

# Mature Basins – Leading the Recovery

Finding Petroleum – 20<sup>th</sup> Sept 2016

Henry Morris



# Agenda



- **Global exploration strategy trends**
- **Why the UKCS?**
- **Company Introduction**
  - **& UK examples**

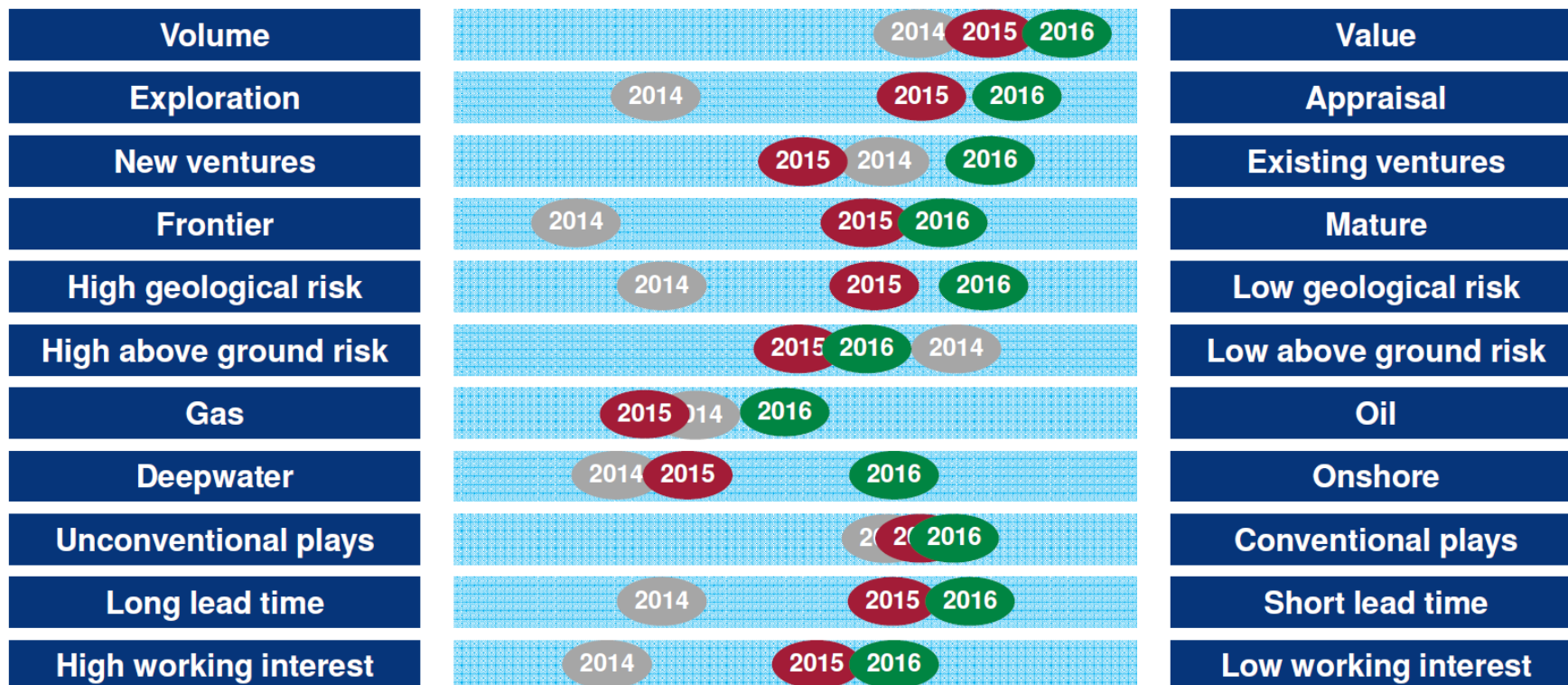


## Global Exploration Strategy Trends



# Global exploration strategy trends (2014-2016)

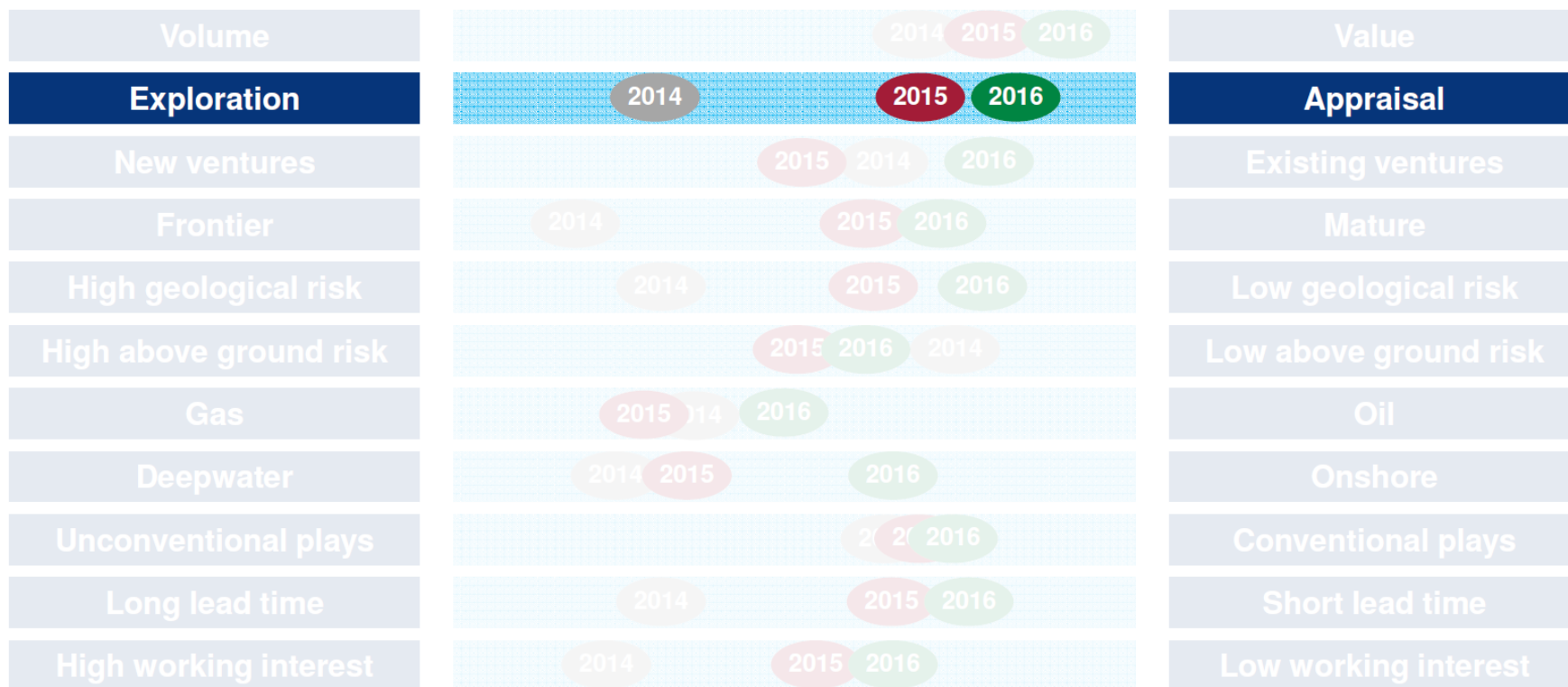
Focus shift to near-term, lower risk and **mature** basins



Source: Wood Mackenzie (Feb 2016)

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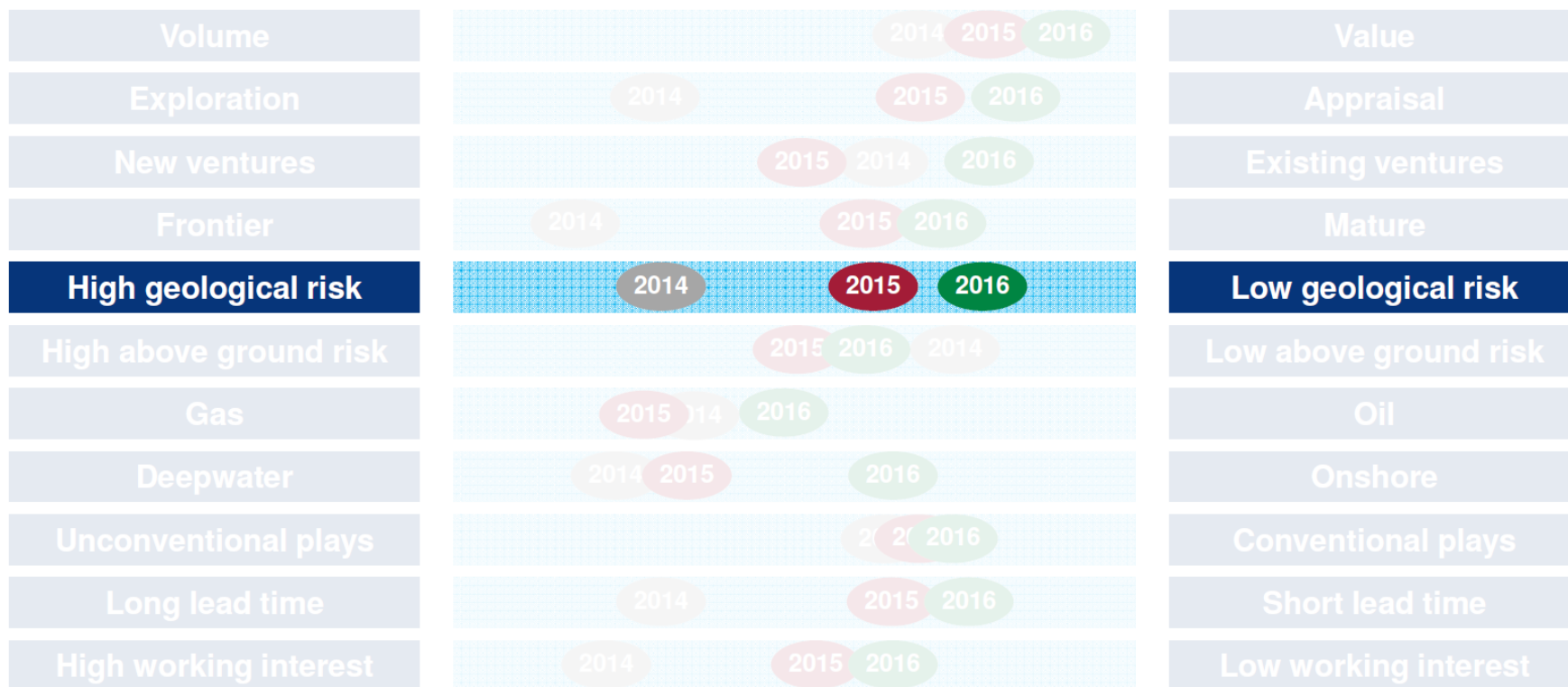
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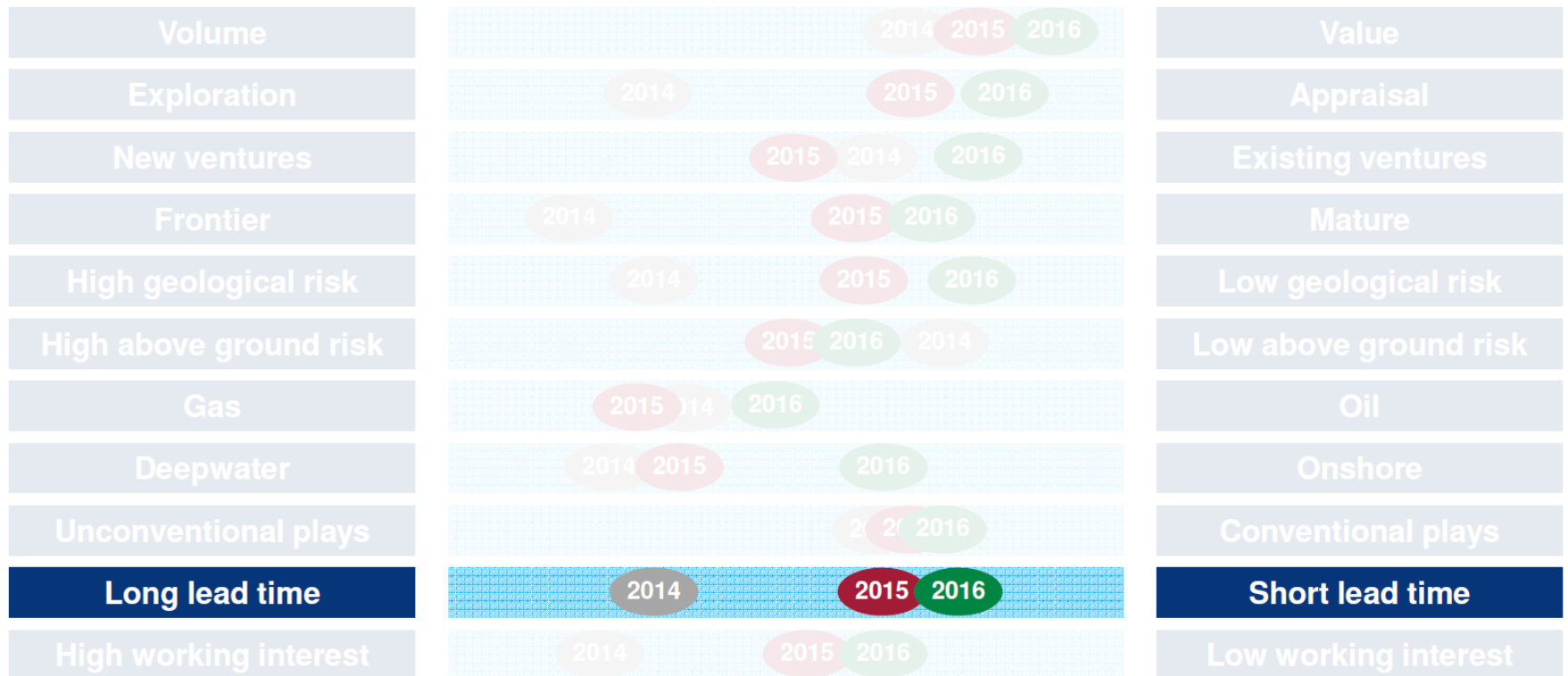
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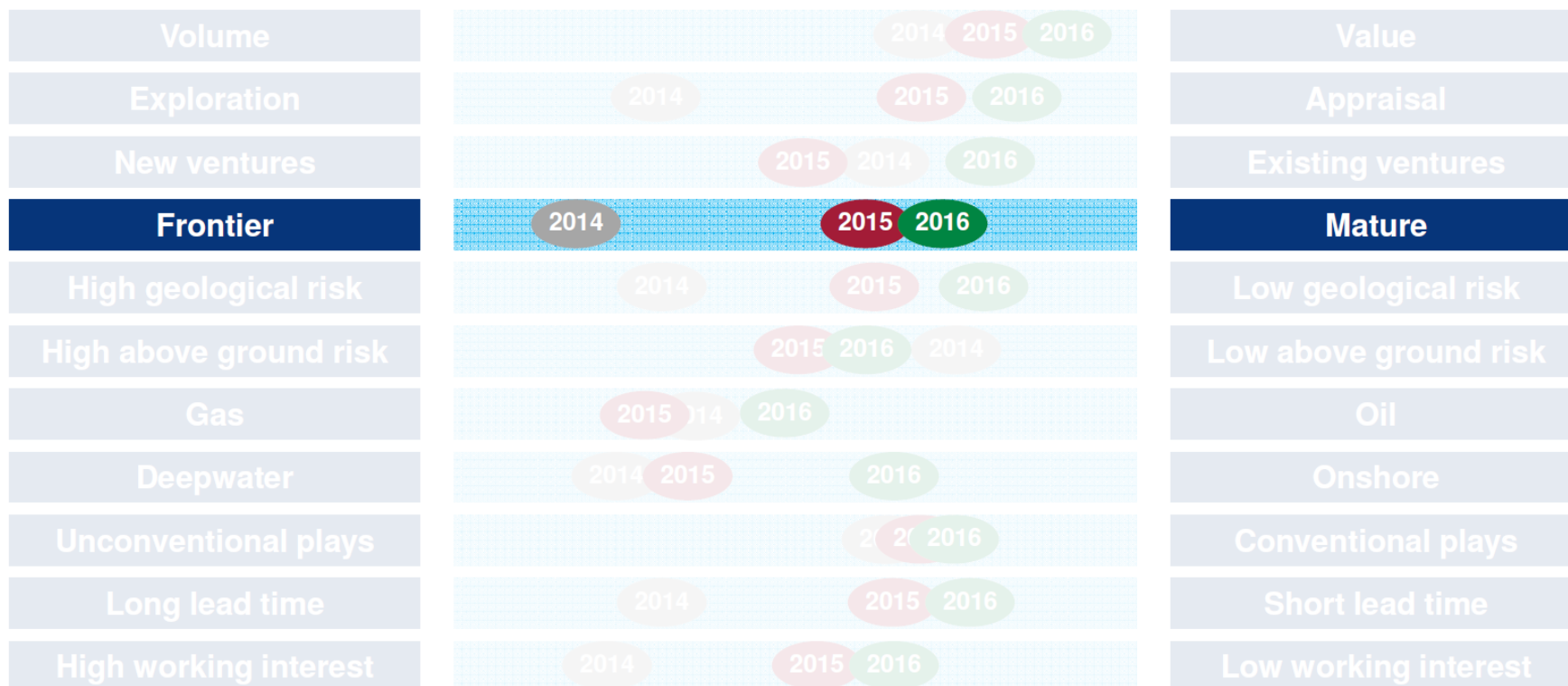
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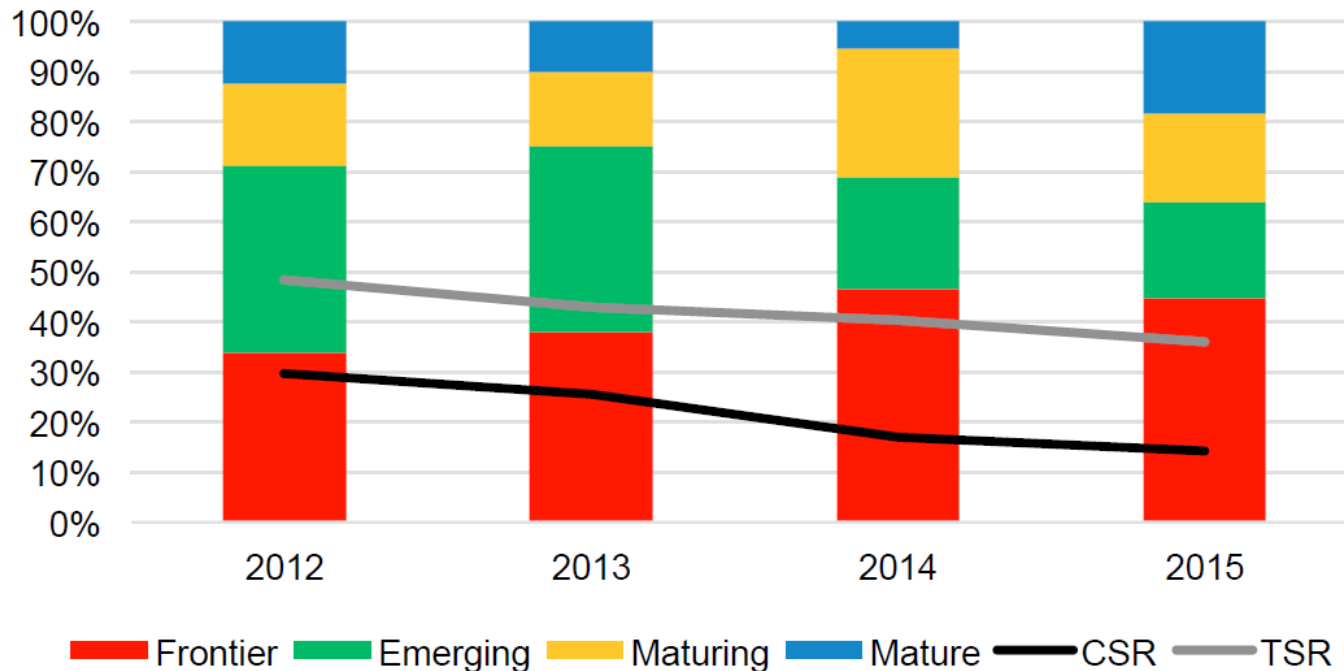


