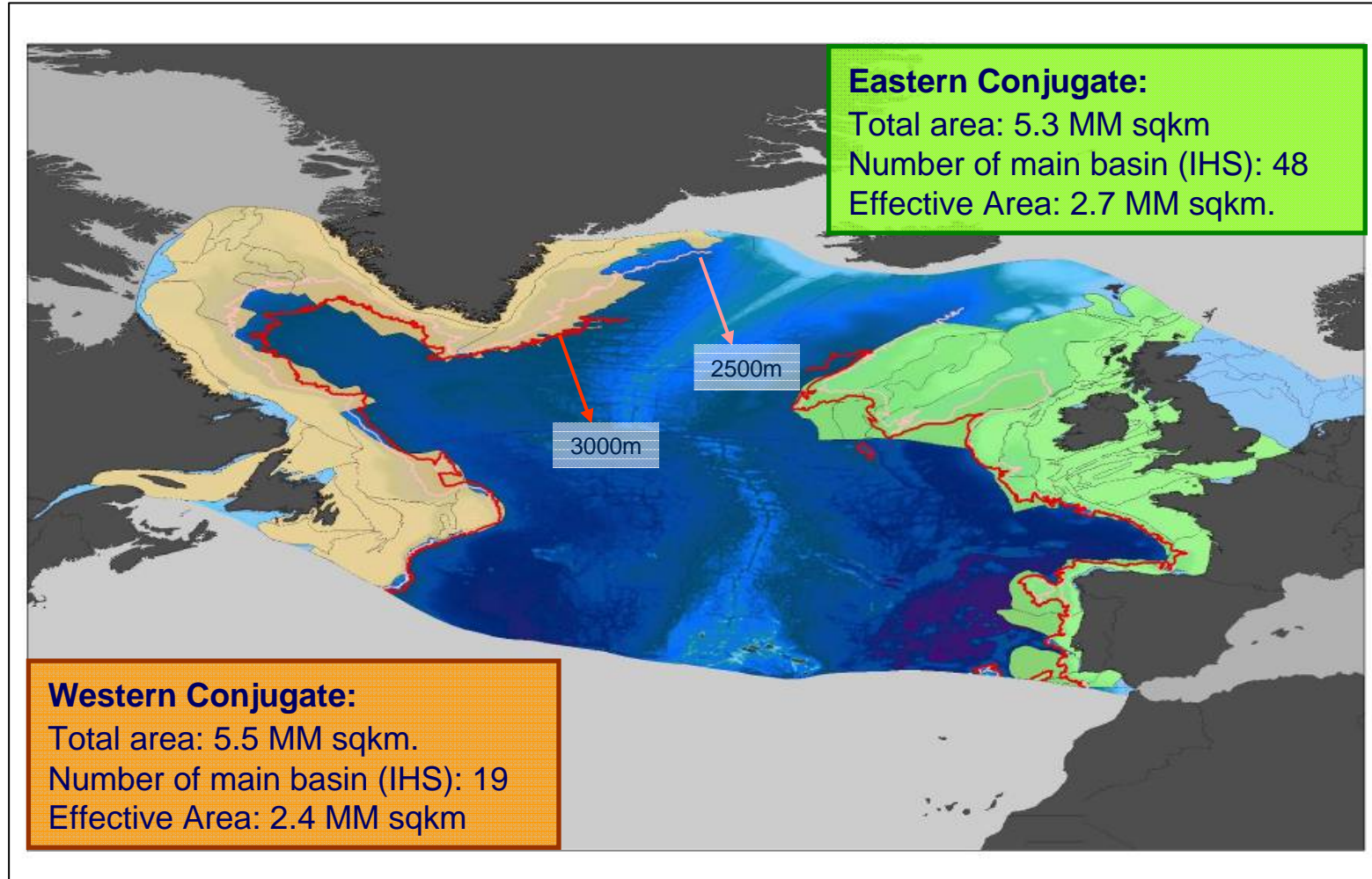




# An example of REGIONAL FRAMEWORK

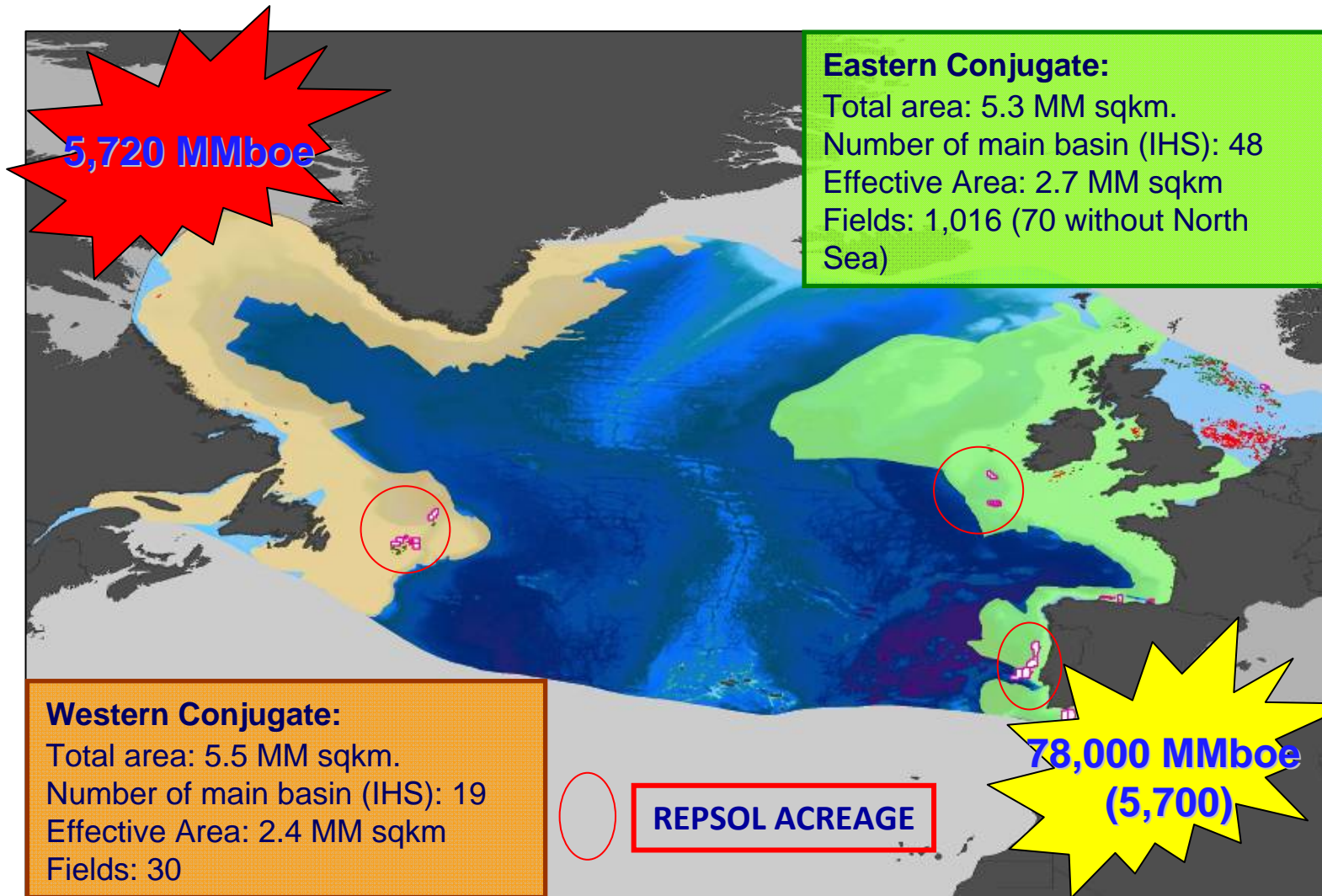


# AMN3 & AMN4 Location Map





# AMN3 & AMN4 Location Map



# Agenda



2011 – 2012 Exploration Activity



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Alaska



Russia Opportunity



The Atlantic Margin



