

# **Porcupine Basin Ireland – Prospectivity identified on new data heightens interest**

**APPEX, 27<sup>th</sup> February, 2018**



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# Porcupine Basin- Prospectivity identified on new data heightens interest

## Porcupine Basin

### Presentation outline:

- Location
- New Data
  - Seismic
  - Well
  - Interpretation
  - Research
- Current interest – licence status
- Conclusions



# Licensing Offshore Ireland

Exploration interest offshore Ireland is demonstrated by the current offshore Concession Map

Exploration Licence



Licence Option



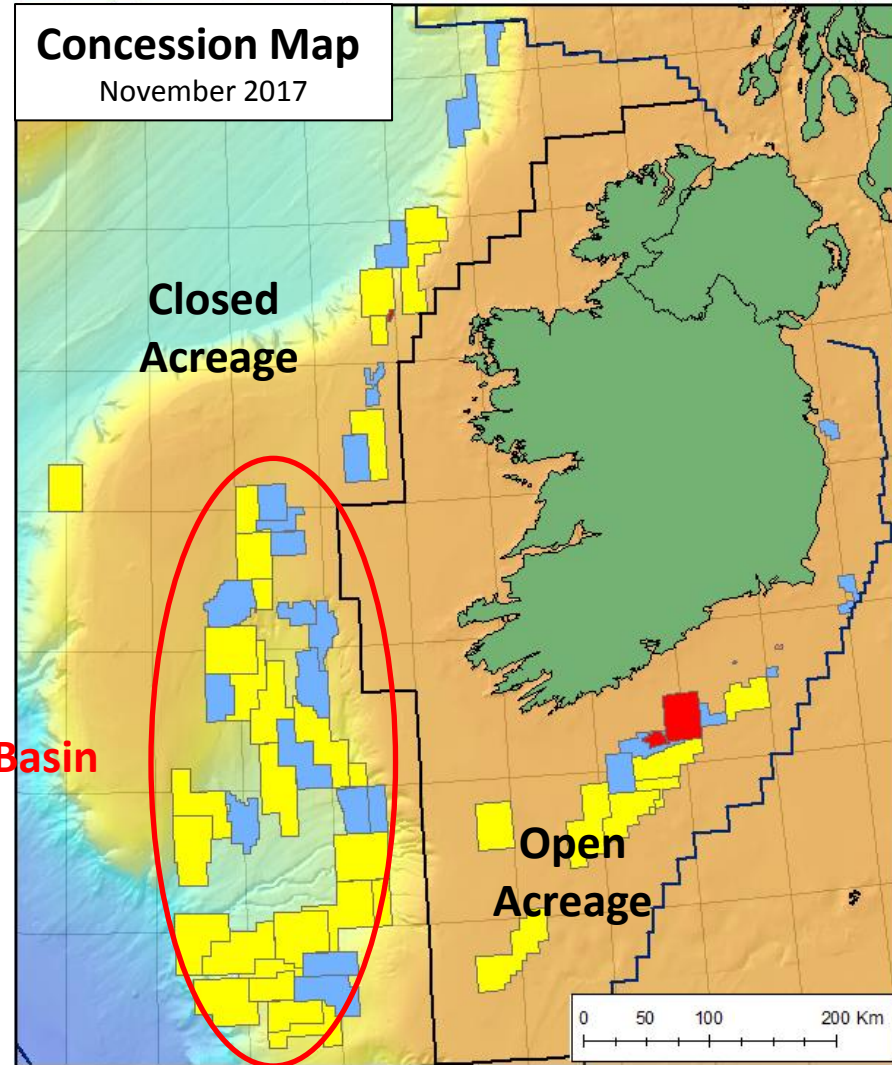
Petroleum Lease



Licensing Options\Exploration Licences\Farm-Ins

## Concession Map

November 2017



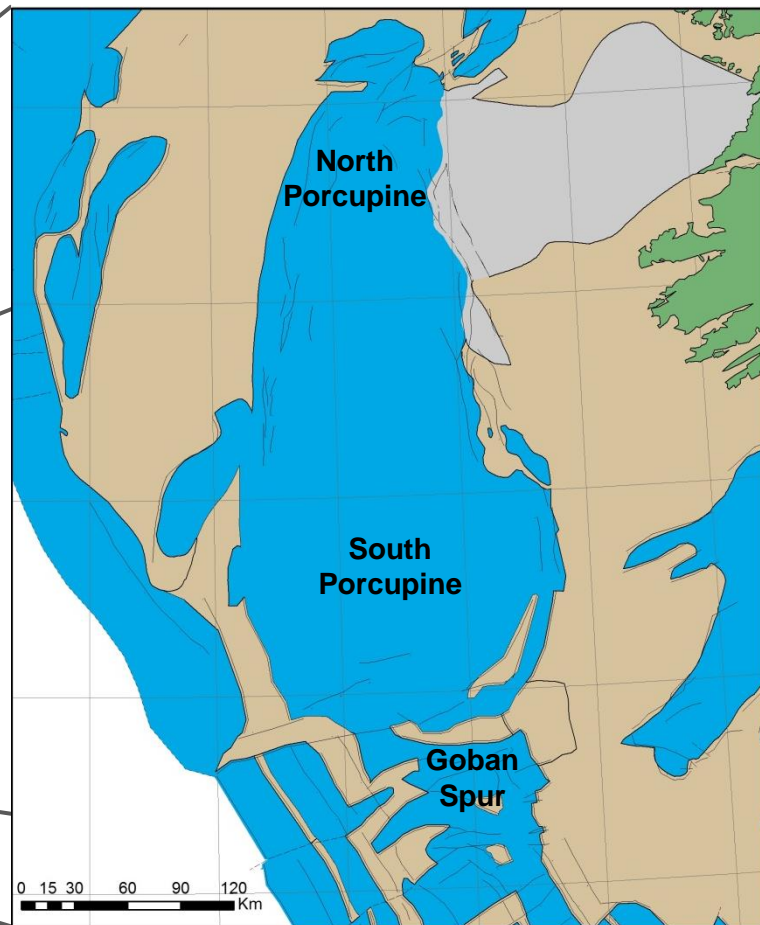
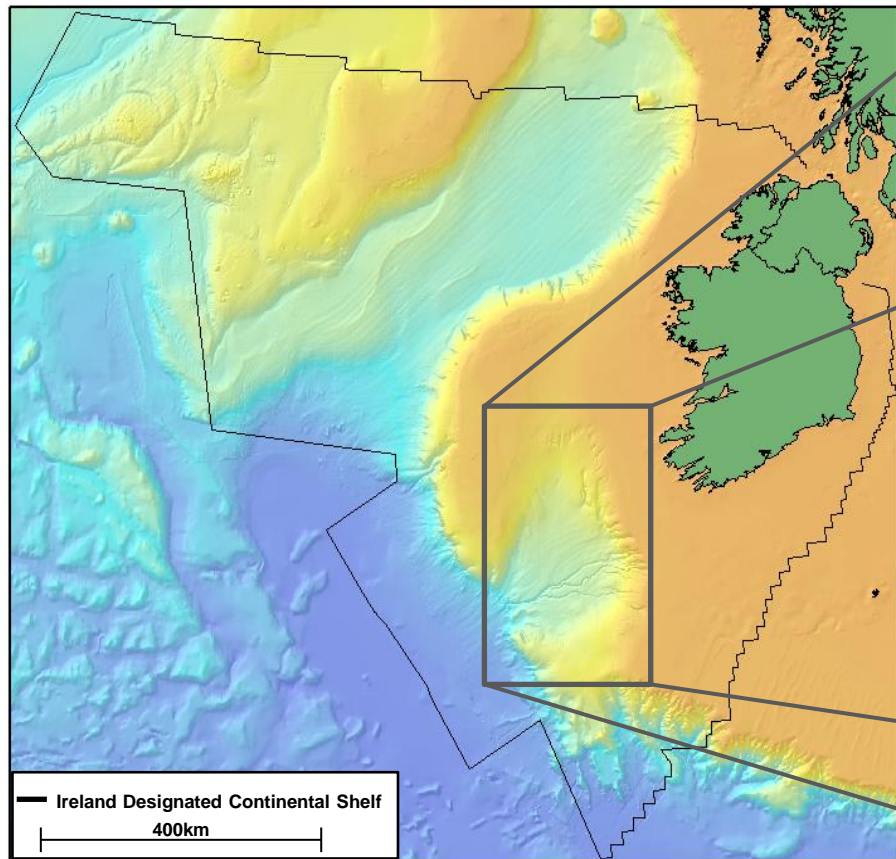
Porcupine Basin

