

**Fifth EAGE Eastern Africa Petroleum
Geoscience Forum**
30th March – 1st April 2021
Online

EAGE

The Brulpadda Discovery and
Accelerated Follow-up de-risking in a
Complex Environment

*William Gordon Canning
Exploration Southern & Eastern Africa, TOTAL*

*C. Scheffer, M. Zweigert, E. Bof, M. Rousseau, A. Bourgeois, A.
Perchoux, G. Sterbecq, G. Loir, J.M. Bugeat - Total*



Main Street



Legal Disclaimer & Copyright Reservation

THE TOTAL GROUP IS DEFINED AS TOTAL S.E. AND ITS AFFILIATES AND SHALL INCLUDE THE PARTY MAKING THE PRESENTATION

Disclaimer

This presentation may include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 with respect to the financial condition, results of operations, business, strategy and plans of Total that are subject to risk factors and uncertainties caused by changes in, without limitation, technological development and innovation, supply sources, legal framework, market conditions, political or economic events.

Total does not assume any obligation to update publicly any forward-looking statement, whether as a result of new information, future events or otherwise. Further information on factors which could affect the company's financial results is provided in documents filed by the Group with the French *Autorité des Marchés Financiers* and the US Securities and Exchange Commission.

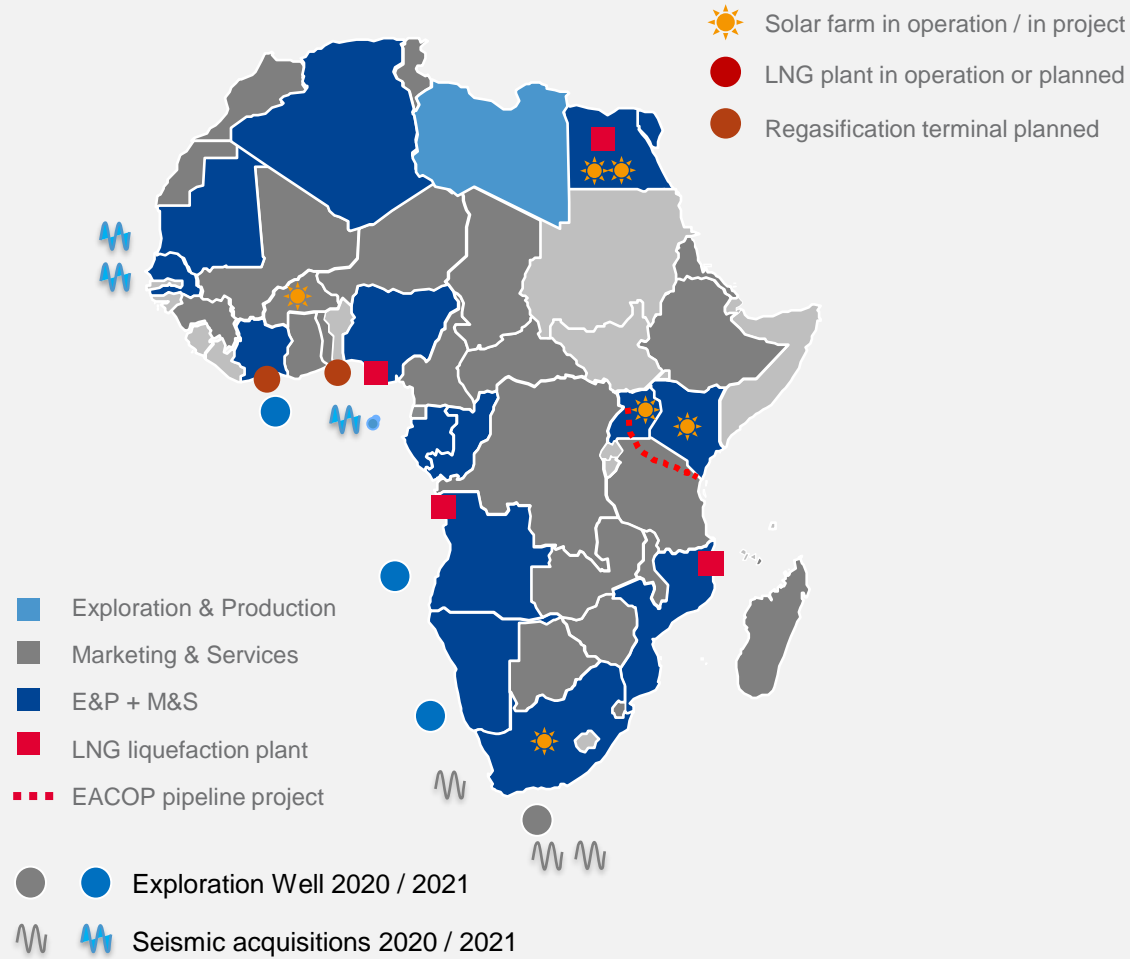
Accordingly, no reliance may be placed on the accuracy or correctness of any such statements.

Copyright

All rights are reserved and all material in this presentation may not be reproduced without the express written permission of the Total Group.

