

## Timor-Leste, Chuditch

Project updates, including  
preliminary seismic interpretation

26 October 2022



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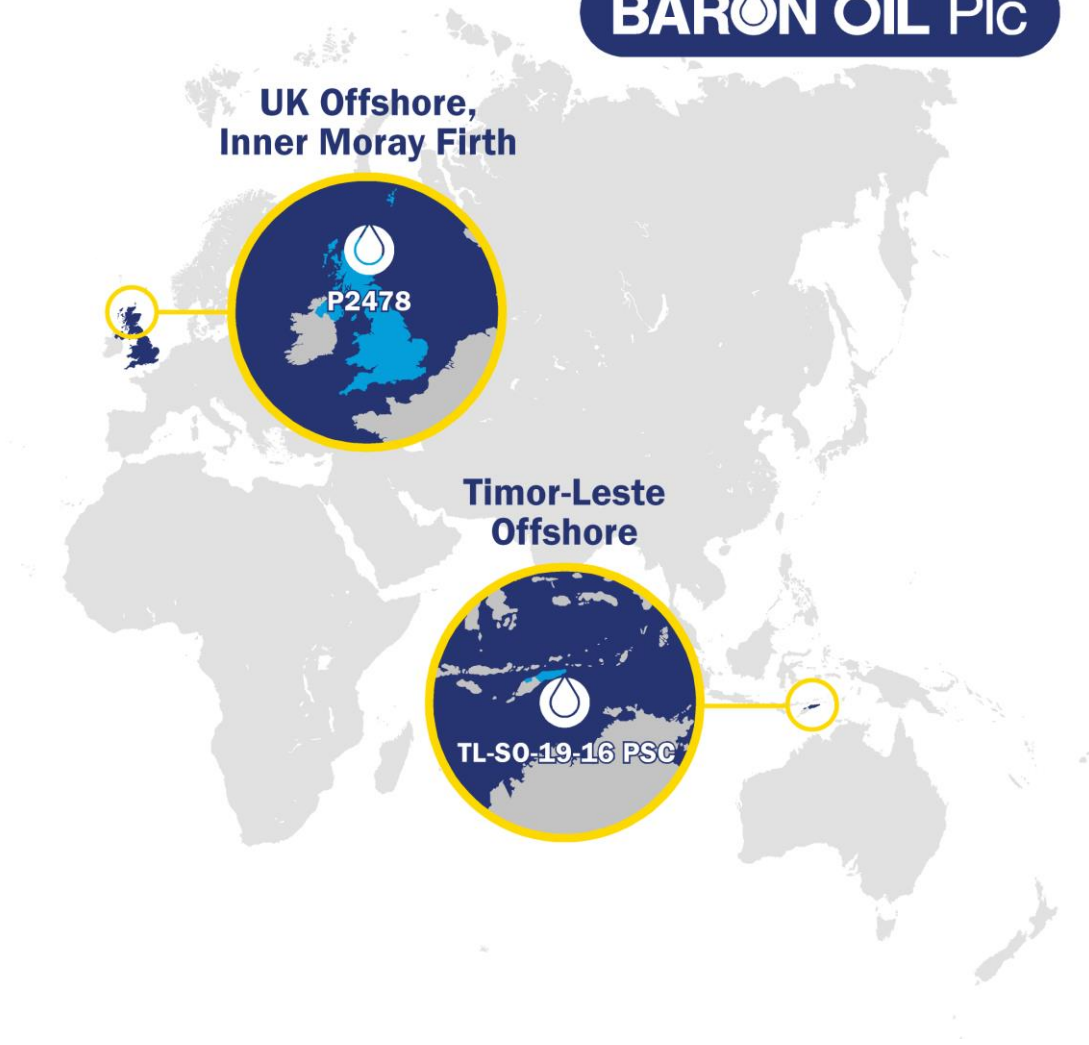
This Presentation contains updated Gas-in-Place and Recoverable Gas Resource estimates compared to the previous independent Prospective Resource estimates by THREE60 Energy (the “2021 Report”, 14 July 2021). The technical information and resource reporting contained in this Presentation has been reviewed by Jon Ford BSc, Fellow of the Geological Society, Technical Director of the Company. Mr Ford has more than 40 years’ experience as a petroleum geoscientist. He has compiled, read and approved the technical disclosure in this Presentation and indicated where it does not comply with the Society of Petroleum Engineers’ SPE PRMS standard.

The Gas-in-Place and Recoverable Gas Resource information in this Presentation supplements the previous SPE PRMS compliant 2021 Report. However, the Gas-in-Place and Recoverable Gas Resource information in this Presentation has not been prepared to the standards set forth in the SPE PRMS or in accordance with an appropriate Standard as set out in the AIM Note for Mining and Oil and Gas Companies. The updated Gas-in-Place and Recoverable Resource estimates included in this Presentation are not directly comparable to those in the 2021 Report or those required under SPE PRMS. A Competent Person’s Report that has been commissioned by the Company will be SPE PRMS compliant.



# Webinar Highlights - Focus on Timor-Leste

## BARON OIL Plc



### • Technical Updates

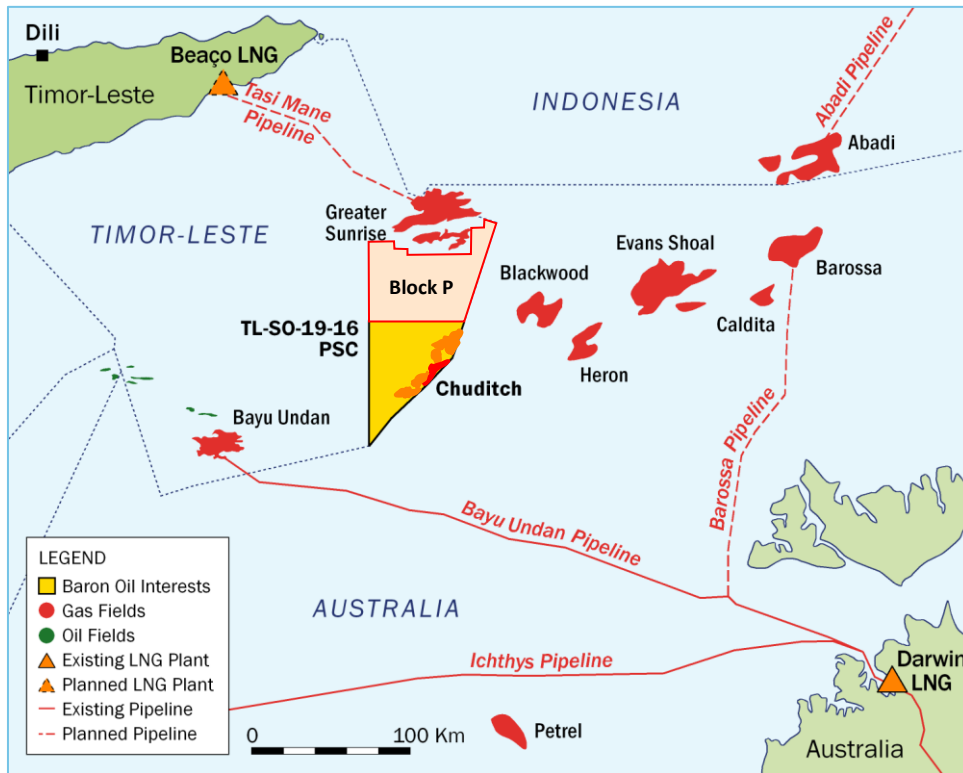
- 3D seismic reprocessing completed
- considerable uplift in data quality
- interpretation ongoing but indicating ...
  - ... 89% increase in estimated Chuditch-1 recoverable gas
  - ... 24% increase in estimated overall on-block recoverable gas
  - ... subsurface risk reduced
- refining design and preparations for appraisal drilling

### • Commercial Updates

- extension granted to current PSC Contract Year
- maturing understanding of gas commercialisation options
- ERCE engaged to provide CPR
  - independent validation of resources to SPE PRMS standard
  - reservoir engineering services
  - management anticipates assignment of Contingent Resources
- farmout campaign accelerating



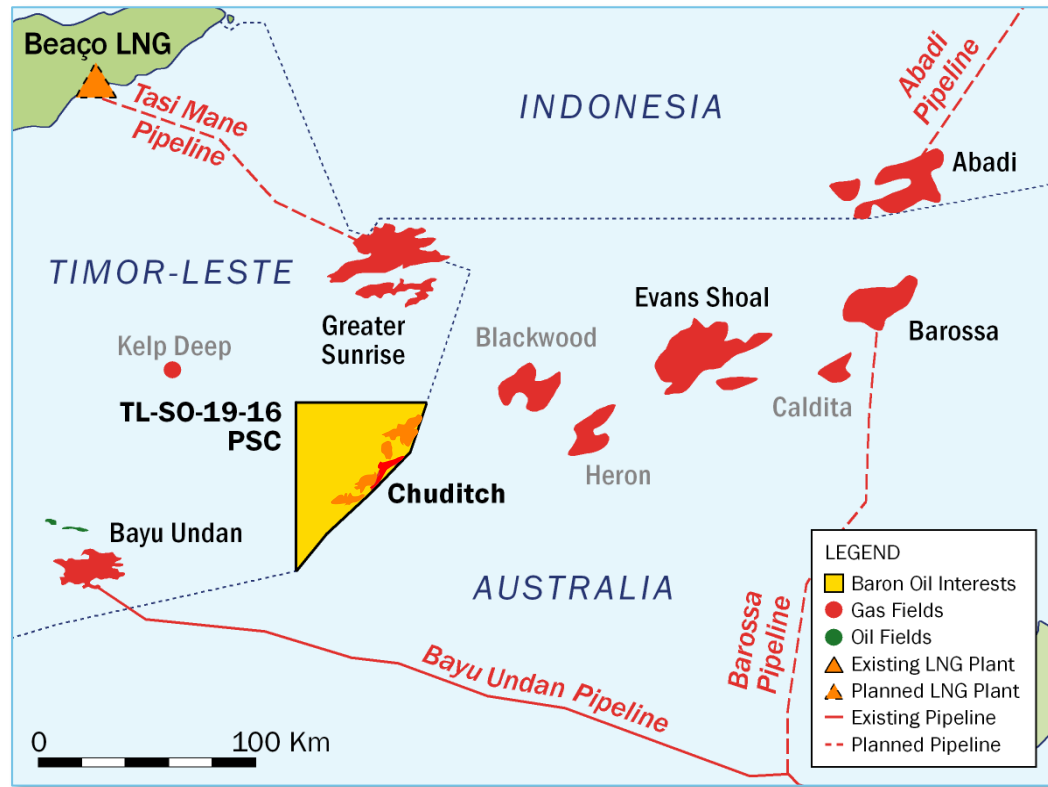
# Chuditch: A key gas asset in a rapidly evolving commercial arena