Open  
Acreage

0 50 100 200 Km



# Location

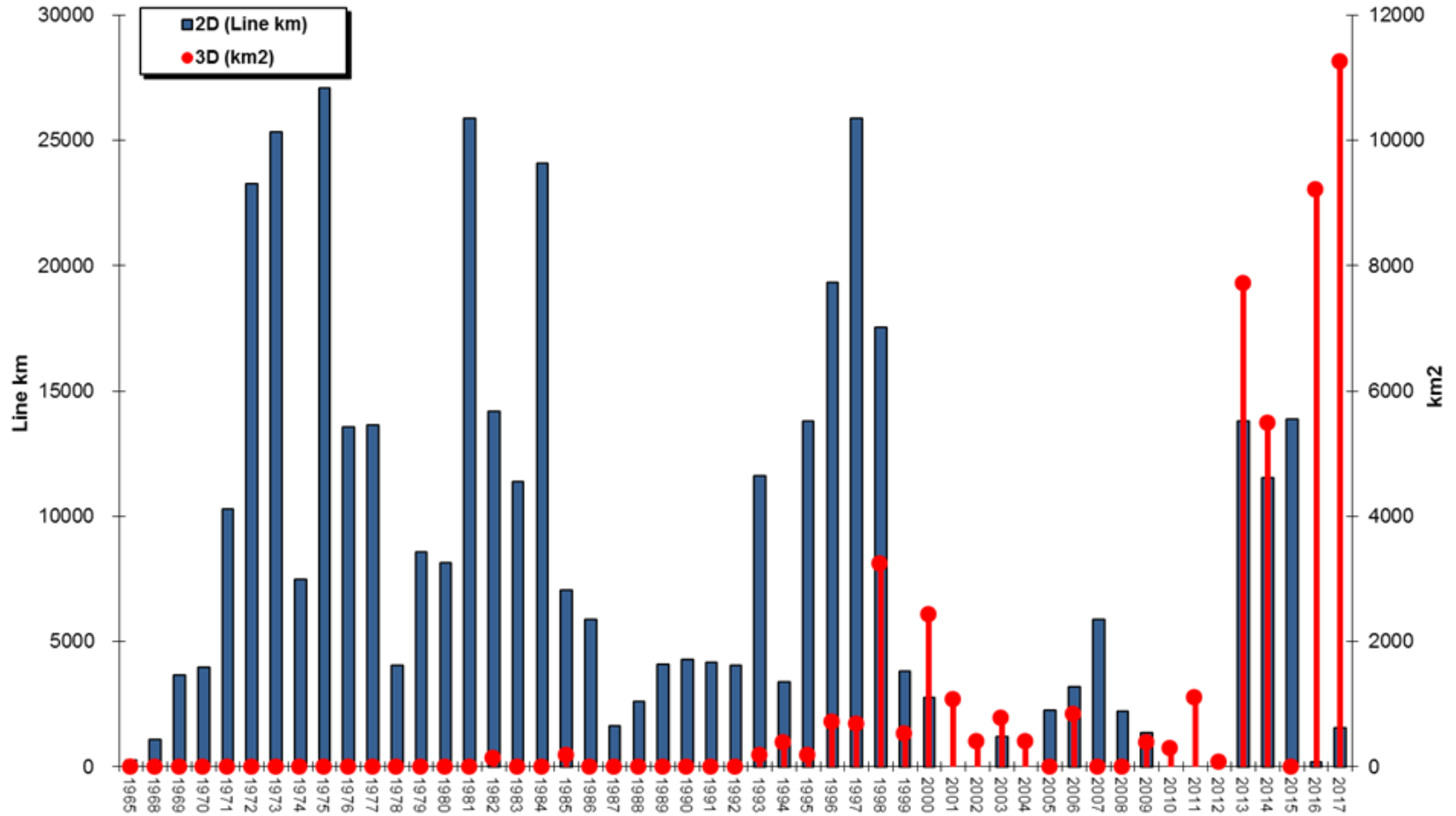






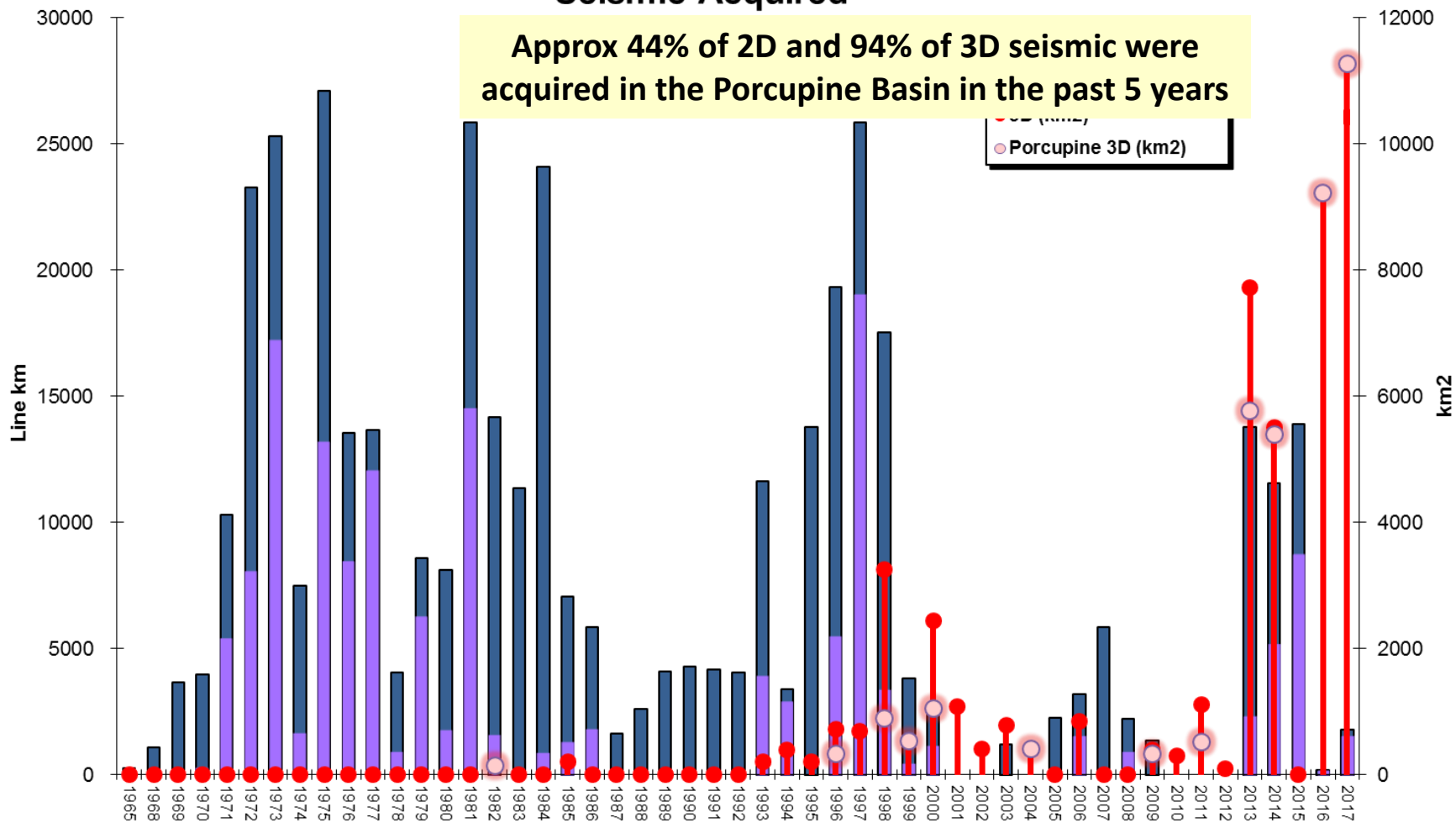
# New Data

# SEISMIC

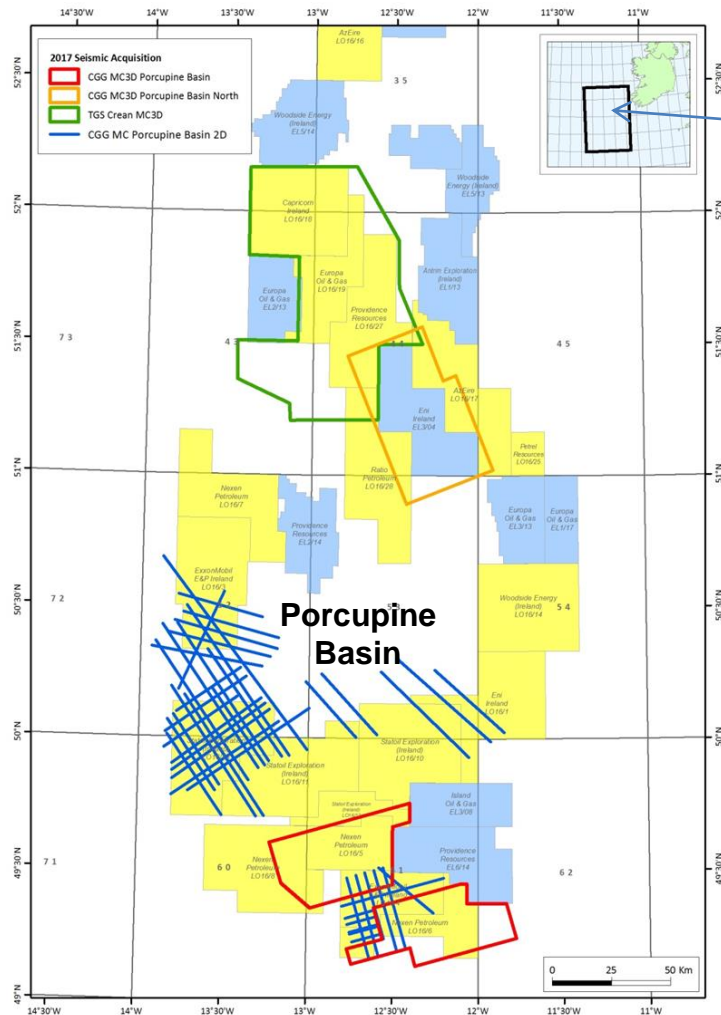


## Seismic Acquired

**Approx 44% of 2D and 94% of 3D seismic were acquired in the Porcupine Basin in the past 5 years**



# Seismic acquired in 2017



**3D:**

**CGG South Porcupine**

**c. 3,080 sqkm**

**CGG North Porcupine**

**c. 2,740 sqkm**

**TGS North Porcupine**

**c. 5,450 sqkm**

**2D (2.5D):**

**CGG South Porcupine**

**c. 1,570 km**

**Total 3D acquired in 2017 :**

**c. 11,270 sqkm**

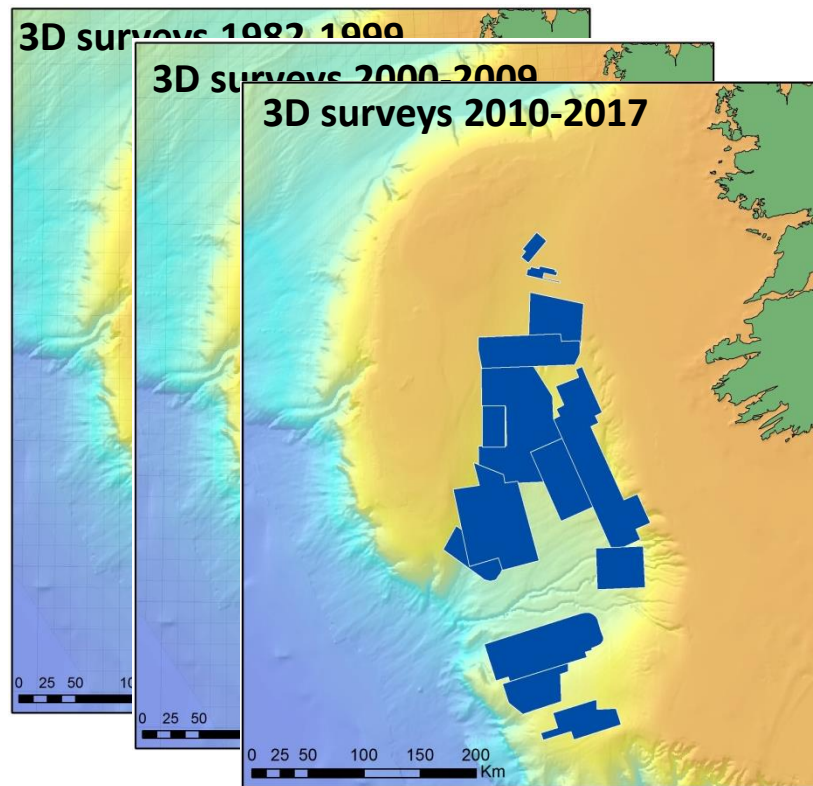
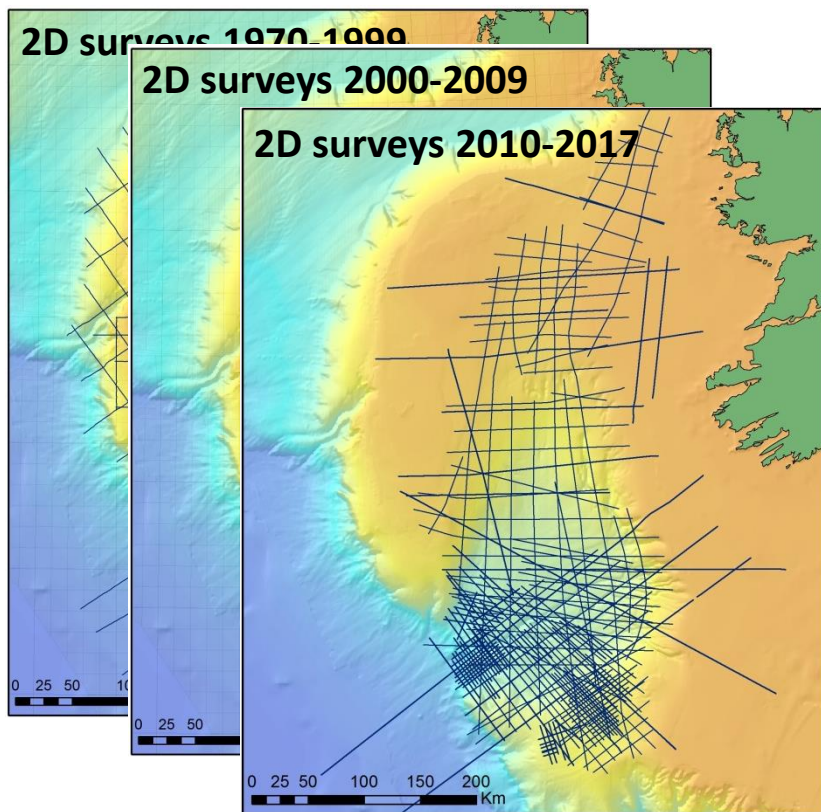
**Total 2D acquired in 2017 :**

**c. 1,570 km**



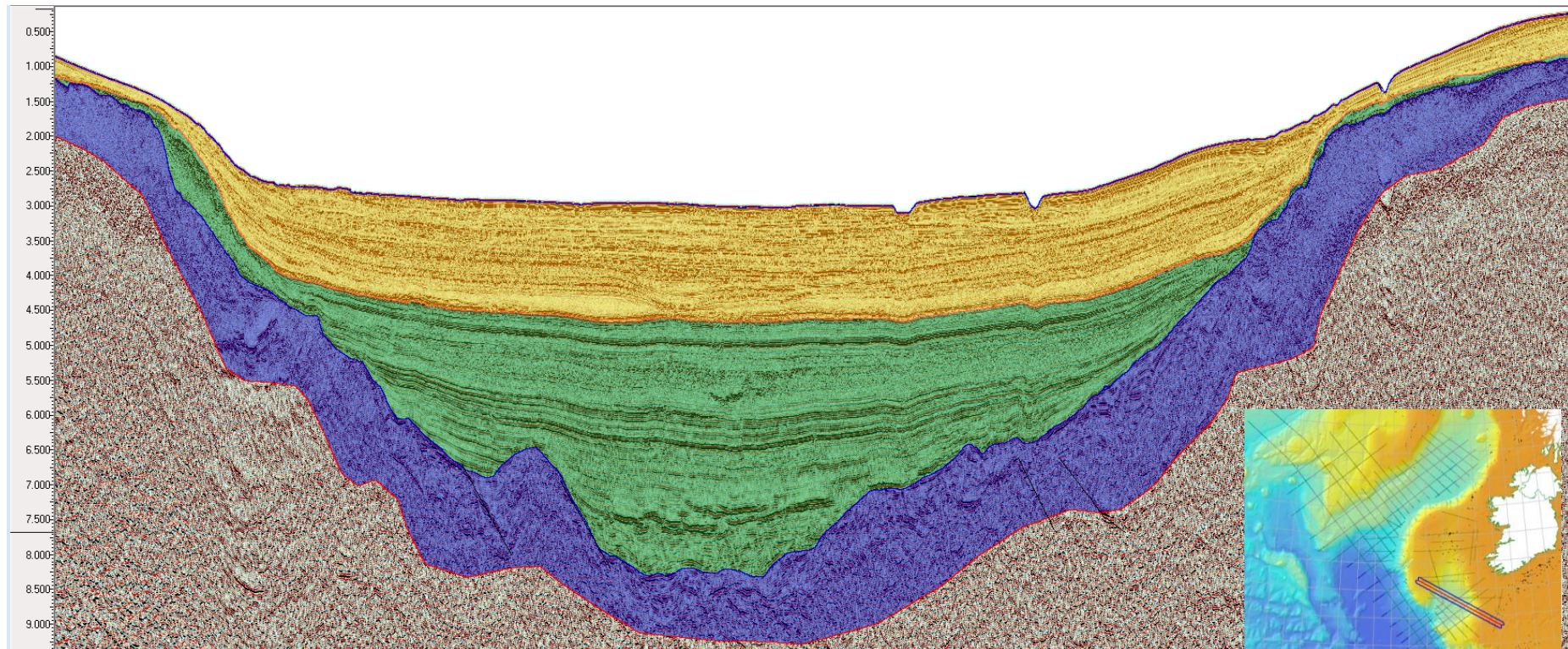


# Seismic surveys Porcupine Basin





# Porcupine Basin Play Types



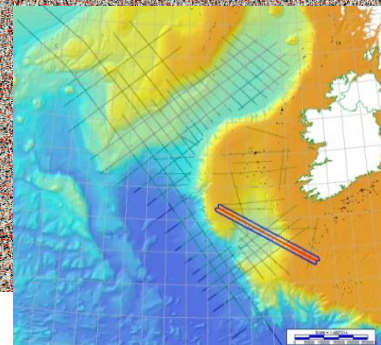
**Tertiary**



**Cretaceous**

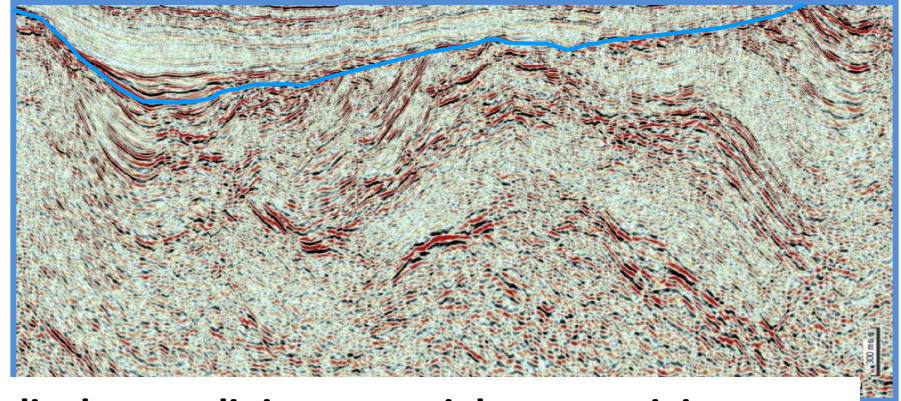
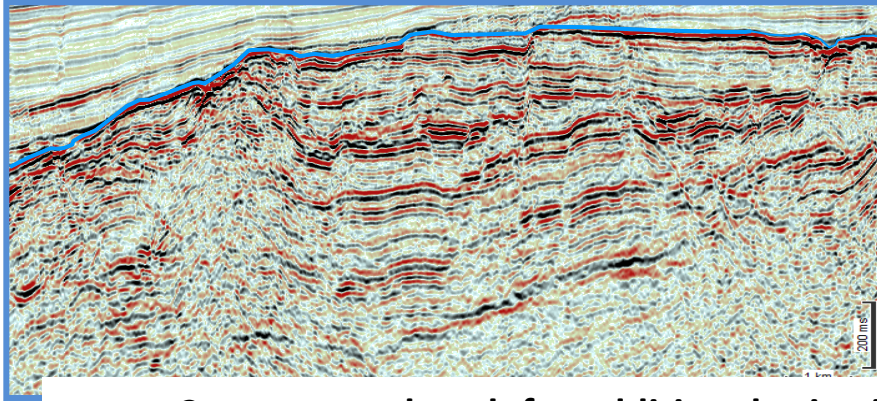