Total in Africa

Presence Update



PRESENT IN **>40 COUNTRIES**

844 KBOE/D OF OIL & GAS PRODUCED

28% OF GROUP'S PRODUCTION

17% OF GROUP'S PROVEN RESERVES

#1 DEEP OFFSHORE OPERATOR

~4,600 SERVICE STATIONS

17% OF MARKET SHARE FOR PETROLEUM PRODUCTS

5 SOLAR FARMS IN OPERATION, 1 FID 2020

5-8 EXPLORATION WELLS; MULTI-WELL RIG LINES

3-6 3D & 2D SEISMIC ACQUISITIONS



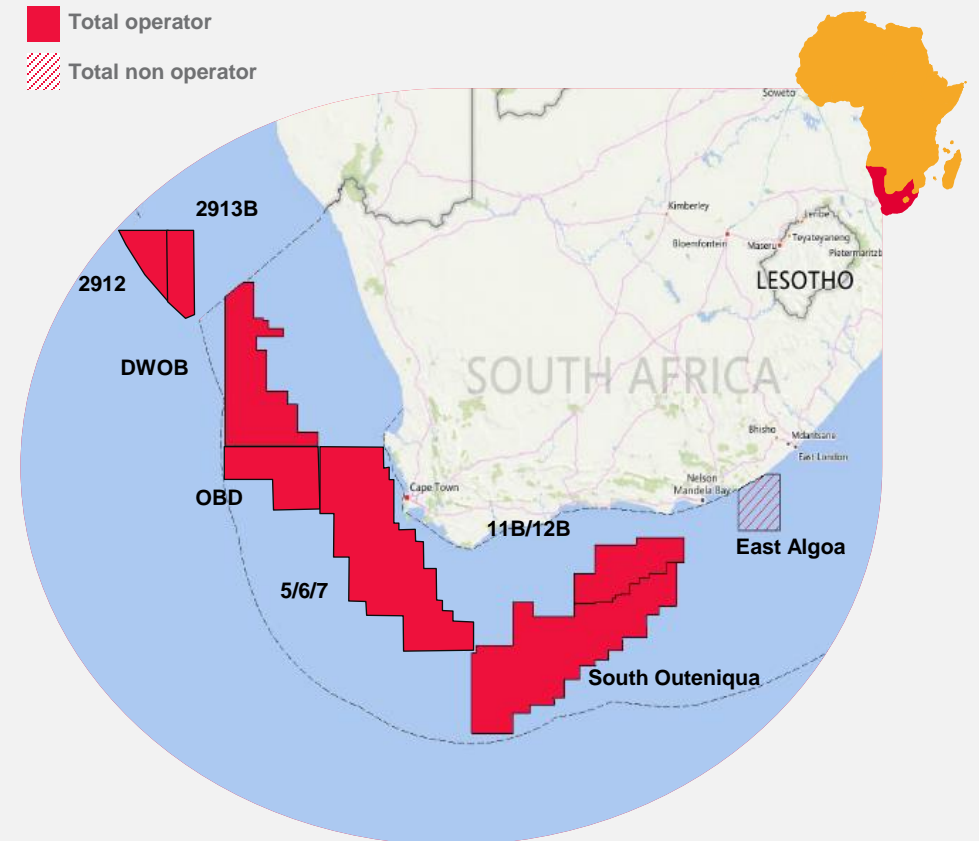
COMMITTED TO AFRICA - 4 DEVELOPMENT AREAS

More Than 90 Years of Presence

Southern Africa Industry Activity

Total Entry and Position

- Presence in South Africa
 - MS* 1954, 205 POS lubricants, aviation, B2B, LPG, Bitumen & special fluids
 - GRP**, solar, trading and shipping
- E&P position since 2013 in South Africa
 - 7 Operated Assets in Orange and Outeniqua Basins (South Africa & Namibia)
 - >220,000km² Gross acreage
- Southern African portfolio & Namibian Basins have seen recent increase in industry acreage capture and operations
- South Africa 11B/12B
 - 2013: Total entry