- **TIMOR GAP acquired 56.56% of Greater Sunrise**
  - Ongoing negotiations with operator Woodside
- **Santos acquired COP assets for \$1,265mm**
  - Bayu Undan
    - decommissioning starts in 2022, conversion to CCS facility
  - Barossa
    - FID taken in 2021, planned first gas 2025
    - possible delays following Federal Court ruling in September
  - Darwin LNG
    - upgrades and facility life extension to 2050
- **Santos and Eni – Timor Sea co-operation MOU**
- **Eni awarded Block P, adjacent to Chuditch, in 2022 bid round**
- **INPEX and Santos groups awarded Australian CCS acreage**



# Background to Chuditch gas

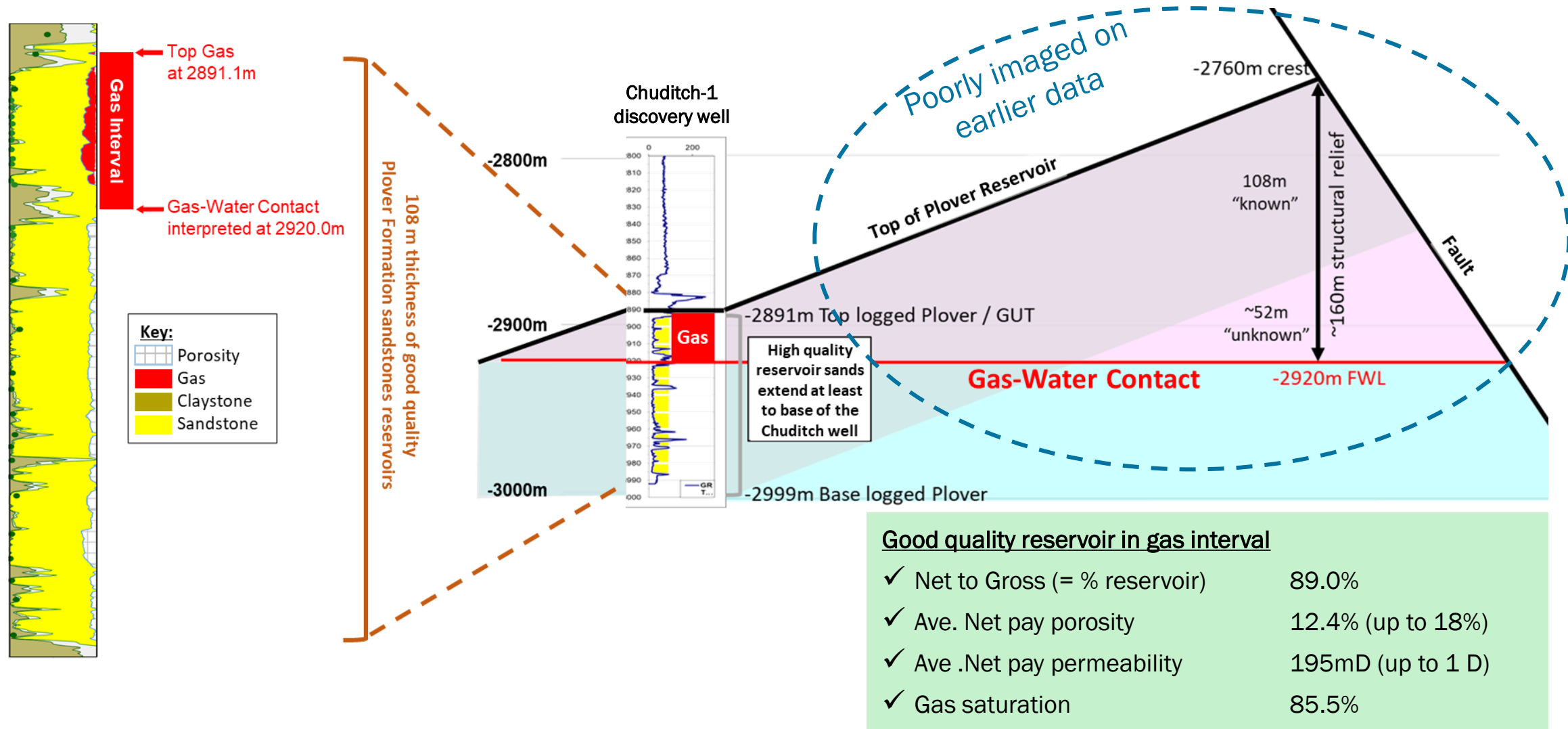


- **TL-SO-19-16 PSC, offshore Timor-Leste**
  - 75% SundaGas Banda UL (wholly owned Baron subsidiary)
  - 25% TIMOR GAP Chuditch (state owned, carried to first gas)
- **Chuditch is a key discovery on prolific gas fairway**
  - discovered by Shell in 1998 in 65m water
  - >25m net gas in excellent Jurassic 'Plover' reservoirs
  - field was previously estimated at c.700 Bcf of recoverable gas
  - ...with four further adjacent prospects and leads identified
- **Evaluation status**
  - 1,270 km<sup>2</sup> 3D seismic reprocessing complete
  - ongoing interpretation and resource updates
  - preparing for appraisal drilling from 2023
  - targeting a fast-track LNG development pathway
  - ongoing close liaison with government and regulator



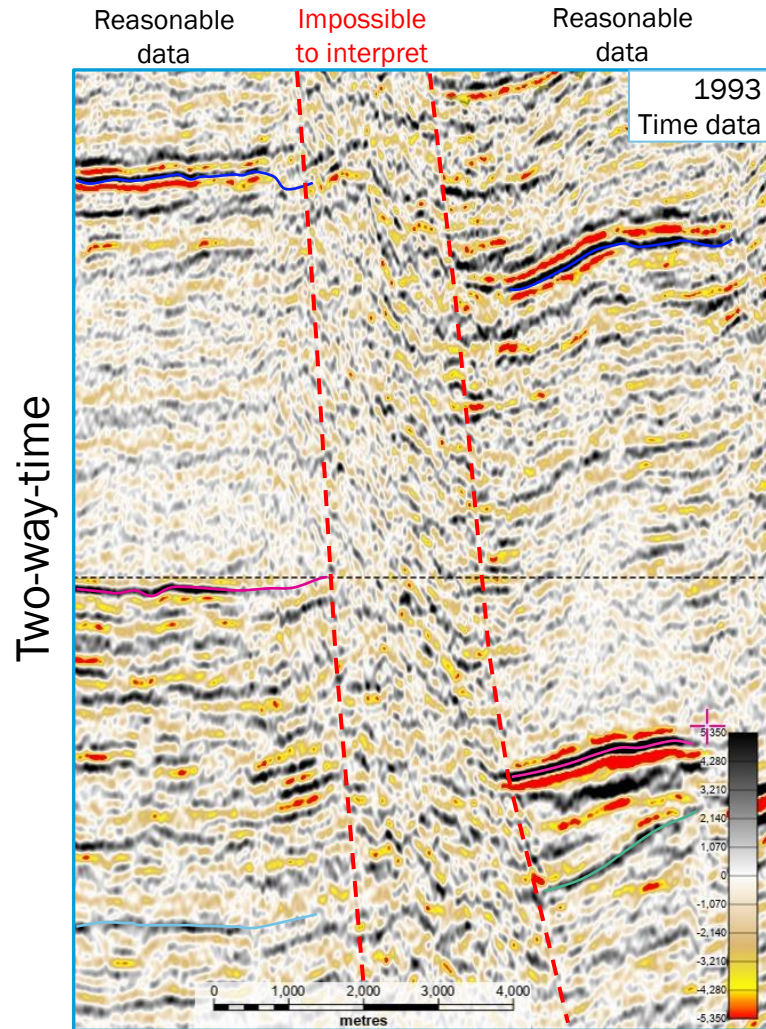


# Chuditch-1 unlocked large gas potential

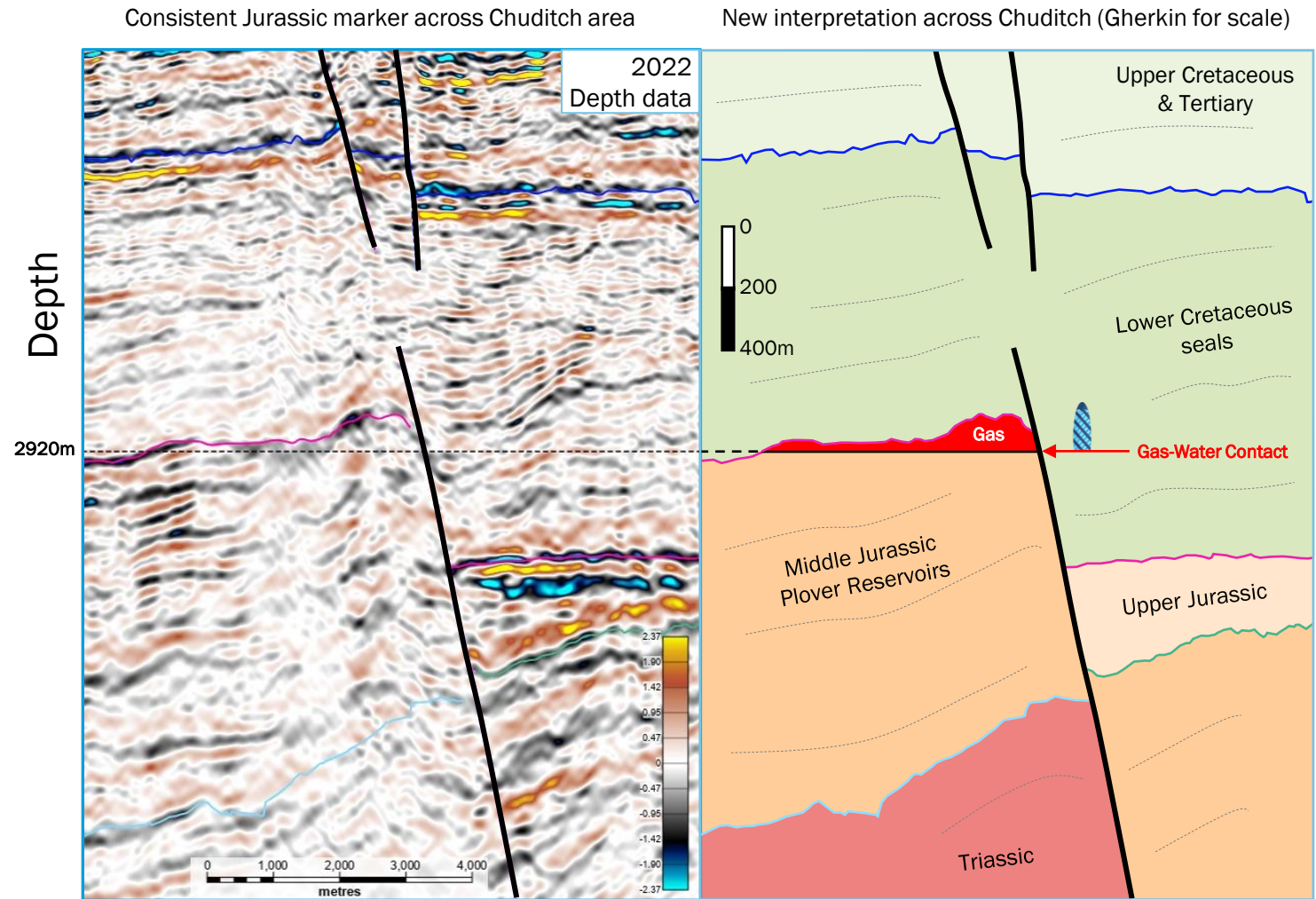


# Seismic Reprocessing: What has been achieved...?

The data Shell had available...