Source: Wood Mackenzie (Feb 2016)



# Global high-impact exploration drilling

## REP40 by play maturity

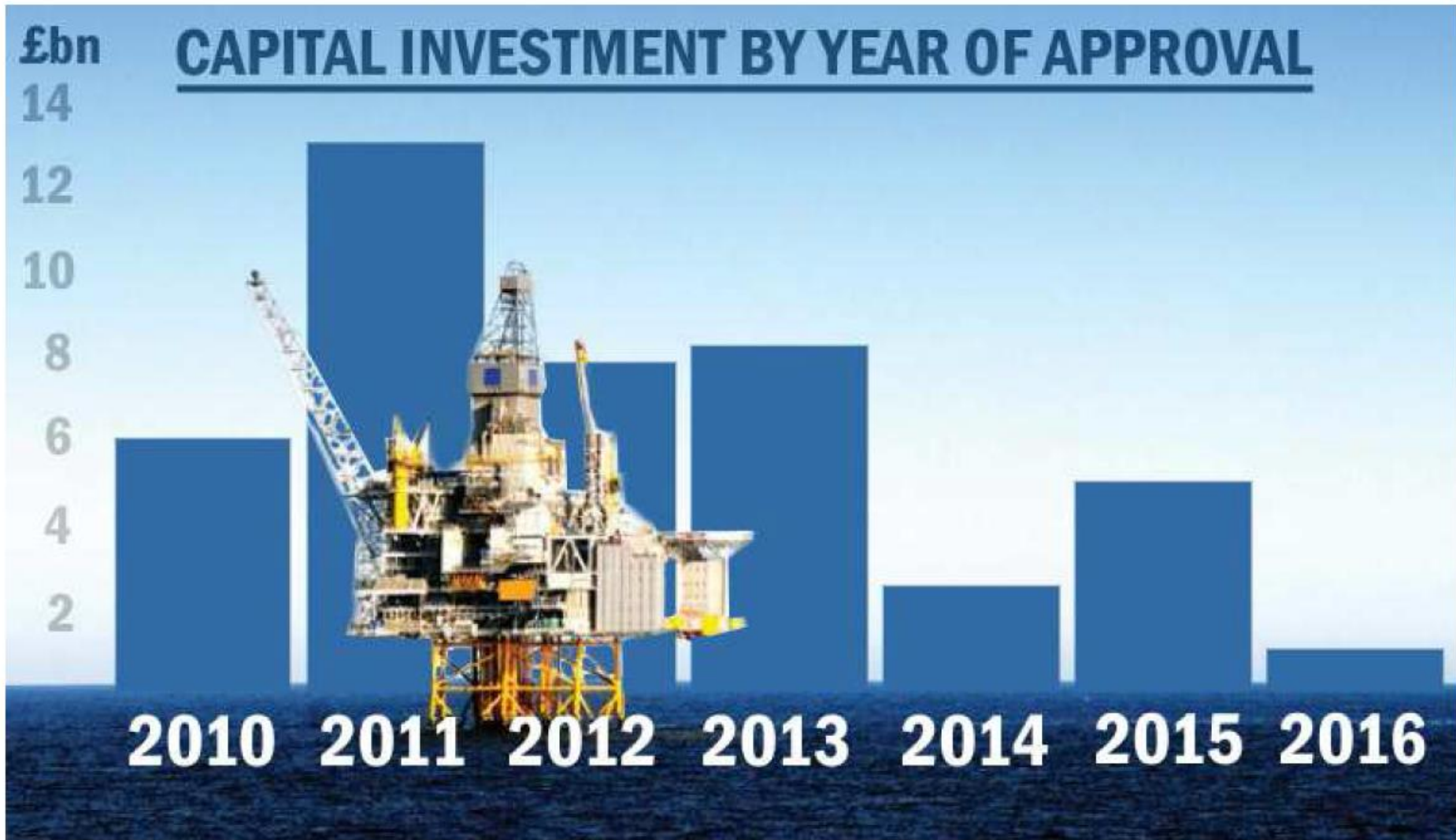


- Proportion of wells drilled in emerging plays reducing, but switching to drilling bigger prospects in more mature basins

Source: Richmond Energy Partners (2016)

# NORTH SEA CASH COLLAPSE

A prolonged and slow decline is likely in the UK North Sea, warns Oil & Gas UK, an industry body



Source: Tethra Energy (Feb 2016)

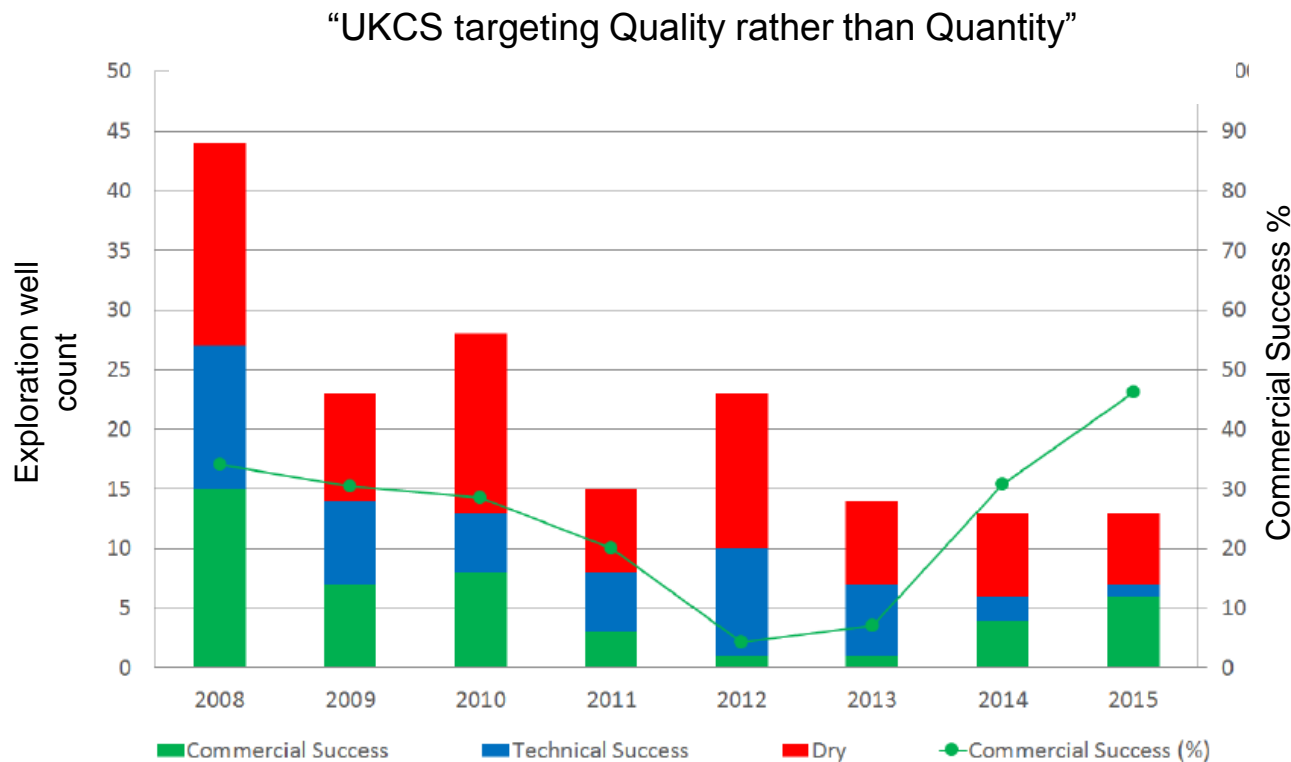
## Why the UK Continental Shelf?



# UKCS 2015 Exploration Highlights

## Highest E & A success rate in over 10 years

- Highest average **commercial** success rate (46%) since 2002
- Approximately **165 MMboe** found through exploration, plus over **100 MMboe** progressed through Appraisal

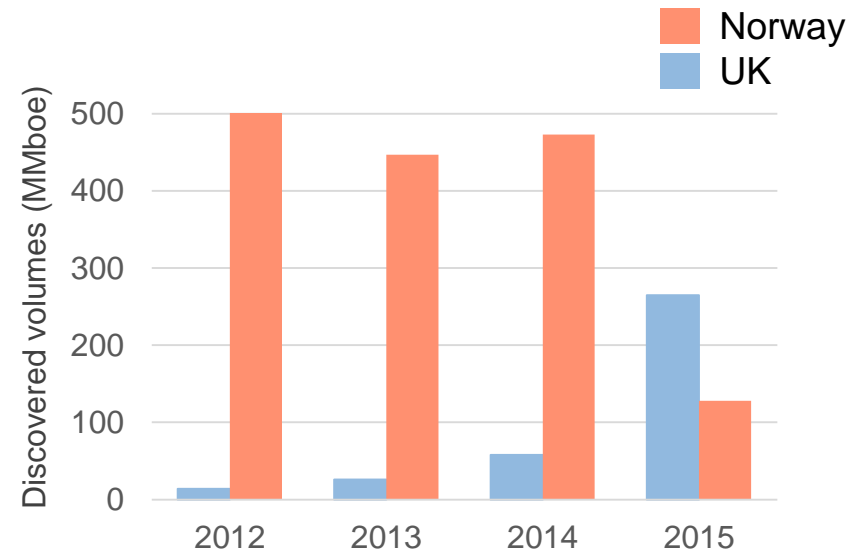
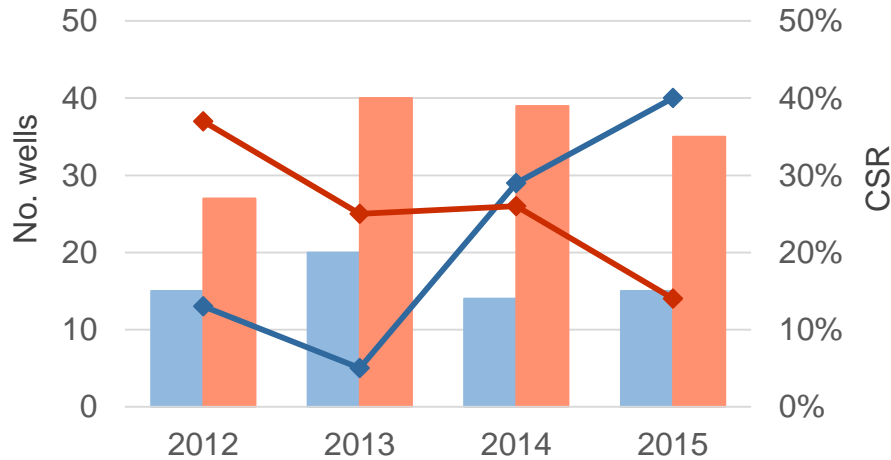


Source: Hannon Westwood

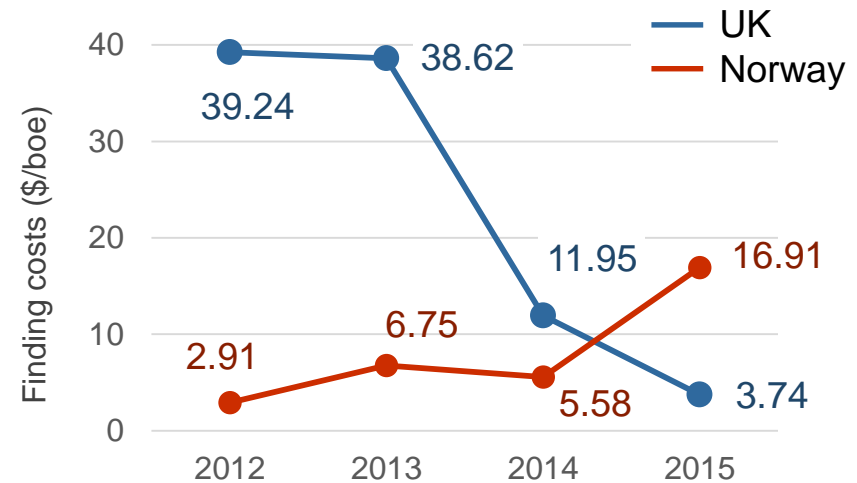
# UKCS 2015 Exploration Highlights



## UK overtakes Norway



- UK performance improving and overtakes Norway in 2015
- Increasing commercial success rates and volumes discovered from the UK



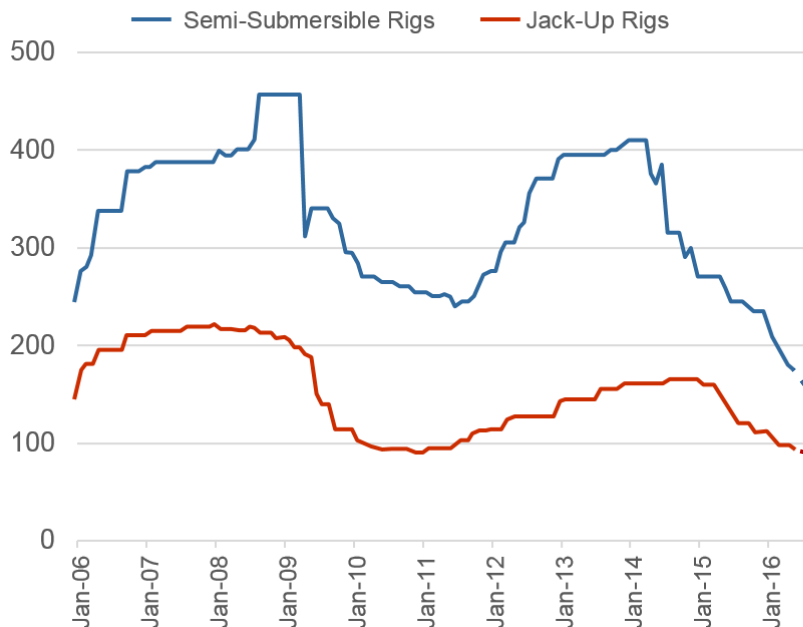
Source: Richmond Energy Partners

# UK North Sea rig market

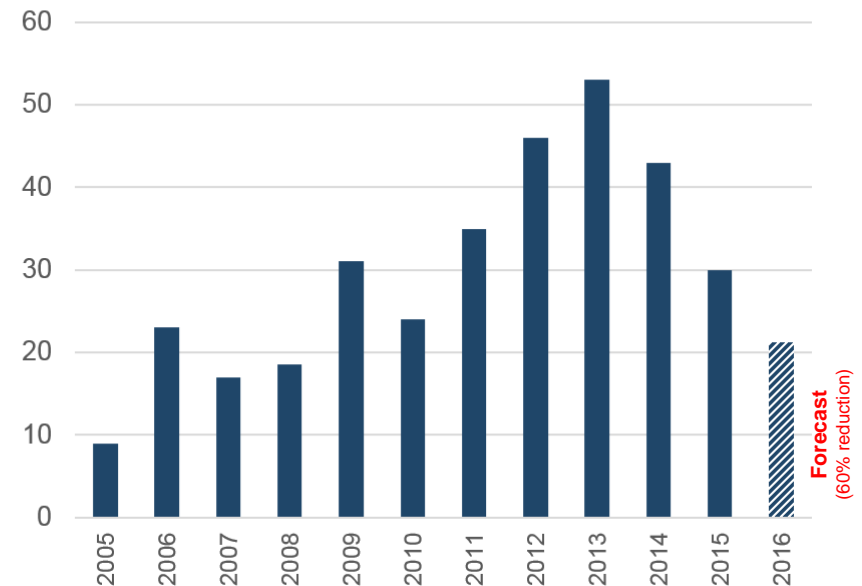
Well costs down 50% since 2013 and falling....