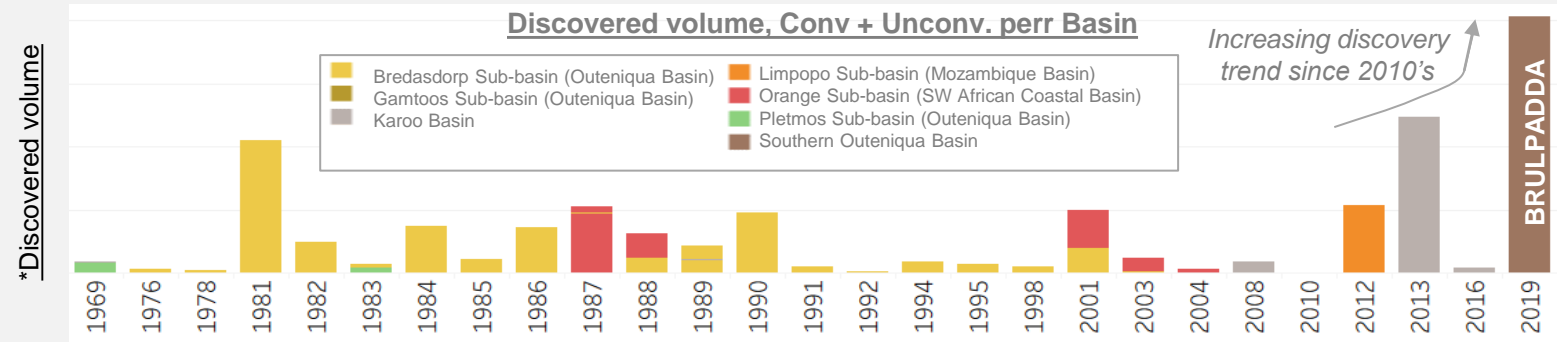
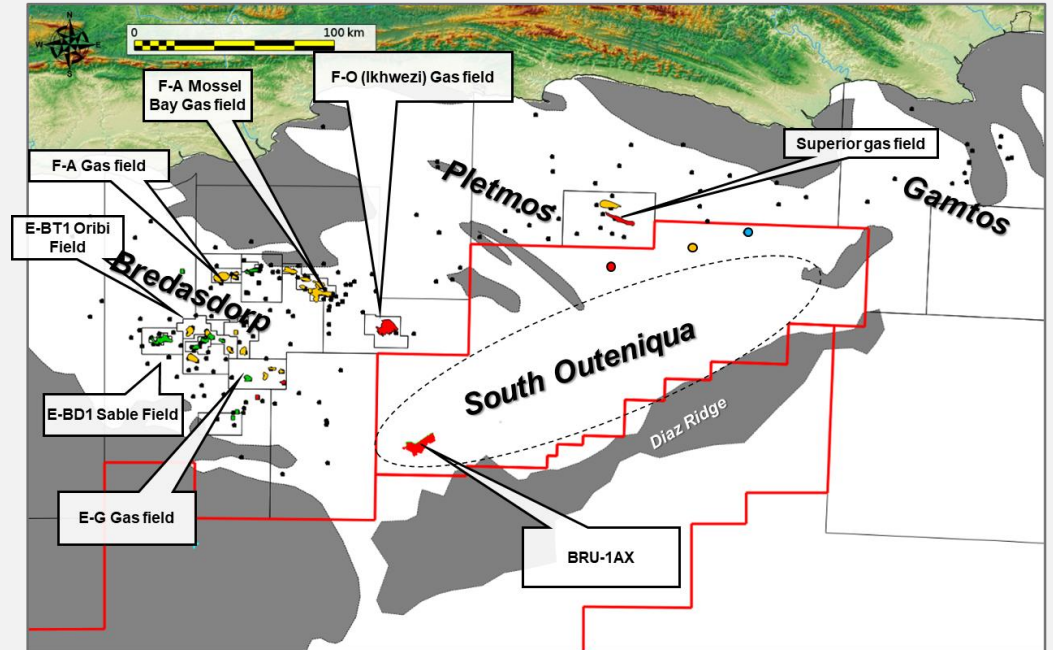
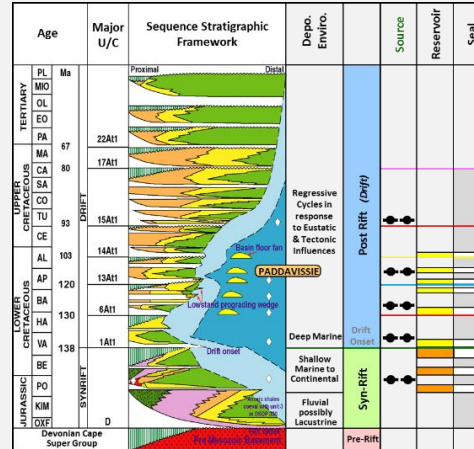


Industry Leading Acreage Position

Southern Africa within Total Group Strategy

Exploration Context

- Past exploration focused on Karoo, Outeniqua and Western Basins but restricted to the shelf and onshore
- Strategic & technical drivers
 - Core geographic focus area
 - Deepwater, Offshore experience & technical capabilities
 - Number of significant and under-explored deep-offshore basins with multiple plays
 - Strong DHI support
 - Material Basin opening potential with significant follow-on targets