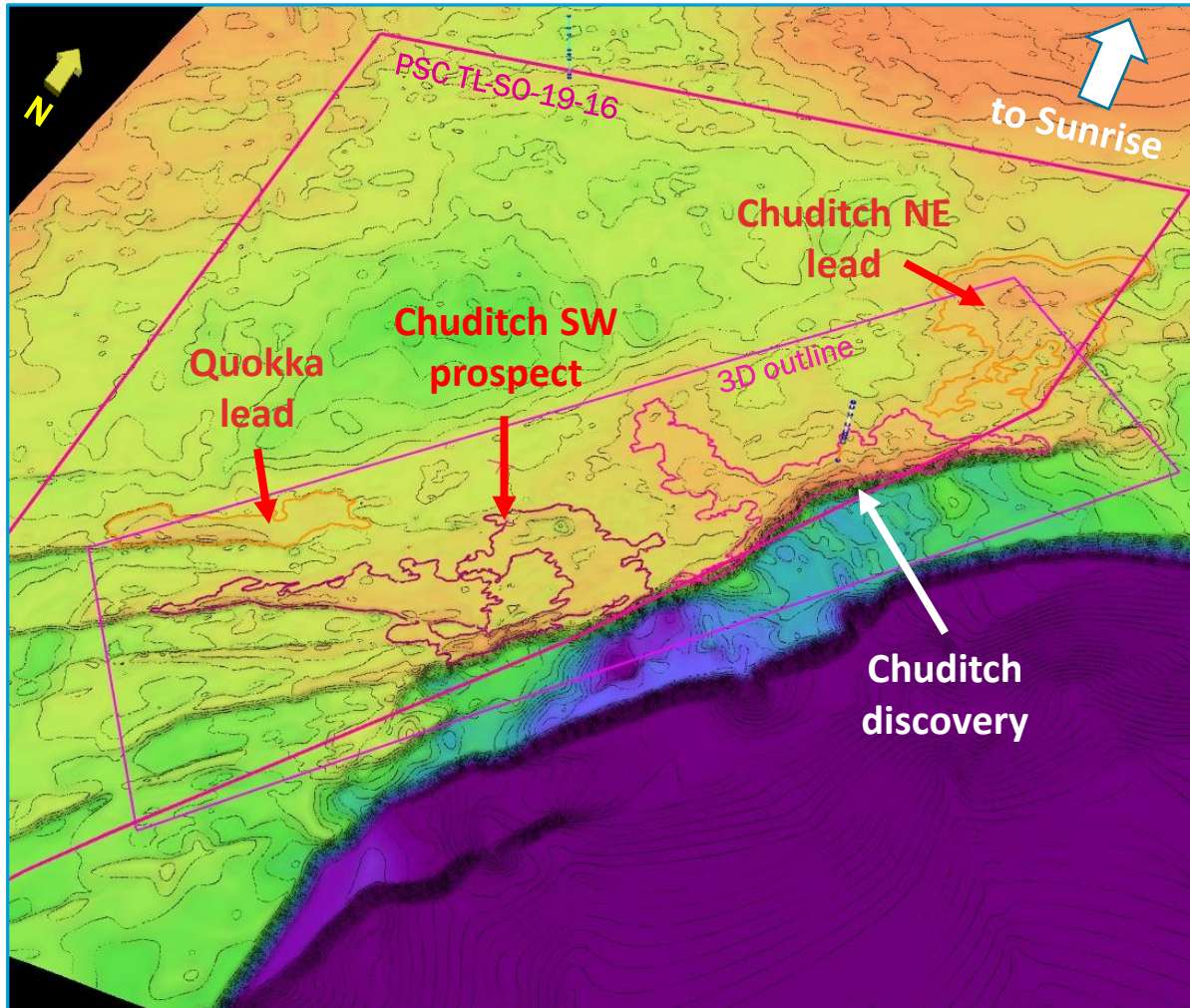
...and the new 3D PSDM data that enables Chuditch to be imaged





# New Chuditch structures starting to emerge

Provisional Plover Reservoir Depth Map (2D & 3D areas)



## Chuditch-1 Discovery *(fully inside 3D)*

- simplified, robust structure
- increased “in-place” gas, good recovery expected
- Chuditch West prospect has merged into field area

## Chuditch SW Prospect *(fully inside 3D)*

- lower relief structure, several culminations
- larger “in-place” gas but lower recovery expected

## Chuditch NE Lead *(partly inside 3D)*

- area within 3D looks robust and relatively simple
- integration of area outside 3D ongoing, encouraging

## Quokka Lead *(partly inside 3D)*

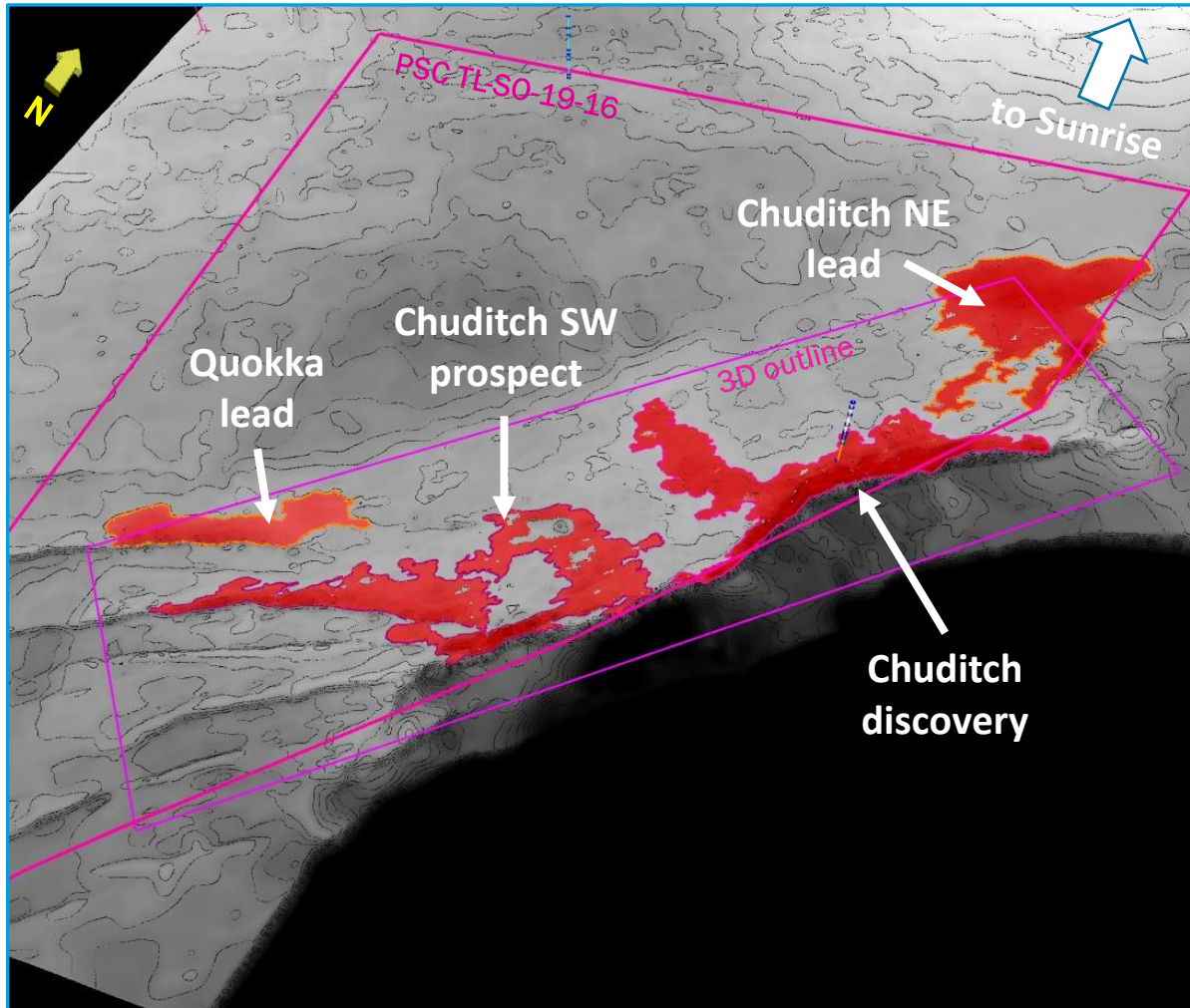
- previous 2D lead area, now high graded
- simple faulted structure, good recovery expected





# Preliminary Resource estimates from 3D PSDM mapping

Provisional Plover Reservoir Depth Map (2D & 3D areas)



- Preliminary 3D interpretation demonstrates...
- ...increased aggregate gas volumes
- ...concentration of resources into discovery
- ...better definition and lower risk in 2D based leads

	Previous Resource Report Probabilistic Best Cases <sup>1</sup> Gross Attributable to Licence (Bcf)			Provisional in-house Deterministic Best Case Resource Estimates <sup>2</sup> Gross Attributable to Licence (Bcf)			
Status	Gas-in-Place <sup>2</sup>	Recovery Factor	Prospective Resource <sup>2</sup>	Gas-in-Place <sup>2, 3, 4</sup>	Recovery Factor	Recoverable Gas <sup>2, 3, 4</sup>	% increase
Chuditch-1	951	75%	713	1,800	75%	1,350	89%
Chuditch W	540		405	merged into Chuditch-1 discovery			n/a
Chuditch N	473		355	not present on improved data			n/a
Chuditch NE <sup>5</sup>	1,293		970	1,950	67%	1,300	34%
Chuditch SW	642		482	1,150	50%	575	19%
Quokka <sup>5</sup>	not evaluated			600	67%	400	n/a
Aggregate	3,899	75%	2,924	5,500	65.9%	3,625	24%

## Notes

1: Volume estimates use definitions and guidelines set out in the 2018 Petroleum Resources Management System prepared by the Society of Petroleum Engineers (SPE PRMS 2018)