- Fourth generation Semi-Submersible currently on market for sub \$150k/day
- Industry targeting **50% reduction** in 2016 through 'Oil & Gas UK 50% Challenge Group'

Daily rig rates for Mobile Drilling Units (\$'000/day)



Average cost per exploration well (£MM)

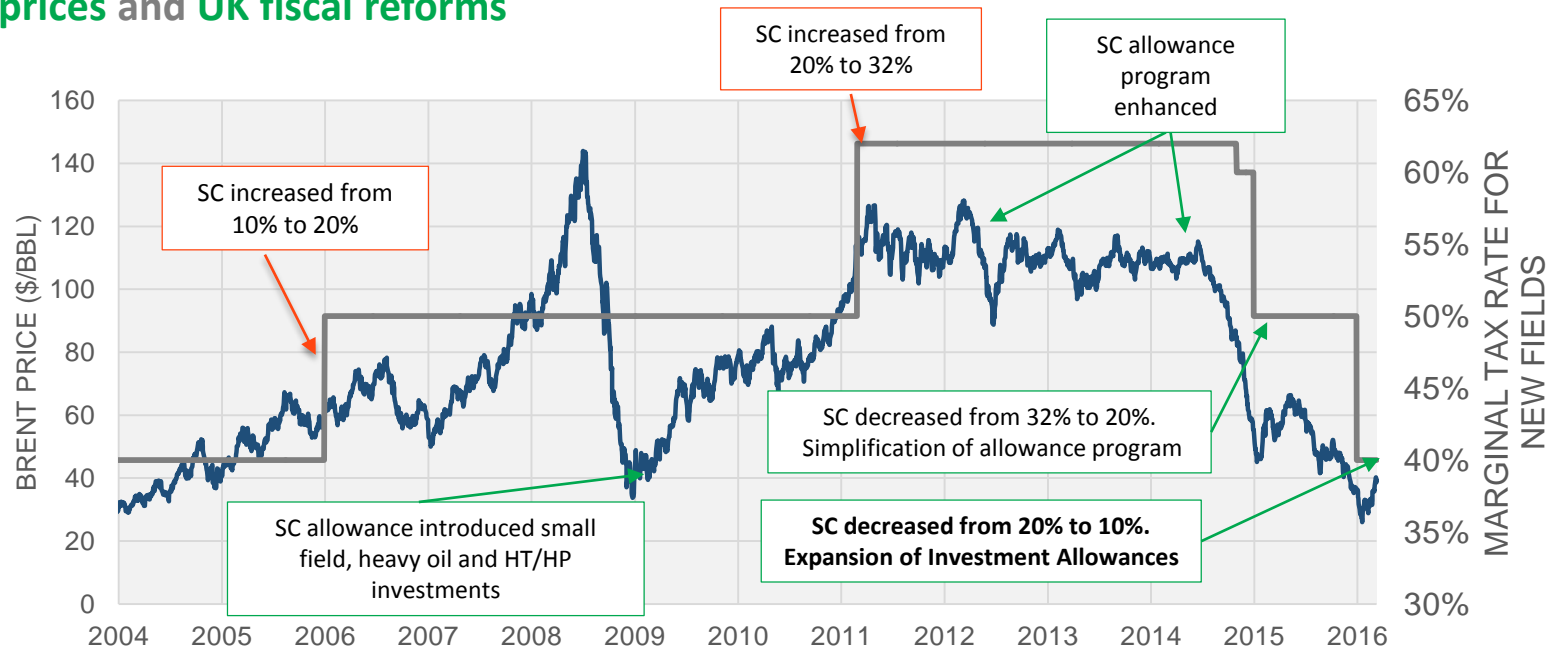


Source: North Sea Reporter, Oil & Gas UK

# Why the UK Continental Shelf?

## Excellent Fiscal Terms / Supportive Government

### Oil prices and UK fiscal reforms



“The government designs the fiscal regime to support its twin objectives of maximizing the economic recovery of hydrocarbon resources whilst ensuring a fair return on those resources for the nation.”

HM Treasury (2016)

# Why the UK Continental Shelf?

## Significant remaining potential

- The UKCS has a set of world class petroleum systems with a total of 43 billion barrels of oil equivalent recovered to date and a remaining 10-20 billion barrels of oil equivalent yet to be recovered (Oil & Gas UK).
- This includes 2-6 billion barrels of oil equivalent of yet-to-find resources (Oil & Gas UK).

On a global comparison, the UK is a must have within a global E&P company's portfolio. Global analysis highlights that during lower oil price environments, the UK provides one of the best \$/boe return-on-investment.





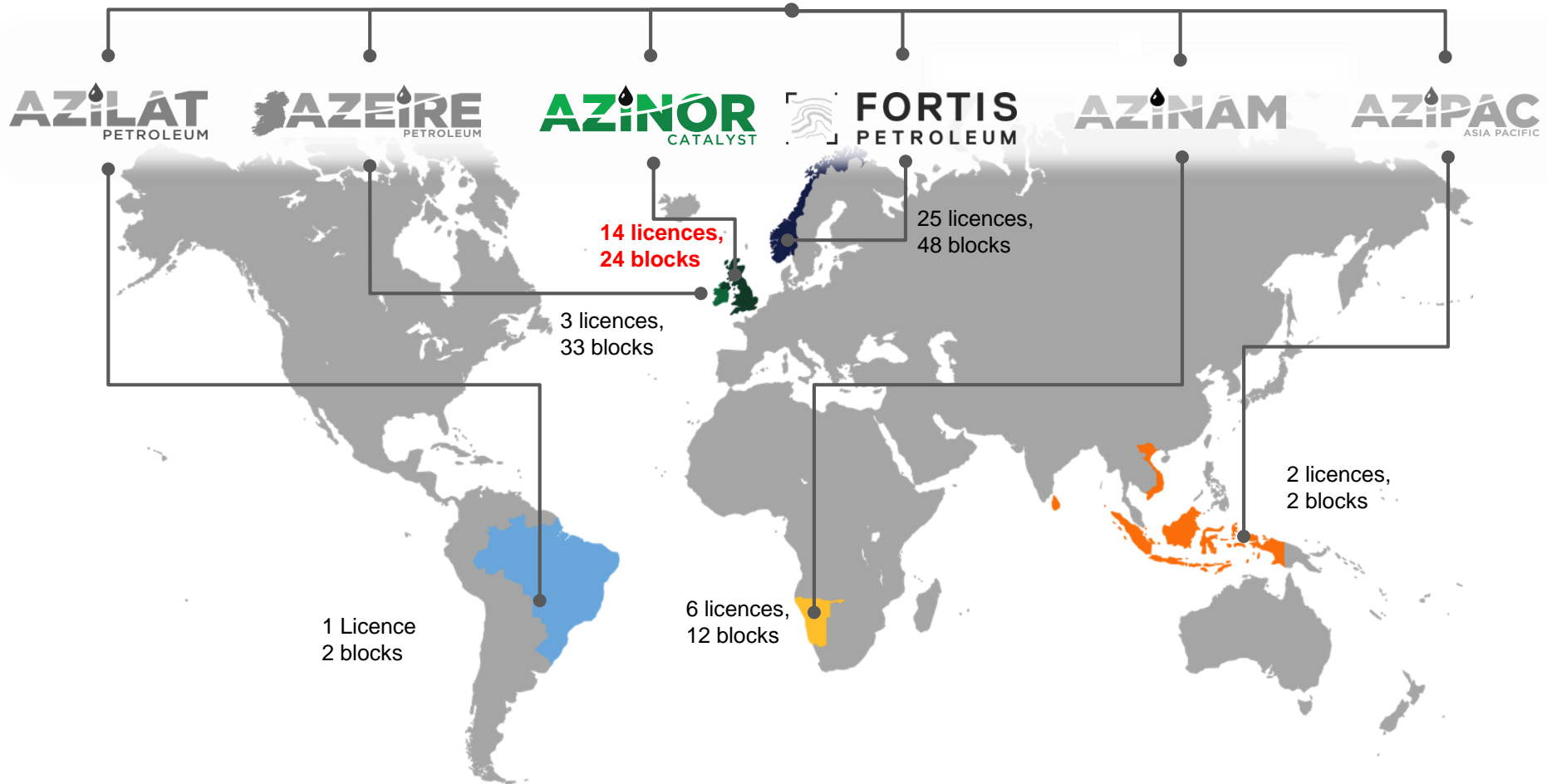
Who are we?



# The Funding: - Seacrest Capital Group

International offshore oil and gas investment group

## Seacrest

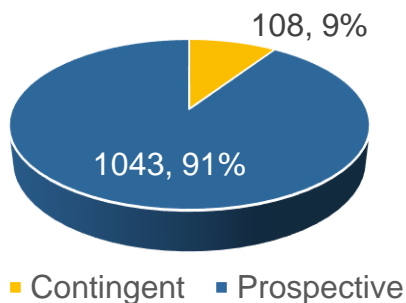


# Licence Portfolio Summary

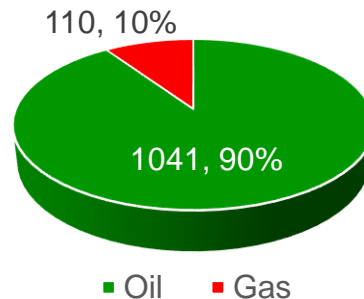
## De-risked material exploration portfolio

- Total of 14 Licences (5 operated)
- Contingent & Prospective Resources (1)
  - Net Mean Unrisked Resources **1,151 MMboe**
  - Net Mean Risked Resources **288 MMboe**
- Portfolio assets types
  - 4 Discoveries
  - 17 Prospects
  - 11 Leads
- Average Licence Interest is 57%

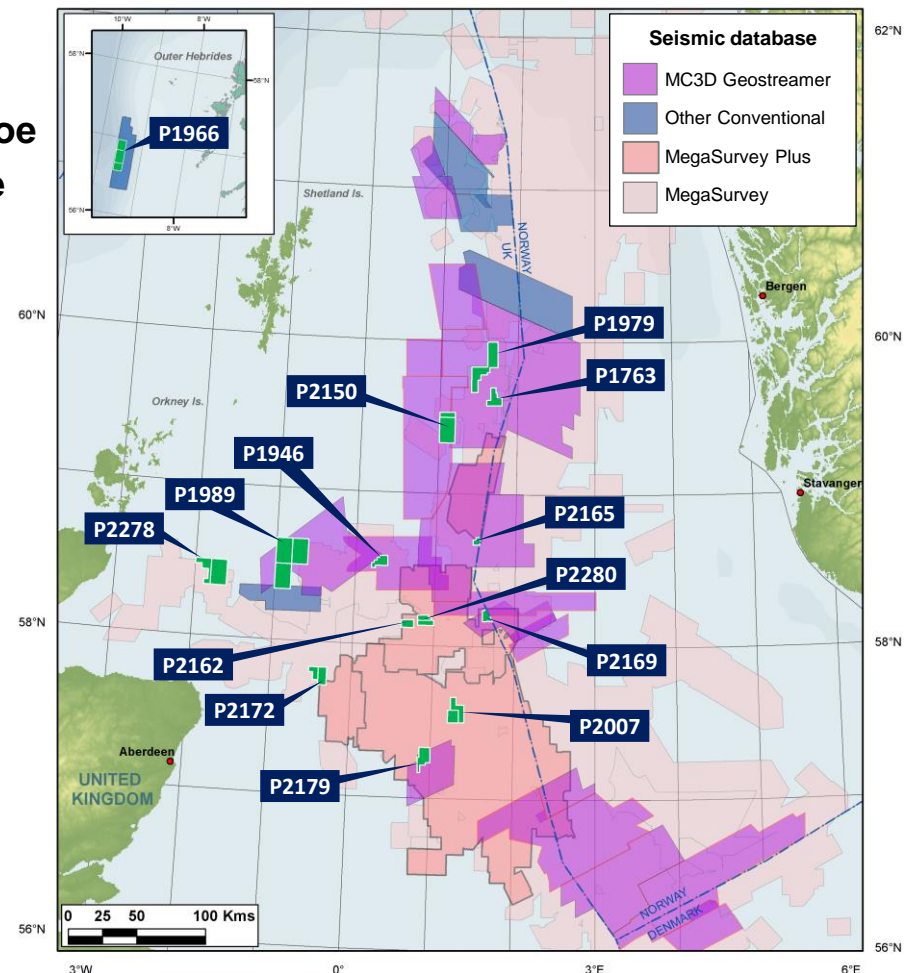
Resource Type (2)



Fluid Type (2)



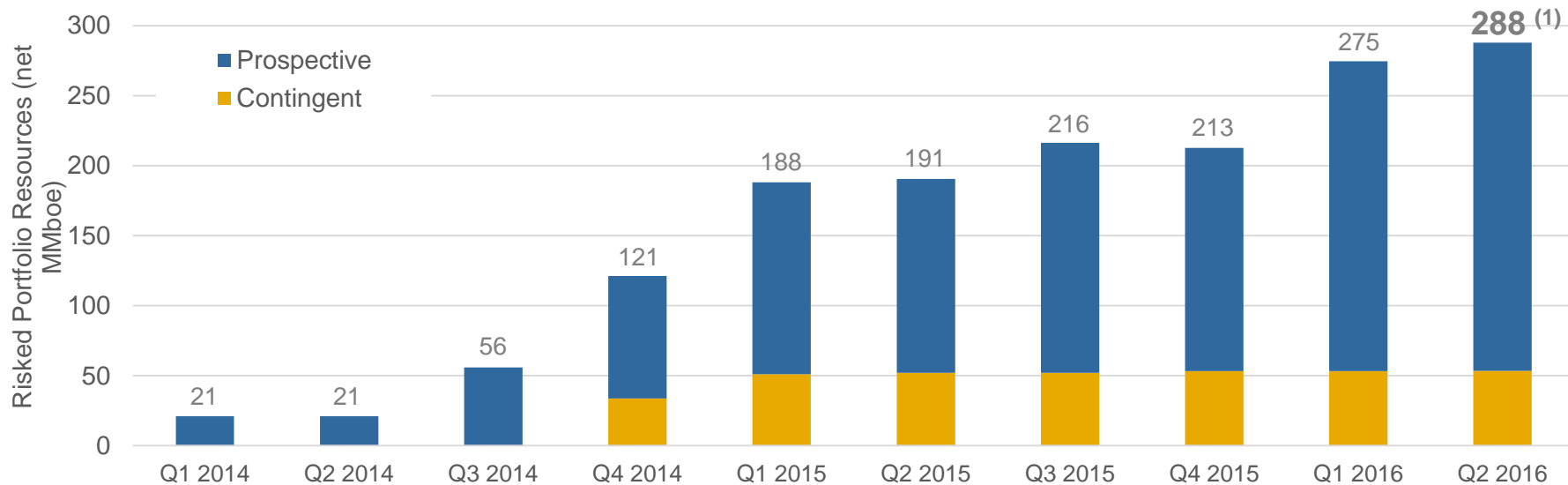
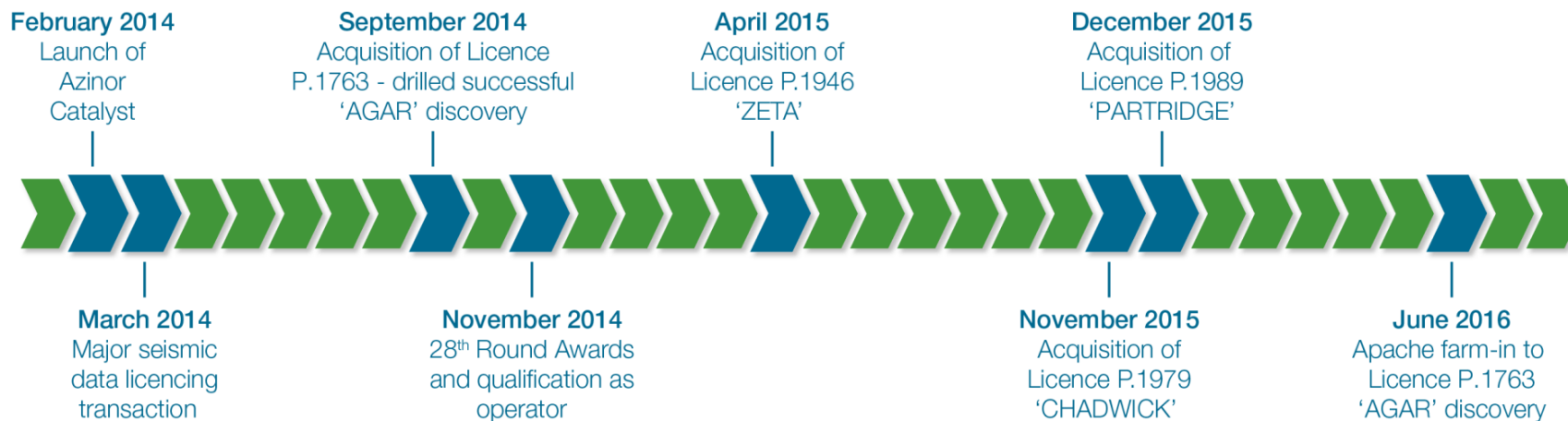
Licence Portfolio (Q2 2016)



