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ENERGY OPPORTUNITIES OFFSHORE URUGUAY

MEn. Pablo Rodríguez

Houston, August 29th, 2023

ANCAP

Why Uruguay?

- Ranked #1 in LAC in Political and Social stability (Democracy, Equity, Transparency, Rule of Law, Control of Corruption, etc.)
- Reliable country for foreign investment
- Investment promotion regime
- Leader in generation of clean energies

#1: Montevideo is the city with the best quality of life in Latin America *(Mercer, 2019)*

Source Uruguay XXI: https://www.uruguayxxi.gub.uy/en/information-center/article/country-presentation/?download=en

ANCAP : Regulator of upstream business and operations

- NOC
- Vertically integrated Oil Company
- ANCAP acts as the “hydrocarbon agency”
- ANCAP is the state-own company competent in green H_2.

Oil and Gas

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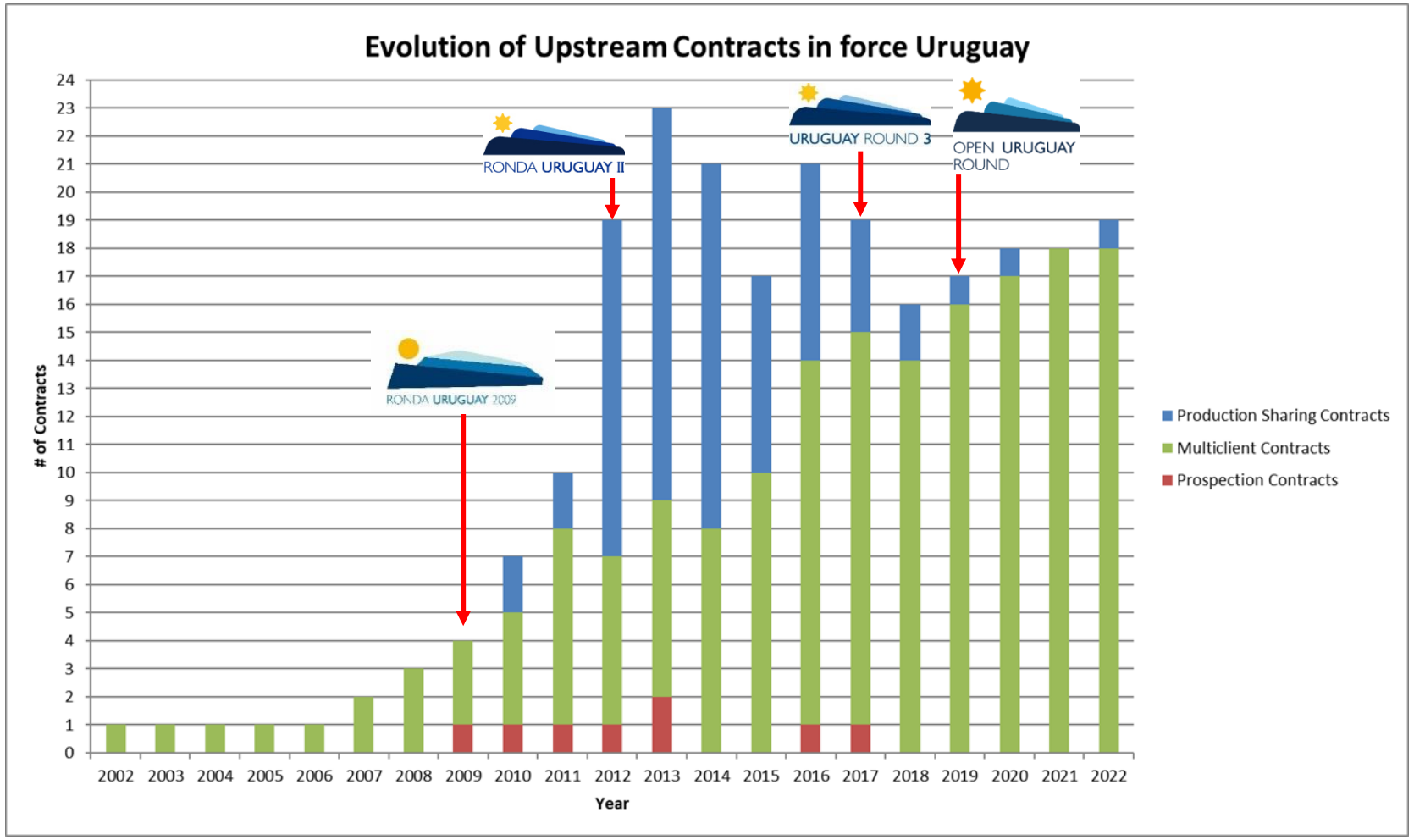
Upstream contracts signed in the last 15 years



Over 1.2 Billion USD of investment in HC exploration by Oil & Gas and service companies

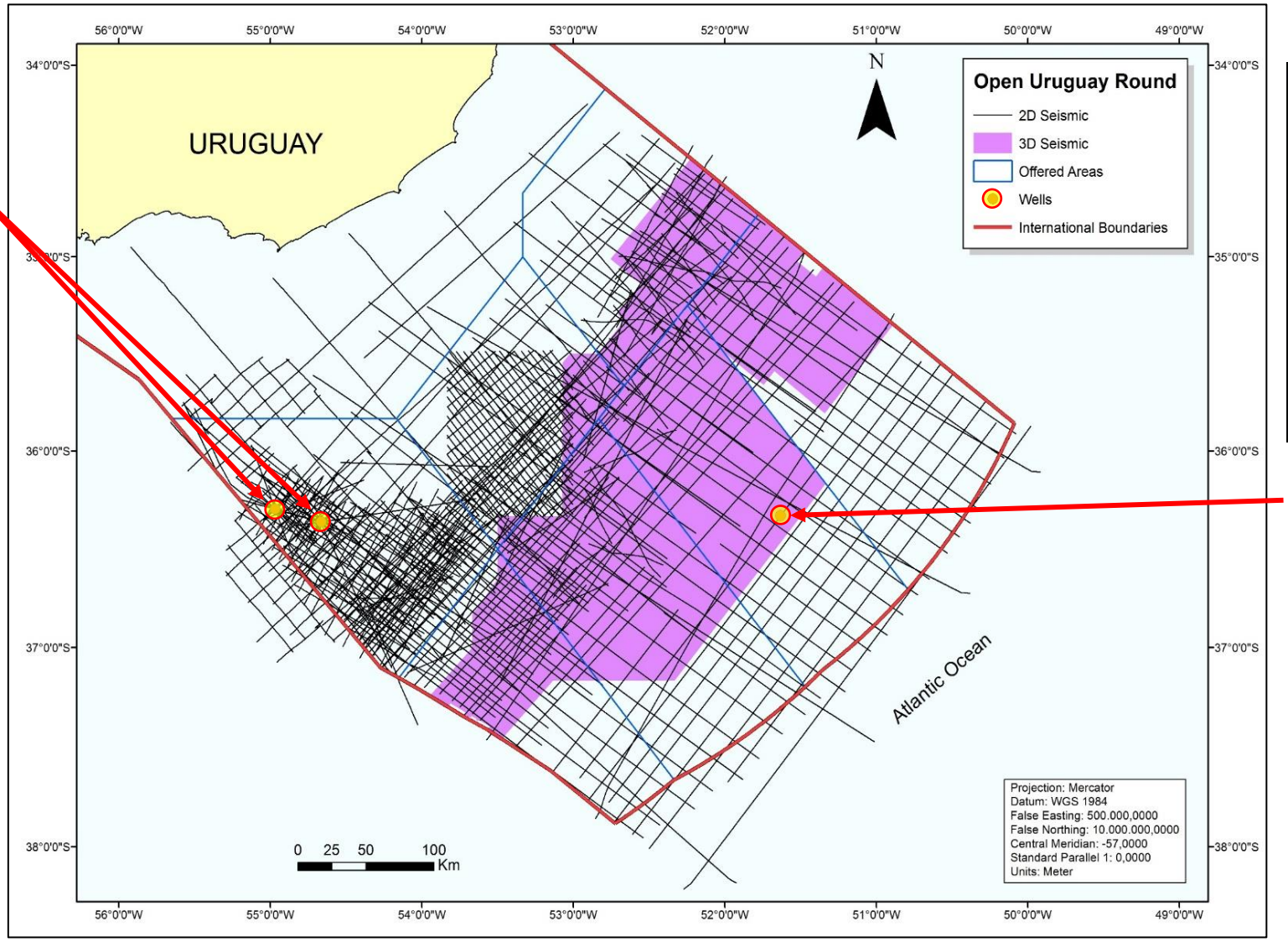
Multiclient Contracts: new exploratory data and promotion