**Jurassic**

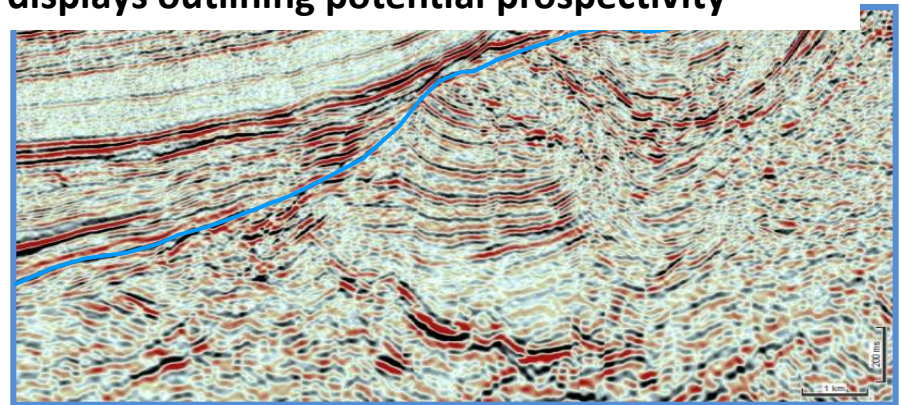
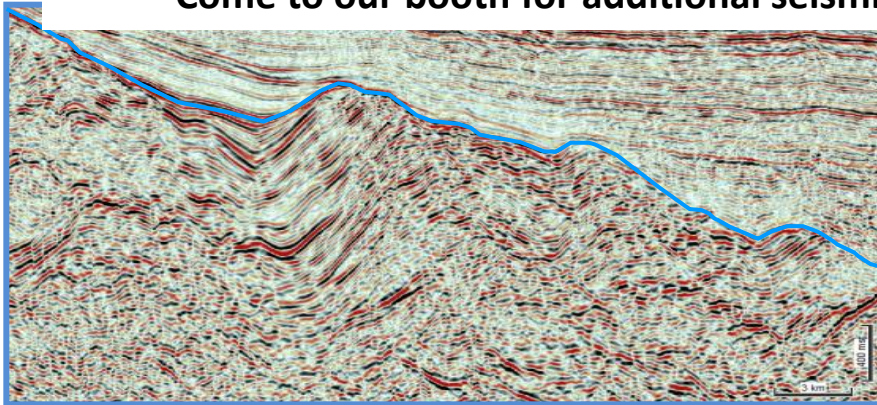




# Jurassic Rift and Syn-Rift Plays



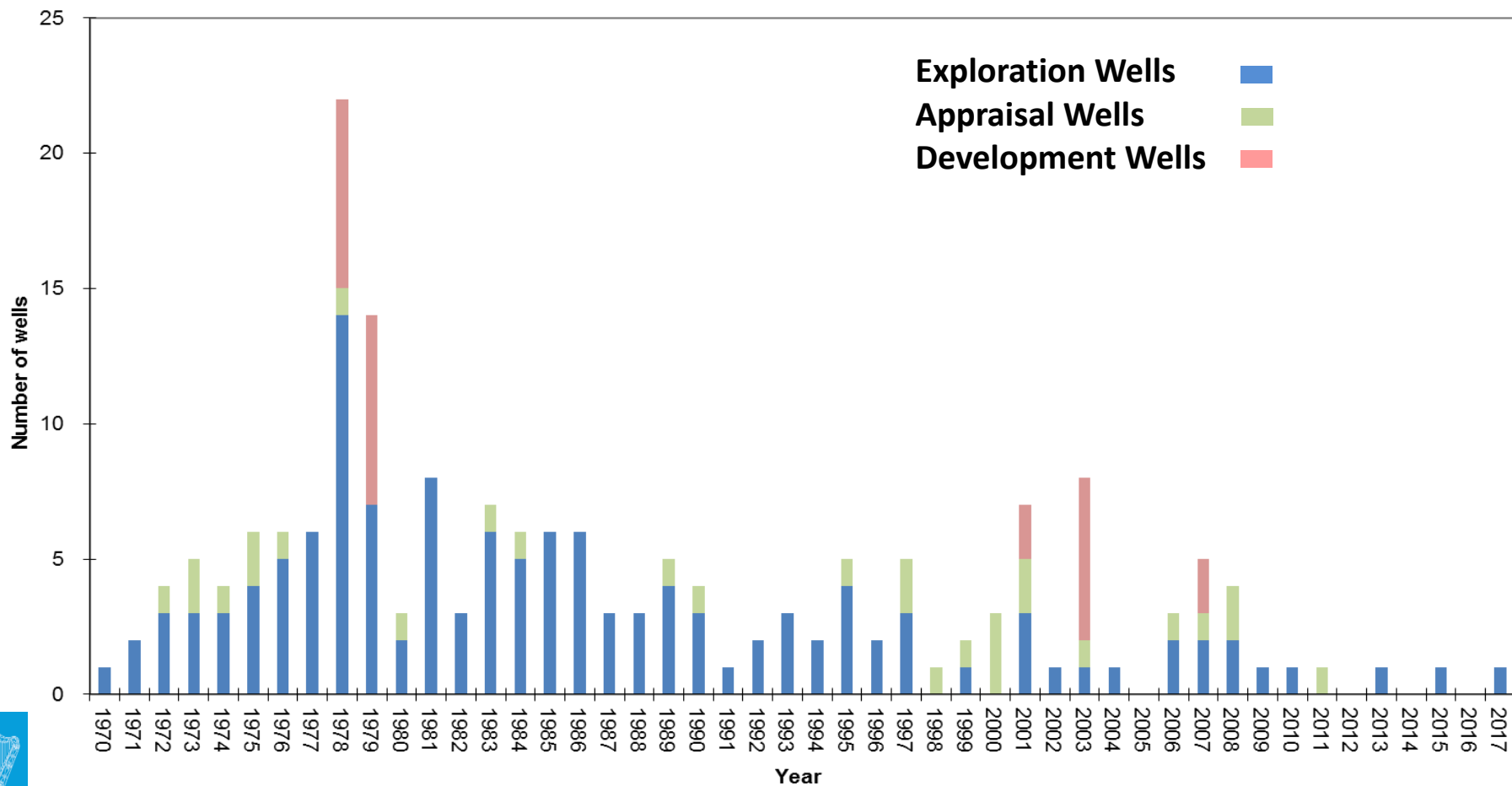
**Come to our booth for additional seismic displays outlining potential prospectivity**