(1) Q2 2016 Resource Report (2) Net Mean Unrisked Resources (MMboe)

# Company Evolution

## Rapid organic & inorganic growth over the last 2 years



(1) Q2 2016 Resource Report

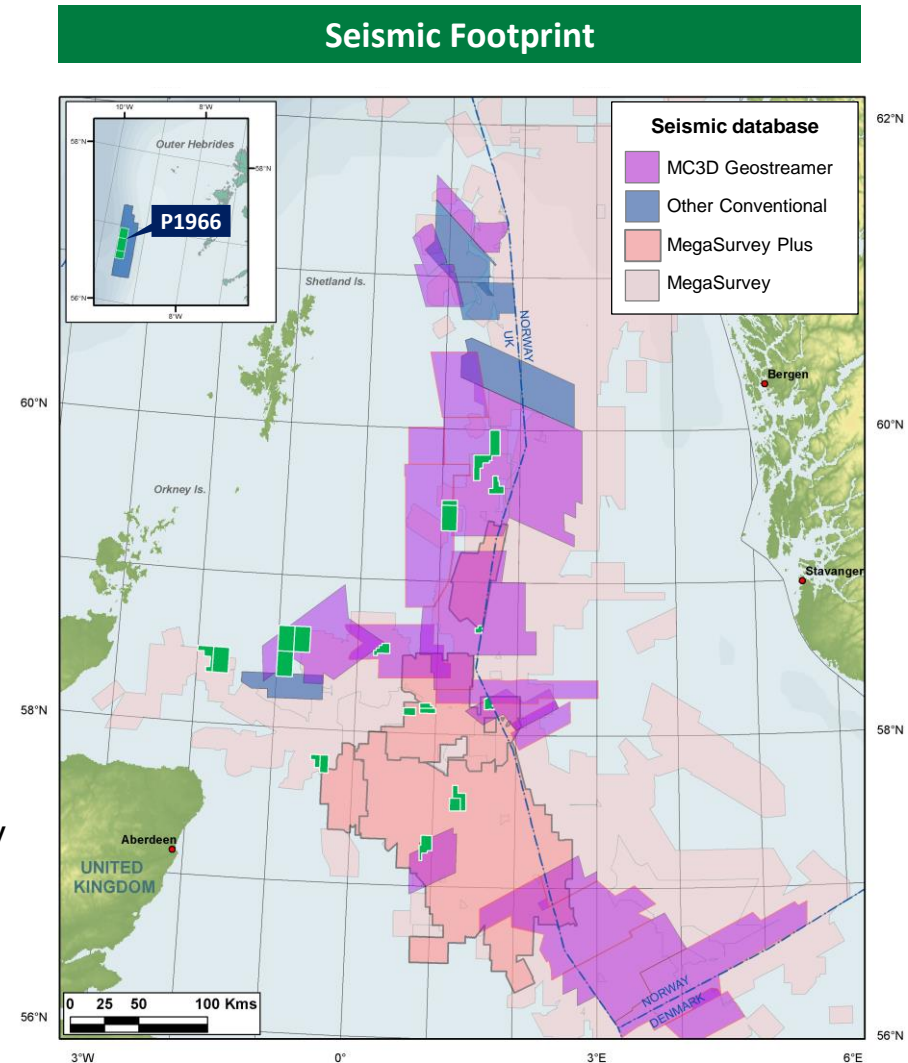
# Our Technology Edge

## One of the UK's largest Seismic Databases

- Seismic to underpin future exploration activity
  - Over 26,000 sqkm latest generation Broadband 3D seismic
  - >110,000 sqkm conventional 3D seismic
- Empowers Exploration team to use cutting edge data to de-risk the basin's prospectivity

## Advance Quantitative Interpretation

- Azinor Catalyst has integrated the best Seismic data with Advanced Quantitative Exploration techniques to give them a strategic edge.
- Provides geoscientists and management with a simplified understanding of the Lithology/Porosity and Fluid fill in the subsurface.
- Regional understanding and a local targeted Quantified Focus.



# Investing in Technology Upfront

Why Broadband? - Improved imagery, better understanding....

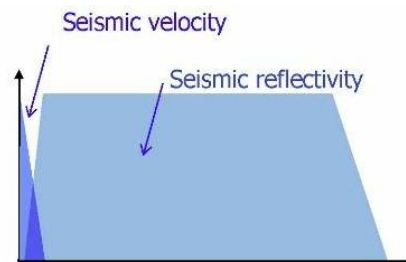
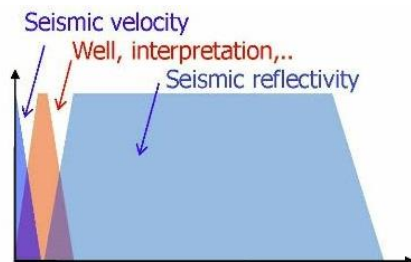
Conventional



Broadband



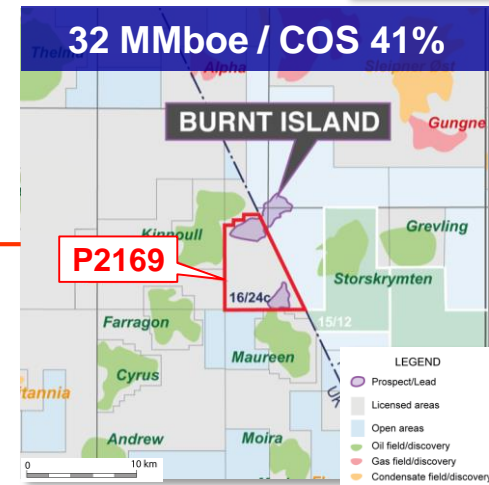
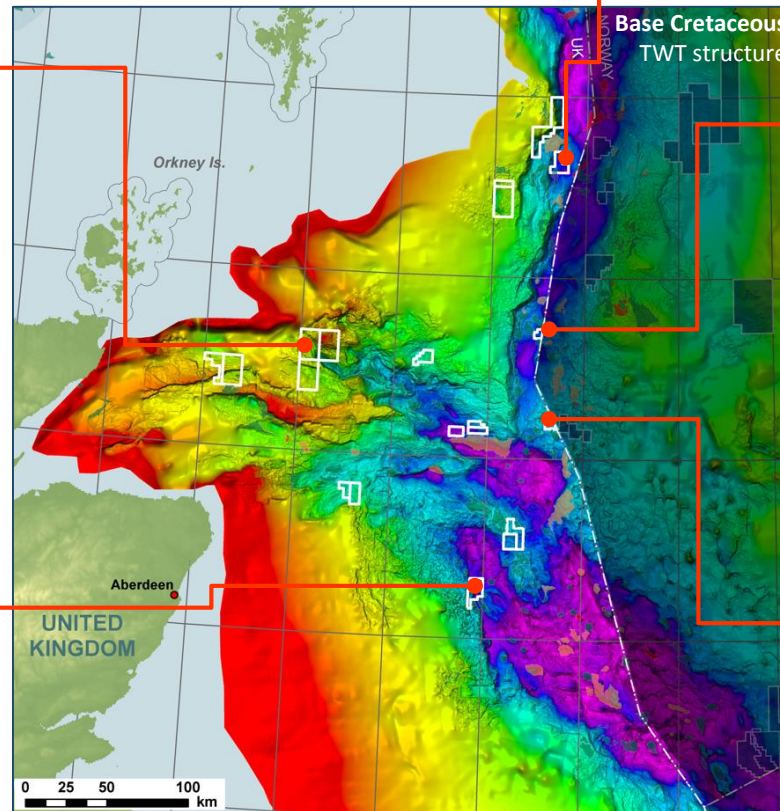
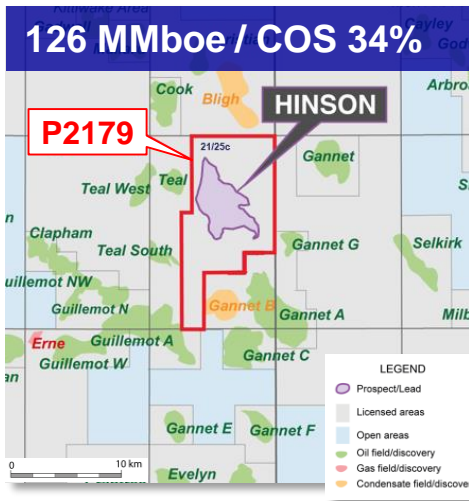
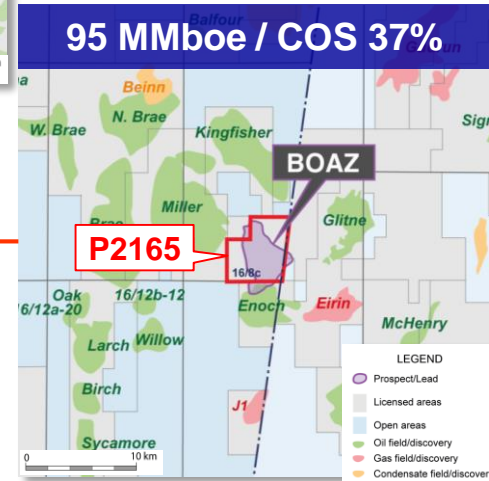
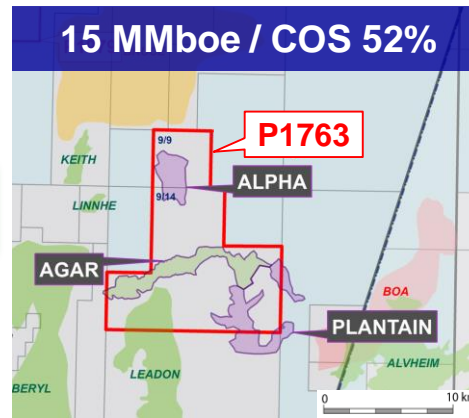
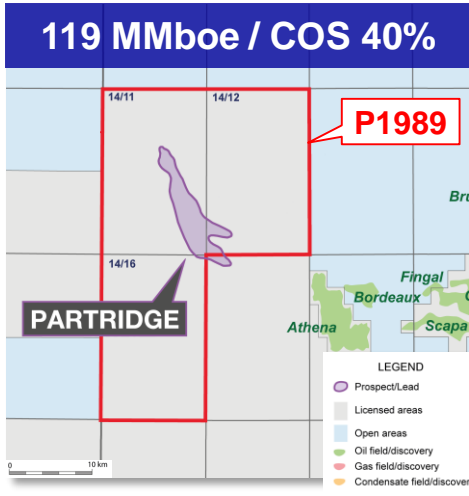
True reflectivity



- Reservoir **property prediction enhanced** by **more low frequency** information
- With a Broadband approach low frequencies from the wells are less critical
- Increased **high frequencies** provide **better vertical seismic resolution**
- **Better signal to noise** at range of depths

# 'Drill-Ready' Assets

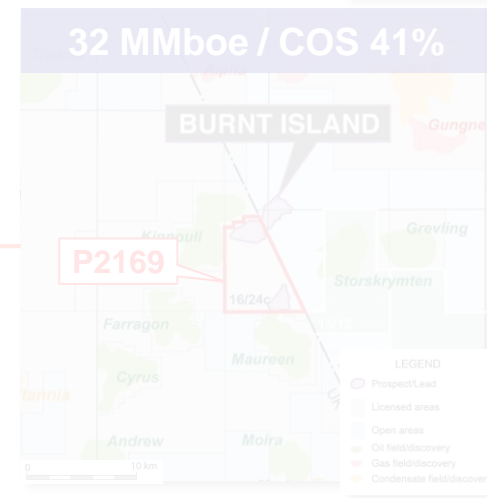
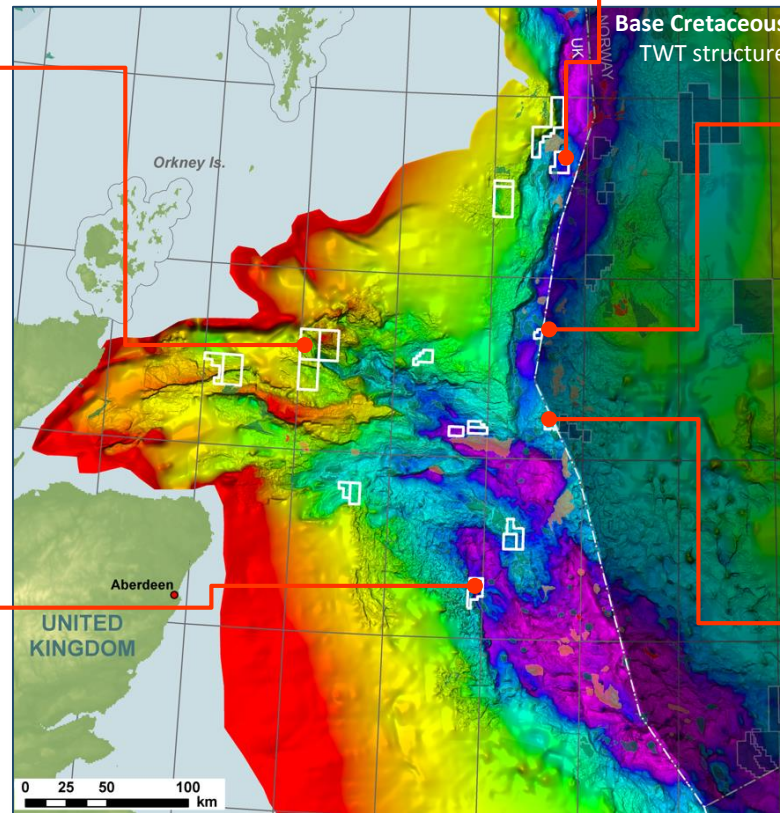
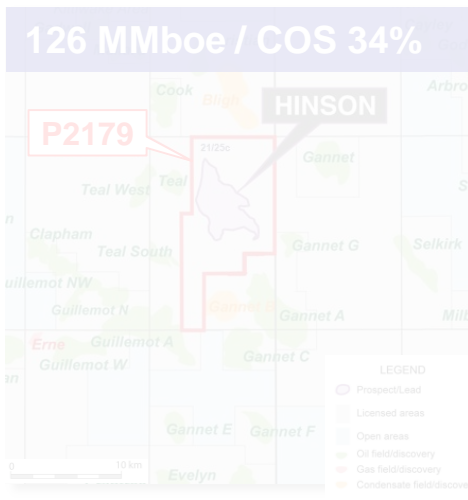
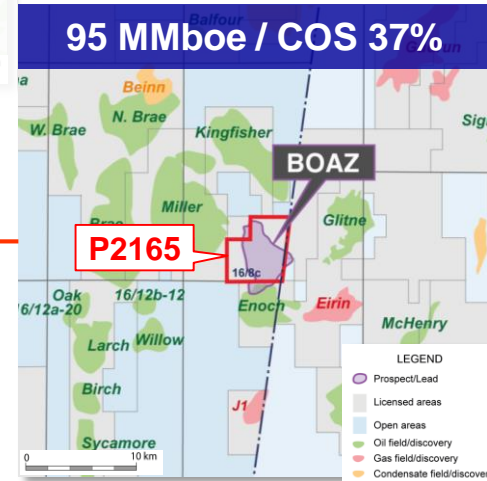
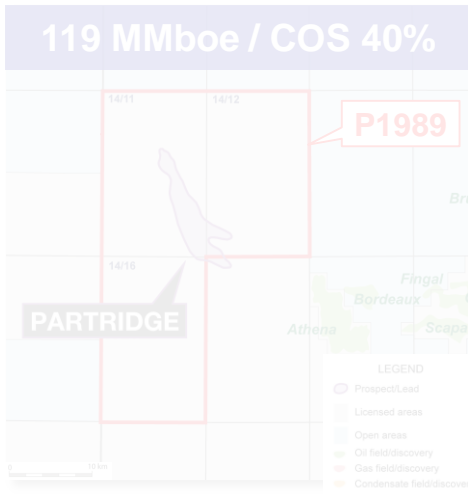
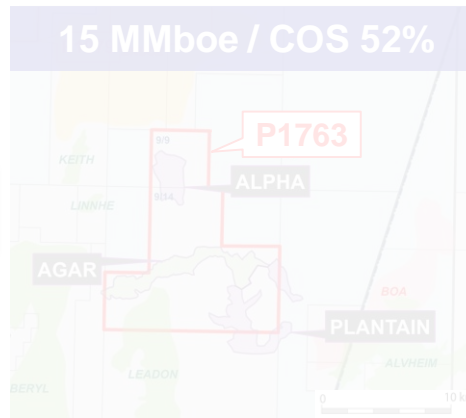
## Low Risk Mature Basin Opportunities