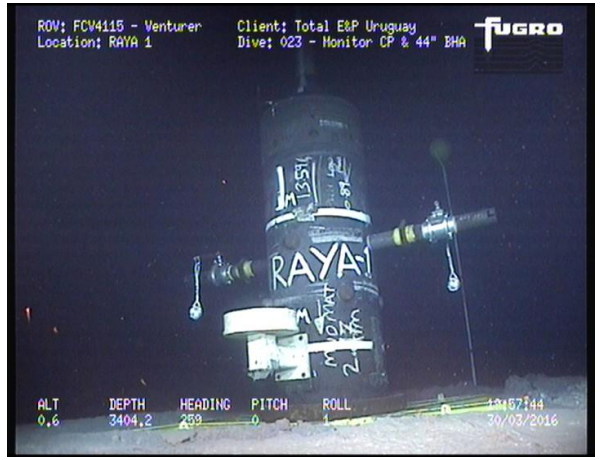
2002 2D Seismic	2007 2D Seismic	2008 2D Seismic	2010 2D Seismic	2011 Aeromagnetism	2011 Fluid Inclusions	2011 Report 1	2013 3D Seismic
2013 3D Seismic	2014 3D EM	2014 2D Seismic	2015 2D Seismic	2015 Report 2	2015 Special Process on 2D Seismic	2016 Repro 2D 0708	2016 Well Logs
2016 Onshore 2D Seismic	2016 micro-seeps detection	2016 3D Seismic	2018 Rockscan	2019 Grav & Grad & Mag onshore	2019 Repro 3D EM	2019 Post Mortem Report Raya X-1	2019 Tannat Repro 3D Seismic
2020 Repro 2D Seismic	2021 EM 2D / 3D	2021 SFD	2022 Special Reprocessing of 3D Seismic				

Exploratory database increase

DATA BEFORE 2007
- 2 wells drilled in 1976
- 13.000 km of 2D seismic

NEW DATA SINCE 2007
- 1 well
- 28.000Km of 2D seismic
- 41.000Km^2 of 3D seismic
- 13.000Km^2 of 3D CSEM
- Heat flow measurements
- Seabed samples
- 1 MMT Survey

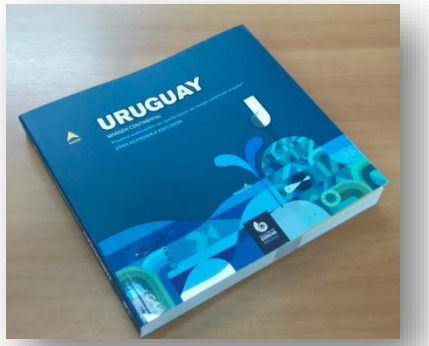




RAYA WELL
- Drilled in 2016
- World Record Water depth (3404 m)

Strong emphasis on sustainable operations

HSE management plan required by ANCAP and DINAMA to the oil companies requires the use of the industry's best practices and technologies for each exploration operation.
IE: MMO and PAM for offshore seismic



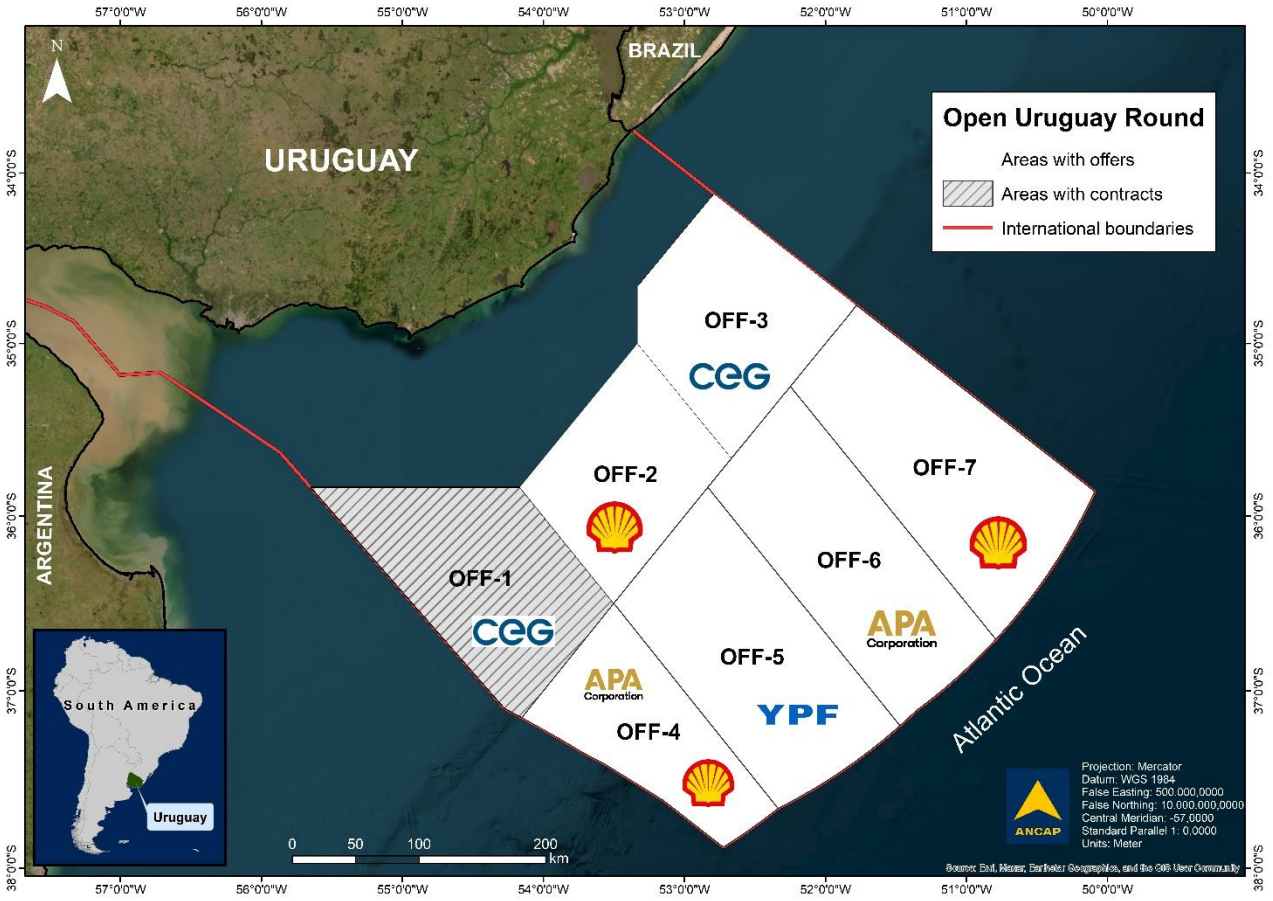
2012-13: Environmental Baseline on the EEZ, bibliographic review.

2015-16: Environmental Baseline on the EEZ, regional oceanographic campaign for the acquisition, processing and interpretation of data

Offshore Operations Manual: ANCAP's guidelines, recommendations, requirements to design and execute the offshore exploration operations to assure their safety and environmental sustainability, in line with the international standards.

Open Uruguay Round

OPEN URUGUAY ROUND

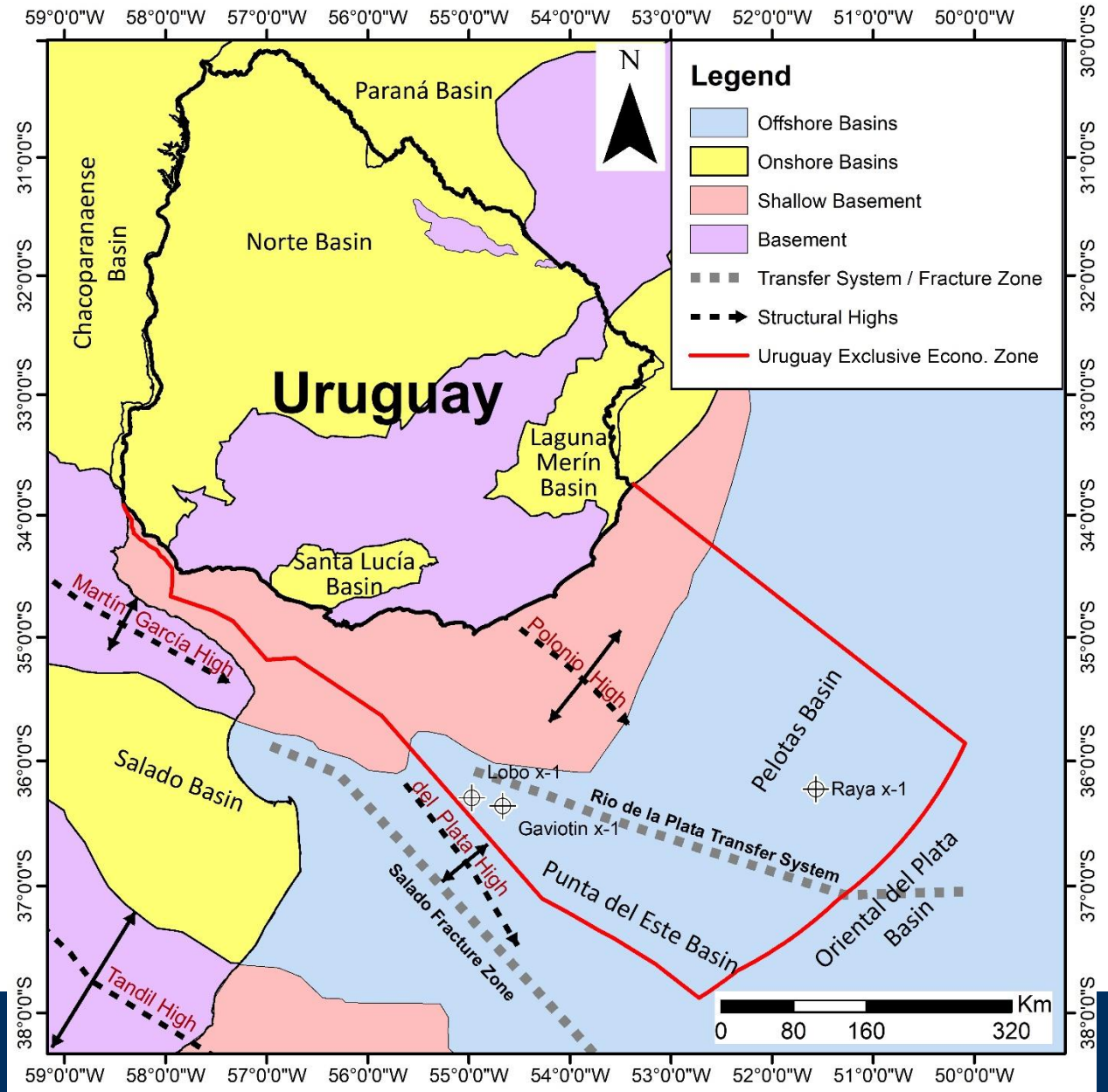


Average Blocks size ≈ 15,000Km²

Since RUA is in force 11 offers have been received:

- ✓ May 2019
  - Kosmos Energy for Areas OFF-2 and OFF-3
  - Due to financial difficulties, Kosmos Energy sold its frontier exploration assets and withdraw its offers in Uruguay
- ✓ May 2020
  - Challenger Energy (CEG) for Area OFF-1; 272 UT <> 1,36 MMUSD of investment committed
- ✓ May 2022
  - APA Corporation for Areas OFF-2 and OFF-6
  - Shell for Areas OFF-2 and OFF-7
  - APA was awarded Area OFF-6 and Shell Areas OFF-2 and OFF-7,
  - Investment committed is 81,765 MMUSD (16.353 UT), 4,5 MMUSD (900 UT) and 7,55 MMUSD (1510 UT) respectively
- ✓ November 2022
  - Consortium APA/Shell for Area OFF-4
  - YPF for Areas OFF-4 and OFF-5
  - APA/Shell was awarded Area OFF-4 and YPF Area OFF-5.
  - Investment committed is 30,67 MMUSD (6134UT), 29,17 MMUSD (5834 UT) and 1,5 MMUSD (300 UT) respectively
- ✓ May 2023
  - Challenger Energy (CEG) for Area OFF-3; 236 UT <> 1,18 MMUSD of investment committed

Offshore Uruguay basins



Two main basins are recognized offshore Uruguay in an area of 125,000 km^2:

1. Punta del Este to the West
   - Two wells drilled in 1976
2. Pelotas Basin to the East
   - One well drilled in 2016

In shallow waters Punta del Este and Pelotas basins are separated by the Polonio High (basement high).

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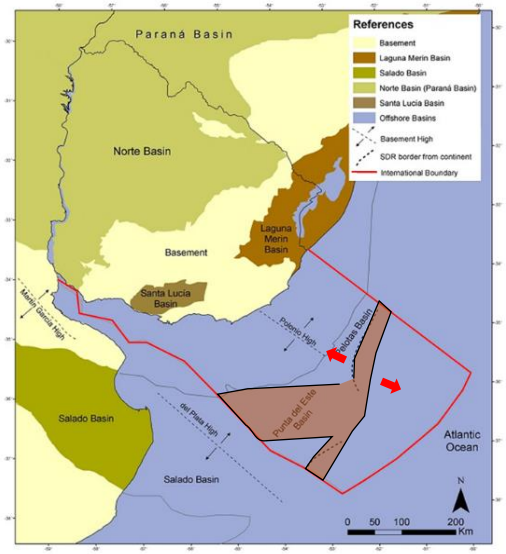
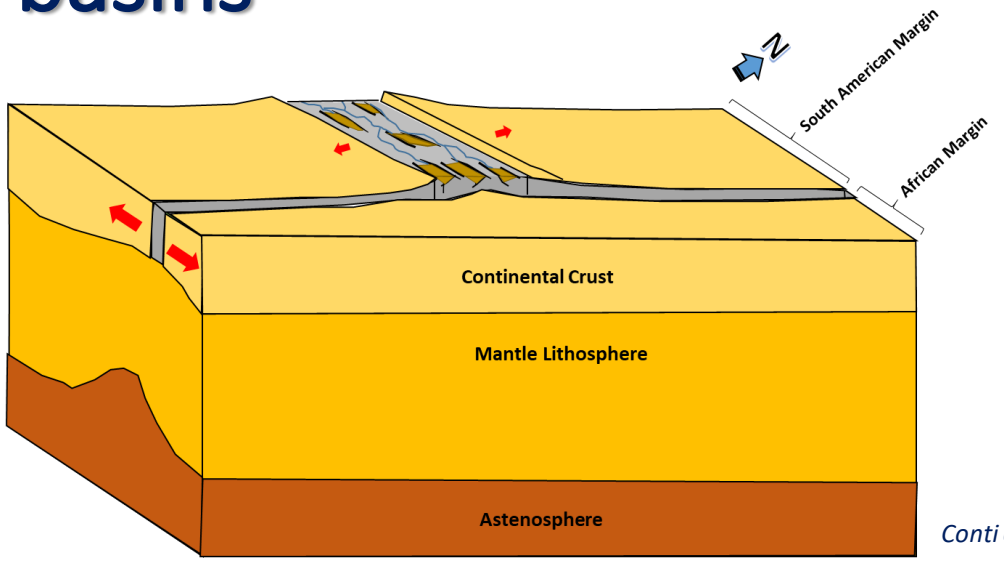
Genesis of Uruguayan offshore basins

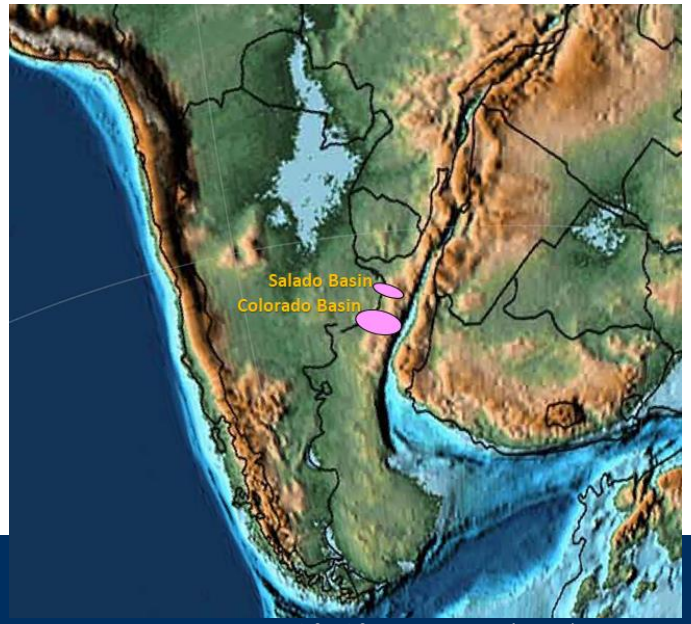


Modified from Conti et. al, (2021)



Conti et. al, (2021)

Upper Jurassic (155Ma)

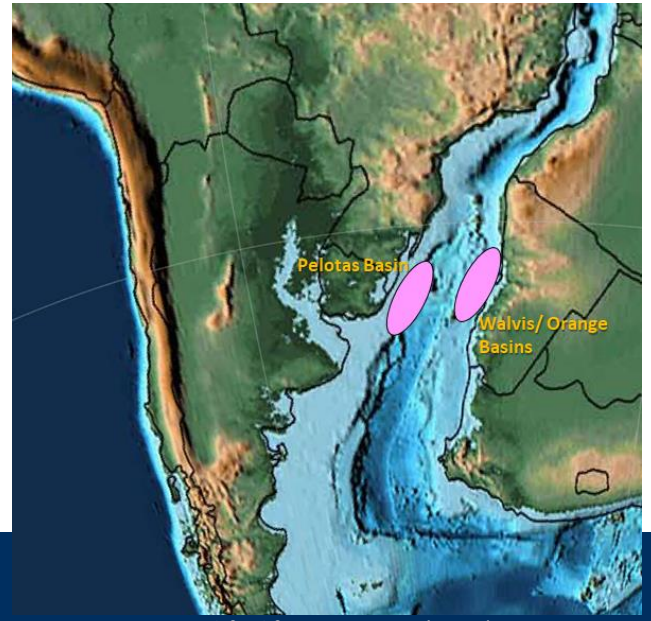


Modified from Scotese, (2014)

Early K – Barremian (130 Ma)

Modified from Scotese, (2014)

Early K - Aptian (120 Ma)