**Final Thoughts**



# Continuing Medium to Long term plans



## One year ago we said:

### We will:

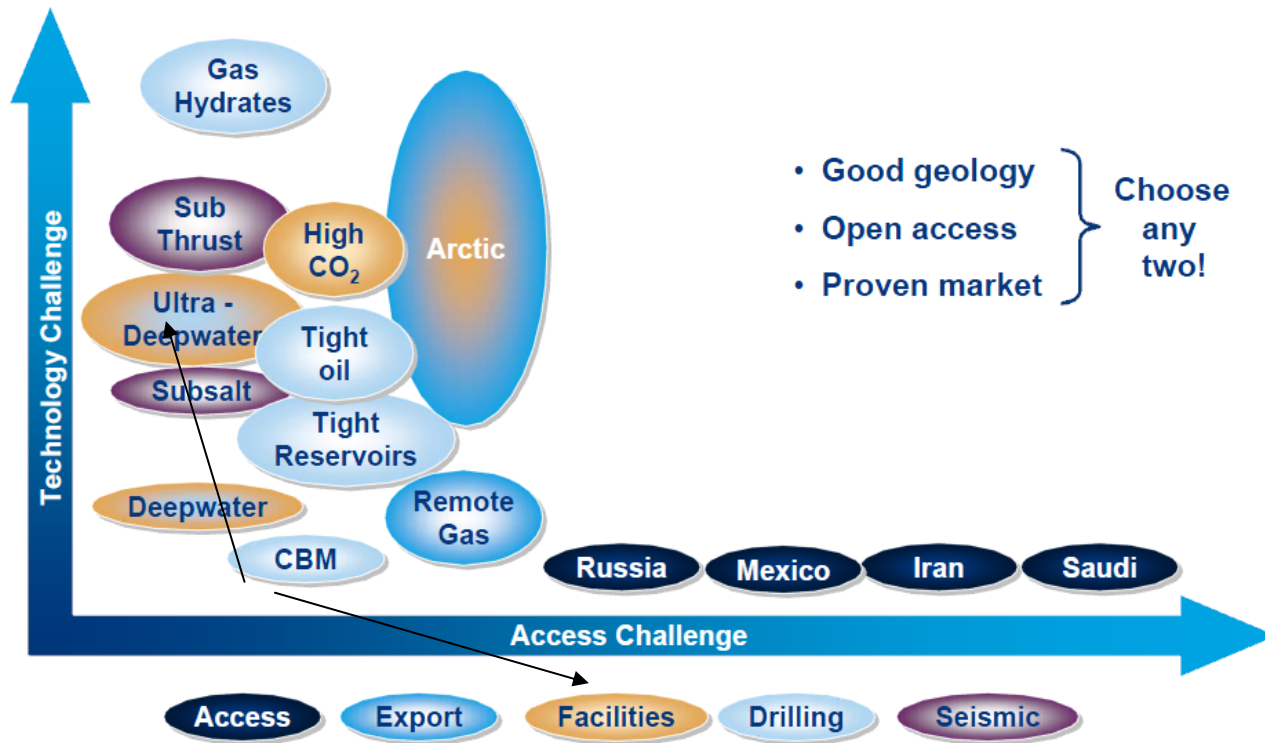
- Expand our efforts in West Africa (SL, L, EG, A+) ✓
- Continue with our strategy of balancing North America offshore with more onshore opportunities ✓
- Work and expand beyond Norway the Eastern North Atlantic Margin ✓
- Continue looking for additional acreage in plays we are developing for the Mediterranean ✓
- Expand the Tertiary Caribbean play ✓
- Be ready for more opportunities in Brazil
- Mature our play in the Peruvian Subandean belt ✓
- Exploit our presence in ME Caspian for more opportunities ✓