Gross Pmean/Mid Case Rec. Resources

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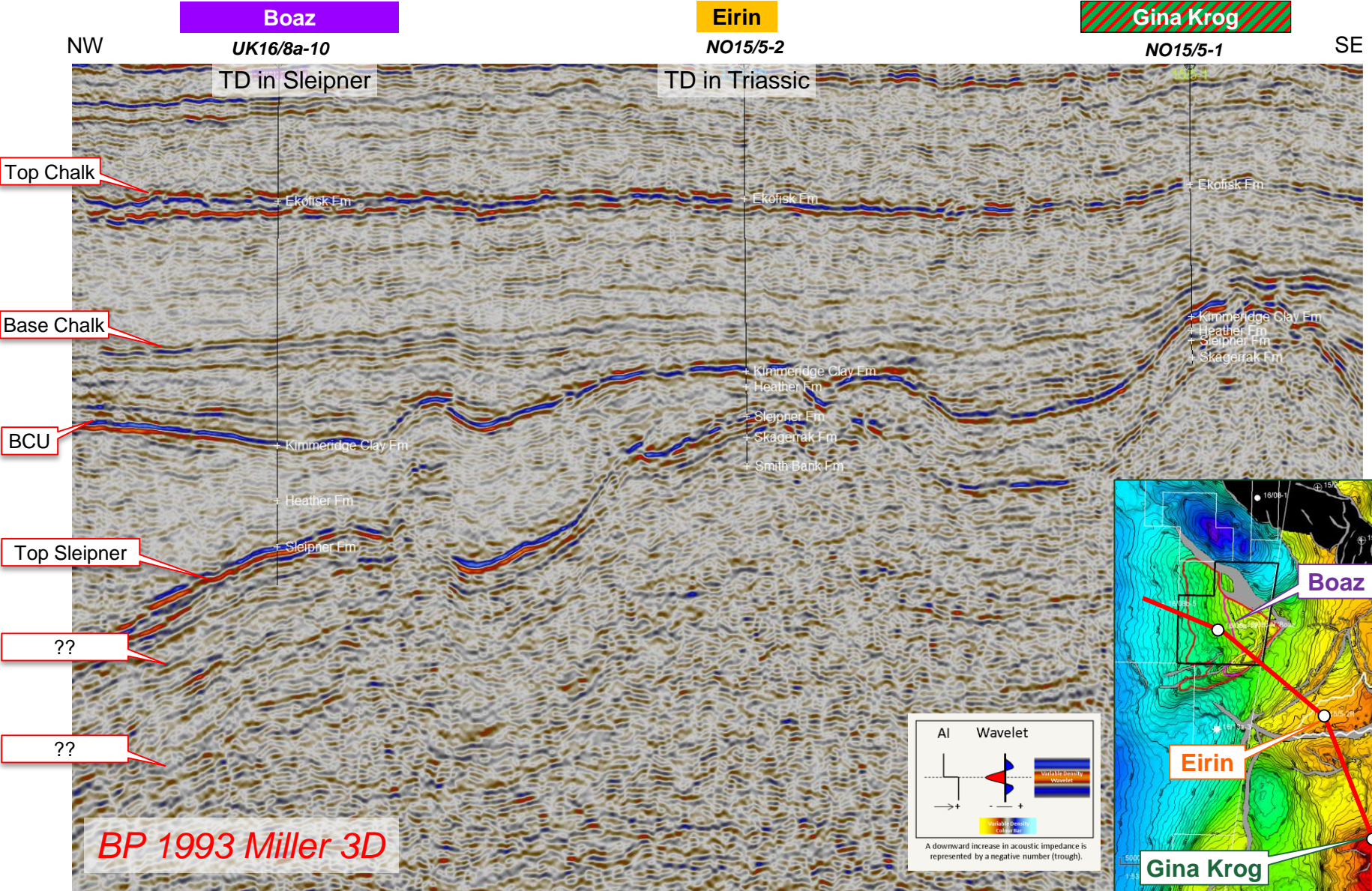
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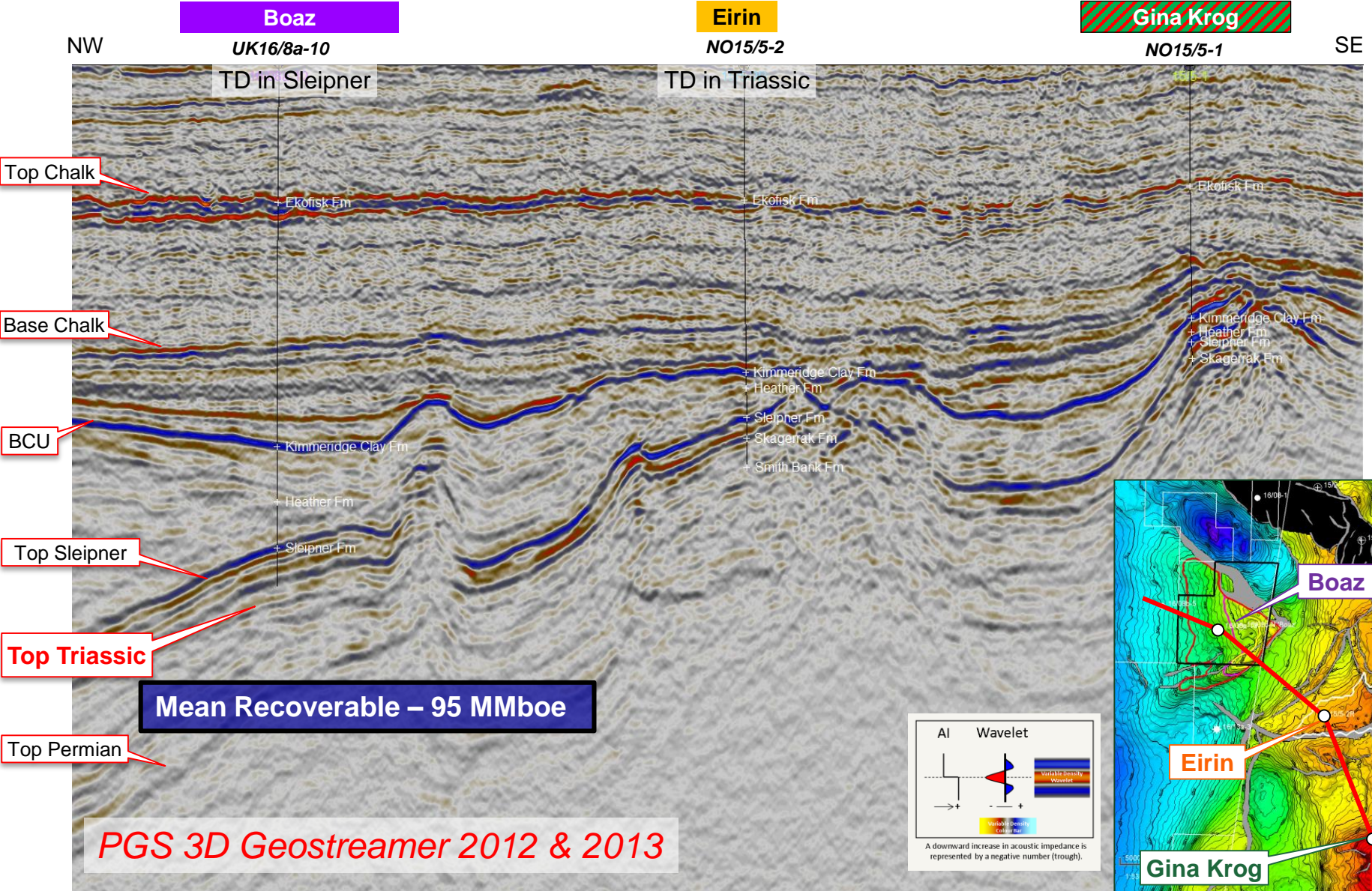
Gross Pmean/Mid Case Rec. Resources



# Deep imaging enhancements - Boaz (P2165)

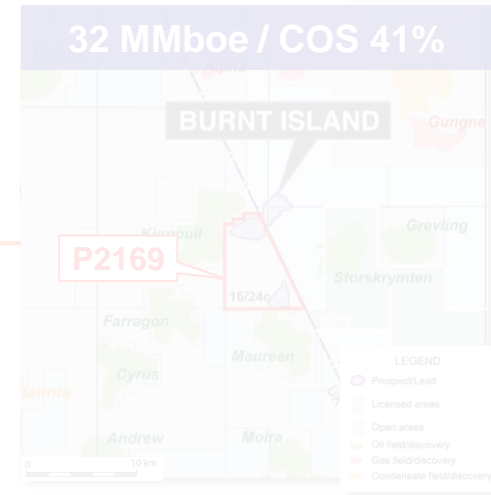
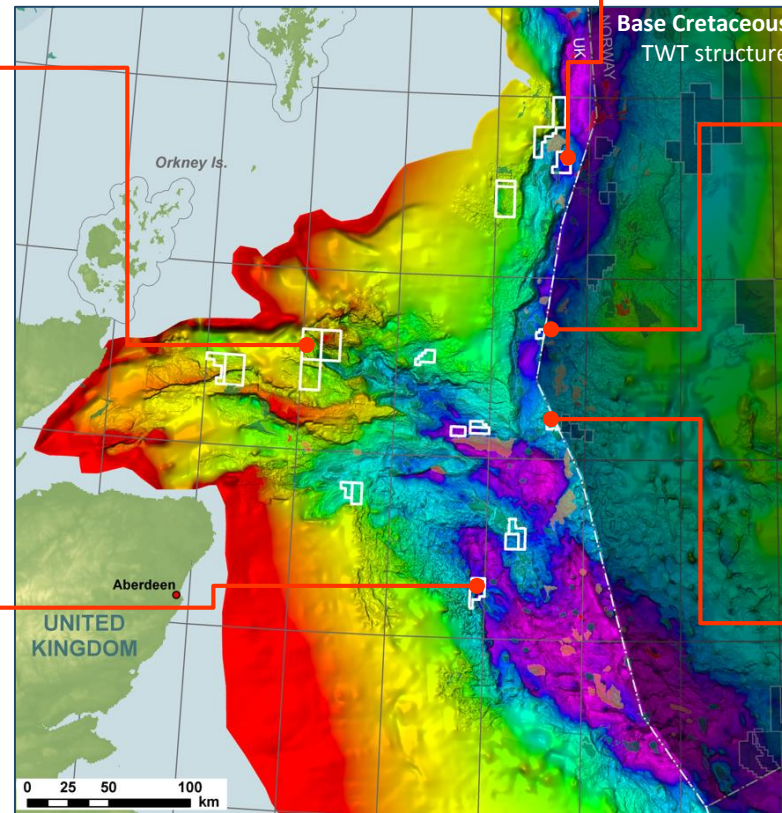
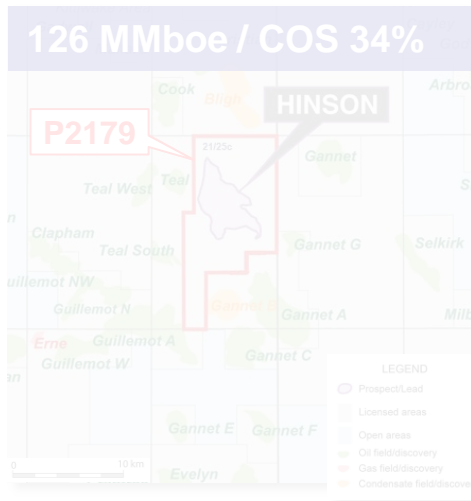
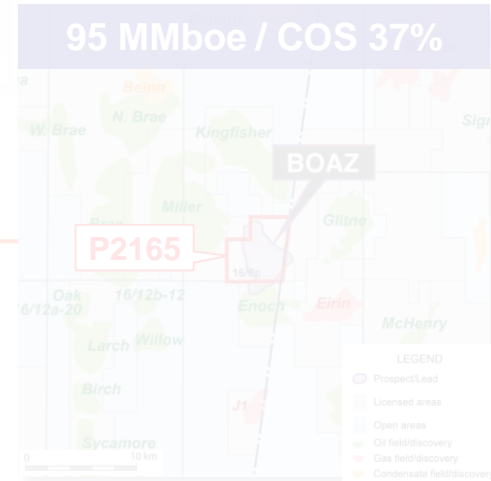
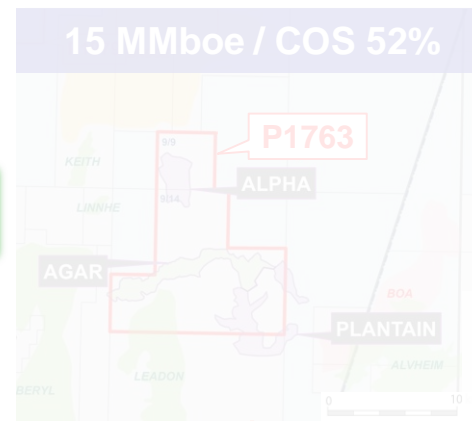
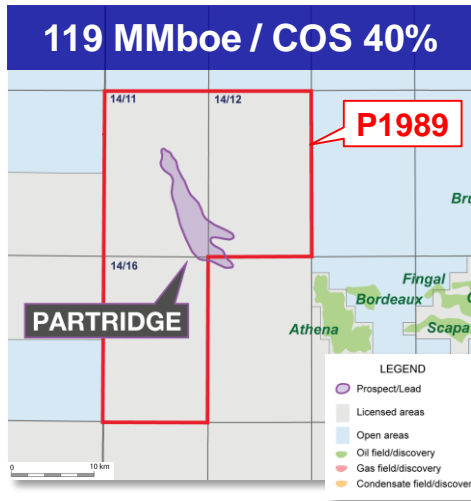


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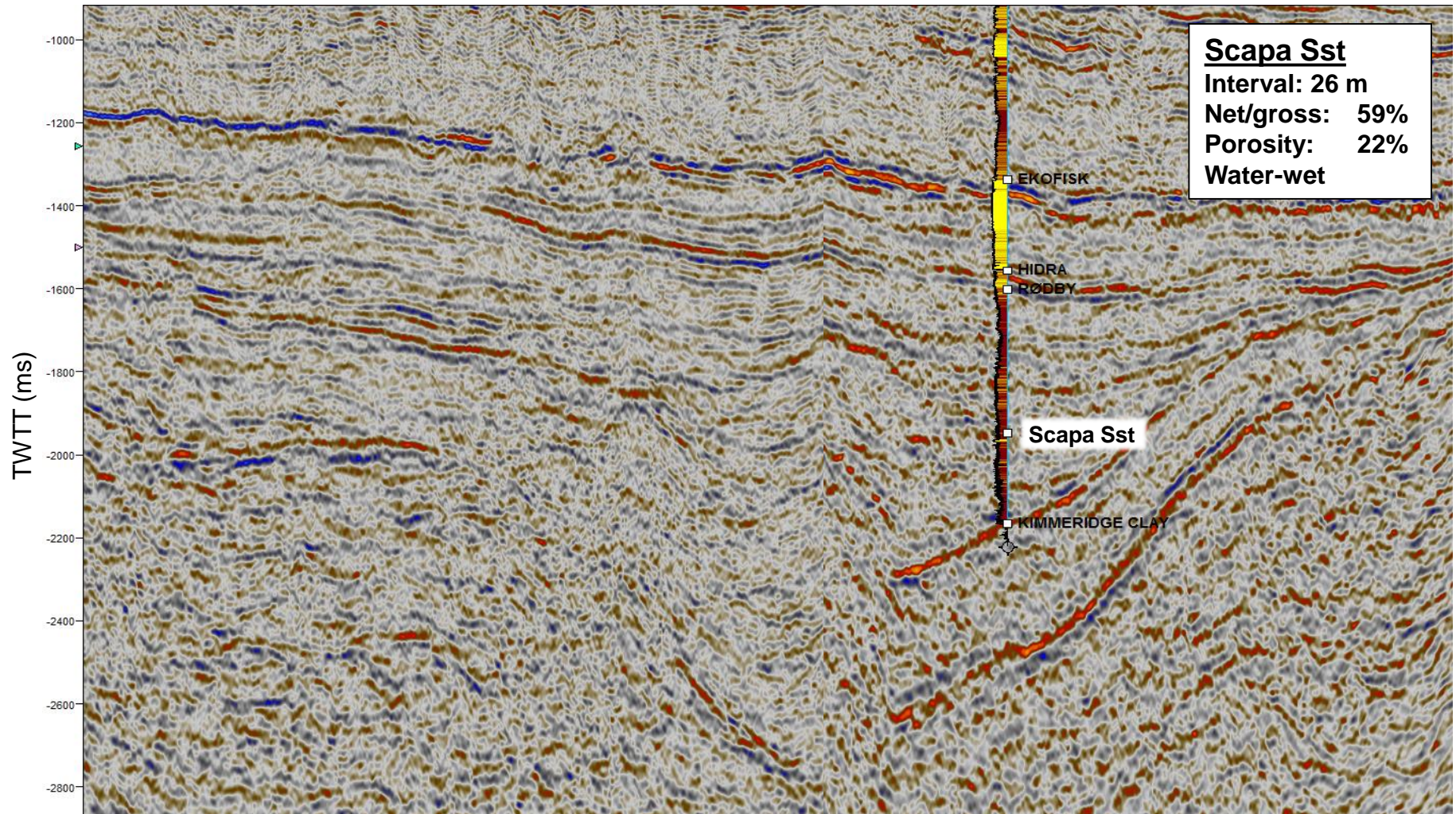
## Low Risk Mature Basin Opportunities