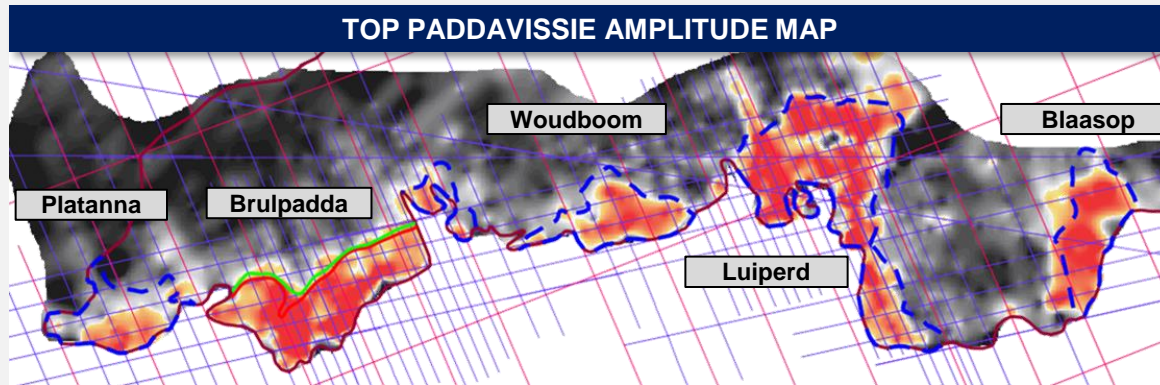
*From External sources

Previously untested deepwater domain

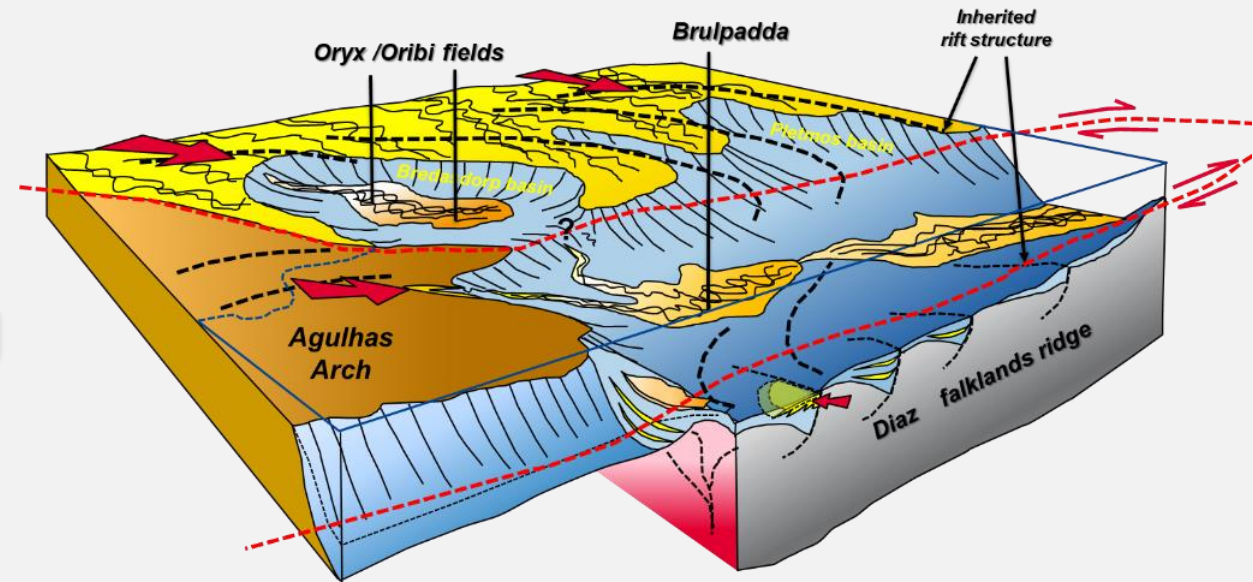
Brulpadda

Basin Mastering & Geophysically Supported Prospect

- Main play: post-rift
 - Trap: Mainly stratigraphic on 11B/12B
 - Reservoirs: Cretaceous turbidites (post-rift), Neocomian to Apto-Albian
 - Source-rock: Upper Jurassic to Lower Cretaceous marine with terrestrial influence.
 - Seal: marine shales / claystones
- Prospect drilled on 2D Seismic supported by AVO/DHI



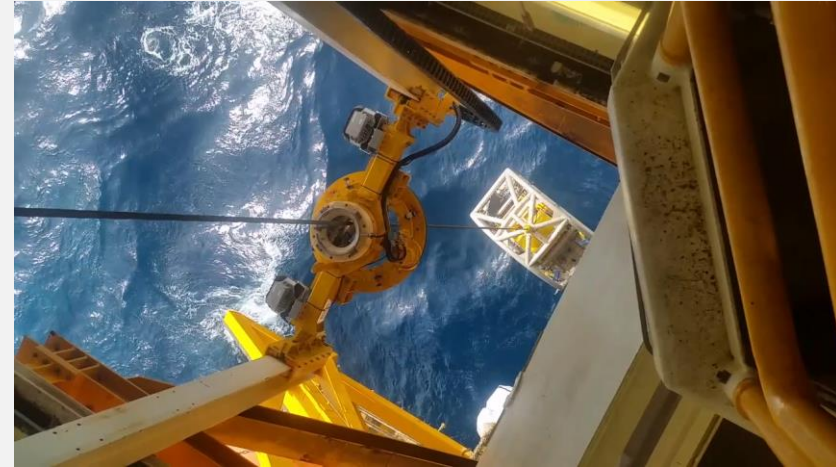
World Class AVO/DHI supported Prospectivity



Brulpadda

The Long Road to Discovery

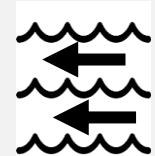
- An extremely harsh operating environment
 - 2014: BRU-1AX First Trial : Suspension of the well after a failure of LRRS
 - 2015 – 2017: harsh operating environment, re-engineering Phase
 - 2018: QP and Mainstreet entry
 - 2019: Brulpadda Discovery
- Re-engineering Phase
 - Adjustments in the equipment selection
 - No underwater LRRS component
 - Various equipment upgrades (rig radar, riser, BOP, etc.)
 - Change of the operations strategy - Maximize operability and minimize the exposure to weather changes.
 - Well architecture, motor BHA, onshore High Frequency radars, tug assist
 - Minimize the risk of disconnection