2: Not SPE PRMS 2018 compliant

3: Condensate yield not included

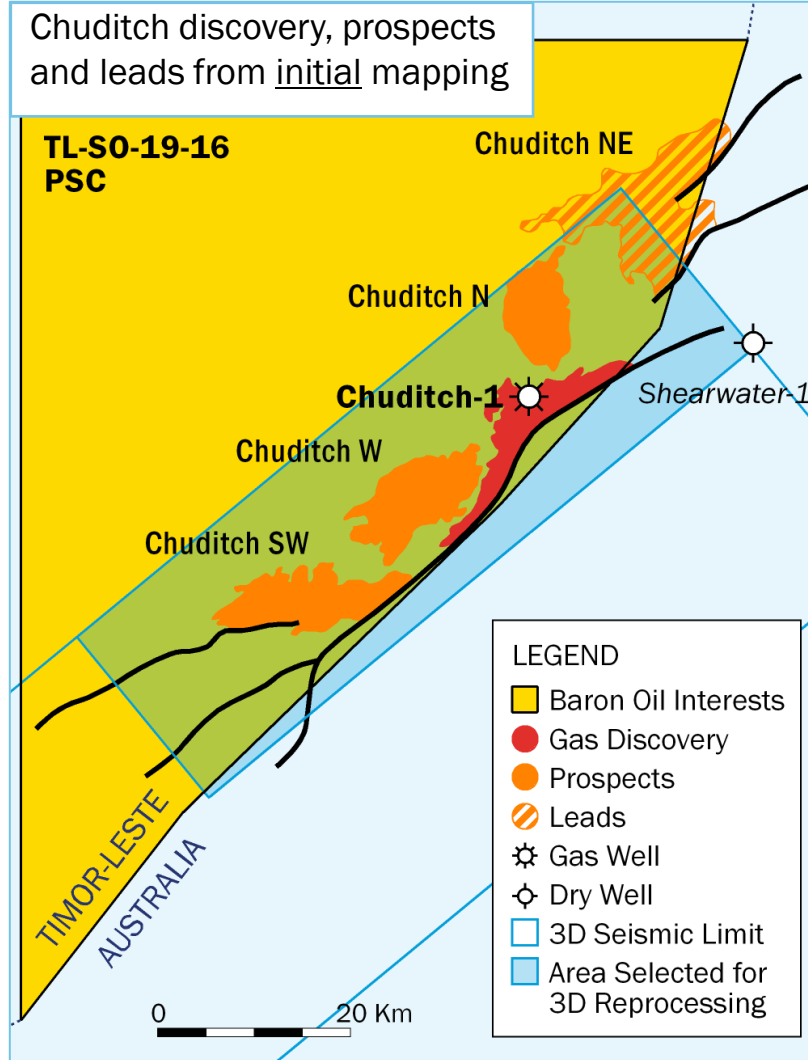
4: Rounded deterministic technical best cases (in Bcf)

5: Chuditch NE & Quokka: partial 3D coverage only

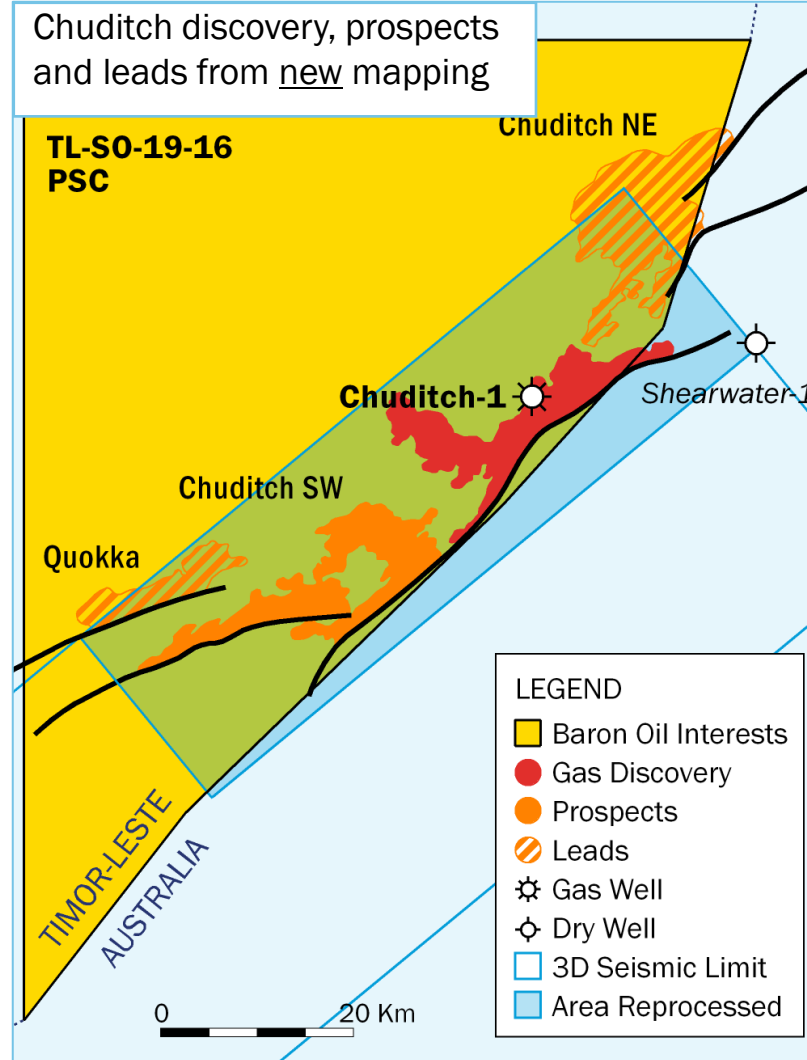


# Chuditch: What difference has the new data made?

Chuditch discovery, prospects and leads from initial mapping



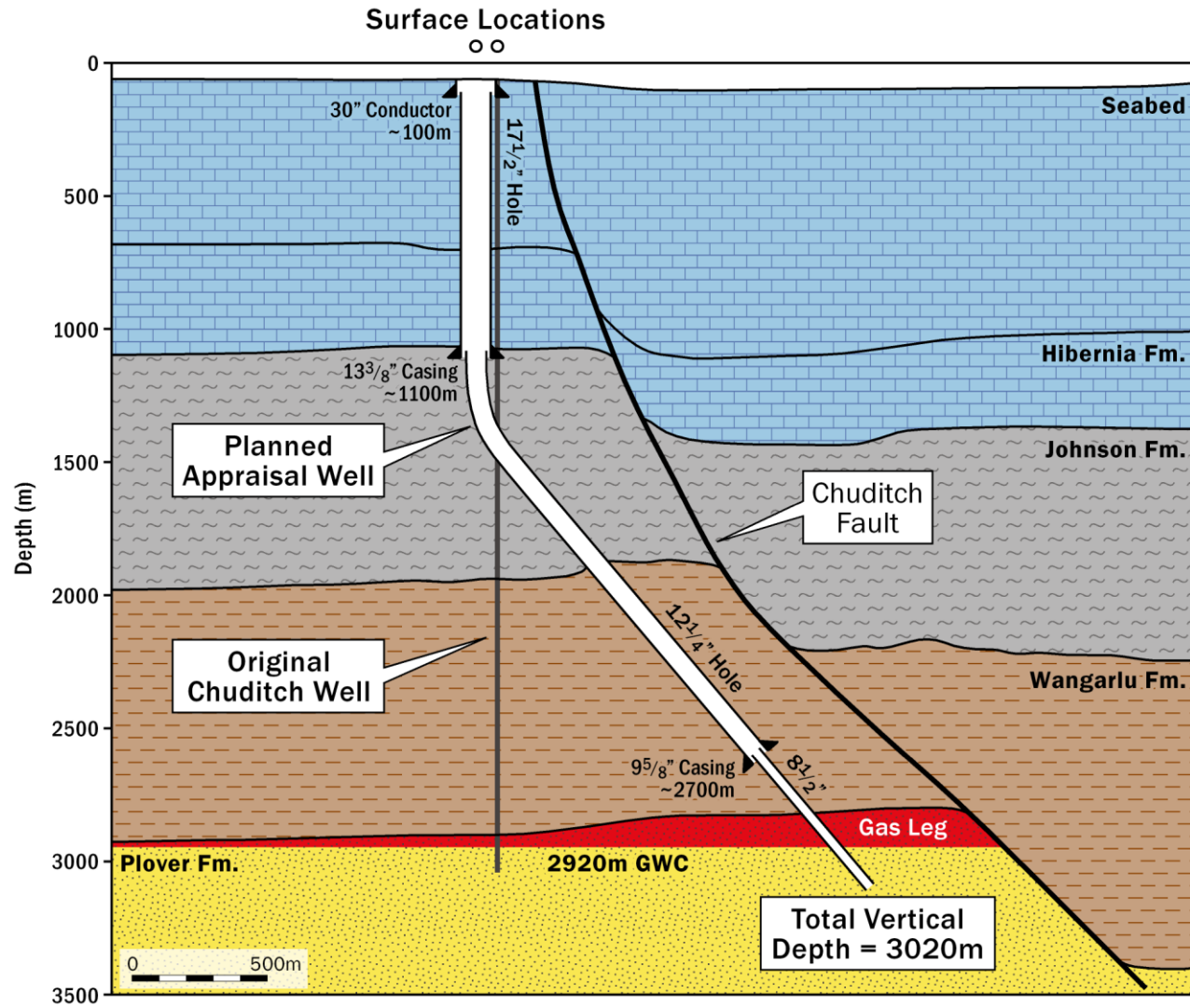
Chuditch discovery, prospects and leads from new mapping



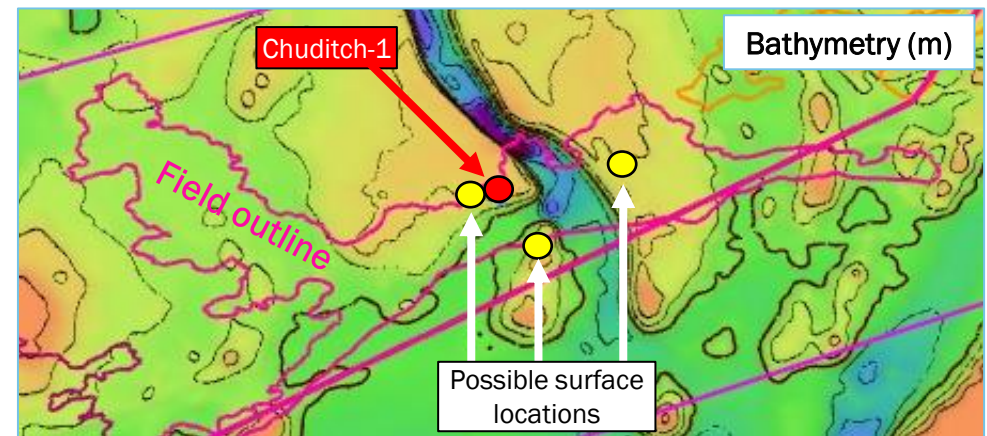
- Preliminary conclusions are highly encouraging...
  - 3D reprocessing was successful
  - Chuditch field has materially increased in size...
  - ...and is significantly de-risked
  - Chuditch appraisal expected to test >1.3 Tcf recoverable gas
  - would be commercial and require fewer development wells
  - adjacent prospectivity has evolved but is proving robust
  - updated recoverable resource expectations across PSC >3.6 Tcf
  - 3D across Chuditch NE lead will be required after successful Chuditch appraisal well