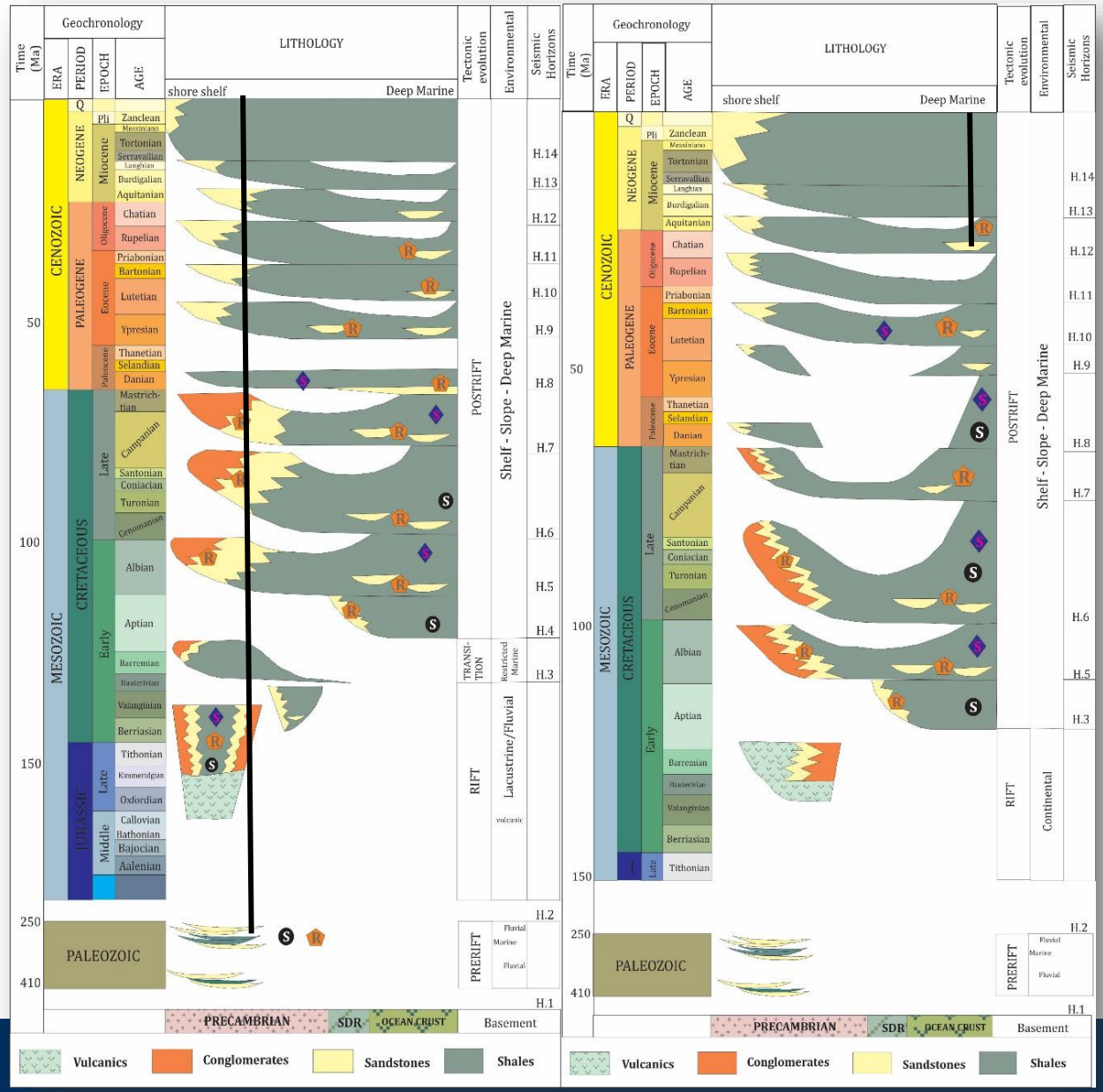


Modified from Scotese, (2014)

Stratigraphy

PUNTA DEL ESTE

PELOTAS



POSTRIFT — Development of marine conditions: cycles of transgressions and regressions (Aptian to present day)

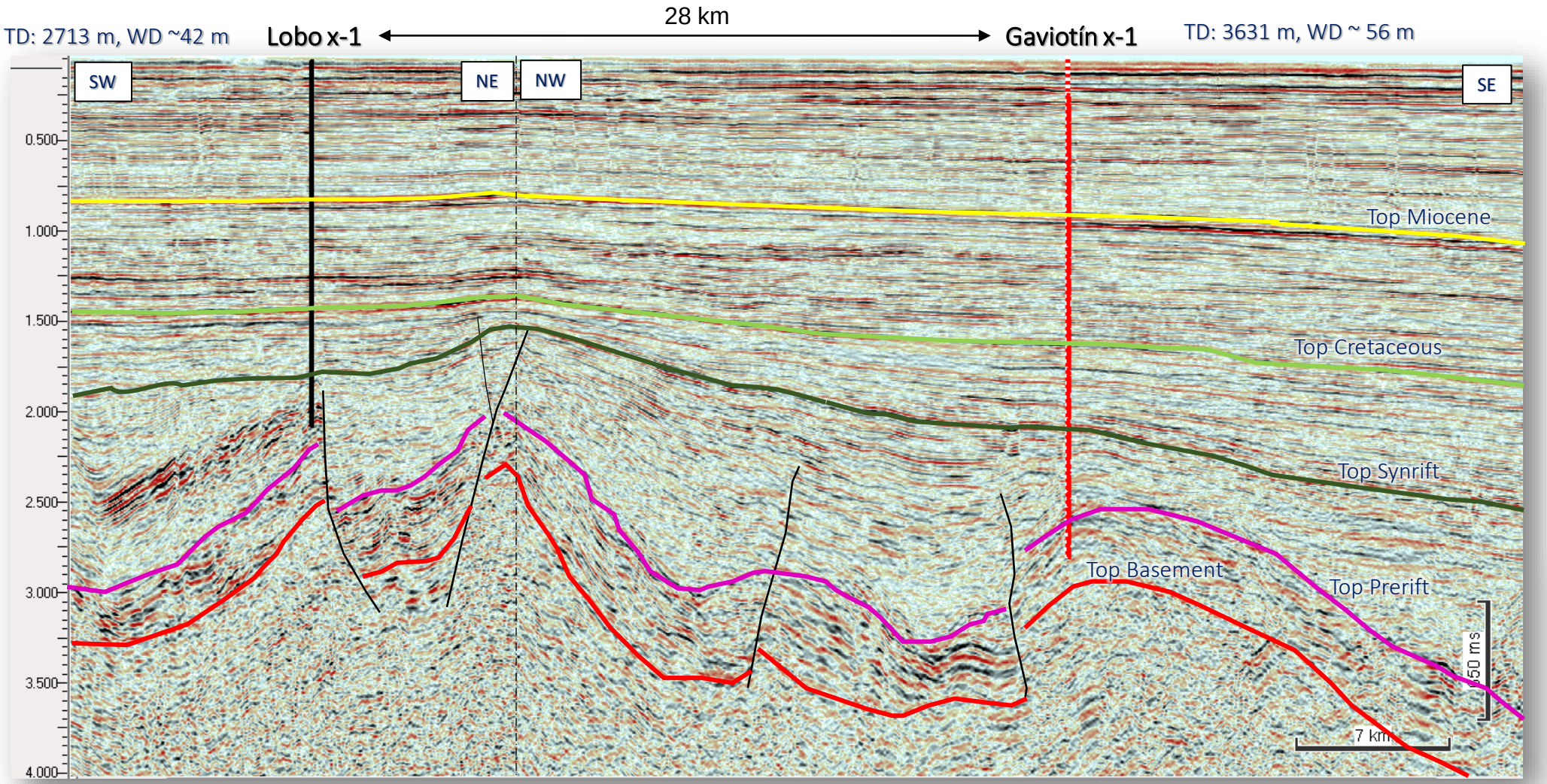
SYNRIFT — Upper Jurassic to Lower K (Half-grabens and SDR´s)

PRERIFT — Preserved remnants of Paleozoic basin

Morales et al., 2017

Lobo and Gaviotín Wells

OPEN URUGUAY ROUND

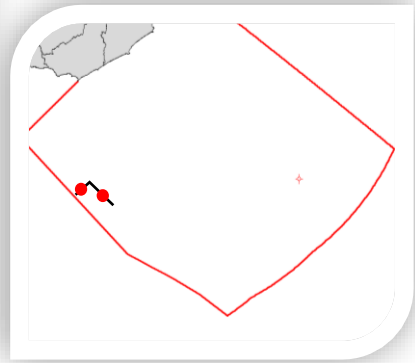


Drilled: 1976

Company: Chevron

Targets: Faulted blocks and anticlines structures of synrift sequence.

Result: Both dry wells, Presented gas shows and fluid inclusions of oil and gas.