**Gross Pmean/Mid Case Rec. Resources**

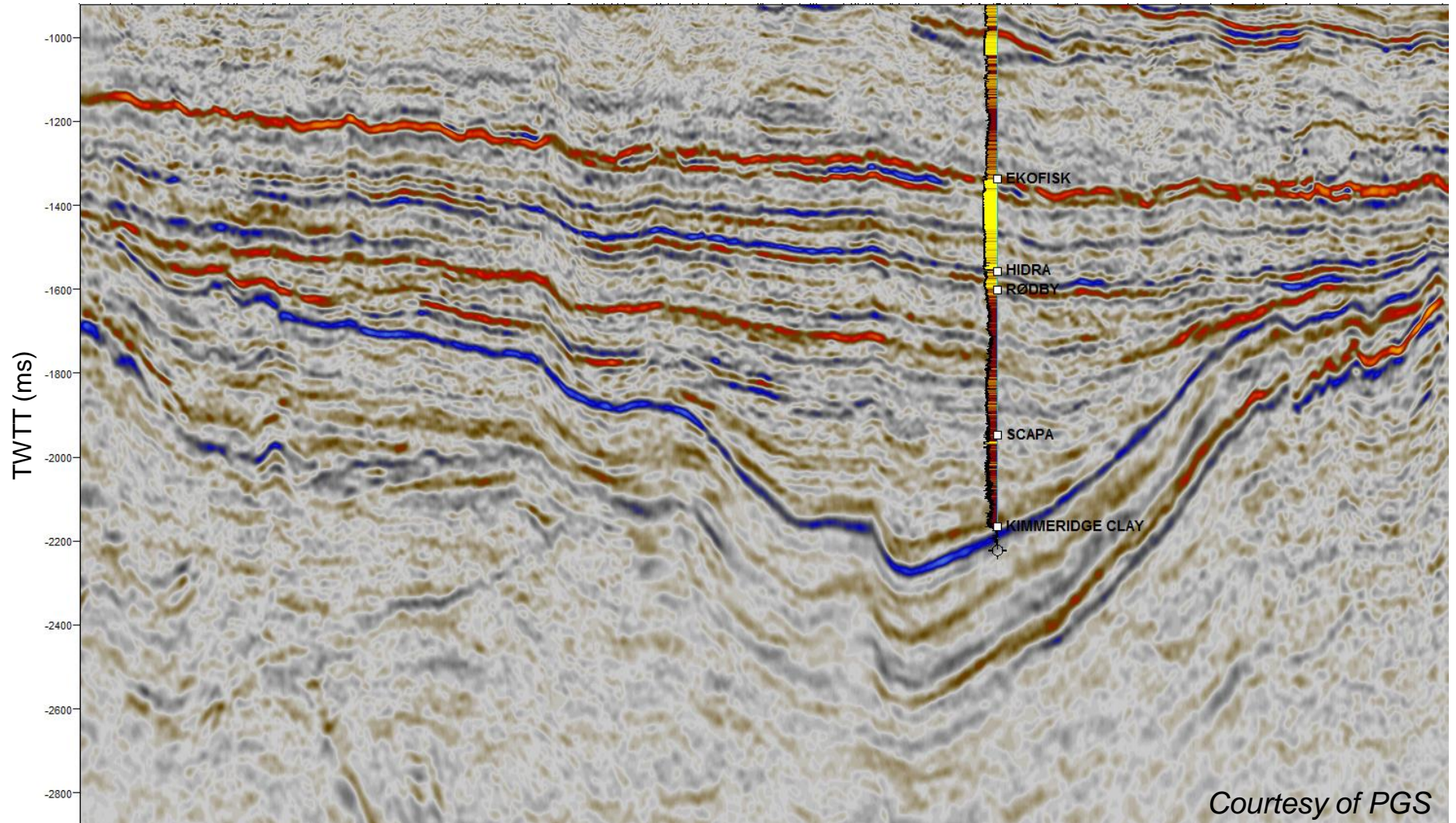
# 'Partridge' prospect (P1989)

Historical 2D data (1990's)



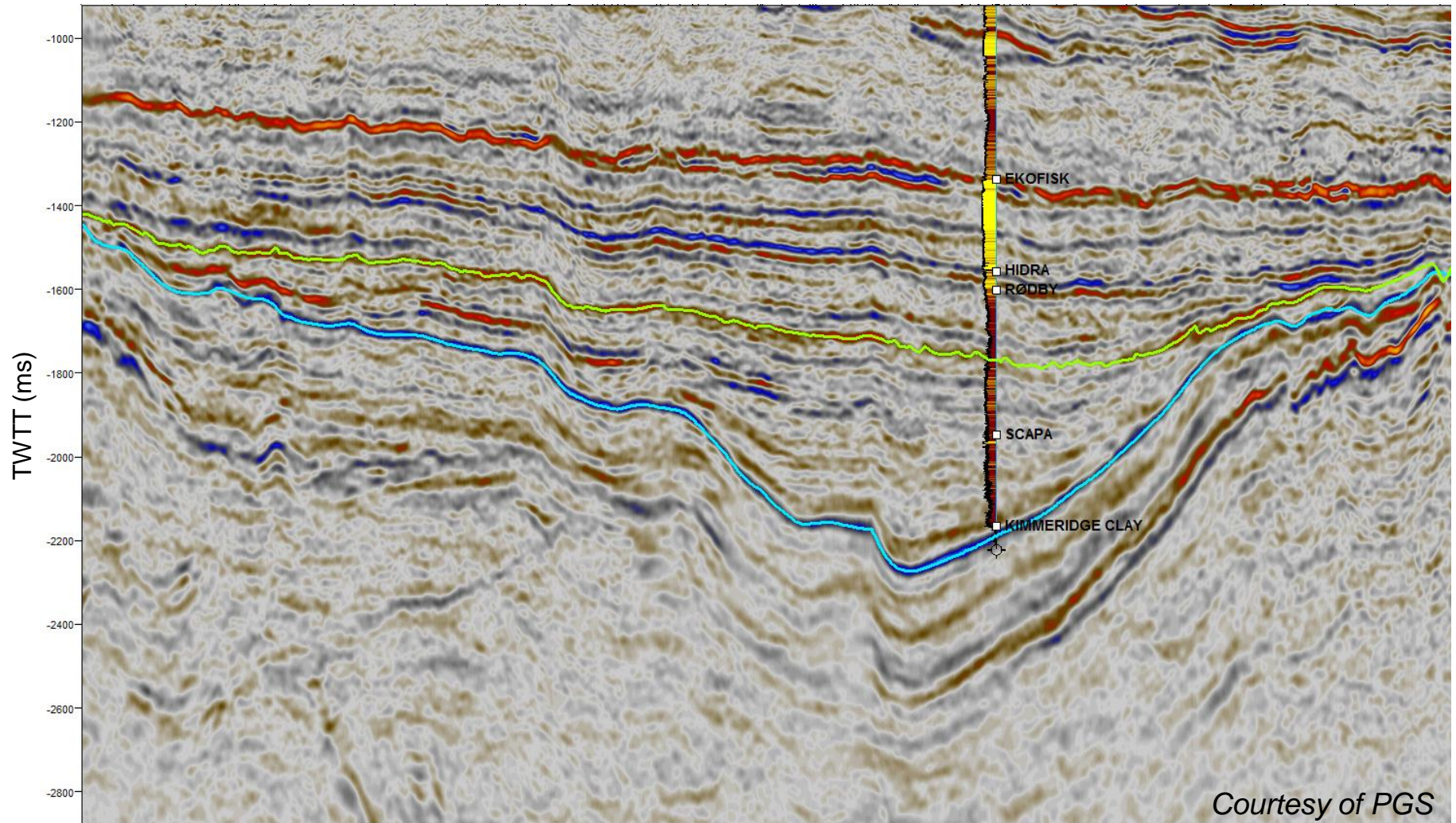
# 'Partridge' prospect (P1989)

## 3D Geostreamer 2013



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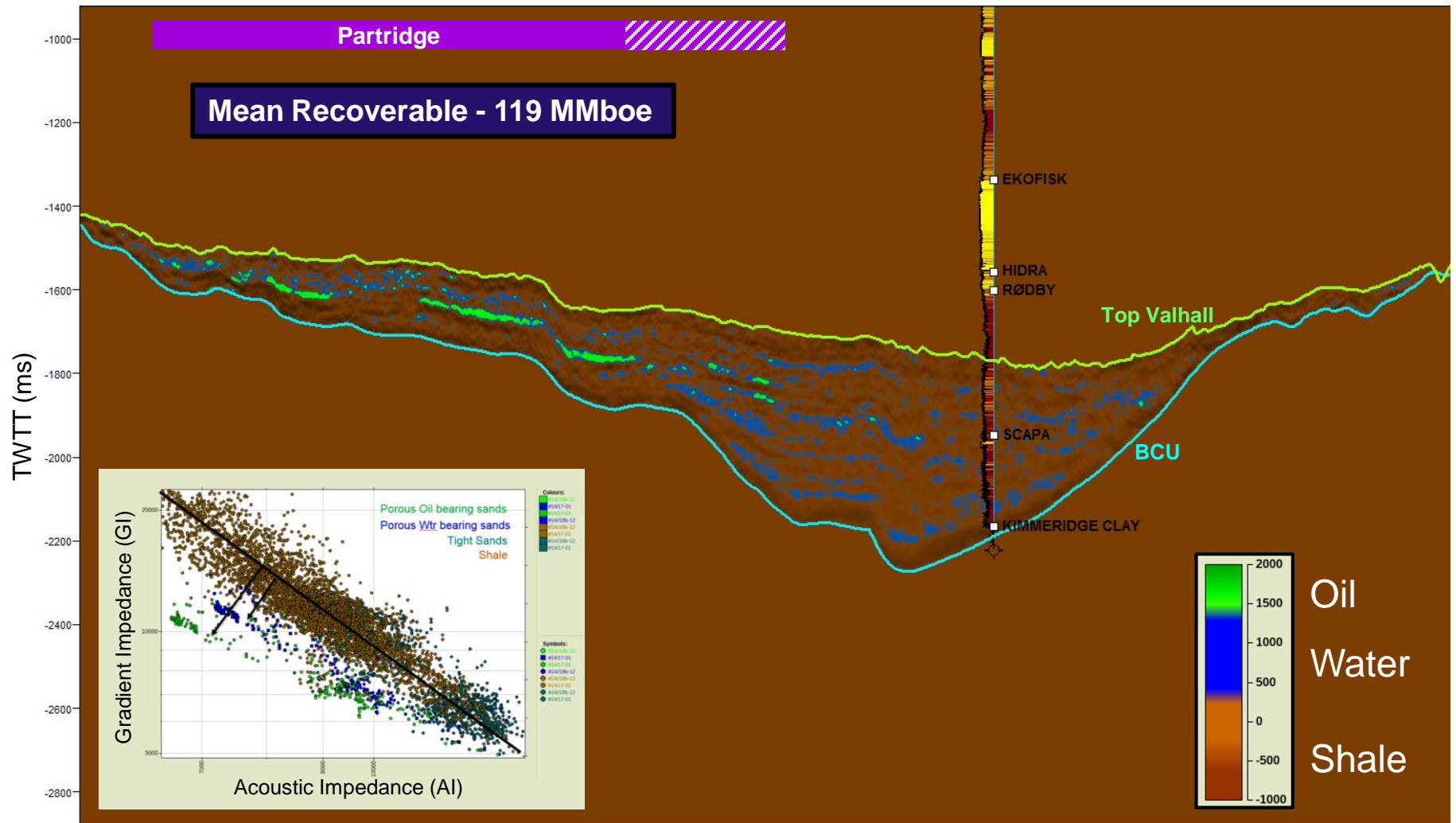
## 3D Geostreamer 2013



*Courtesy of PGS*

# 'Partridge' prospect (P1989)

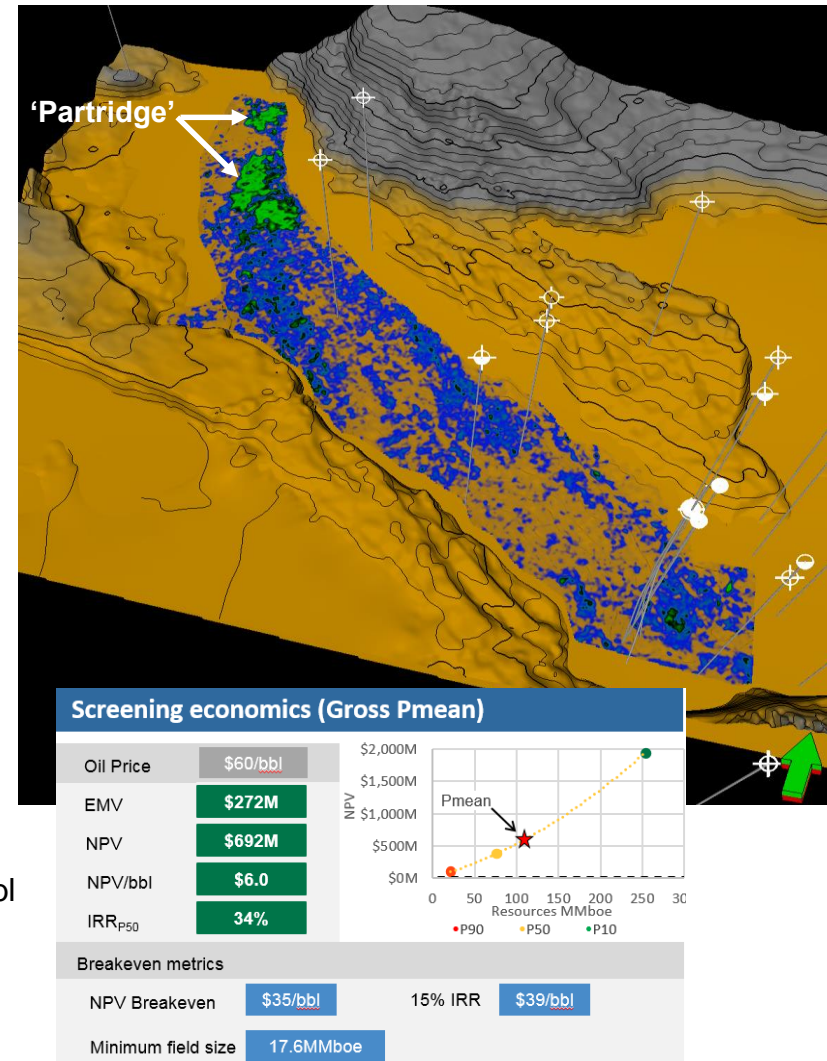
## Quantitative Fluid & Lithology Prediction