# Preliminary design for a Chuditch appraisal well

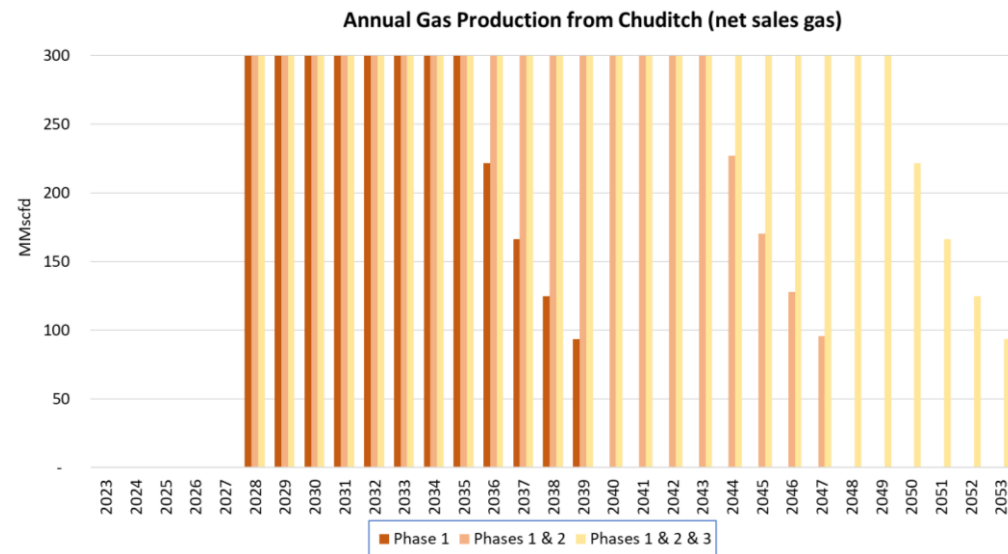
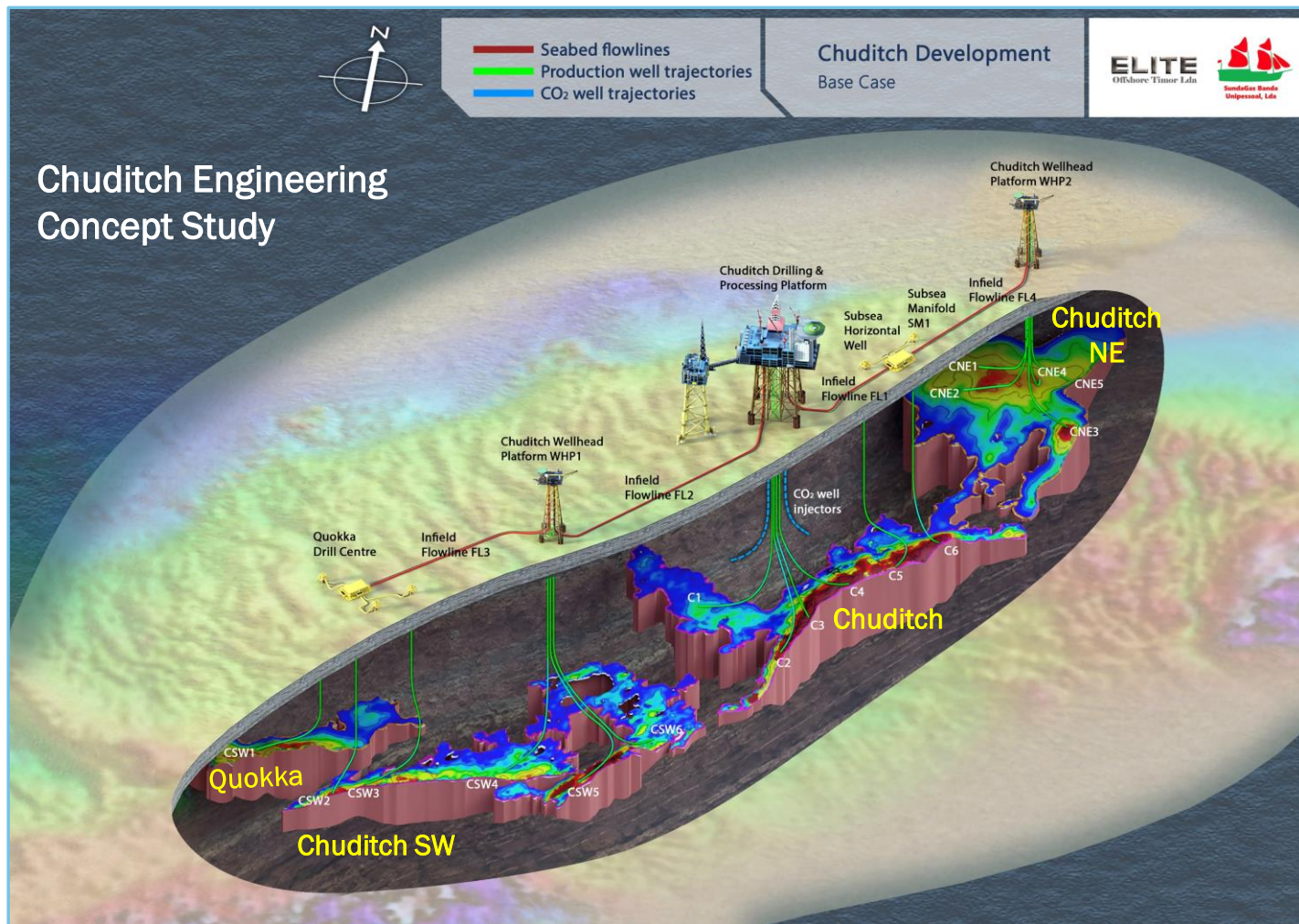


- Appraisal drilling anticipated from 2023 onwards
- Preliminary well design study completed
  - original vertical well missed up dip gas zone
  - well path to be refined on final 3D data
  - several shallow water surface locations possible
  - target c.150m gas column, >1.3 TCF resource
  - plan to flow test well to prove commerciality
  - back-to-back exploration well unlikely to be needed
  - well cost estimate US\$24m including test \*





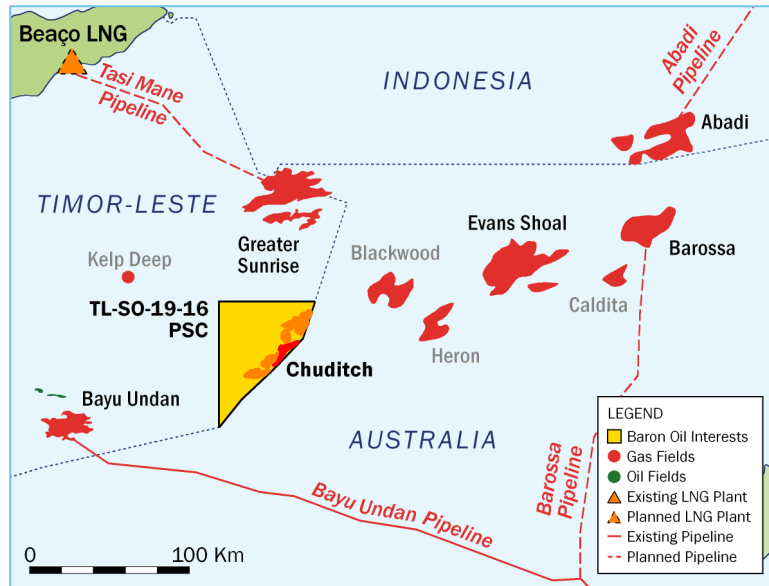
# How could Chuditch be developed?



- New mapping implies simpler development possible
- Plateau of c.300 MMscfd of sales gas assumed (i.e., net of CO<sub>2</sub> and fuel) to optimise export options
  - Equivalent to approximately 2.0 MMtpa of LNG
- Three cases assumed, all for first gas in 2028
  - Phase 1 = Chuditch six development wells
  - Phase 2 = Chuditch NE
  - Phase 3 = Chuditch SW and Quokka

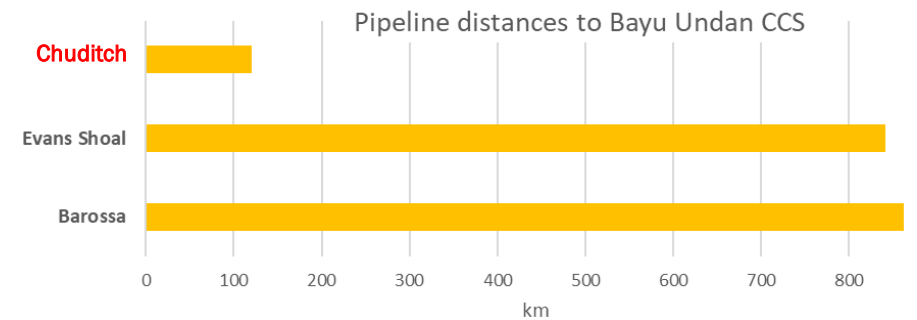
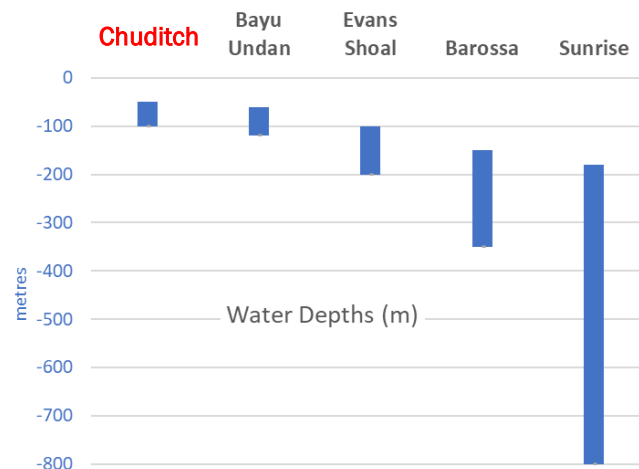
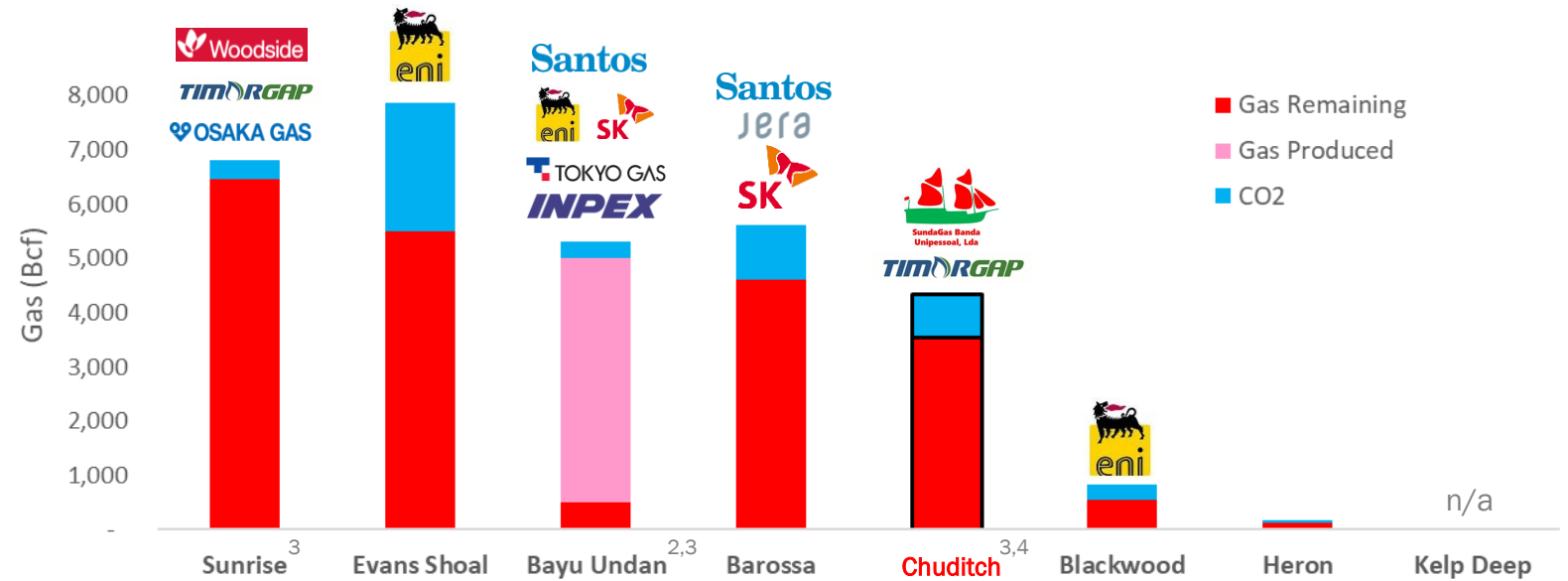