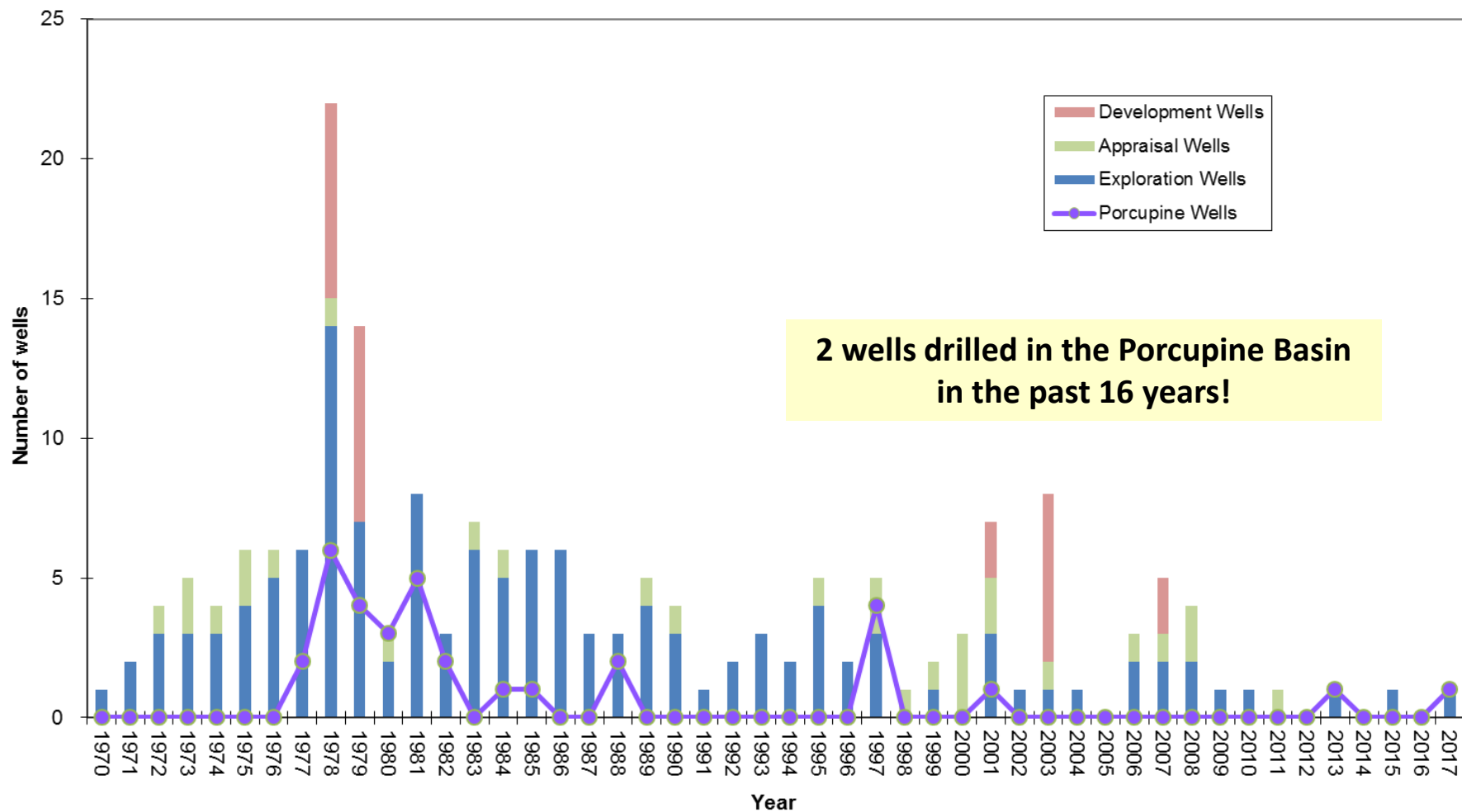
**— Base Cretaceous Unconformity**



# Wells



## Wells Spudded and Drilled Offshore Ireland





Exploration wells: 132  
Appraisal wells: 28  
**Total: 160**

All Wells  
Offshore

All Exploration  
Wells Drilled

Exploration Wells  
Drilled on 2D Data

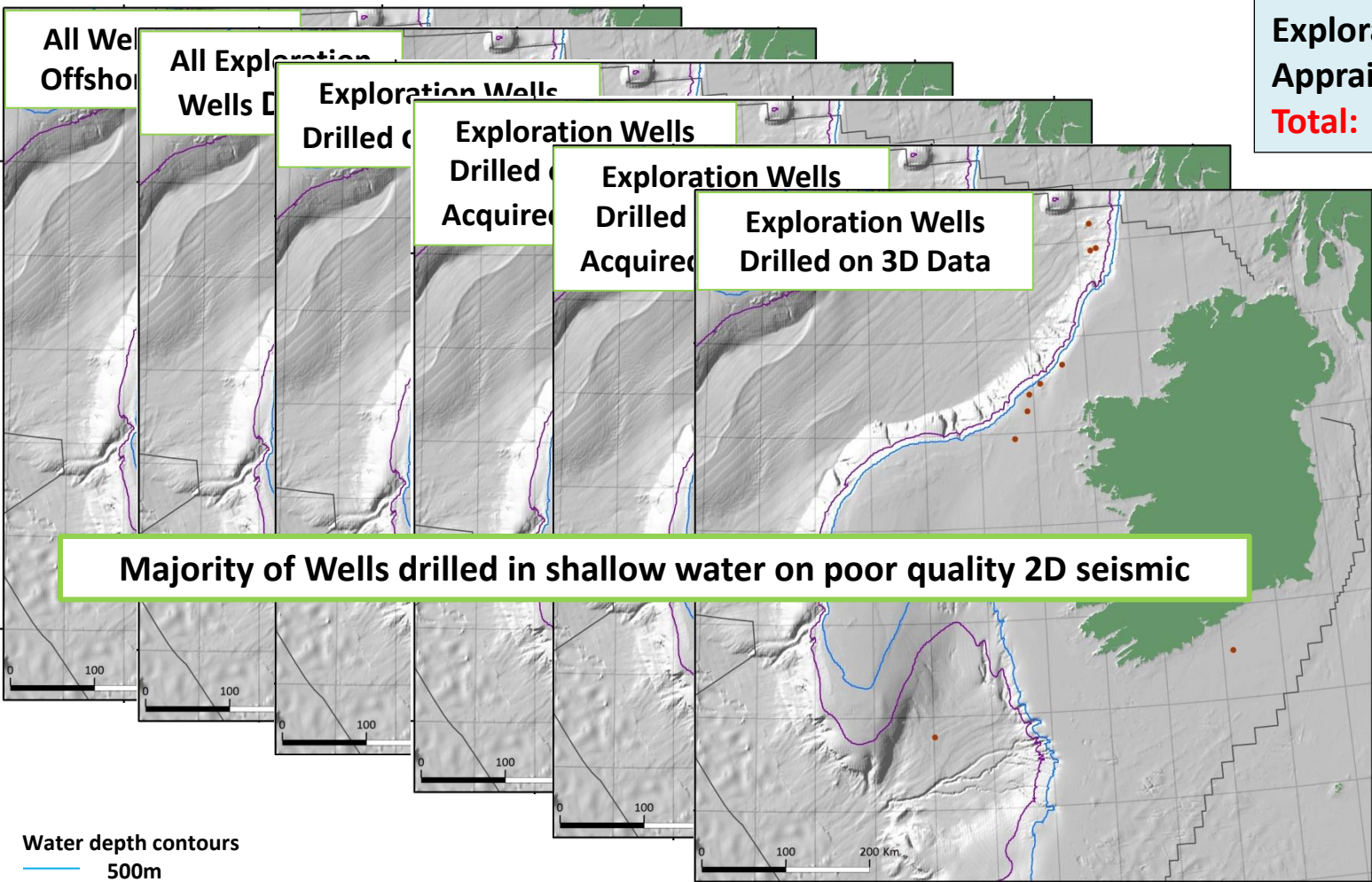
Exploration Wells  
Drilled on 2D Data  
Acquired

Exploration Wells  
Drilled on 2D Data  
Acquired

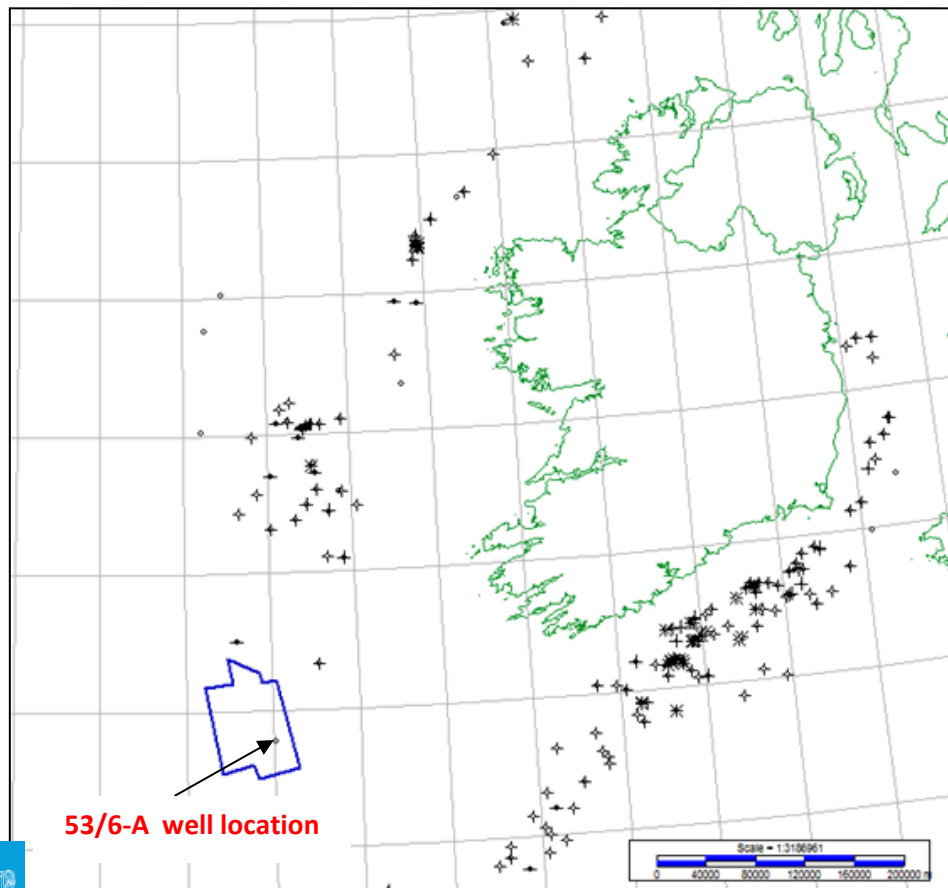
Exploration Wells  
Drilled on 3D Data

**Majority of Wells drilled in shallow water on poor quality 2D seismic**

Water depth contours  
— 500m  
— 1000m



# Drilling in 2017



## Druid Drombeg Well

- Well drilled in FEL2/14 in the Porcupine Basin
- Well location approximately 215km SW of Kerry coast
- Water depth at location = 2233m (deepest water well)
- Nearest well 44/23-1 ('Dunquin'), 71km to the NE

### FEL2/14 comprises:

Providence Resources plc (Operator)

Capricorn Ireland Ltd

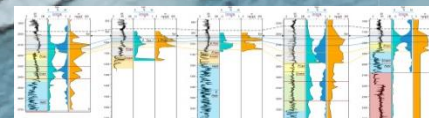
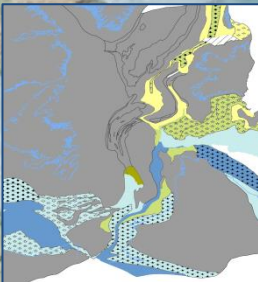
Sosina Exploration Ltd

## Press Releases 53/6-1 Providence Resources

04 August and 11 September 2017

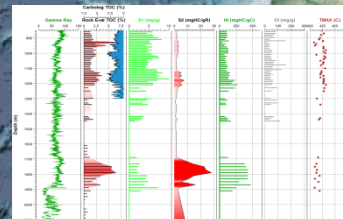
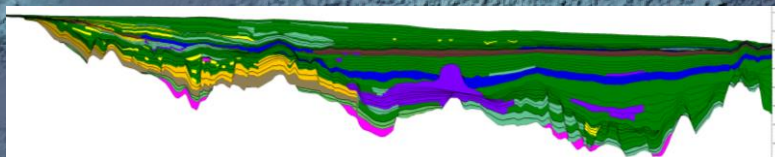
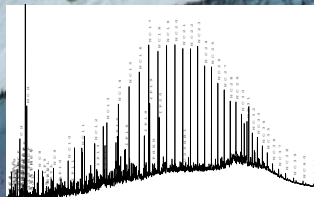
Palaeocene Druid reservoir interval and Lower Cretaceous Drombeg reservoir interval encountered within the pre-drill depth prognosis, comprising a porous water bearing reservoir interval at each target.