# Technical Summary

## 'Partridge' Prospect

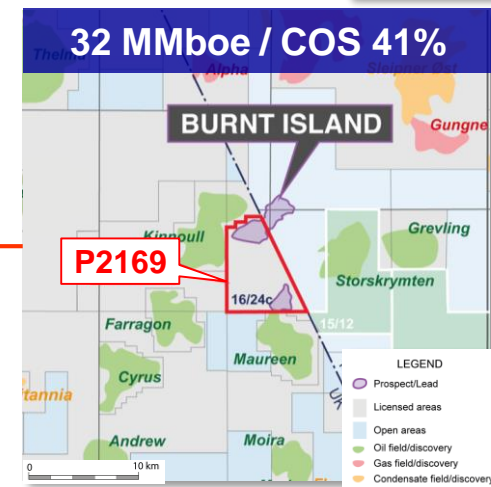
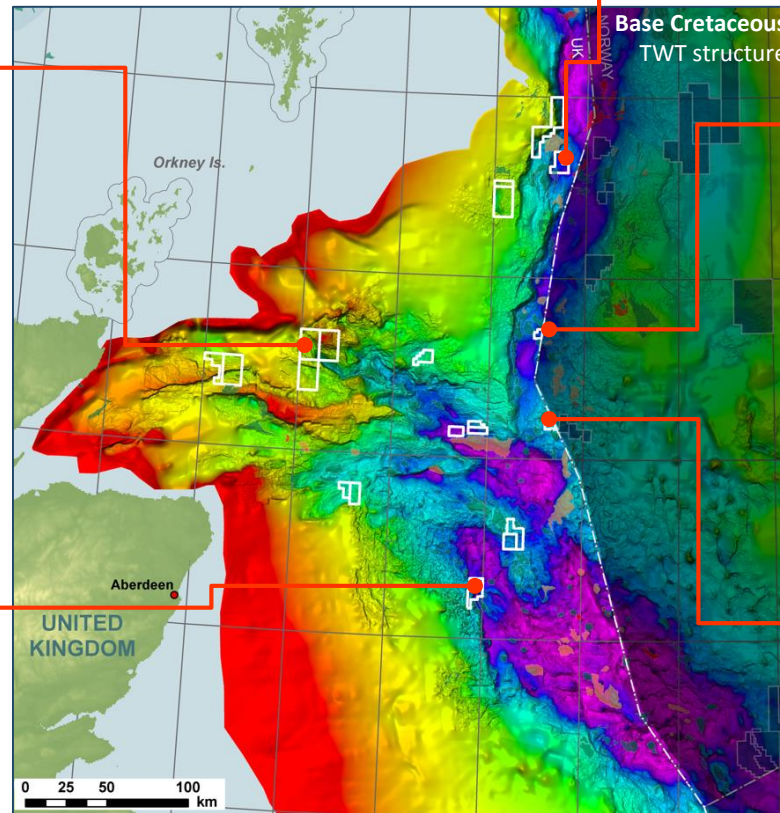
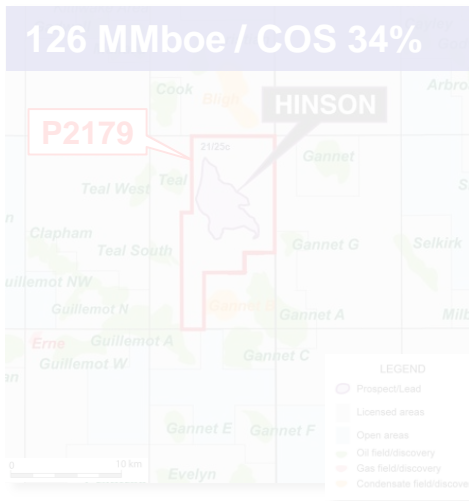
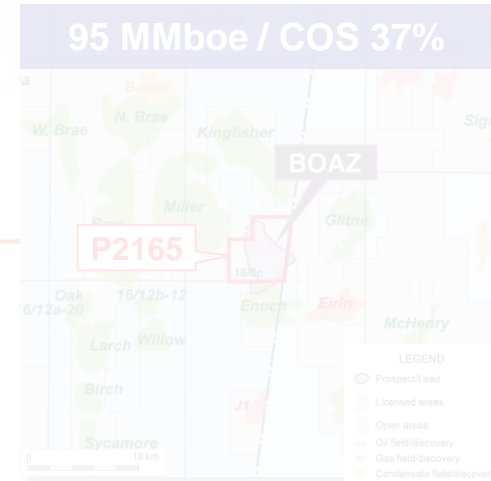
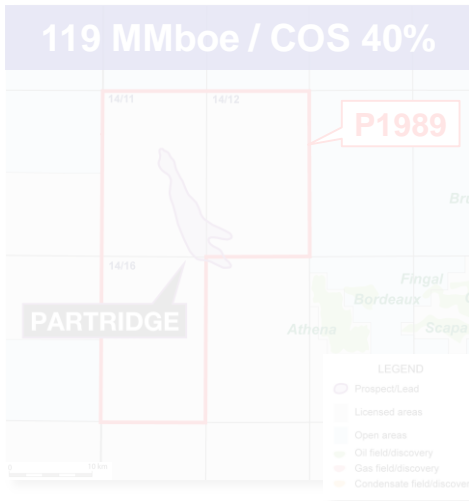
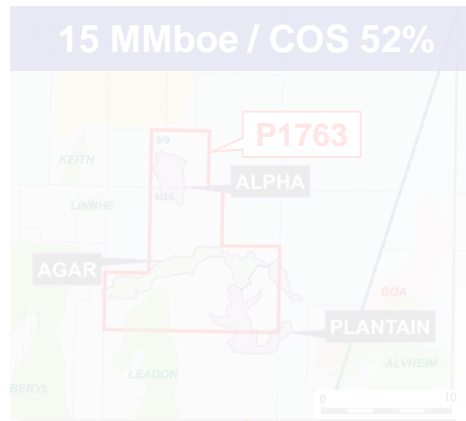
- Lower Cretaceous Scapa Sst stratigraphic trap
- Oil prone prospect
- Gross recoverable resources
  - P90 case                    21 MMboe
  - **P<sub>mean</sub> case            119 MMboe**
  - P10 case                    260 MMboe
  - Best Technical            113 MMboe
- Geological Chance of Success 40%
- Reservoir target    2115 m TVDSS (6940 ft)
- Water depth            130 m MSL (425ft)
- Robust economics under a standalone FPSO development
  - Minimum commercial field size of 18 MMboe at \$60/bbl
- Dry well cost – \$8.2MM





# 'Drill-Ready' Assets

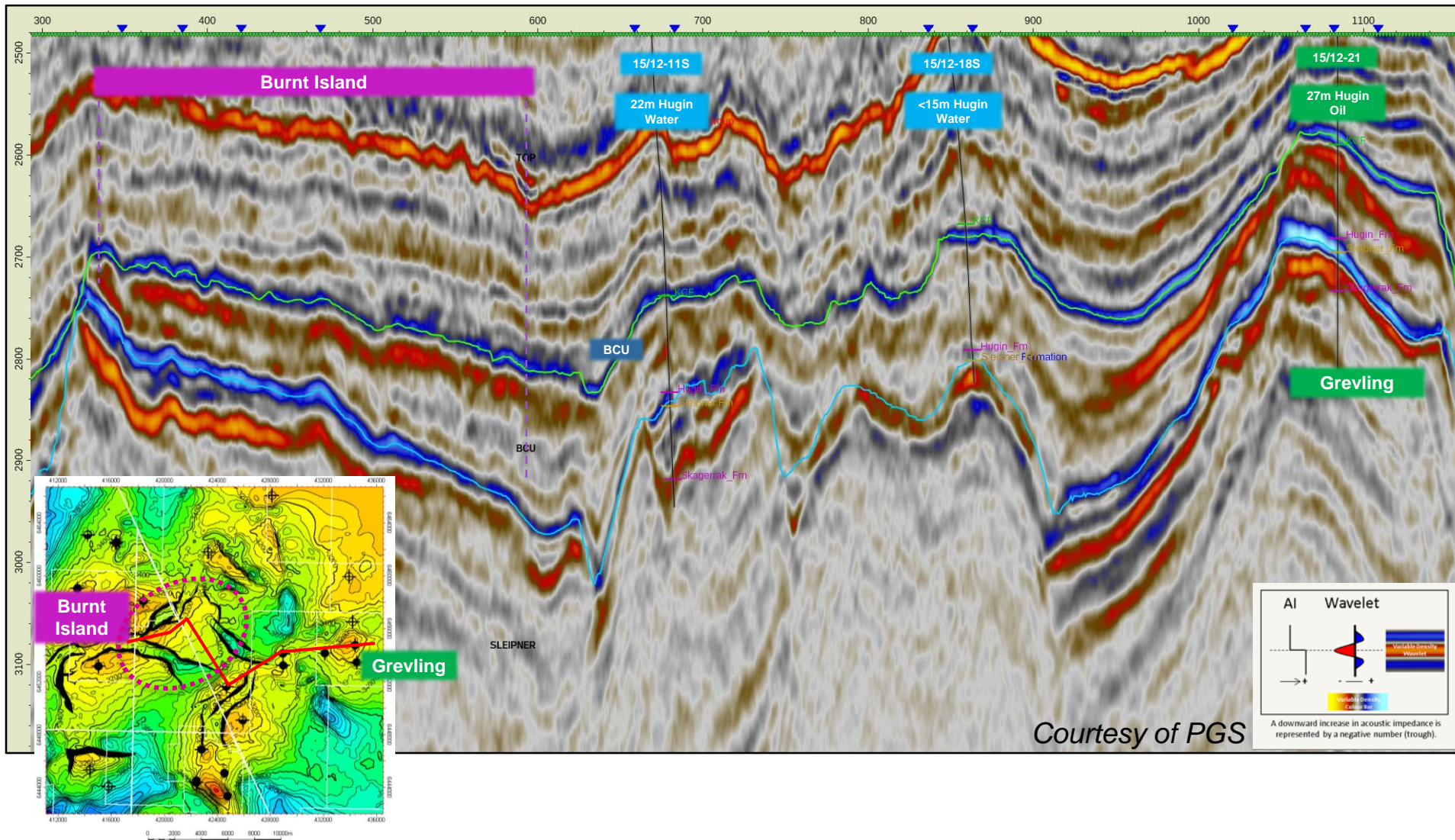
## Low Risk Mature Basin Opportunities



Gross Pmean/Mid Case Rec. Resources

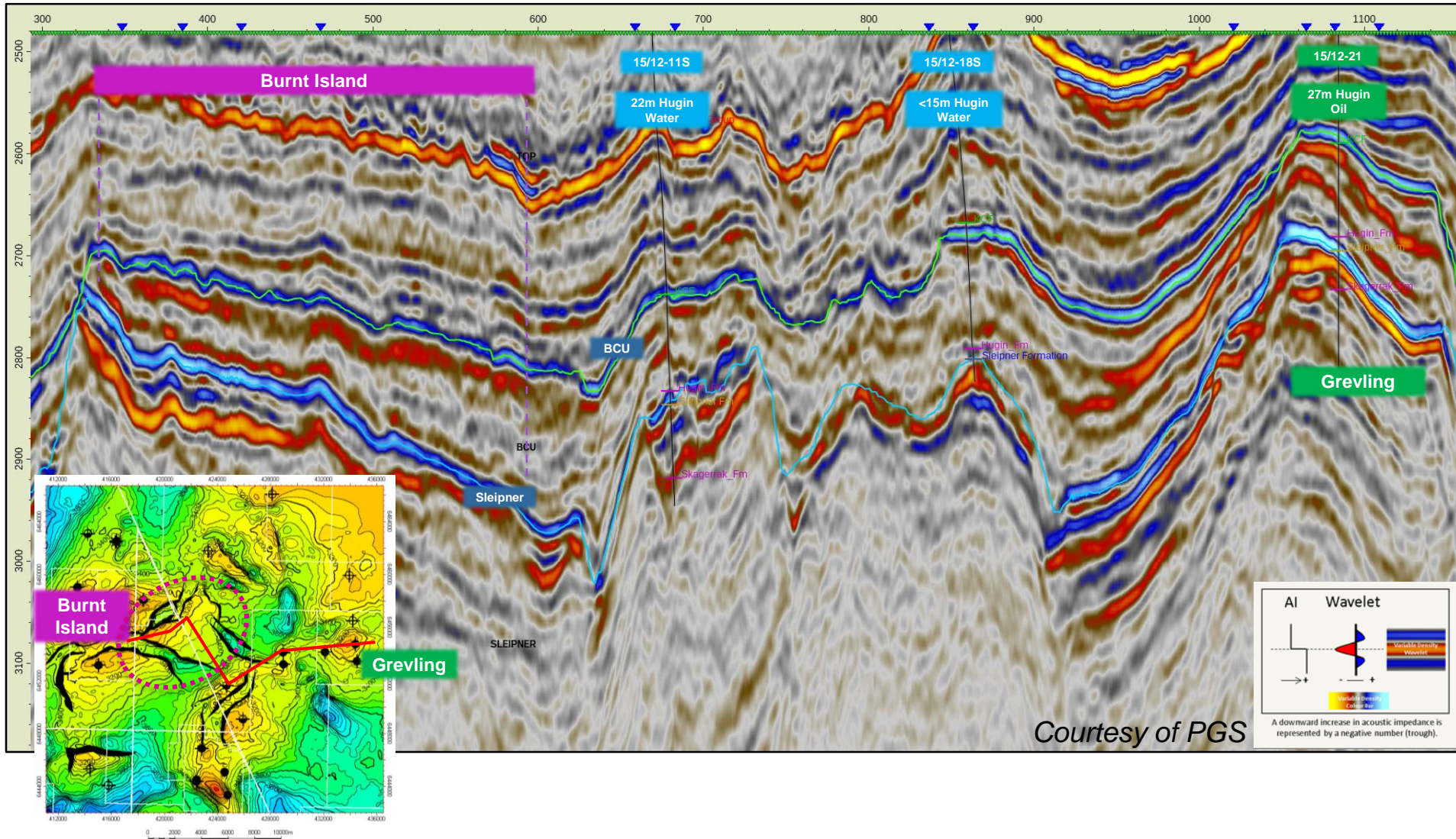
# Bringing 'Quantitative Predictions' into Exploration

## Burnt Island (P2169) - 'Raw' Seismic



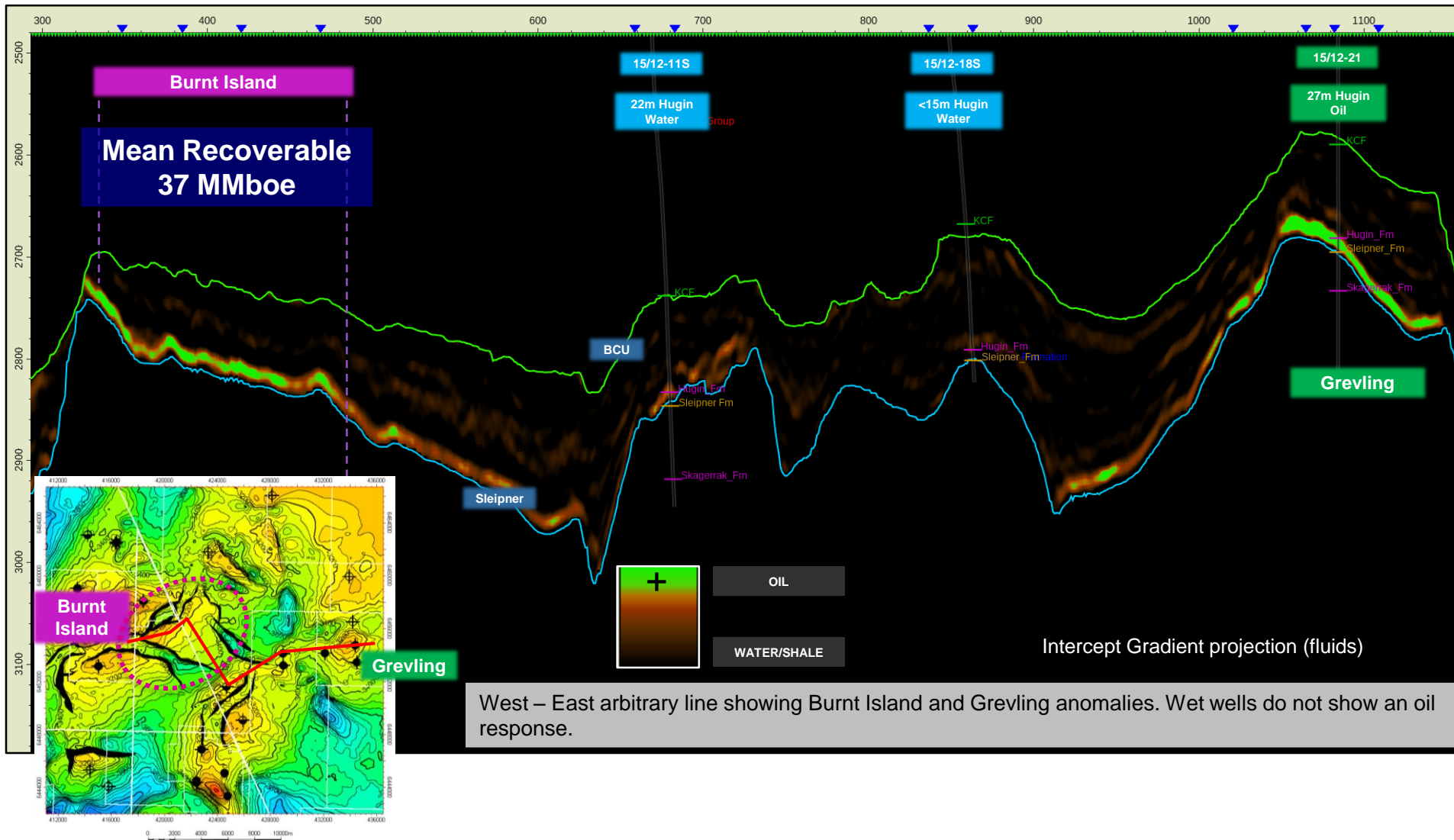
# Bringing 'Quantitative Predictions' into Exploration