Both wells are located in a proximal region of the Punta del Este basin

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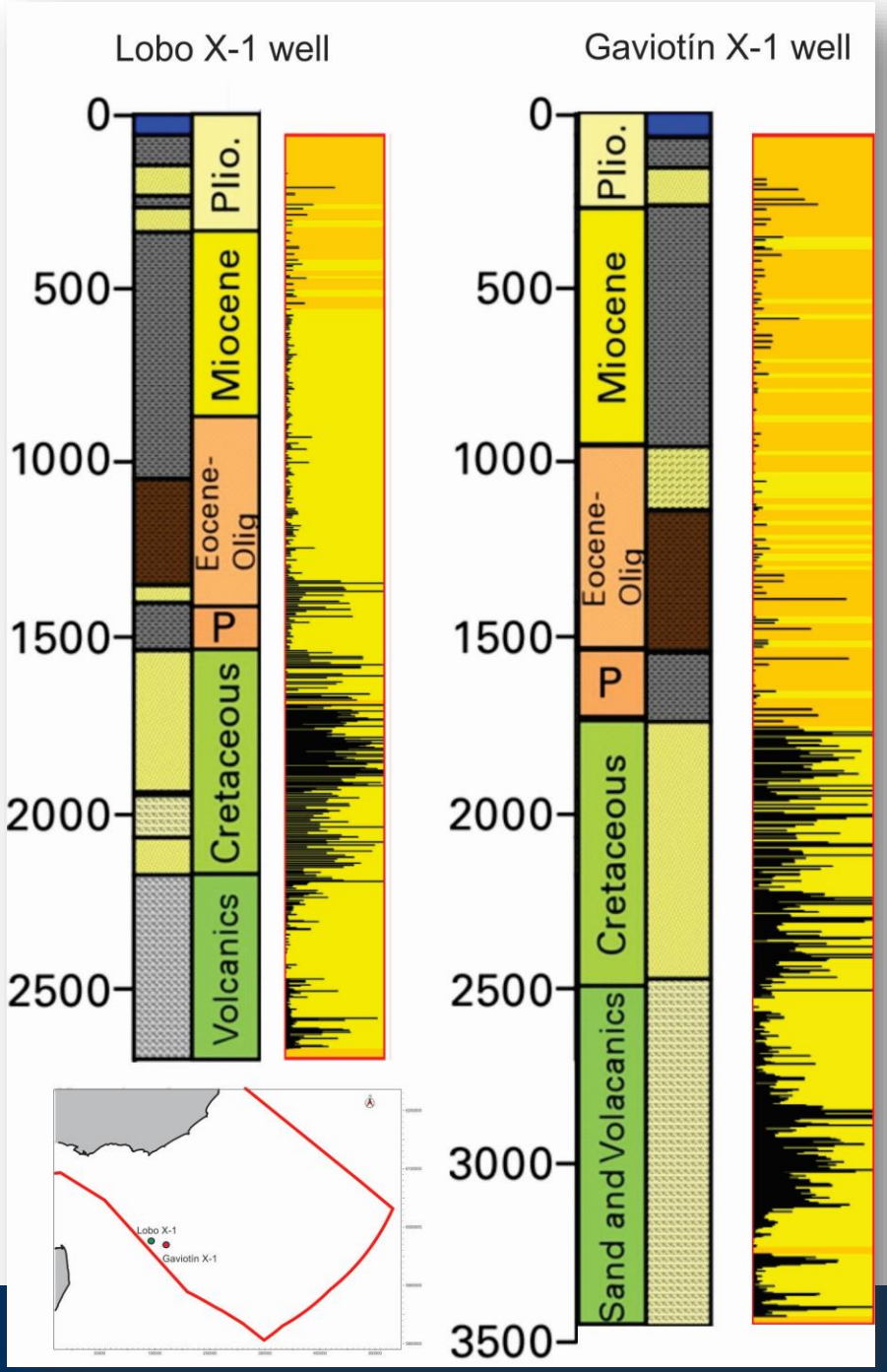
Hydrocarbon evidences

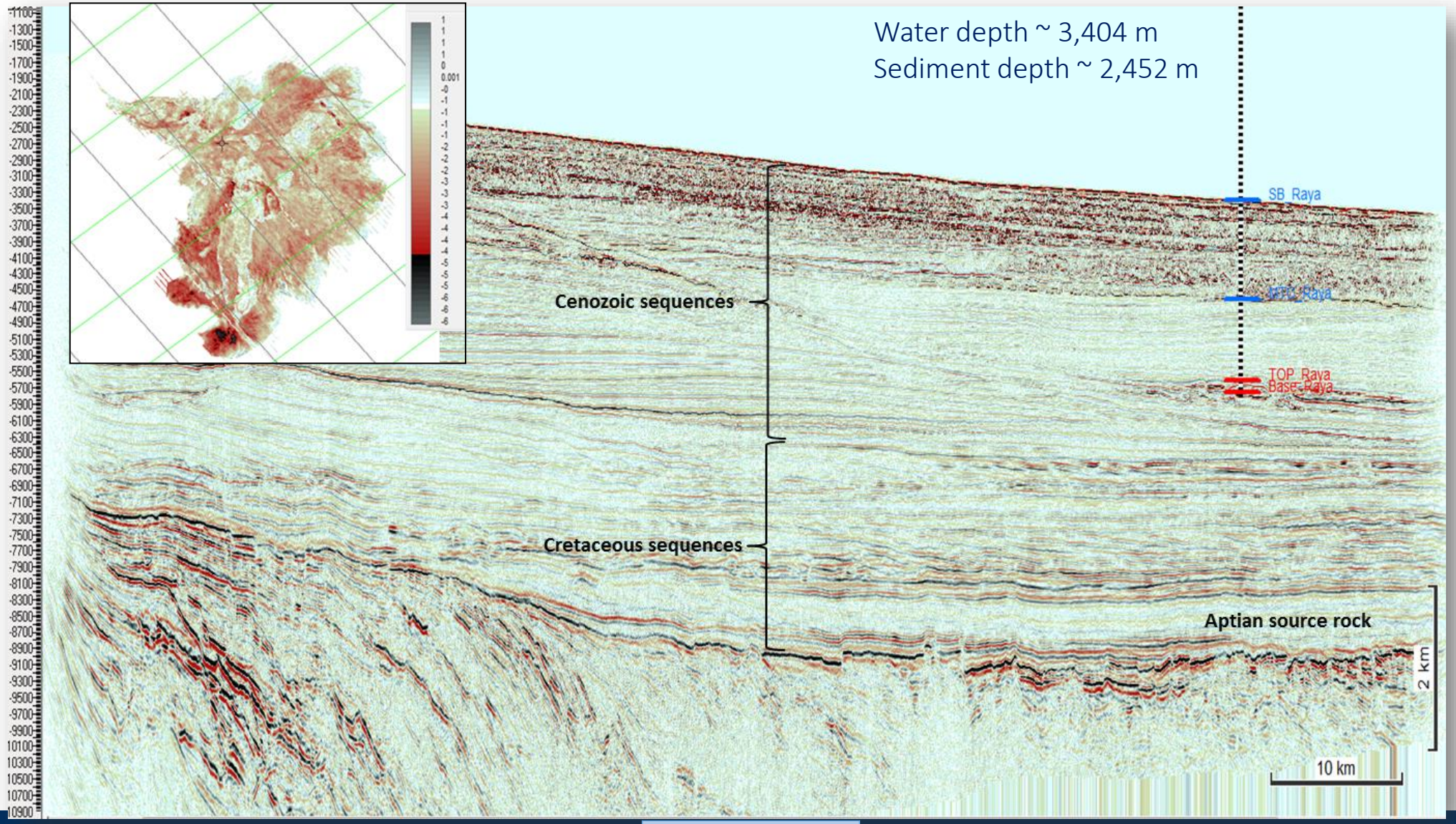
Fluid inclusions Study in Lobo and Gaviotín cuttings made by FIT in 2011

The results of this analysis indicate :

- Dry gas anomalies in each well in Jurassic, Cretaceous and Tertiary levels.
- Low, moderate and high gravity oil inclusions were found.
- Efficiency of the regional seal (deposited in the Maastrichtian-Paleocene transgression) is evident from the available data.
- The results demonstrate the generation of native hydrocarbons, migration pathways and the existence of paleo-hydrocarbon accumulations (presence of an active petroleum system).



Raya Well



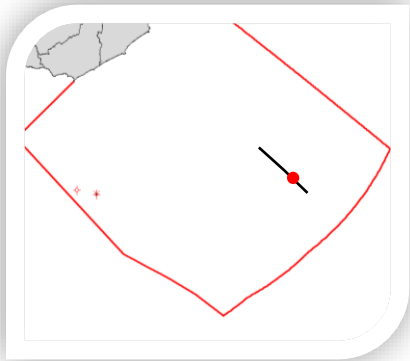
Drilled: 2016

Company: TOTAL

Target: Oligocene turbidite

Result: Reservoir found water bearing

(135 m thick turbidite fan with 24% porosity)