# Why Chuditch gas can move to fast-track development pathway



## • Chuditch uniquely has all of...

- ... a PSC in force;
- ... no cross-border issues;
- ... host country support;
- ... multi-TCF gas resources;
- ... excellent reservoirs;
- ... shallow water;
- ... plan for CCS



# Where will it go? Potential export options for Chuditch gas

- Pipeline to LNG

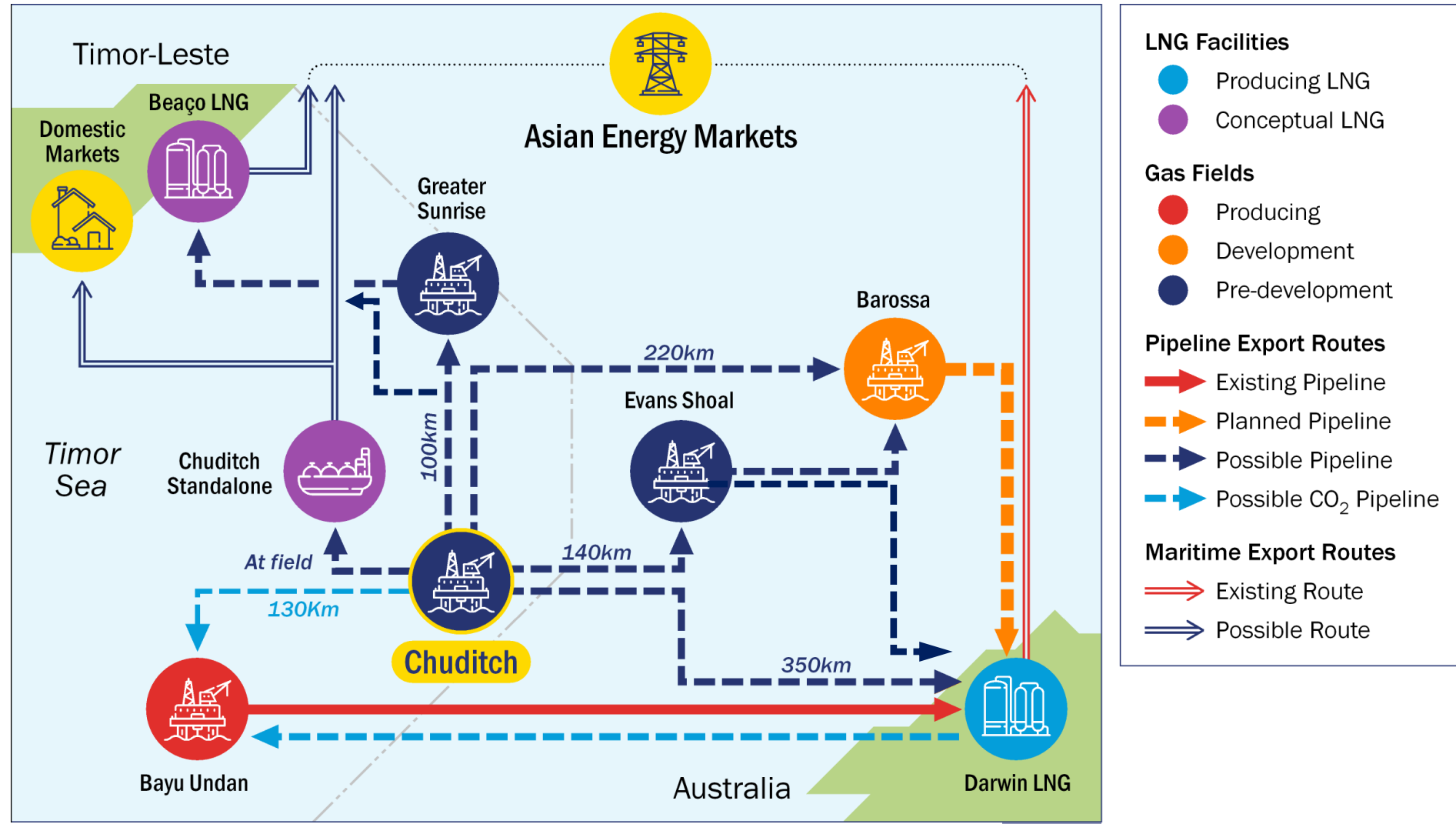
- 1) Beaçó LNG  
(via Sunrise or direct)
- 2) Darwin LNG  
(via multiple routes)

- Standalone

- 1) Floating or Platform LNG  
(or hybrid)
- 2) CNG possible alternative

Chuditch CO<sub>2</sub> expected to be re-injected into aquifer or exported to Bayu Undan

Aspire to achieve net zero LNG through long term supply arrangements with buyer that has effective Scope 3 strategy