Strong wind
23 m/s observed, no seasonality



High waves
7.5m Hs observed in summer



Agulhas current
world's 2nd fastest
Up to 3 m/s , 100km wide, all year long

Total Entry

Brulpadda-1

2015-2018 - Re-engineering phase

Brulpadda-1X

Luiperd-1X

2013



2014



2015

2016



2017

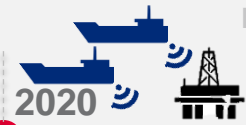
2018



2019



2020



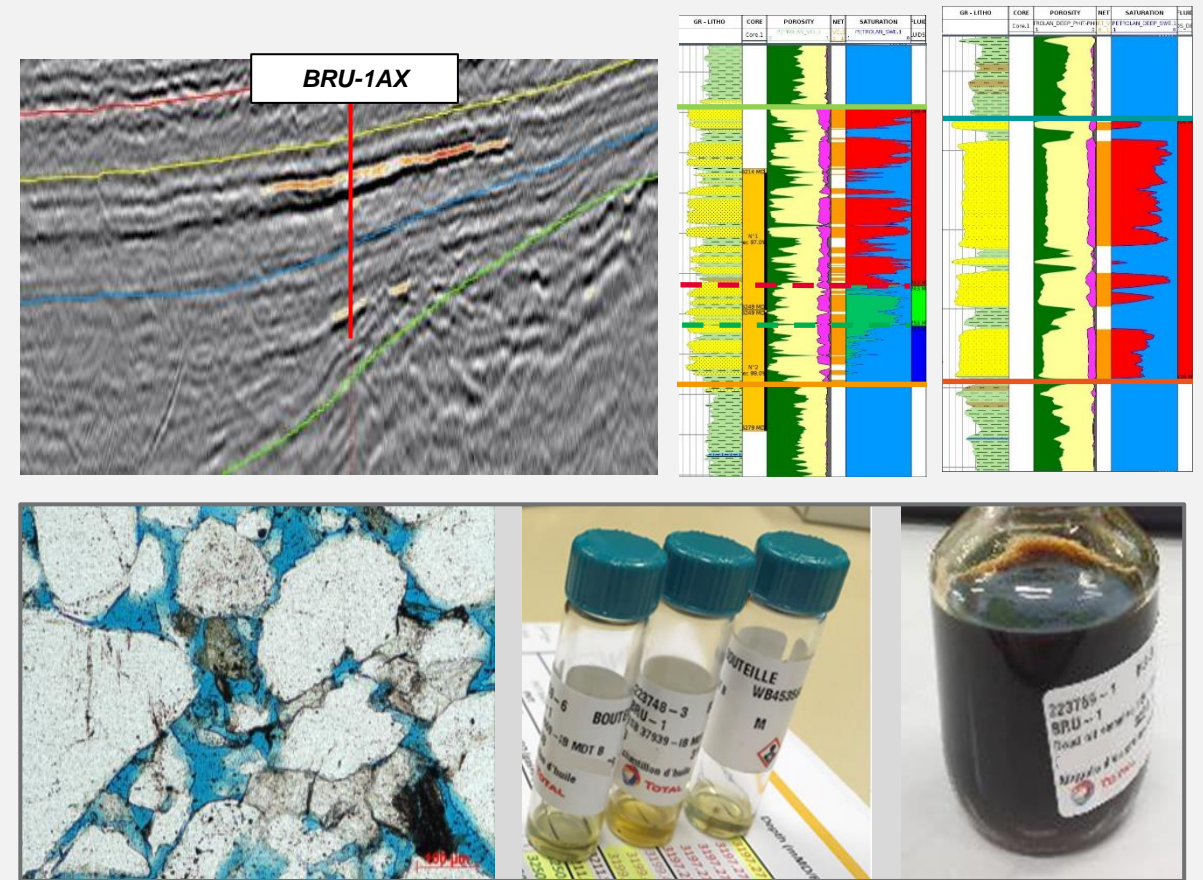
2021

Brulpadda

Play Opening Impact



- Extensive data acquisition to characterize discovery and accelerate E&A plan
- Main Reservoir:
 - Hydrostatic
 - Gas & Condensate with Oil rim and water leg
 - Well developed turbiditic lobes reservoirs
 - Good reservoir and fluid properties
- Deep Reservoir:
 - Slightly overpressured reservoir
 - Gas & Condensate down to base reservoir
 - Well developed turbiditic lobes reservoirs
 - Fair to good reservoir and good fluid properties



Brulpadda Discovery announced in Total Press release, February 5, 2019

**Technical and Operational Success
0 Disconnections, 61 Days, 3% NPT / 4% WOW.**

Beyond Brulpadda

Reactivity & Initial Follow-up - Paddavissie

- Brulpadda-1AX Work Program Acceleration

- Well TD: **Jan 30th 2019**
- 3D First Shot: **Mar 14th 2019**
- Rig negotiations: 2018-2019
- Fast Track Seismic: **June 2019**