**Study is completed**

# Atlas of Source Rocks in Mesozoic Basins of the North Atlantic Conjugate Margin, Offshore Newfoundland-Labrador and Offshore Ireland

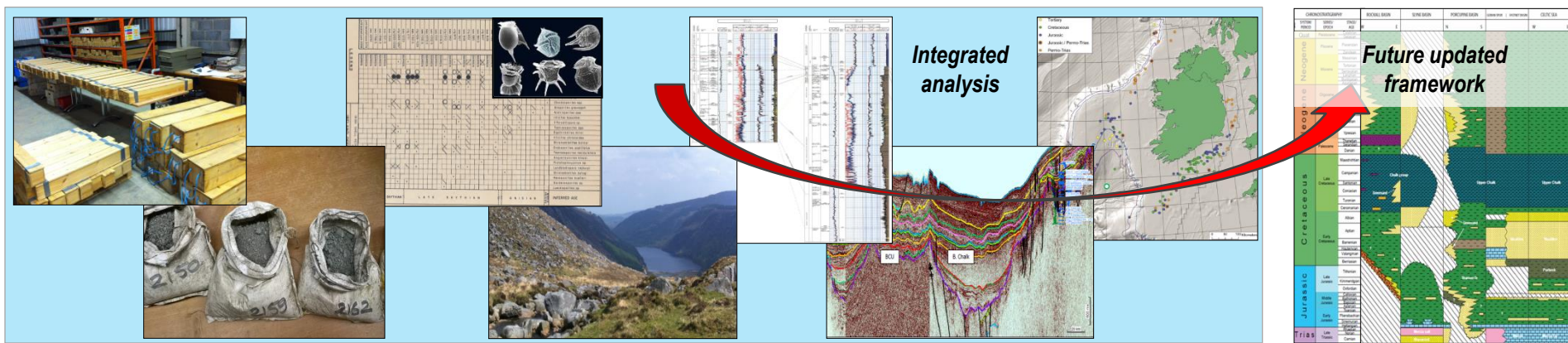




# Updating Ireland's Stratigraphic Framework

- Ongoing initiative to construct an updated stratigraphic framework for all basins offshore Ireland.
- Integrated analysis of lithology, biostratigraphy and seismic data currently underway by **Merlin Energy Resources Consortium**, and is funded, supported and steered by members of PIP, PAD and academia.
- Long-awaited project to improve our understanding of the offshore basins, and aid in future exploration and research initiatives.

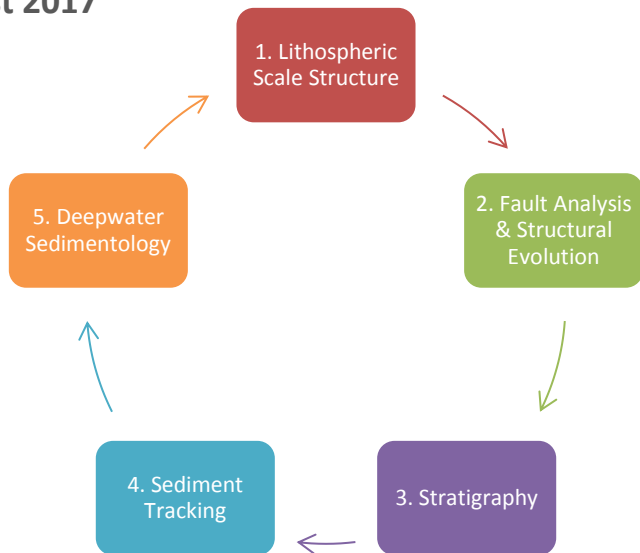
**Study to be completed in 2018.**



# Porcupine Basin Prospectivity Workshop

## PIP (Irish Shelf Petroleum Studies Group)

Held at University College Dublin  
on 30 August 2017



Themed sessions dealing with different aspects of the Porcupine Basin that iCRAG is actively researching.

Industry meet the Researchers face to face and witness PIP/iCRAG project progress.

The researchers are interested in hearing directly from company representatives what are the main issues and challenges. Awareness of (and possibly share) data available.

**Representatives from 12 separate companies, IOOA Chair,  
more than 25 Researchers, PAD Technical**



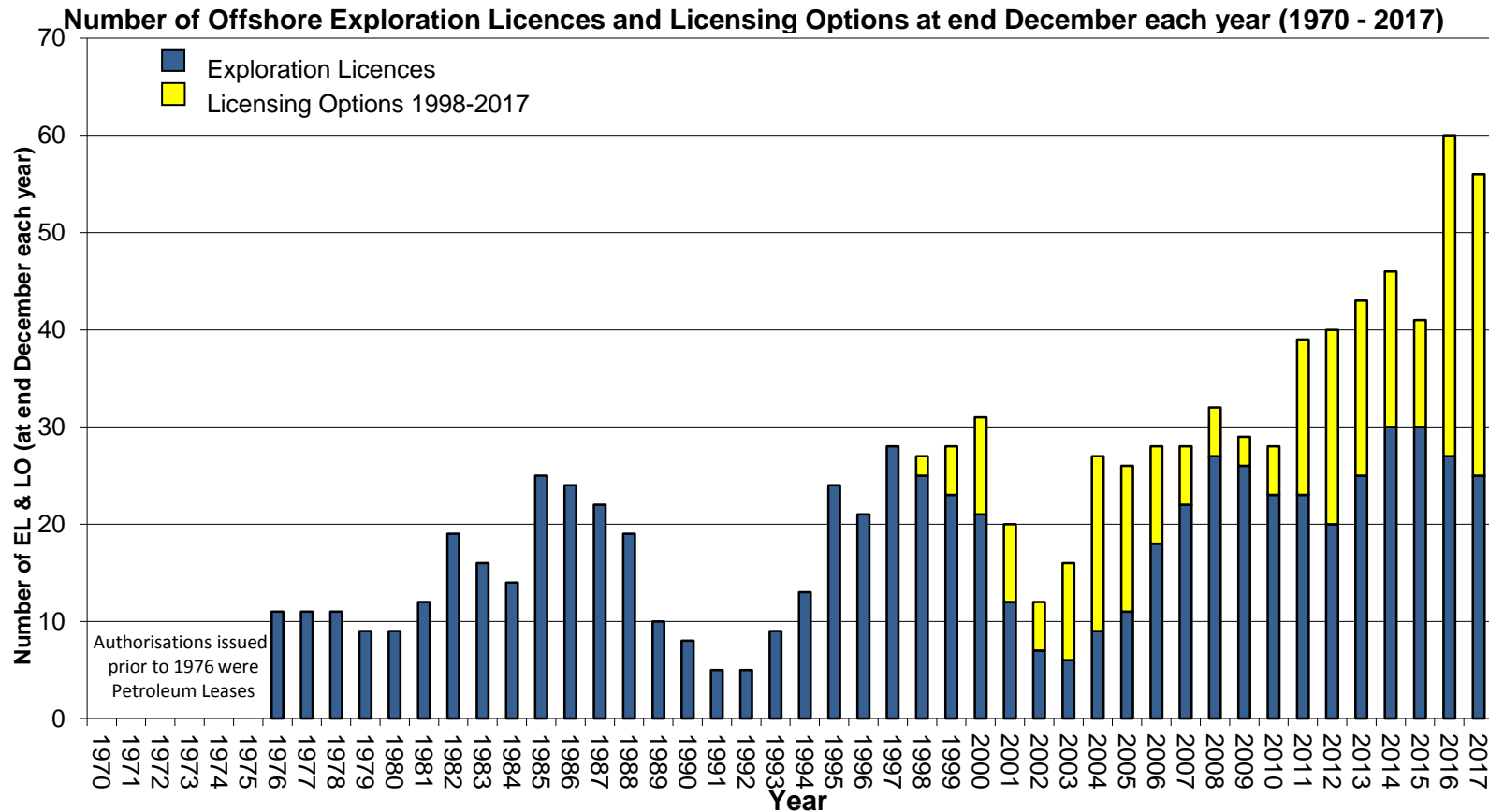


4. Johnson, V. and G. Goss. High-resolution electron microscopy: structure, theory and practice. London: Ellis Horwood, 1982.