Pelotas basin

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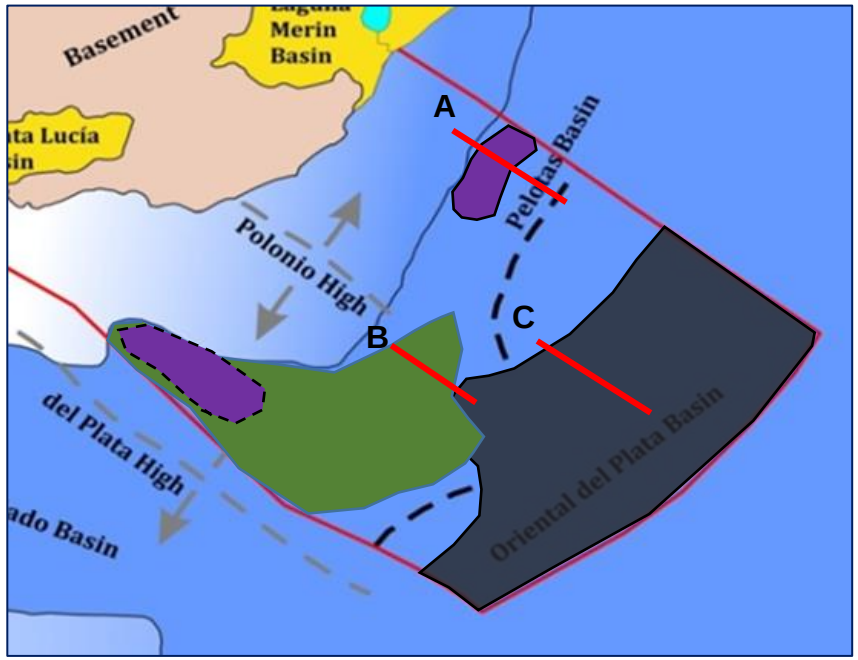
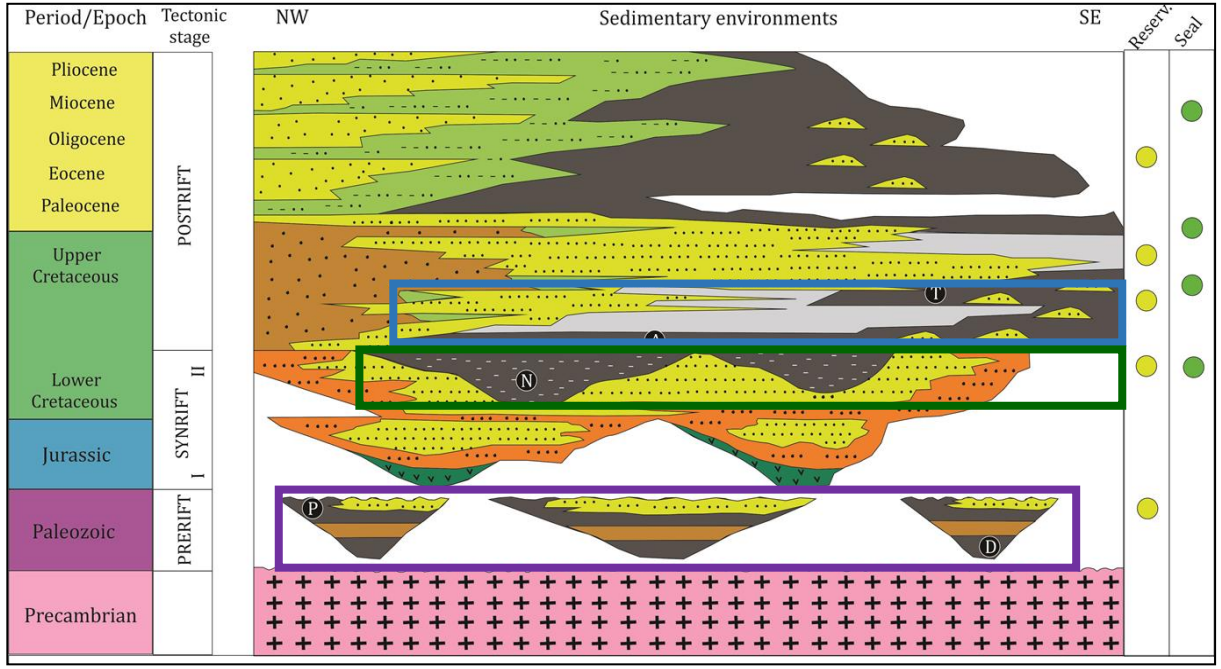
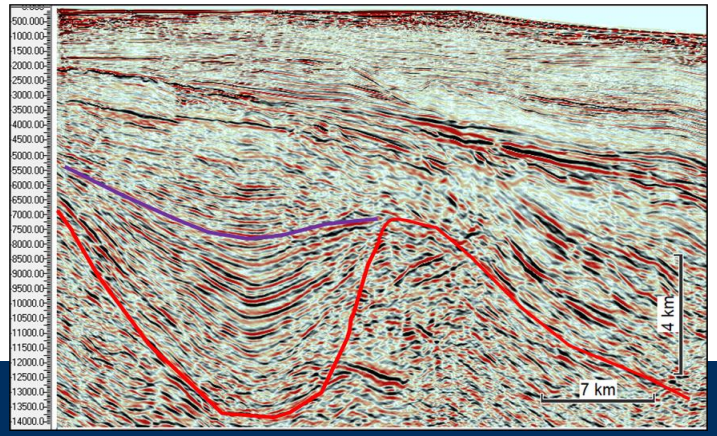
Petroleum system: Source Rocks