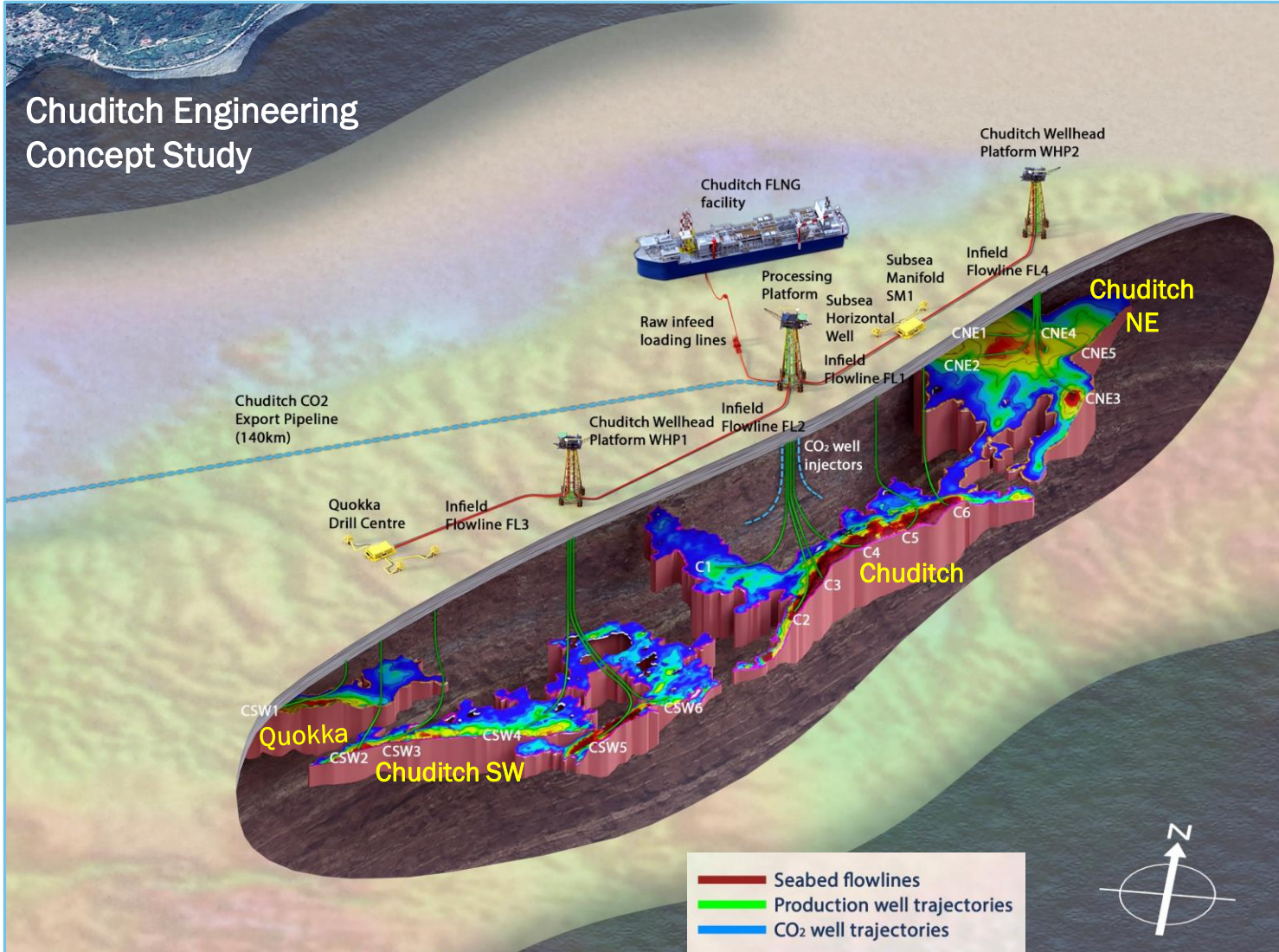


Source: Baron





# Fastest Development and Export option: Hybrid FLNG

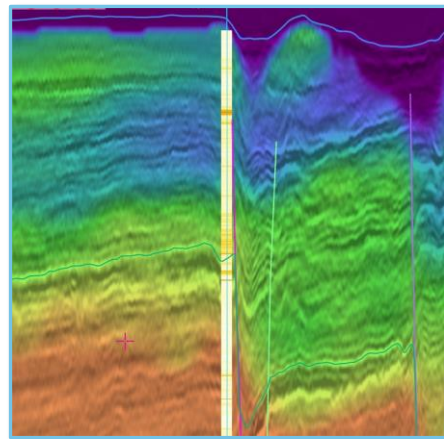
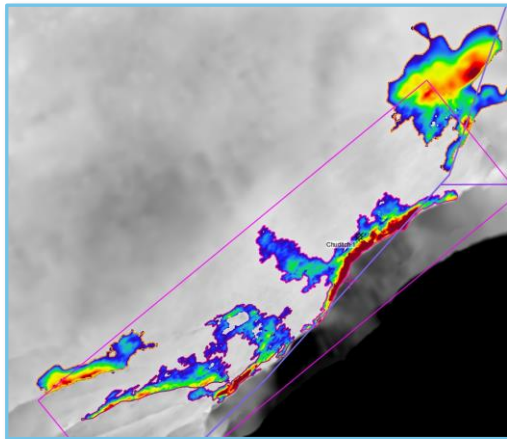
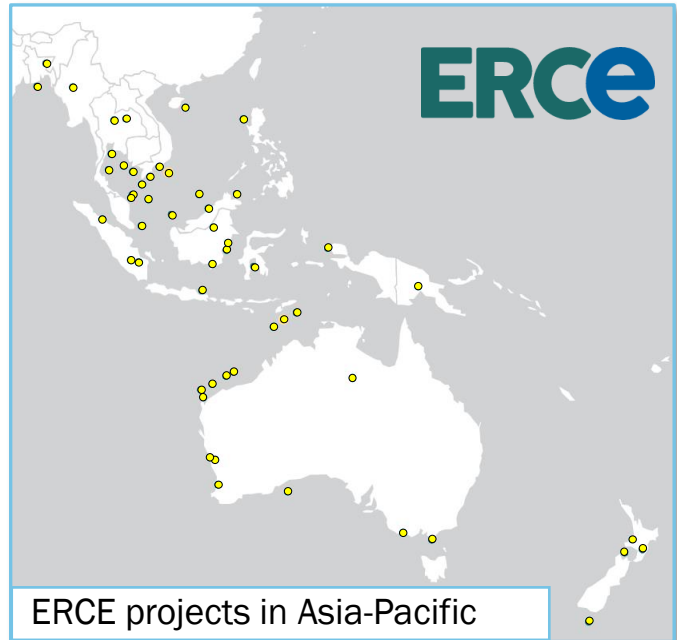


- Opportunity: Expedited development
  - hybrid Floating / Platform LNG
  - no long pipelines or border crossings
  - in situ gas and condensate processing
  - leverage shallow water to place some facilities on modular platforms
  - CO<sub>2</sub> reinjected as CCS, with alternative option for export to Bayu Undan CCS
  - phased development scheme from 2028
  - possibilities to rapidly deploy FLNG
  - financing flexibility

Petronas FLNG Satu



# Competent Person's Report

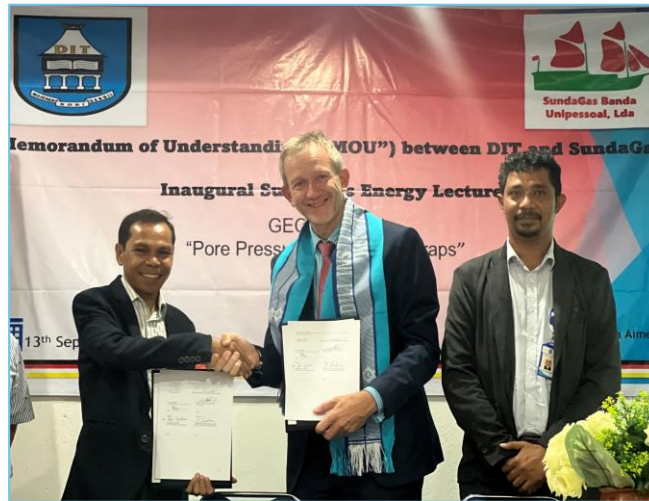


- ERCE engaged to prepare CPR for Chuditch
  - highly regarded technical auditor
  - extensive experience, including in Timor-Leste
  - independent validation of resources to SPE PRMS standards
  - Management anticipates assignment of Contingent Resources on Chuditch-1 discovery
  - scope includes reservoir engineering
  - evaluation has commenced
  - working in parallel with internal interpretation and integration





# Committed ESG Initiatives in Timor-Leste



- Building a reputation in Timor-Leste for commitment to developing partnerships and launching initiatives that assist in capacity building in the energy sector
  - established a meaningful presence in country
  - mentoring and training junior local staff
  - attempting to maximise local content
- knowledge sharing with university geoscience and engineering departments (MOU with DIT)
- sharing training programmes with TIMOR GAP
- participating in collaborative events with the Institute of Petroleum Geology



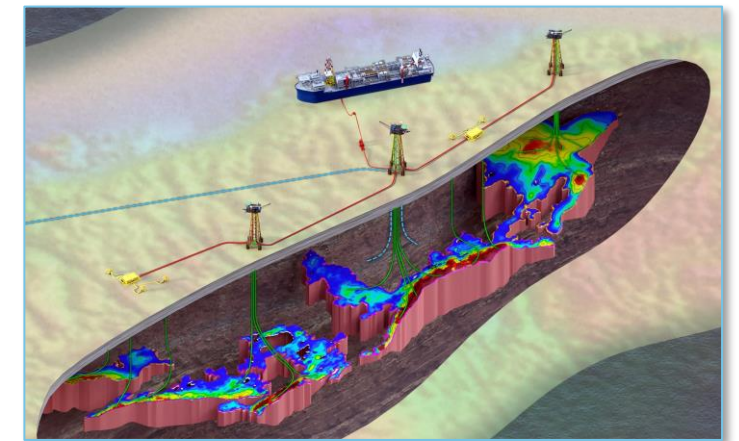
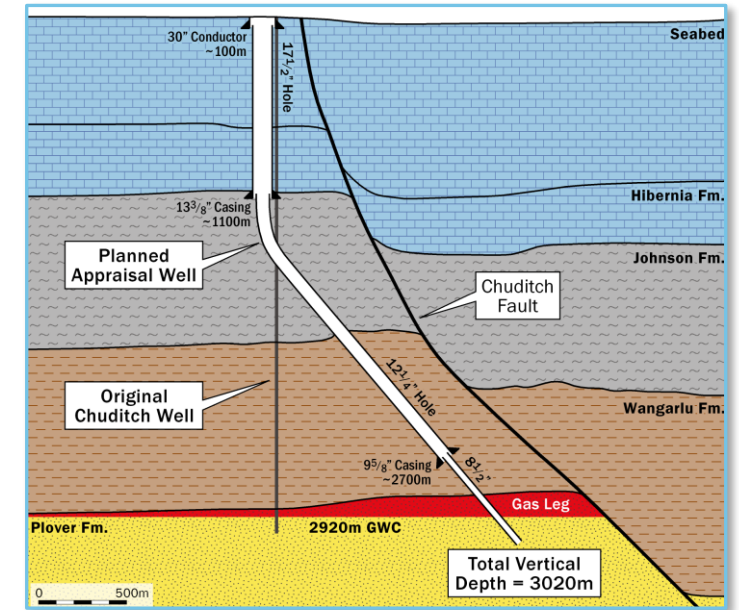
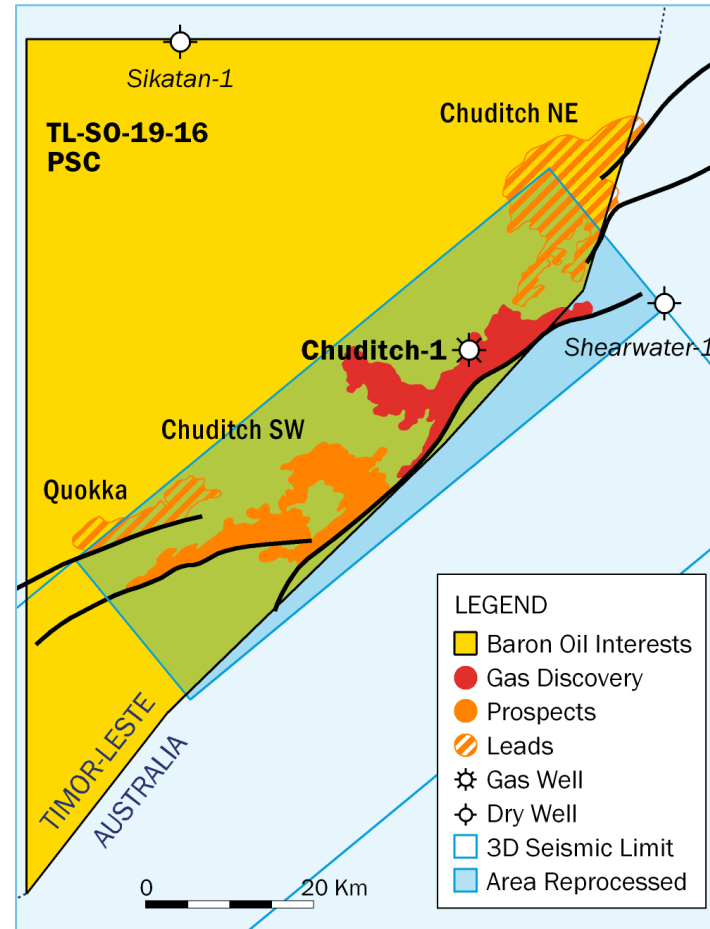
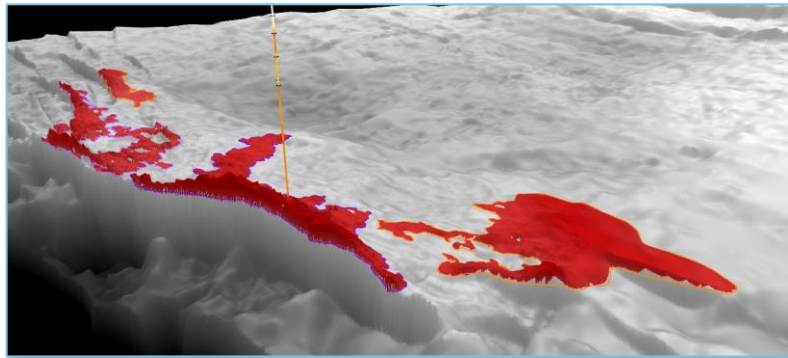
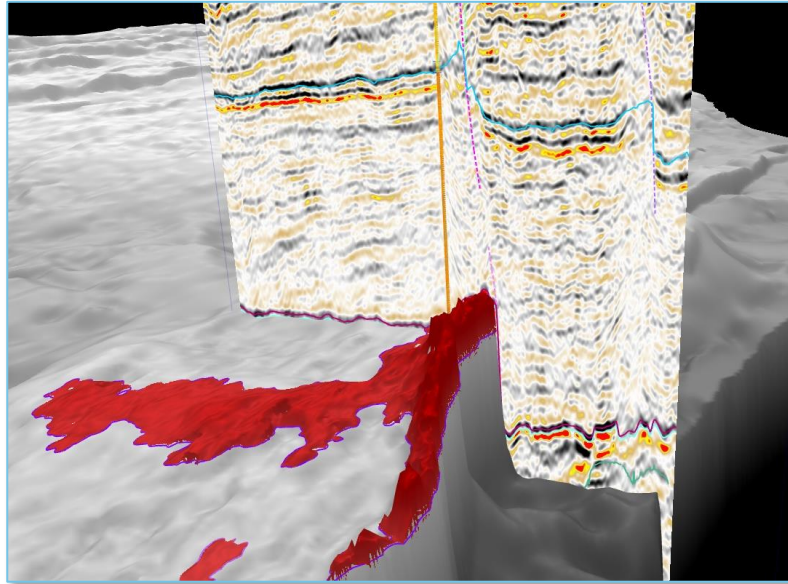