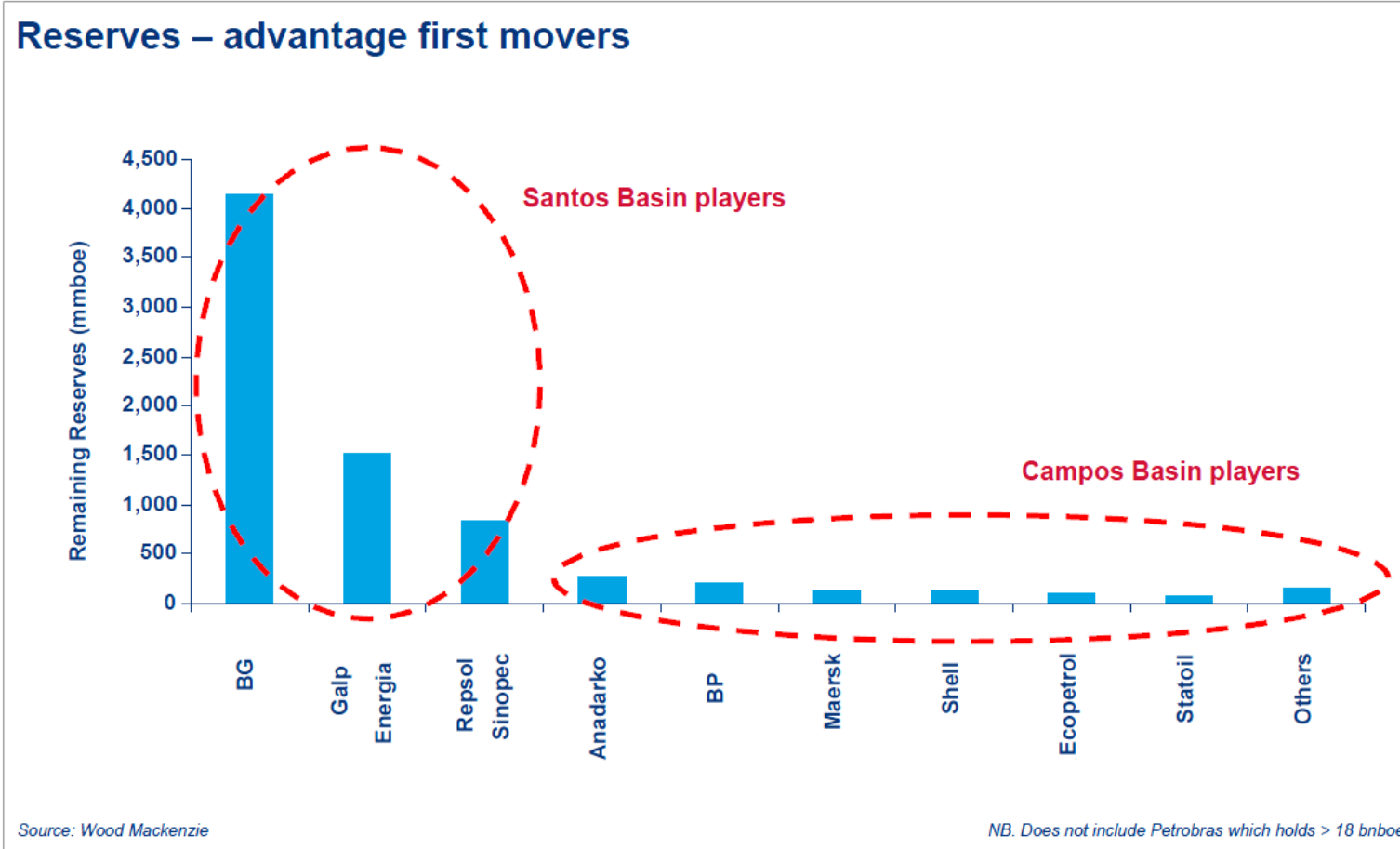
# Wood Mackenzie



Exploration challenges are increasing



# Wood Mackenzie



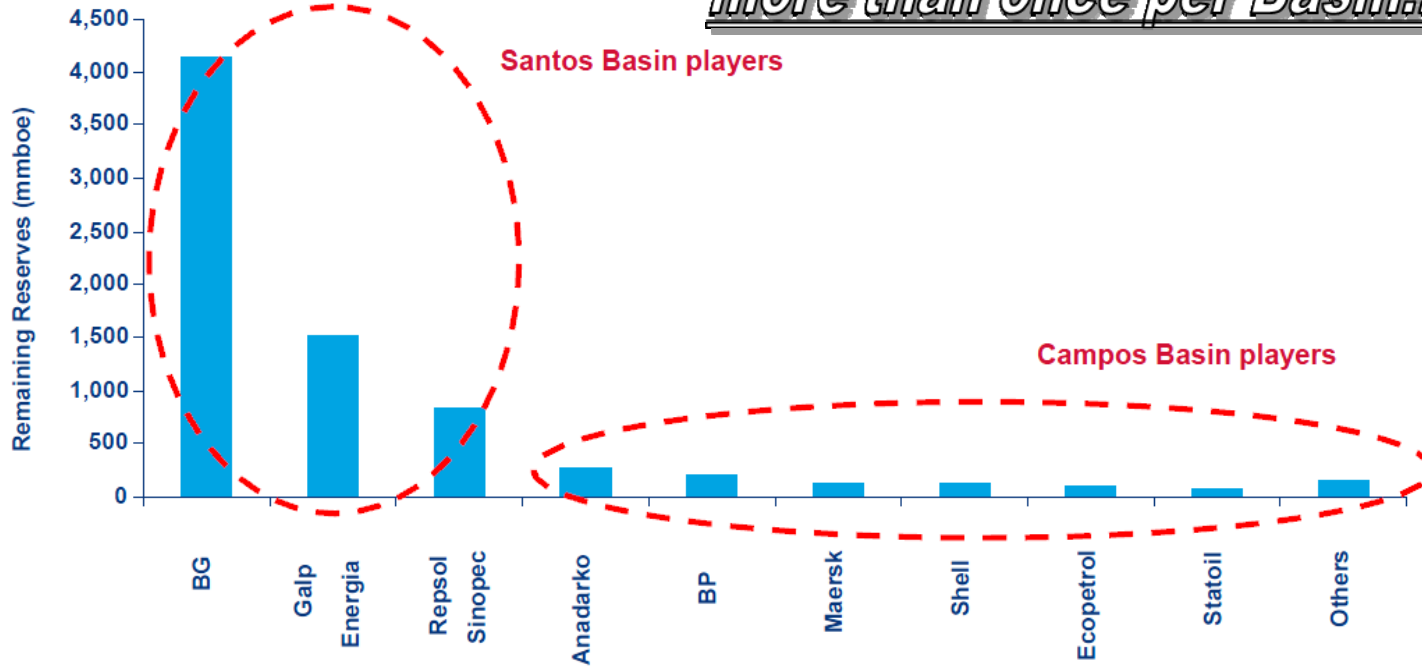


# Wood Mackenzie



Reserves – advantage first movers

*You can't be first mover  
more than once per Basin!!*



Source: Wood Mackenzie

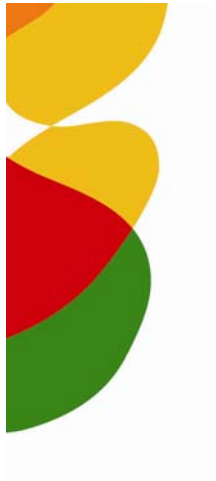
NB. Does not include Petrobras which holds > 18 bnboe



© Wood Mackenzie 85

Delivering commercial insight





## Field Trip November 2011

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