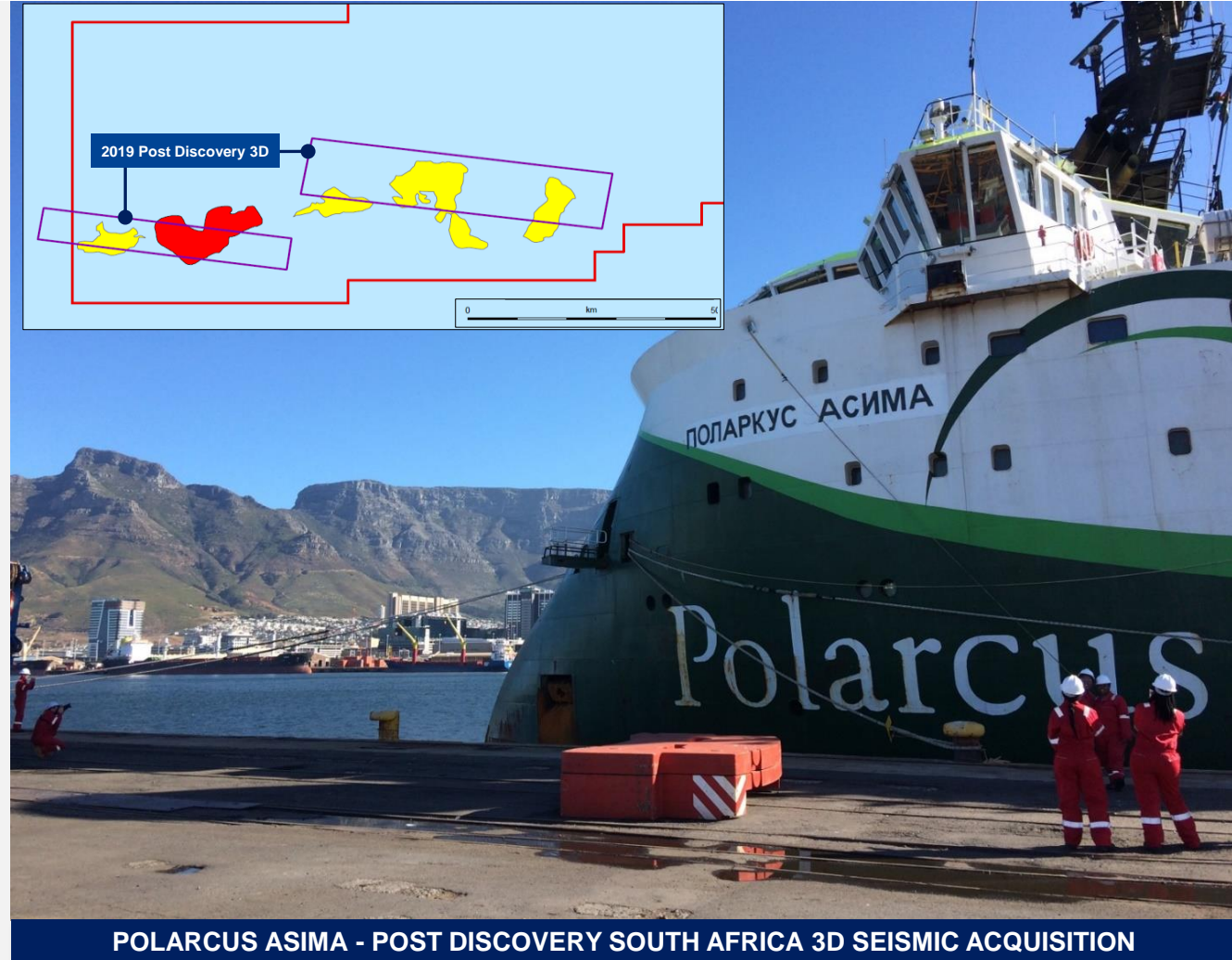


-18 months

- 2019 3D

- 3D Shot acquired over Brulpadda discovery & key prospects
- Prospect derisking, optimization of well placement and work program acceleration

Operational readiness enabled immediate 3D seismic acquisition



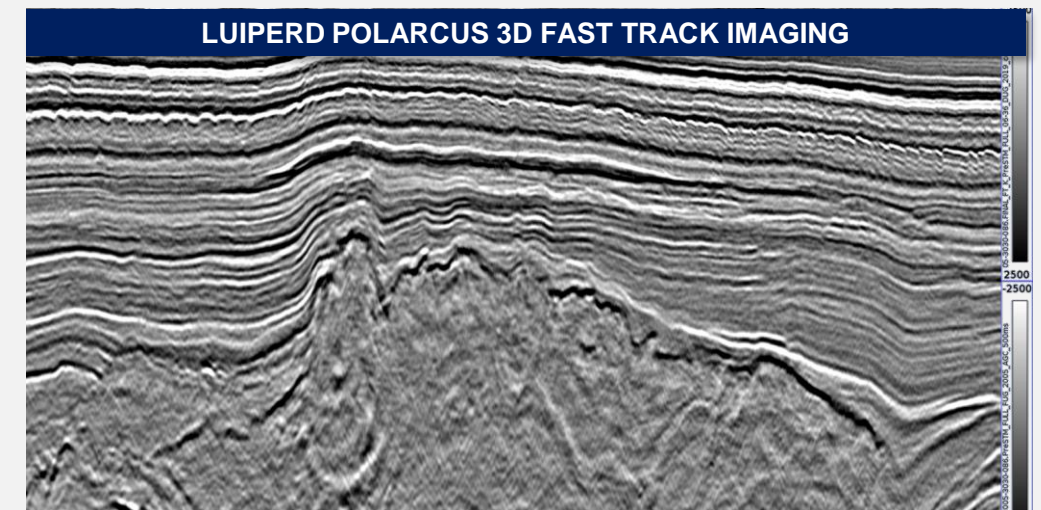
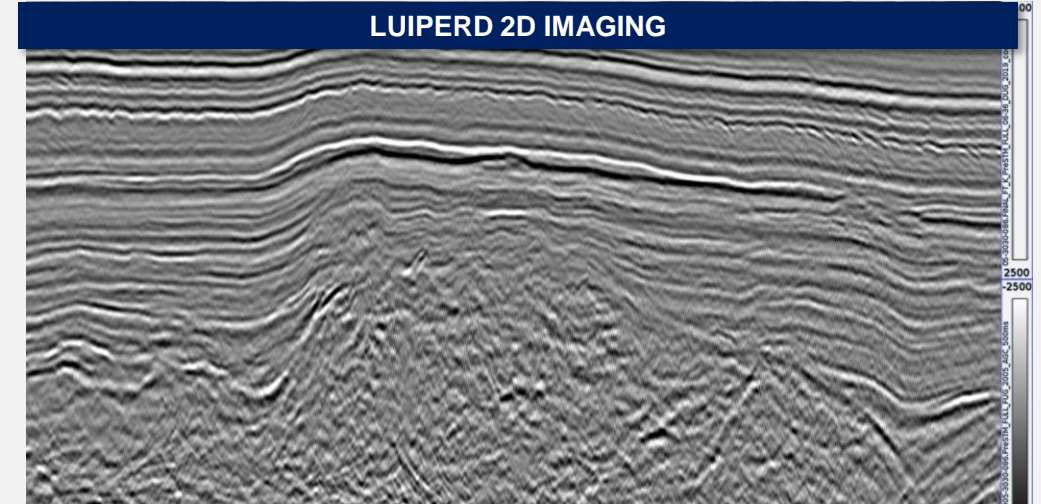
POLARCUS ASIMA - POST DISCOVERY SOUTH AFRICA 3D SEISMIC ACQUISITION