## Burnt Island (P2169) – 'Conditioned' Seismic



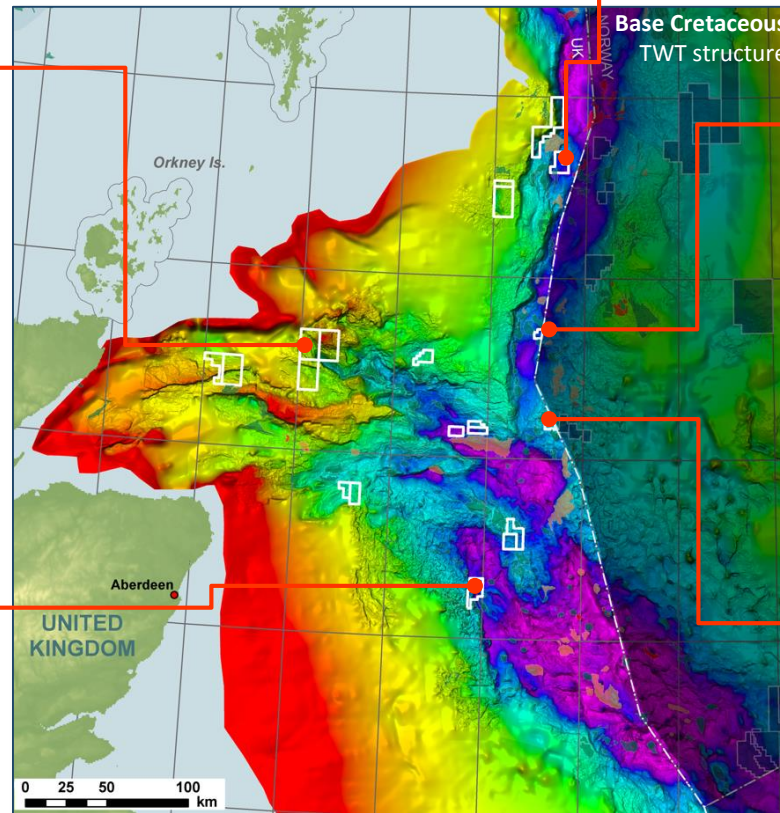
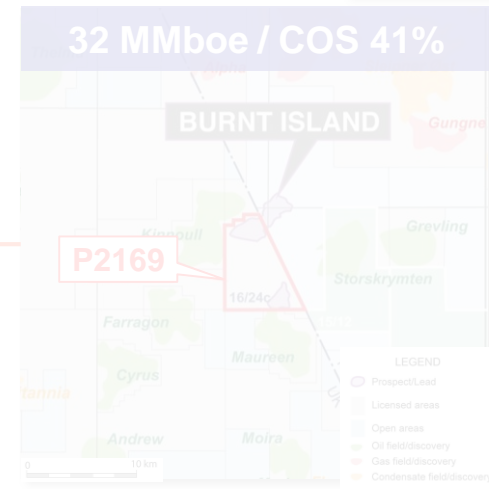
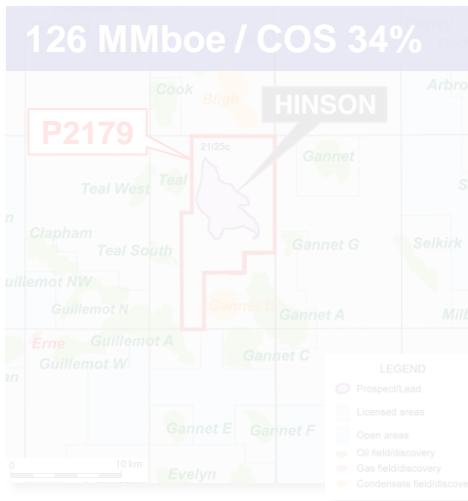
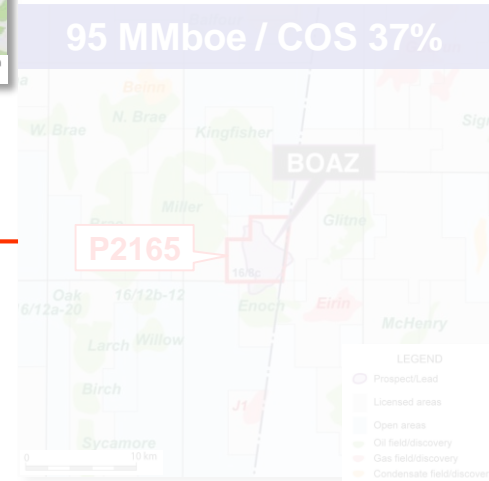
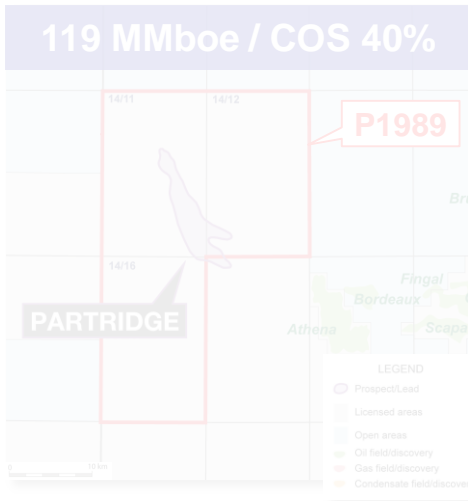
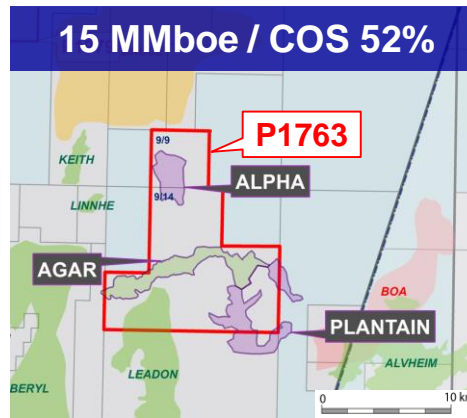
# Bringing 'Quantitative Predictions' into Exploration

## Quantitative Fluid & Lithology Prediction



# 'Drill-Ready' Assets

## Low Risk Mature Basin Opportunities

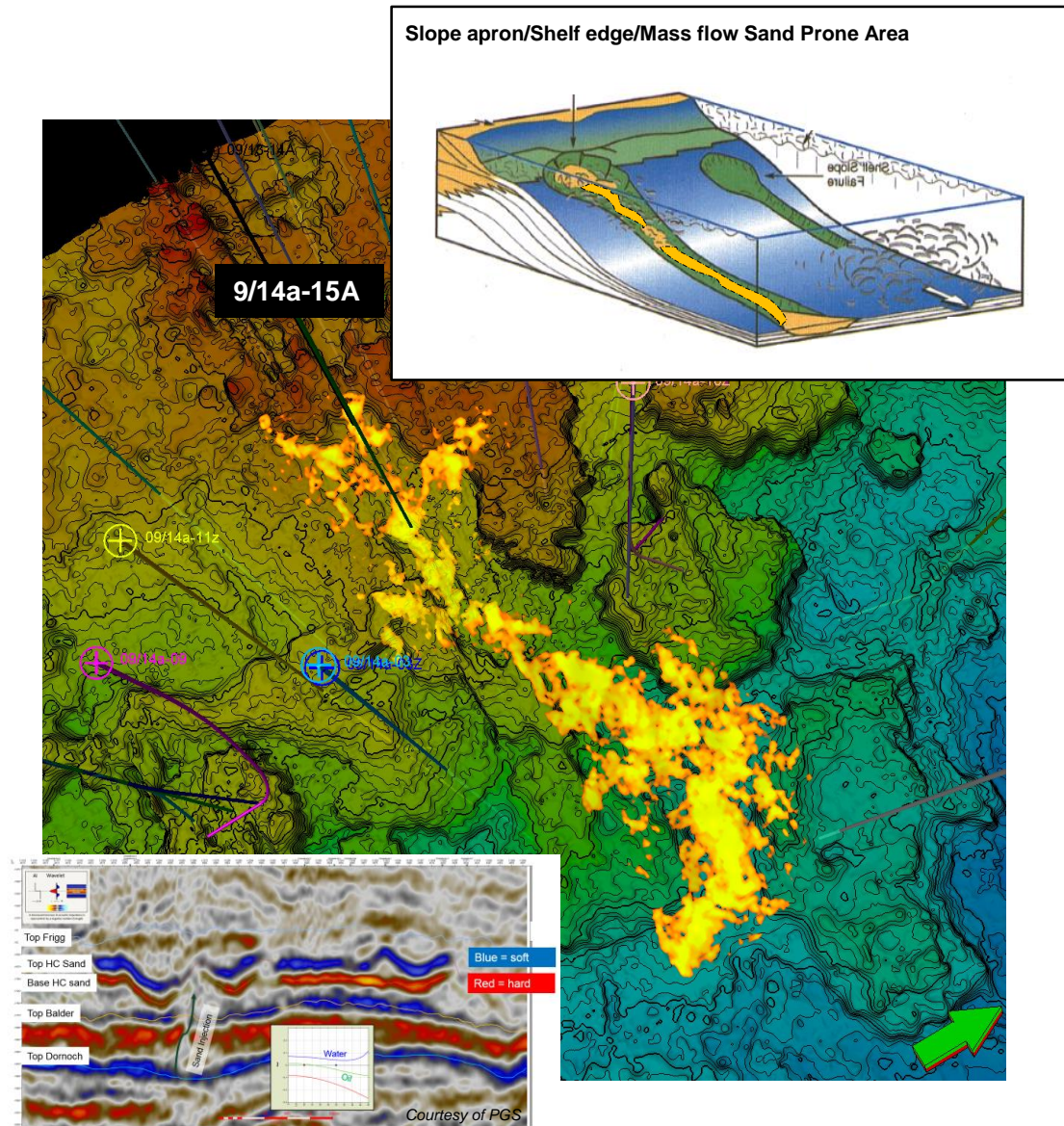


**Gross Pmean/Mid Case Rec. Resources**

# P1763 – Agar Discovery

## Prospect Technical Summary

- Agar discovery (2014) made by 9/14a-15A
- Drilled 33ft of oil-bearing Frigg sands. No OWC was identified.
- String of pearls style series of amplitude anomalies extending down-dip of the discovery well
- Represent an Eocene deep water channel complex (but possibility remains that it is intruded by injectites)
- Stratigraphic trapping mechanism
- A number of similar prospects on the licence.

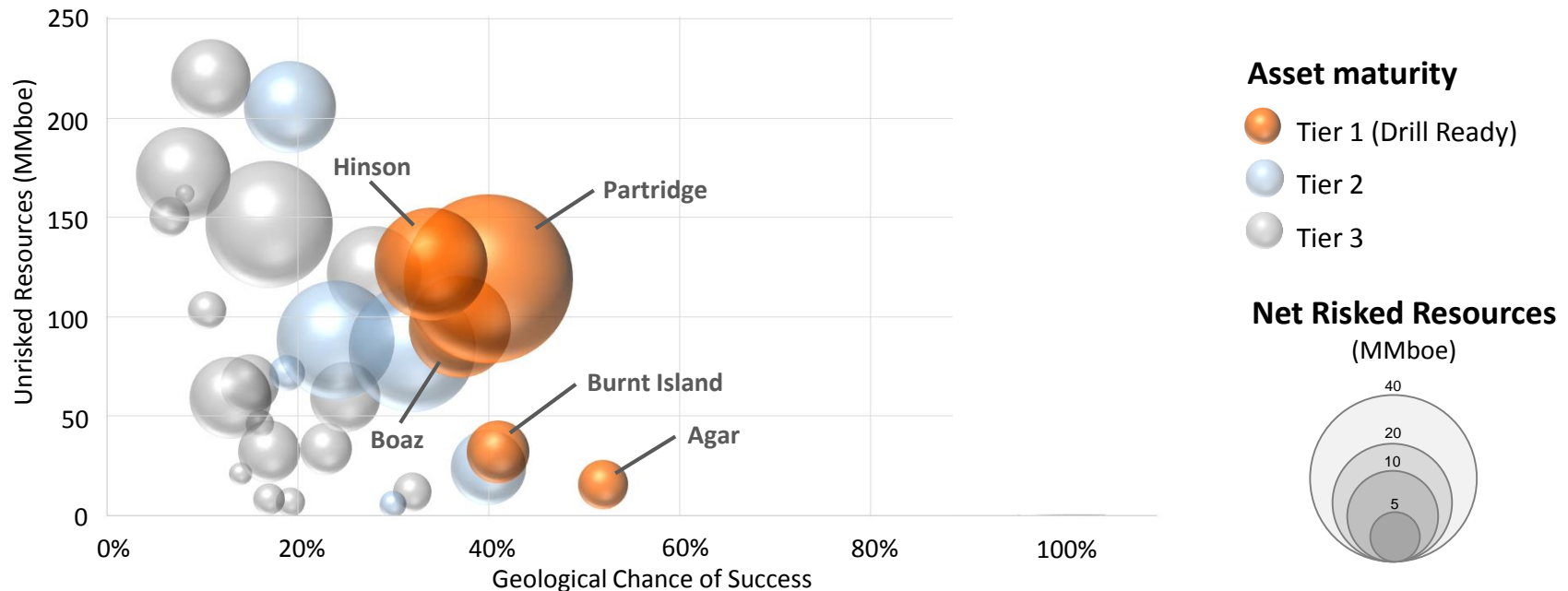


# Robust Economics

## High-graded portfolio assets (Tier 1)

Licence	Asset	Well cost <sup>(2)</sup> \$MM	Pre-drill <sup>(1)</sup> Pmean (P10) MMboe	Breakeven NPV <sub>10</sub>	NPV <sub>10</sub> <sup>(1)</sup> \$MM	IRR
P1989	<b>Partridge</b>	7.9	119 (260)	\$35/bbl	692	34%
P1763	<b>Agar</b>	6.8	15 (52)	\$47/bbl	100	38%
P2179	<b>Hinson</b>	21.4	126 (255)	\$11/bbl	1,224	73%
P2165	<b>Boaz</b>	19.5	95 (205)	\$17/bbl	545	37%
P2169	<b>Burnt Island</b>	10.3	32 (71)	\$26/bbl	218	37%

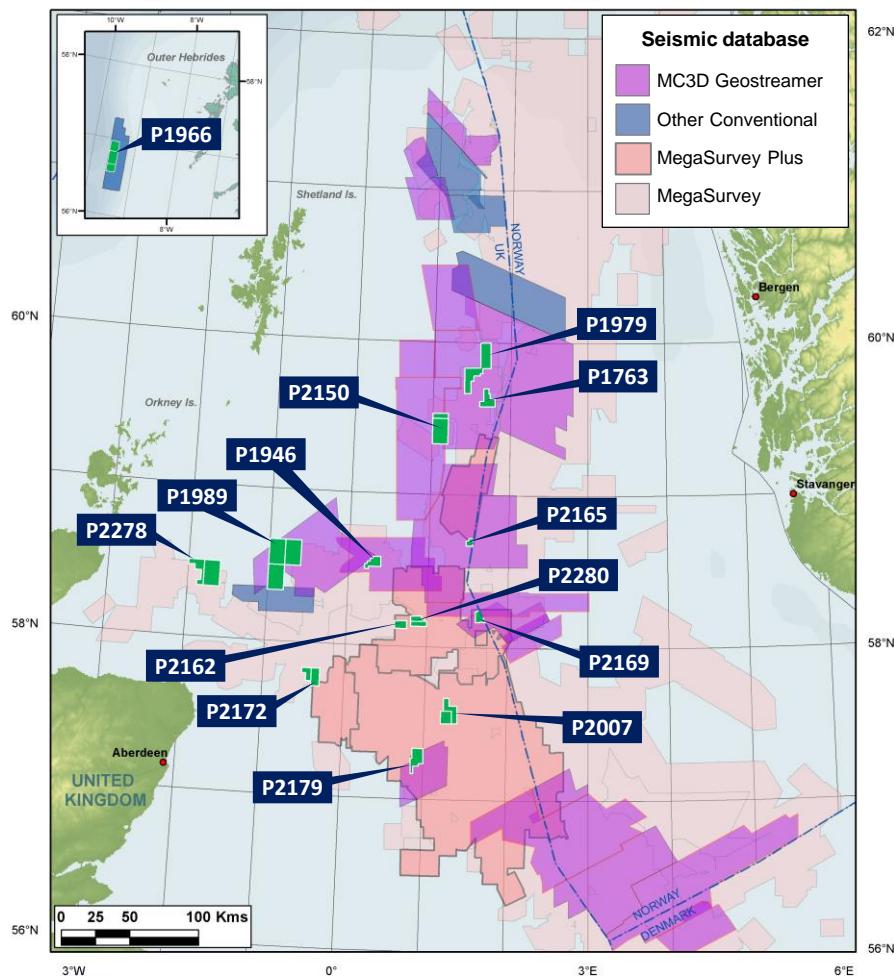
(1) Gross recoverable resources (2) Gross dry hole cost



# Summary

## 'High Impact' opportunities in a low risk basin

### Azinor Catalyst Portfolio



### Significant resource potential

- High materiality exploration assets
- Multiple opportunities +/- 100 MMboe (mid case)

### Low risk

- Portfolio de-risked utilising latest generation broadband seismic datasets
- High-graded assets with associated DHIs

### Commercially attractive

- Low breakeven economics (< \$40/boe)
- Benefit from significant industry cost deflation

### Infrastructure led

- Assets positioned around good quality & easily accessible infrastructure
- Reduced cycle time exploration

### Excellent fiscal terms

- Highly globally competitive
- 40% marginal tax rate on new projects



*“Revitalising UKCS Exploration through the application of advanced technology”*

Thank you

**Azinor Catalyst Limited**  
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