# **Interest in the Porcupine - Licences**

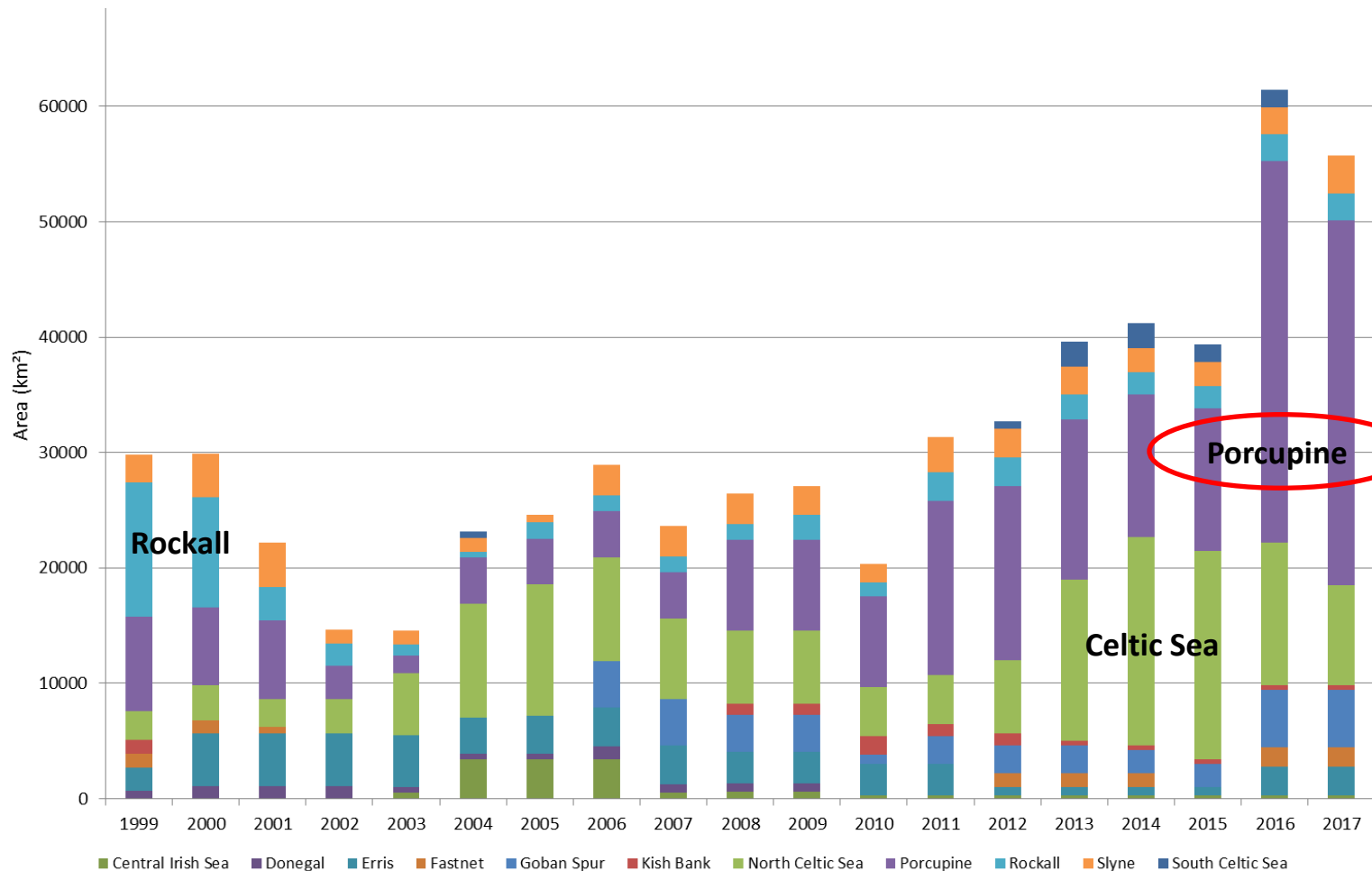
# Licences



Authorisations issued  
prior to 1976 were  
Petroleum Leases



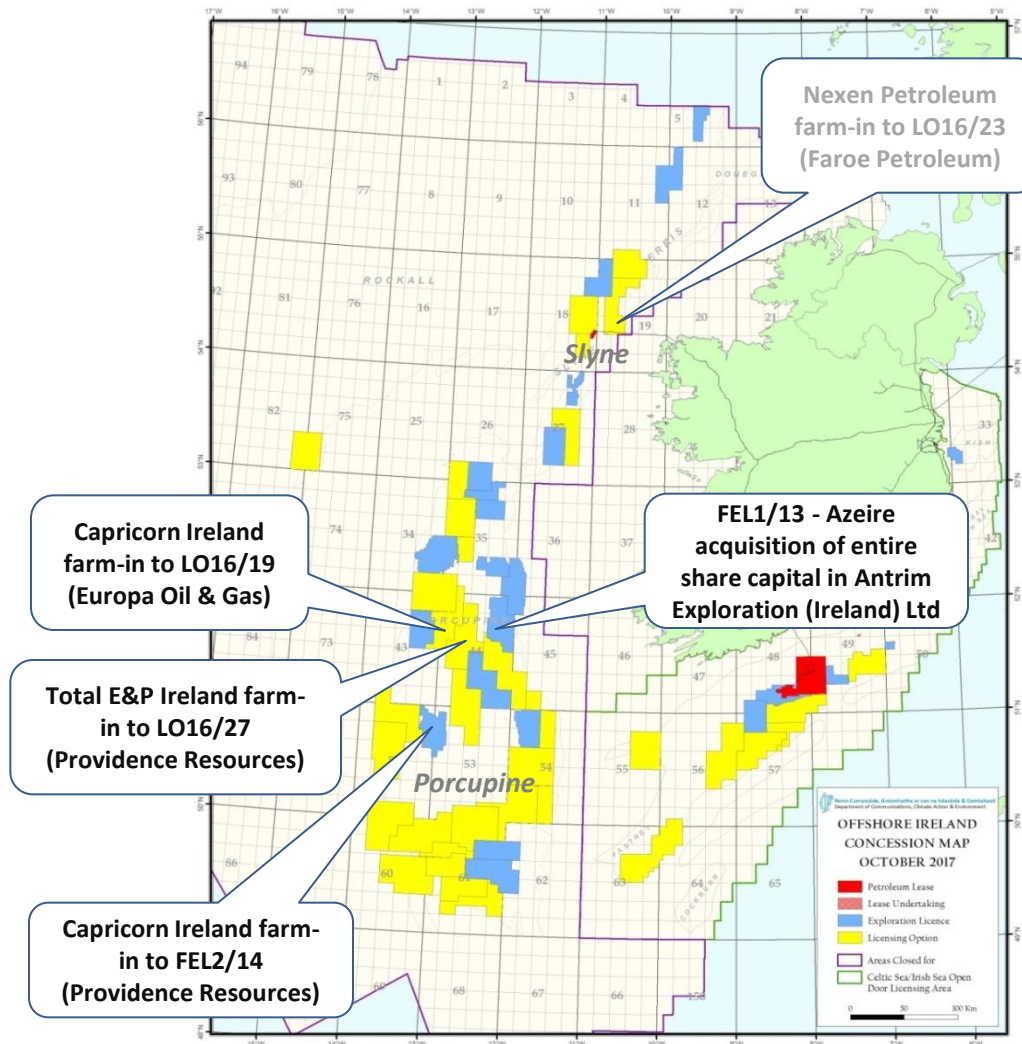
# Licensed Acreage offshore Ireland by Basin (1999-2017)





# Licences

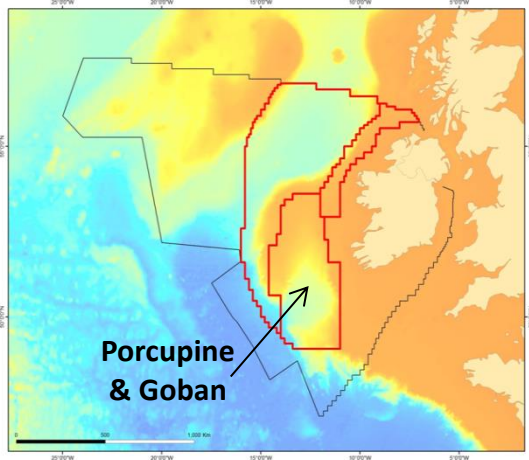
## Licensing Options Exploration Licences Farm-Ins



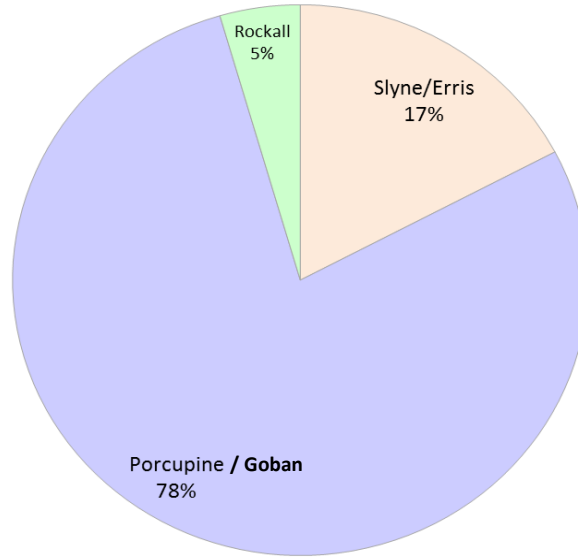


# 2015 Atlantic Margin Licensing Round

## Applications by Region



2015 Licensing Round Regions —



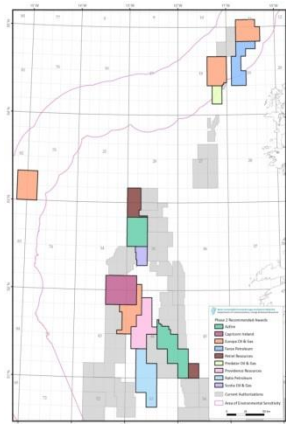
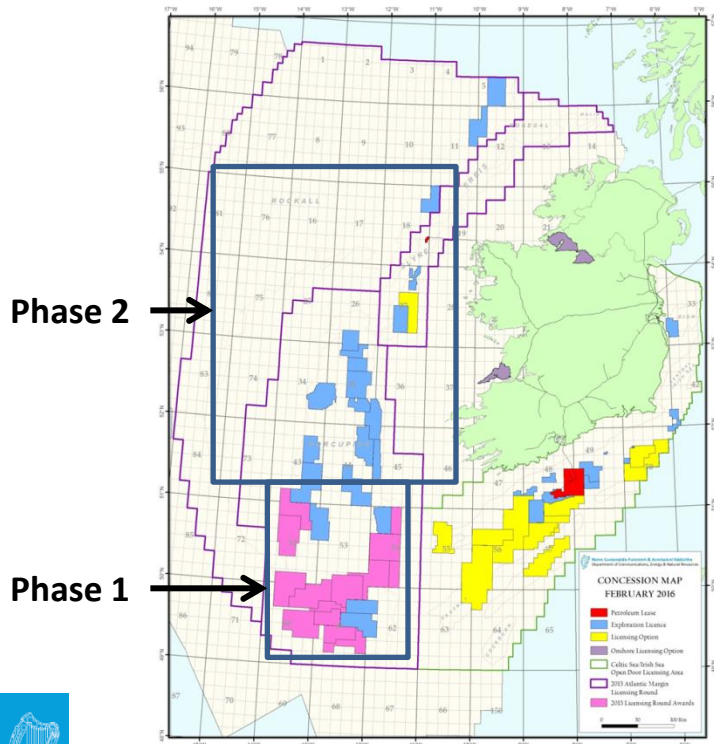
## Porcupine Basin & Goban Spur