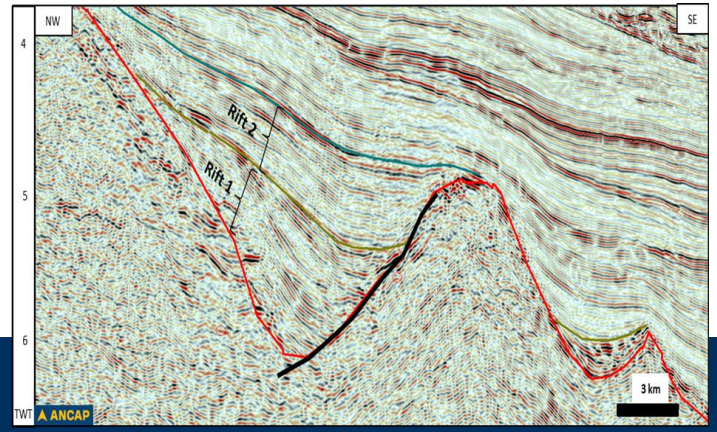




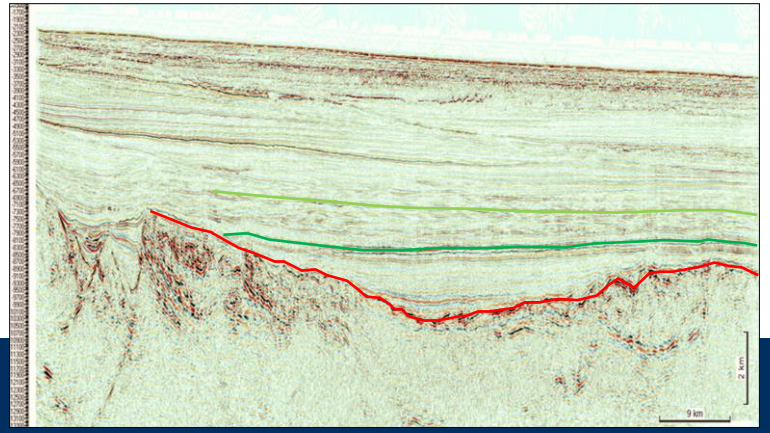
A Prerift



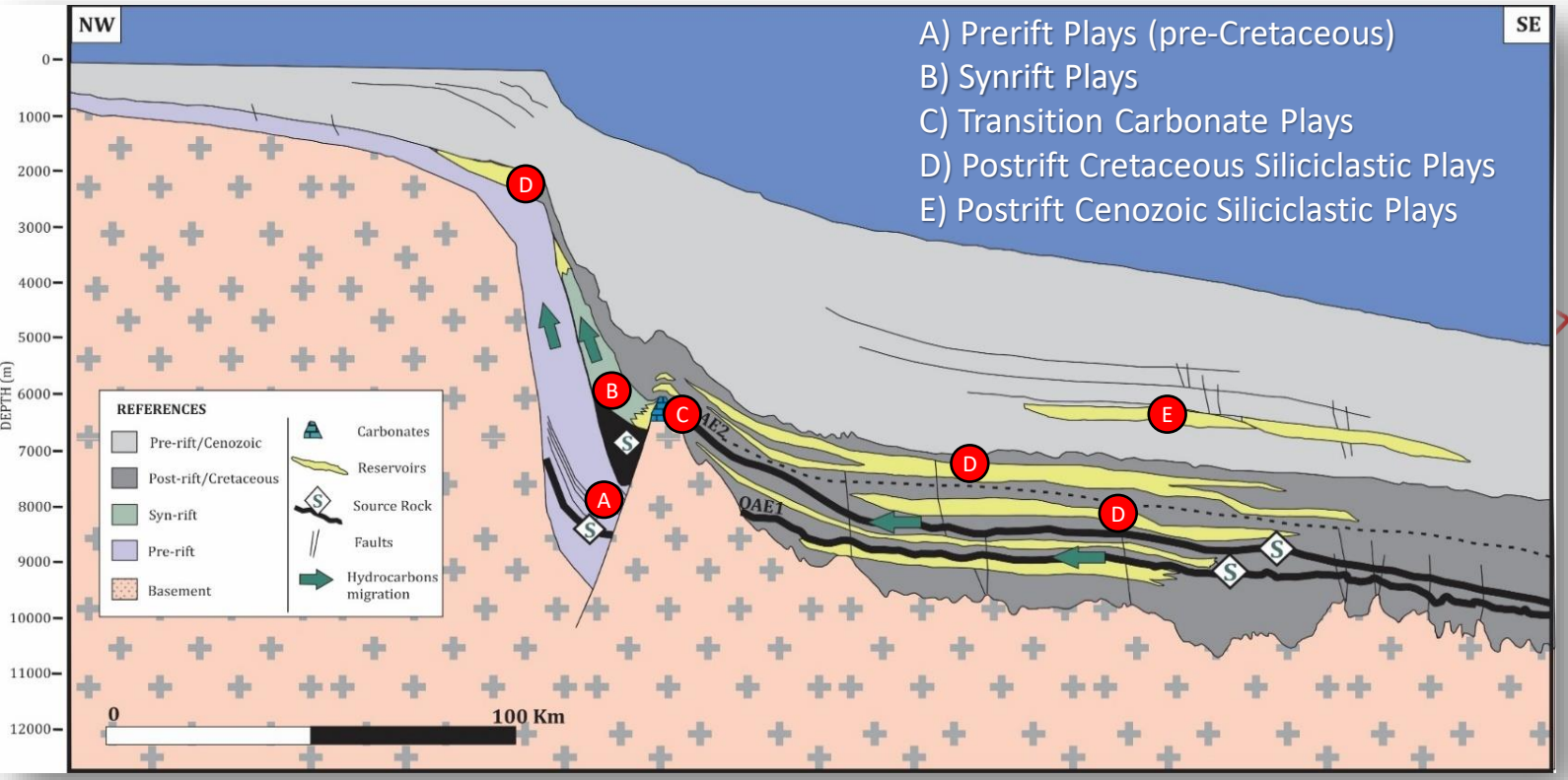
B Synrift

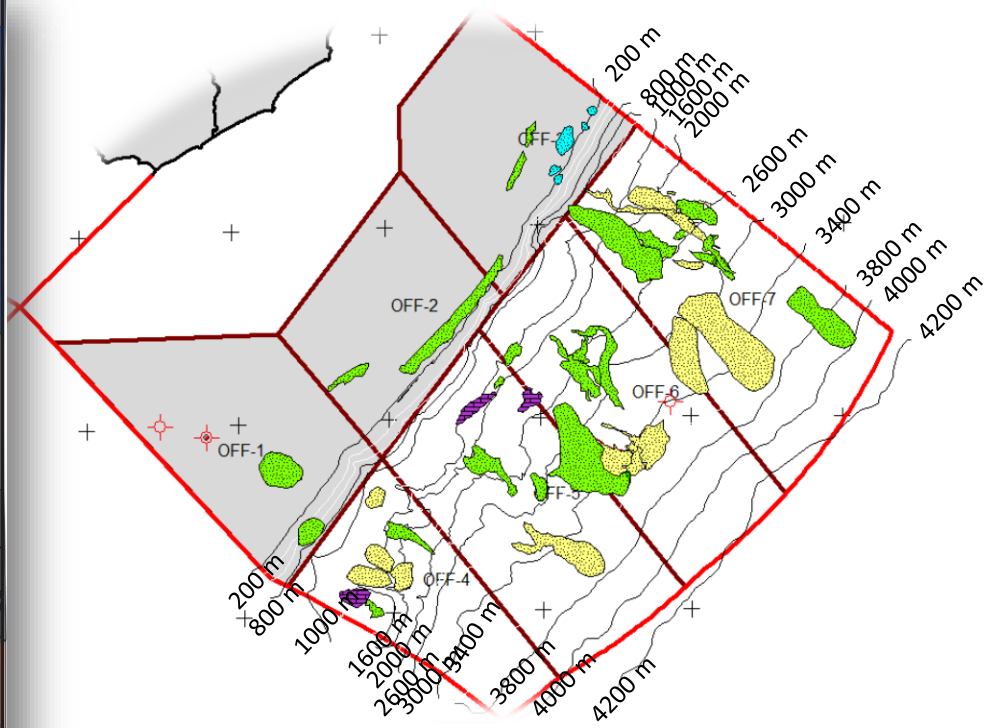


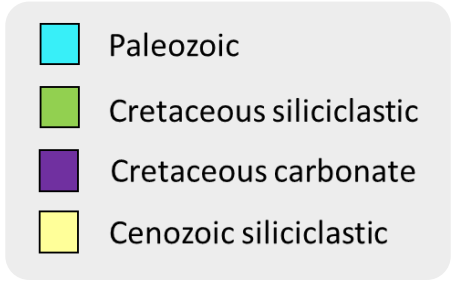
C Postrift (Aptian & Turonian)



Play types and prospects

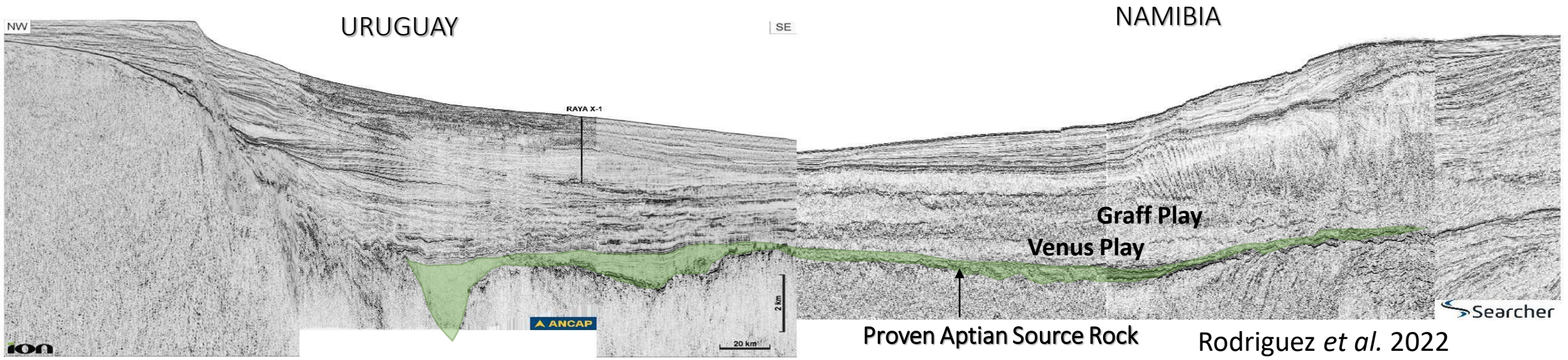


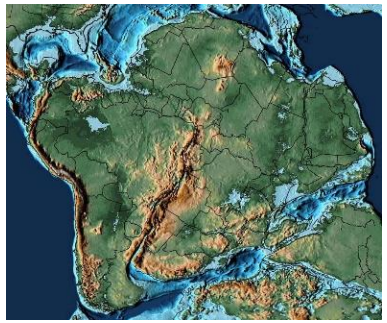




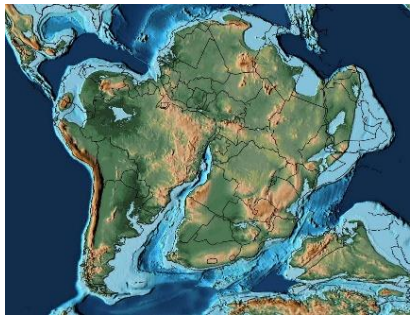
- > 60 offshore prospects and leads
- Located throughout the entire margin, from shallow waters to ultra-deep waters
- Different play types
- Prospective resources >26,000 MMBOEs (already assessed in 29 prospects)

Analogies with offshore Namibia





150 Ma



120 Ma

Present Day

- Dip seismic lines of Uruguay and Namibia combined at the same scale
- In offshore Uruguay basins the Aptian sequence (source rock of Venus and Graff discoveries) is thicker than in Orange basin
- Turonian source rock may be also present and mature

Oil and Gas Final Remarks

- Only 3 exploratory wells drilled in an area of more than 120,000 km^2, with limited information:
  - Lobo and Gaviotin located in the proximal segment of the basin showed several evidences of an active petroleum system: fluid inclusions and gas (density-neutron logs crossovers)
  - Raya well did not reach the Cretaceous sequence
- Presence of world class source rocks: Aptian and Turonian
- Good quality reservoirs
- Development of an effective regional seal: Paleocene proven by well data
- > 60 lead and prospects identified with seismic and CSEM data
- Strong analogies with recent discoveries in offshore Namibia
- Several direct and indirect HC evidences

Offshore Hydrogen

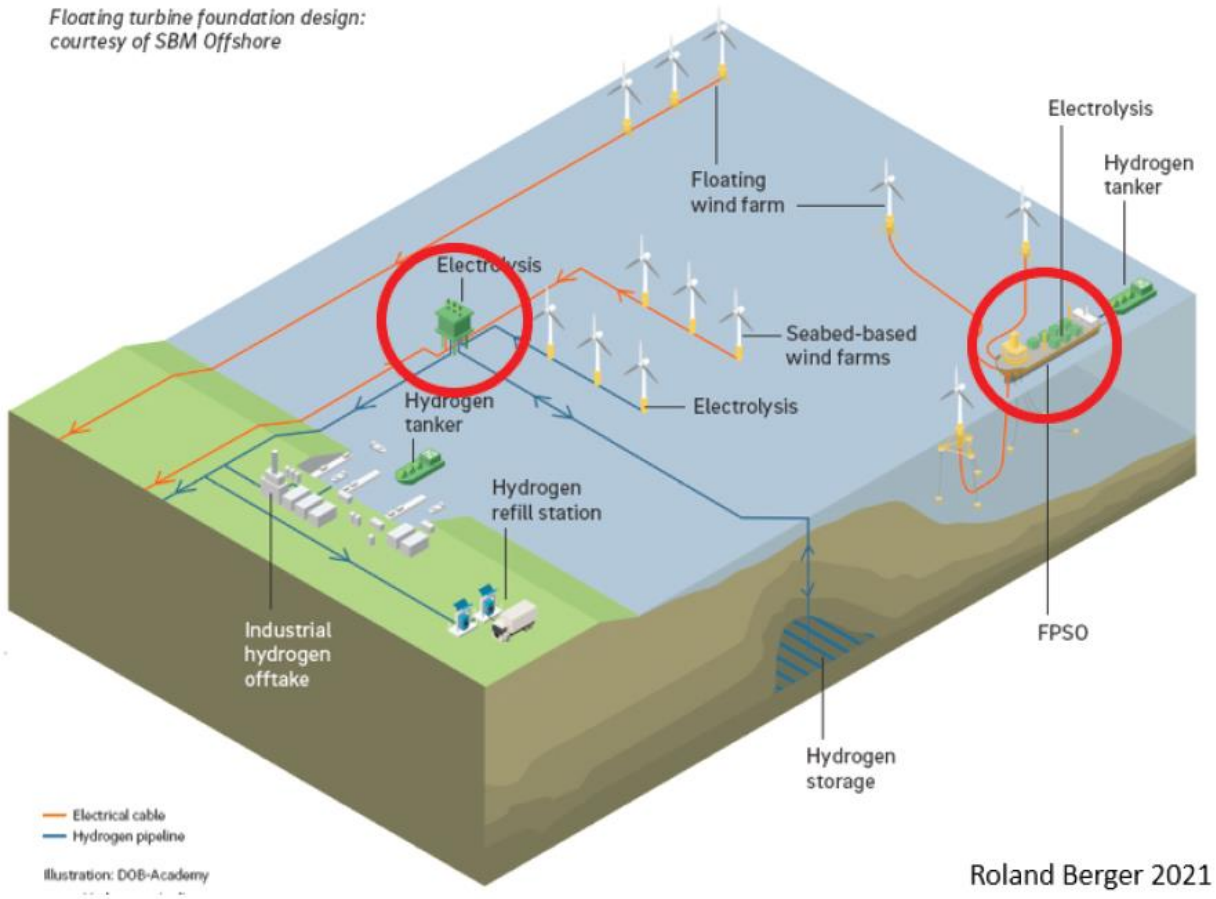
ANCAP

Offshore Hydrogen

URUGUAY Offshore

In 2023 ANCAP is planning to tender **offshore areas** for energy companies to carry out feasibility studies and potential installation of infrastructure to produce H_2 from offshore renewable energy, at their own cost and risk entirely.