2019 Well & Seismic Integration

Impact & Forward Program Optimization

- Deep-offshore Outeniqua Basin Opened & Paddavissie play derisked
- Improved seismic imaging
 - Prospects well imaged: trap definition and contacts
 - AVO supported plays confirmed with petroelastic model
 - Improved understanding and calibration
- Significant post well studies and integration
 - Efficient thermogenic generative system proven - gas and oil
 - Fluid analysis and PVT
 - Regional basin and reservoir modelling
- Additional Prospectivity Impact
 - Enhanced geological understanding
 - Associated uplift with strong DHI support
 - Further prospectivity illuminated

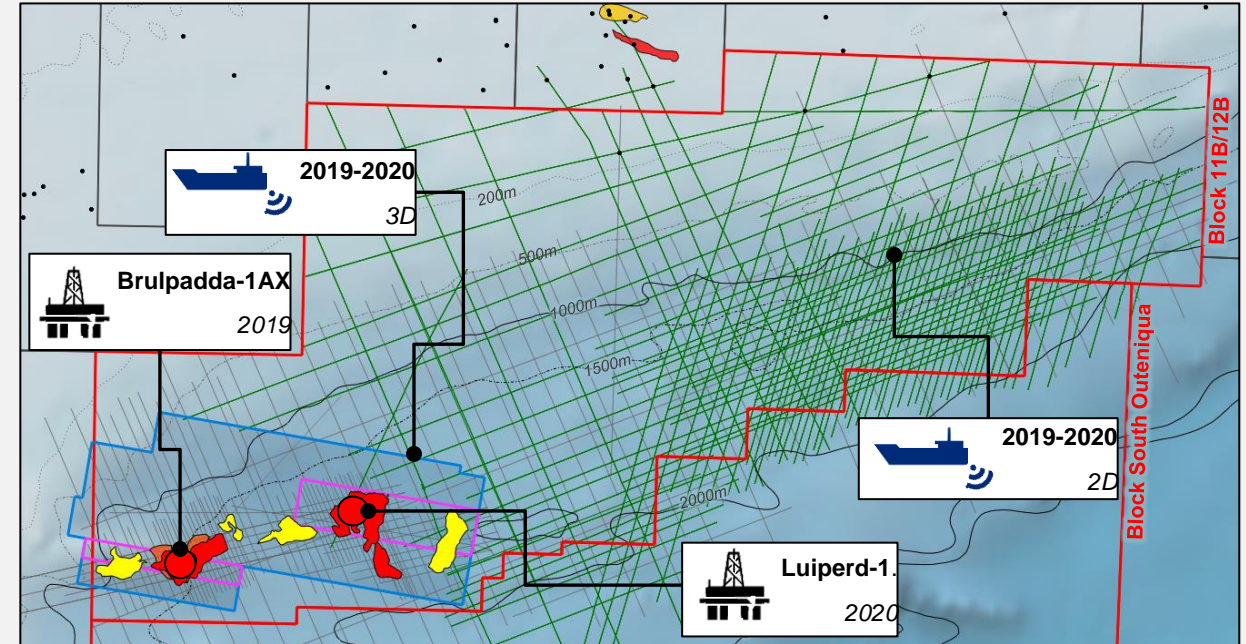
Significant imaging improvement with 3D seismic allowing Luiperd-1X well location optimisation



Operational Acceleration – Building on 2019 Operational Success

2020 Campaign & Multi-play potential and beyond Paddavissie

- Significant operational 2020 program
- Paddavissie Area – Additional 3D Seismic 2875Km²
 - 4 further prospects on trend
 - Strong DHI supported follow-up
 - Greater Paddavissie Play potential identified
 - Extension of Paddavissie Fairway mapped
 - Further prospectivity identified in Neocomian
- Eastern Area – 2D Seismic 7590Km
 - Dynamic acquisition with integration of onboard processing
 - Additional running room
 - Number of plays in post-rift and syn-rift