- Applications received over new blocks never licensed before.
- More than 50% of blocks applied for involve overlapping bids.
- 60% of applications included new seismic acquisition (3D mostly)

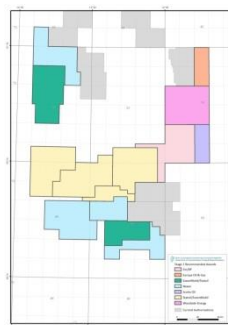


# 2015 Atlantic Margin Licensing Round – Blocks Awarded

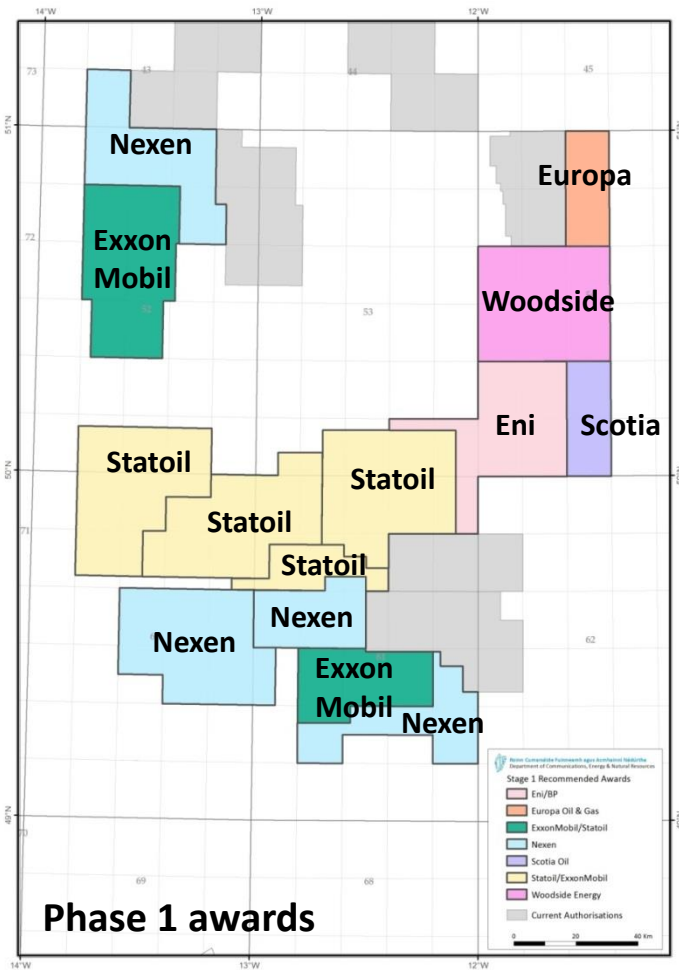
There were 2 stages of Licence Awards following on the outcome of the 2015 Atlantic Margin Licensing Round (Phase 1 and Phase 2)



14 LO offered to  
9 company operators



14 LO offered to  
7 companies



# Licence Status – Conversion of Licence Option to Frontier Exploration Licence

**Phase 1:** 14 Licence Options were offered to 7 companies. **All are in the south Porcupine Basin /Goban Spur**

[License Options 16/1 to 14](#) (Option Period 1 March 2016 to 28 February 2018):

- **One** Licensing Option has already converted to a Frontier Exploration Licence
- Applications to convert to a Frontier Exploration Licence have been received in respect of **12 Licensing Options**.
- **One** Licensing Option has been surrendered

**Eni, Europa, ExxonMobil, Nexen (CNOOC), Scotia, Statoil, Woodside**  
✓ ✓ ✓ ✓ X ✓ ✓

**Department has applications for 13 Licence Options to progress to Frontier Exploration Licences**

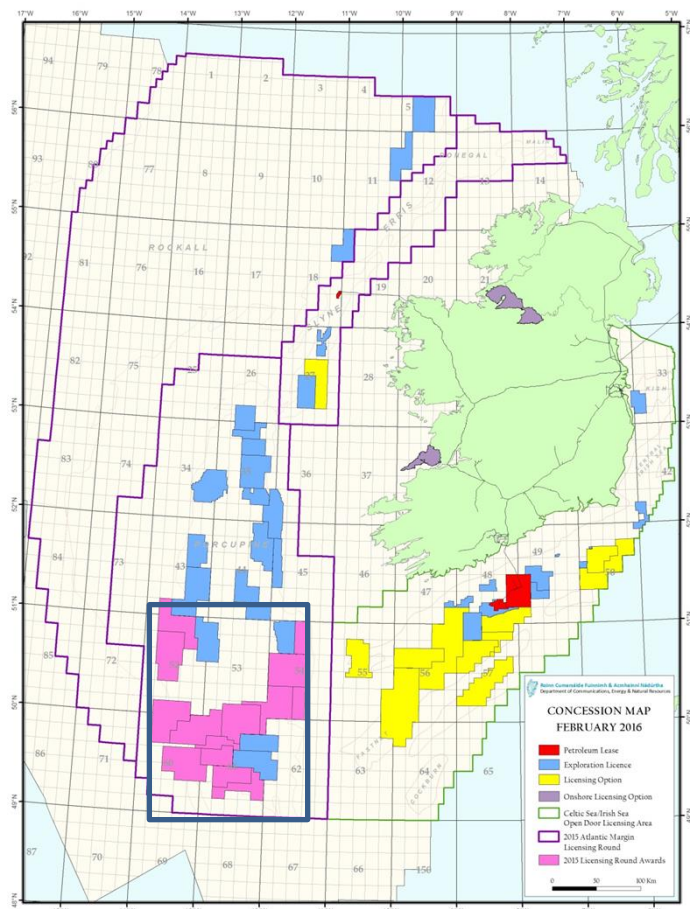
**Phase 2:** 14 Licence Options were offered in to 9 companies. **9 LO are in the Porcupine Basin**

[License Options 16/16 to 29](#) (Option Period 1 July 2016 to 30 June 2018/30 June 2019).

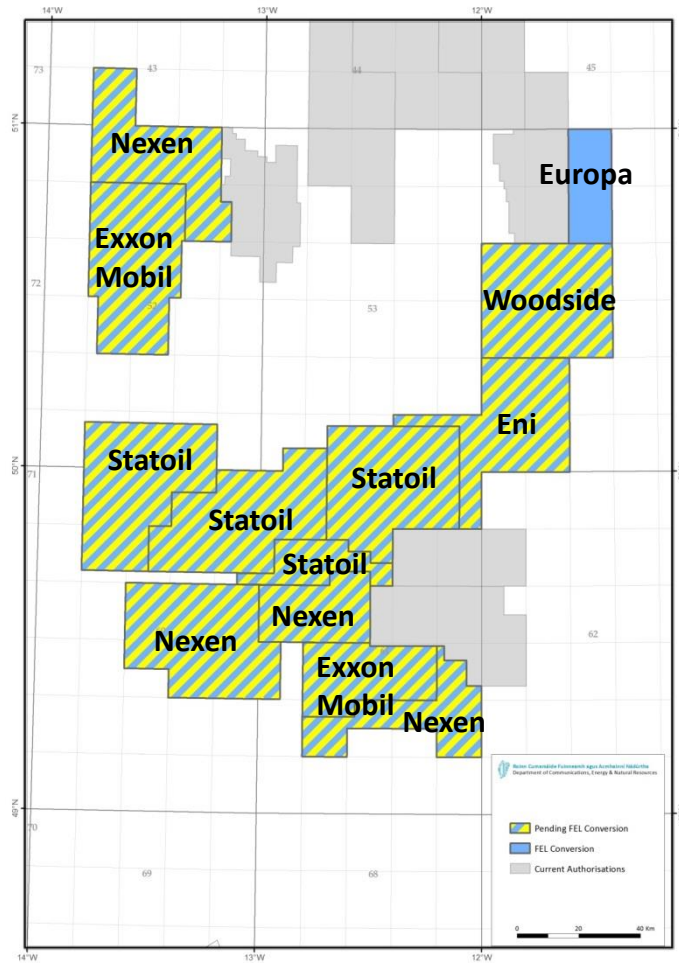
The 9 LO in the Porcupine Basin will be evaluated in Q2 2018



# 2015 Atlantic Margin Licensing Round – Blocks Awarded



Blocks awarded



**South  
Porcupine Basin /  
Goban Spur area**

# Conclusions

## New Data provides New Knowledge

**Ireland's Porcupine Basin has had a substantial increase in new data, regional studies and research initiatives in recent years.**

**Evaluation of the new data highlights the petroleum prospectivity of the Porcupine Basin. A large number of prospects have been identified within a variety of structural and stratigraphic plays. The basin is under-explored in terms of drilling.**

**Oil company, seismic contractor and academic interest in the basin is heightened. 93% of current Licence Options in the South Porcupine Basin have applications for conversion to Frontier Exploration Licences. Department evaluation of Porcupine Basin Phase 1 applications to convert LO to FEL is ongoing with Phase 2 Porcupine Basin application/evaluation to be completed by mid year.**



**Very positive and encouraging outcome. At a challenging time, industry has responded very positively.**



# Thank You

## Booth 20



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ar son na hAeráide & Comhshaoil**

Department of Communications,  
Climate Action & Environment

[www.pad.ie](http://www.pad.ie)