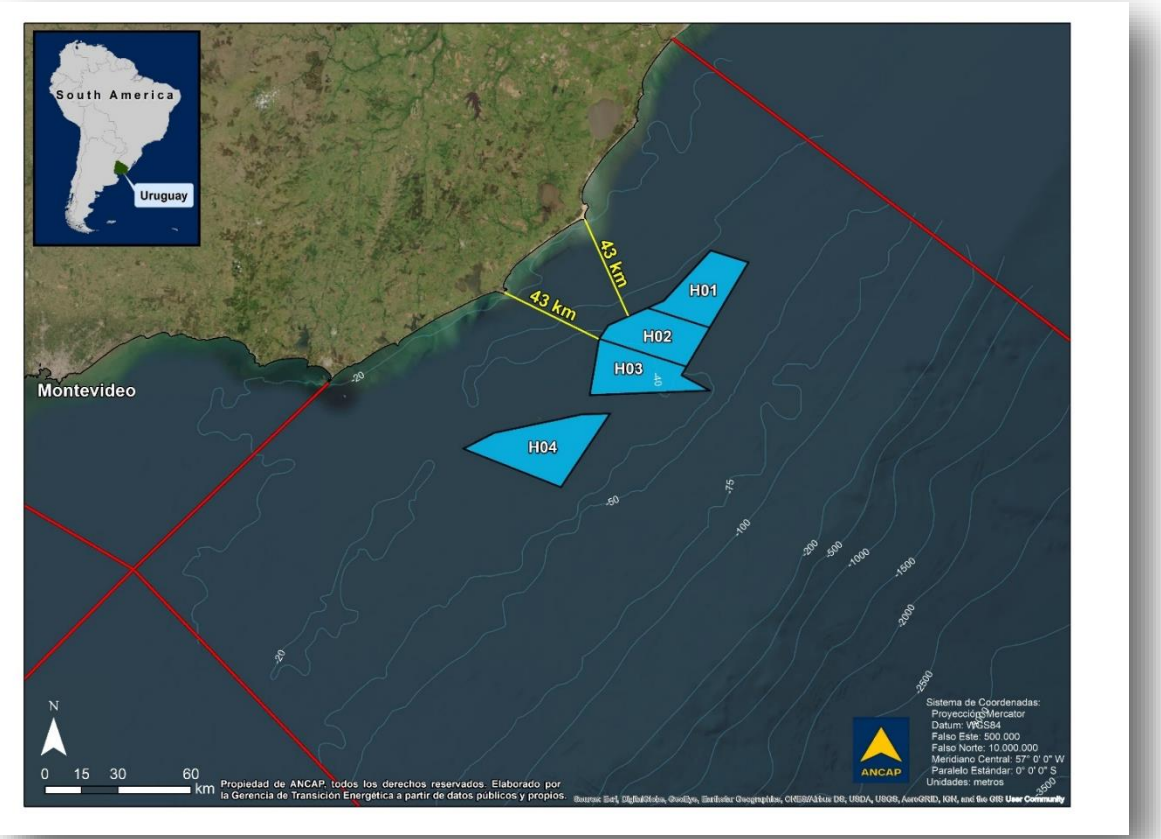
Source: https://tractebel-engie.com/en/news/2019/400-mw-offshore-hydrogen-production-takes-system-to-new-levels

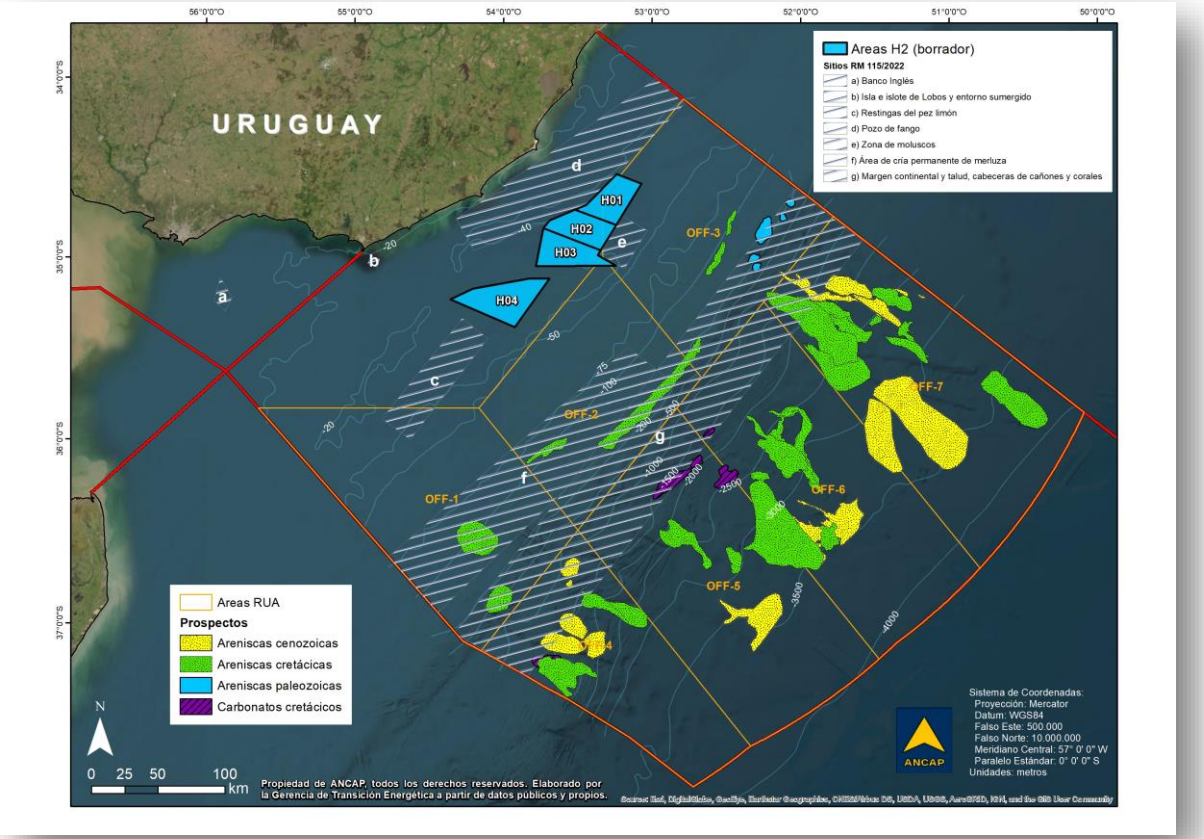


FLEXIBILITY for the contractor to propose development concept including:

- Offshore/Onshore Electrolysis
- Project scale (phases)
- Production of H_2 and/or a carrier (NH_3, LH_2, etc.)
- Market/Off-taker

Offered Areas





- 4 proposed areas
- Estimated potential for a 500 km^2 area:
  - Minimum 3 GW
  - Production of ≈ 200,000 TonH_2/year

- Areas defined considering relevant ecological settings, minimized interference with human activities (maritime transit and operations, fisheries, submarine cables) and the input from the industry.
- No overlap with O&G prospects.

Contract Terms

Contract signature

EVALUATION PERIOD

Development Plan Approved

DEVELOPMENT AND PRODUCTION PERIOD

PROMOTION

FINALIZATION OF BIDDING ROUND TERMS

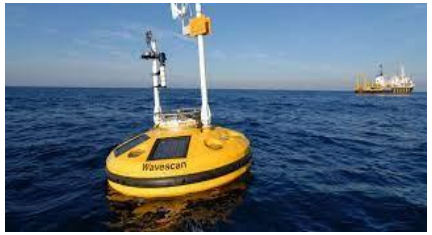
- Datarooms
- Multiclient contracts development

SUBPERIOD 1 (2 years) *

Desktop studies with existing information

SUBPERIOD 2 (4 years) *

New data acquisition and processing



SUBPERIOD 3 (4 years) *

H_2 Production Pilot and/or data acquisition (infill/detail) FEED

Retention

PERIOD 4 (30 years)

Offshore Hydrogen Development and Production

Multiclient data licensing
Market development (offtaker)

*Advancing from one Period to the next is the company´s right (after fulfilling commitments)

Final Remarks

- Uruguay is a reliable and stable country, leader in generation of clean energies; with above ground risks minimized
- E&P Open Uruguay Round already in place and starting to show results:
  - Huge available database, reducing exploratory risks
  - Important analogies with giant discoveries offshore Namibia
- Green H2 production from offshore renewable energy is the main project for ANCAP's future:
  - Official bidding round terms and contract model in 2023
- Open to discuss any other Energy Transition Projects

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Thank you for your attention!

Visit us at BOOTH 457!

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