Extensive seismic acquisitions covering Paddavissie fairway and enhancing prospectivity maturation for full asset coverage

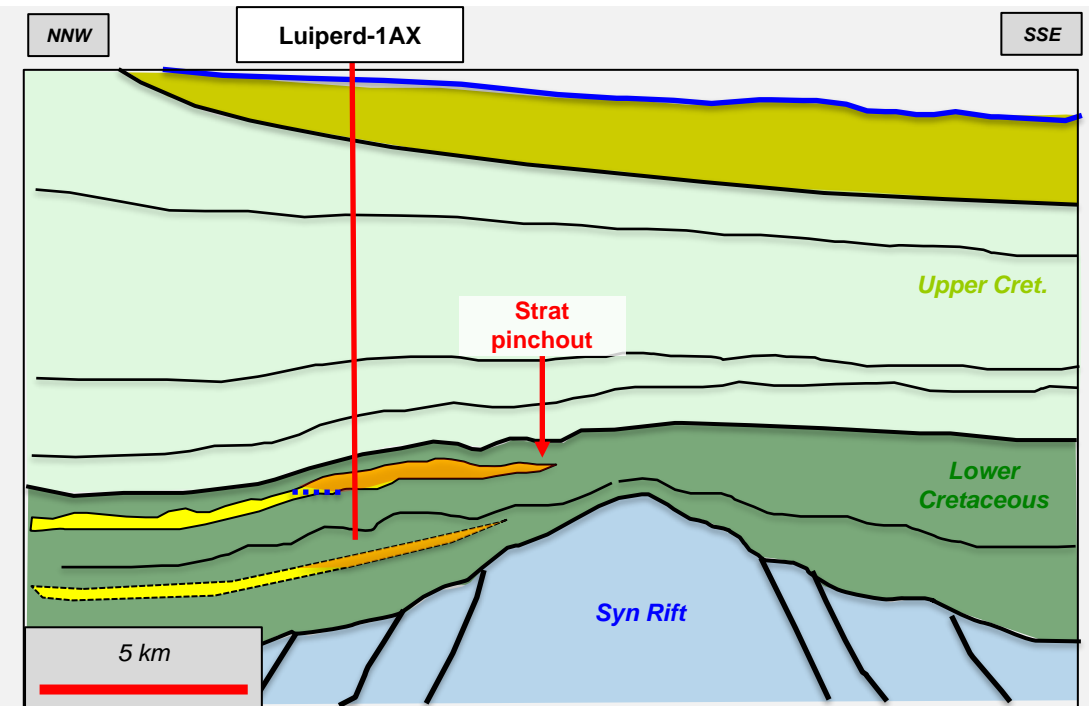
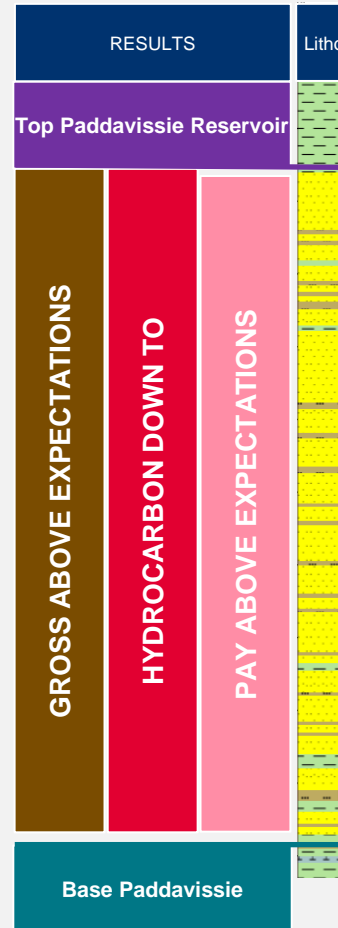


Luiperd-1X

Follow-up, Operational Static & Dynamic success



- Operational success during Austral winter period
- Strong data acquisition effort and dynamic data
- Static Subsurface Results
 - Well developed reservoir: well above prognosis
 - Good petrophysics inline with expectations
- Fluid & PVT Results:
 - Hydrocarbons encountered down to base reservoir in alignment with DHI
 - Gas & Condensate pay significantly above expectations proven at well
- DST Results:
 - Dynamic and connected volume / AOFP above expectations



Luiperd Discovery - Total Press release, October 28, 2020

'Second Significant Gas Condensate Discovery'



Technical and Operational Success
 0 Disconnections, 92 Days, 8% NPT / 8% WOW.

Basin Opening Exploration and Follow-up Readiness

Key Lessons

- Operational strategies and equipment innovations proved effective
 - Environment and engineering, specific solutions
 - Multi-disciplinary project team, mixing meteorology and marine specialists with the operations team
 - Marked improvement of the metocean forecasting
 - Riser restraint system proved robust
 - 25% additional power brought by the tug assist system
- Geoscience & Subsurface team perseverance and collaboration
 - Technical expertise and data integration
 - Multi-disciplinary team and JV / stakeholder collaboration
 - Operational program optimization and flexibility
 - Preparation and readiness

DEEPSEA STAVANGER IN OPERATION ON LUIPERD, 2020.



Success through innovation and technical integration