# Key Messages

- Successful 3D seismic reprocessing programme delivered
- Increases Recoverable Resource estimates
  - LNG-scale resources
- Chuditch-1 discovery de-risked and materially larger
  - likely commercial post-appraisal drilling
  - management anticipates Contingent Resources on Chuditch-1
  - prospects and leads portfolio also appears robust
- Targeting appraisal drilling in 2023 onwards
- Robust project economics for delivery to Asian gas markets
- Fastest development and export option: Hybrid FLNG
  - Simpler, phased development concept
- Farmout campaign accelerating



# Q&A Session



## Appendix

### Supplementary materials and Glossary





# Asia's energy transition and the importance of Gas (LNG)

## According to Shell\*...

- A sustained supply-demand gap for LNG is predicted to emerge from 2025 onwards
- Production up from 380 MMtpa to 700 MMtpa by 2040; Asia consumes majority of growth

## ARUP points to\*\*...

- Rapid growth in energy demand across Asia as LNG becomes the fuel of choice
- Japan and Korea have long relied on LNG for energy security and power generation
- China, India, Indonesia, Philippines, Thailand, Vietnam & Bangladesh following suit
- LNG lends itself well to geographies where population hubs are widely spread
- Renewables increasing but Asia's need for large-scale generating capacity is immediate

## \*\*\*LNG Prices (JKM)/MMBtu for Delivery

Nov 2022	US\$34.3
Dec 2022	US\$33.3
Jun 2023	US\$40.9
Dec 2023	US\$44.9

10 Year Av. Aug 2022 US\$13.2

## Energy Security – just a European issue\*\*\*\*

- Russia has the largest reserves of gas and has historically been the world's largest exporter of gas most going to Europe
- By way of substitution, there is little spare LNG capacity globally exacerbated by production outages, a lack of LNG vessels, and insufficient LNG regassification facilities in Europe.

\*Source: Shell LNG Outlook, February 2022

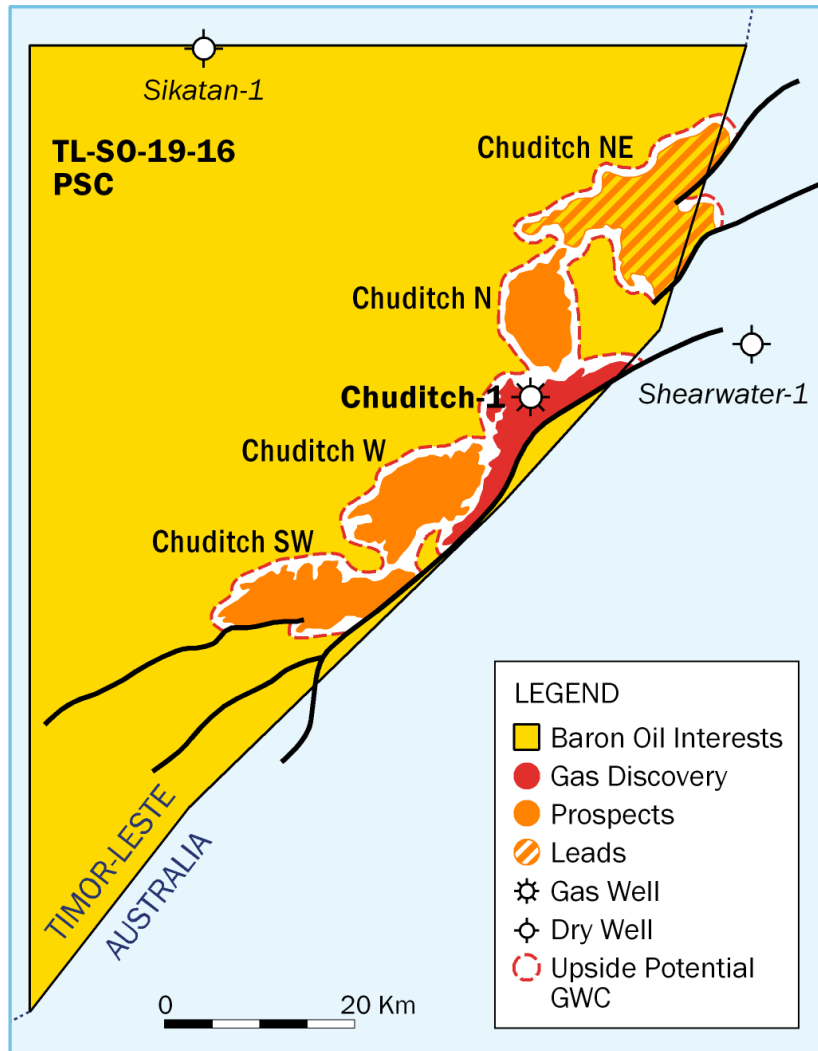
Source: \*\*<https://www.arup.com/perspectives/the-future-of-lng-in-asia>

\*\*\*\* Source: EIA and Allenby Capital, Oil & Gas Viewpoint, August 2022

\*\*\*Sources: LNG Prices - cmegroup.com; - Japan/Korea Marker (Platts) Futures , 11 October 2022; Federal Reserve Economic Data - fred.stlouisfed.org



# Summary from Resource Report provided by THREE60 Energy, July 2021



## Chuditch Gas & Condensate Gross Prospective Resources (previous work)

Discovery / Prospect / Lead	P90 gas	P90 cond	P50 gas	P50 cond	P10 gas	P10 cond	Pmean gas	Pmean cond	POSG
Chuditch-1	457	1.1	713	3.3	1,077	8.4	729	3.9	100%
Chuditch West	163	0.5	405	3.1	987	12.4	483	4.8	51%
Chuditch SW	193	0.6	482	3.7	1,174	14.7	575	5.8	40%
Chuditch North	142	0.5	355	2.7	865	10.9	423	4.2	44%
Chuditch NE	389	1.3	970	7.5	2,365	32.1	1,158	11.6	20%
Total (arithmetic)	1,344	4	2,924	20	6,467	78	3,368	30	
Total (MMBOE)	228		507		1,156		591		

- Resource Assessment in July 2021 was based on 2D seismic mapping
  - Probabilistic In-Place estimations, recovery factors were deterministic
  - Risking was applied based on the database available at that time
- P50 gas resource estimates are highlighted in yellow and included in Slide 8 for comparison with new resource estimates



# Glossary (continued)

<b>ANPM</b>	Autoridade Nacional do Petróleo e Minerais, the national petroleum and minerals authority of Timor-Leste
<b>bcpd</b>	Barrels of condensate per day
<b>Bscf or Bcf</b>	Billion standard cubic feet of natural gas
<b>CCS</b>	Carbon capture & storage
<b>Chuditch or Chuditch PSC</b>	Production Sharing Contract for offshore petroleum operations in Timor-Leste, contract area TL-S0-19-16
<b>CNG</b>	Compressed natural gas
<b>ConocoPhillips</b>	ConocoPhillips Company and its subsidiaries
<b>Contingent Resources</b>	Contingent Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from known accumulations, but which are not currently considered to be commercially recoverable. Crude oil, natural gas, and natural bitumen are defined in the same manner. 2C Contingent Resources represent the Best Estimate case.
<b>EGR</b>	Enhanced gas recovery through reinjection of CO <sub>2</sub> into the reservoir
<b>FEED</b>	Front end engineering design
<b>FID</b>	Final investment decision
<b>Gas-in-Place</b>	Gas In Place (GIP) denotes the total estimated volume of natural gas contained in a subsurface asset prior to extraction.
<b>JKM</b>	Japan Korea marker
<b>LNG</b>	Liquefied natural gas
<b>Mean Estimate or Pmean</b>	Reflects a median or best case volume estimate of resource derived using probabilistic methodology. This is the mean of the probability distribution for the resource estimates and can be skewed by high resource numbers with relatively low probabilities
<b>MMbbl</b>	Million barrels
<b>MMboe</b>	Million barrels of oil equivalent. Volume derived by dividing the estimate of the volume of natural gas in billion cubic feet by six in order to convert it to an equivalent in million barrels of oil and, where relevant, adding this to an estimate of the volume of oil in millions of barrels





# Glossary

<b>MMBtu</b>	Million British Thermal Units
<b>MMscfpd</b>	Million standard cubic feet of gas per day
<b>MMtpa</b>	Million tonnes per annum
<b>PSDM</b>	Pre-stack depth migration
<b>P90, P50, P10</b>	The P90, P50 and P10 volumes of the probabilistic Prospective Resource range correspond to the Low, Best and High estimates, which in turn correspond to the 1U, 2U and 3U Prospective Resource categories defined in SPE PRMS 2018.
<b>Prospective Resources</b>	The total quantities of petroleum that are estimated to exist originally in naturally occurring reservoirs, as of a given date. Crude oil in-place, natural gas in-place, and natural bitumen in-place are defined in the same manner.
<b>POSG</b>	The "Risk Factor" for Prospective Resources, meaning the Chance of Geologic Discovery for the specific prospect success outcome to which the reported resource estimates pertain, appropriate for the stated resource size distribution. This, then, is the chance or probability of the Prospective Resource maturing into a Contingent Resource.
<b>Recoverable Gas Resource or Recoverable Resource</b>	Quantities of gas which are estimated to be potentially recoverable from discoveries, prospects and leads
<b>Santos</b>	Santos Ltd and its subsidiaries
<b>Shell</b>	Shell plc and its subsidiaries
<b>SPE PRMS 2018</b>	The Society of Petroleum Engineers' ("SPE") Petroleum Resources Management System ("PRMS") is a system developed for consistent and reliable definition, classification, and estimation of hydrocarbon resources prepared by the Oil and Gas Reserves Committee of SPE and approved by the SPE Board in June 2018 following input from six sponsoring societies: the World Petroleum Council, the American Association of Petroleum Geologists, the Society of Petroleum Evaluation Engineers, the Society of Exploration Geophysicists, the European Association of Geoscientists and Engineers, and the Society of Petrophysicists and Well Log Analysts. The total quantity of petroleum that is estimated to exist originally in naturally occurring reservoirs, as of a given date. Crude oil in-place, natural gas in-place, and natural bitumen in-place are defined in the same manner.
<b>Tcf</b>	Trillion cubic feet
<b>TIMOR GAP</b>	Timor-Leste's National Oil Company, TIMOR GAP E.P.
<b>Woodside</b>	Woodside Energy Ltd and its subsidiaries



# BARON OIL Plc

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