
Australia
PETROLEUM

Great Sandy Desert Project

Lower Goldwyer shale oil discovery

- 394 ft continuous shale formation with
- 230 ft gross oil column and 118 ft net pay
- 5,000 ft TVD (in peak oil generative window)

Onshore Canning Basin, Western Australia

Theia-1 Drill Site, 2015

Booth 1535

Australia Petroleum

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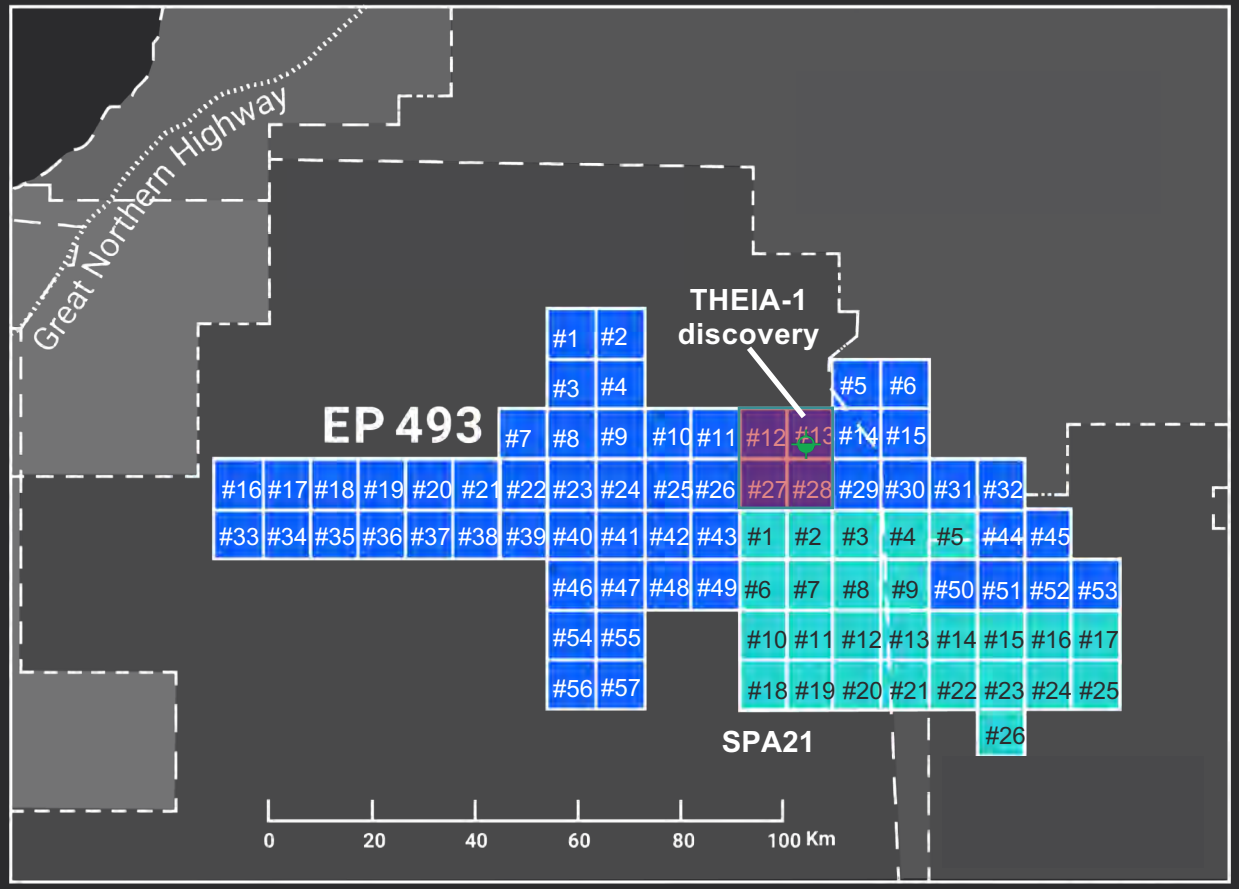
Four block options on offer (20,000 acres per block)



EP 493: **1,140,000 acres** (57 blocks)
SPA 21: **520,000 acres** (26 blocks)
20,000 acres per block

- Theia Energy hold 100% equity over Exploration Permit EP 493 and have an acreage option over SPA 21
- EP 493 in primary term (six years) expires 28th Feb 2024. Secondary term (five years) would expire 28th Feb 2029
- Future production licenses last life of project
- Options on offer over four blocks

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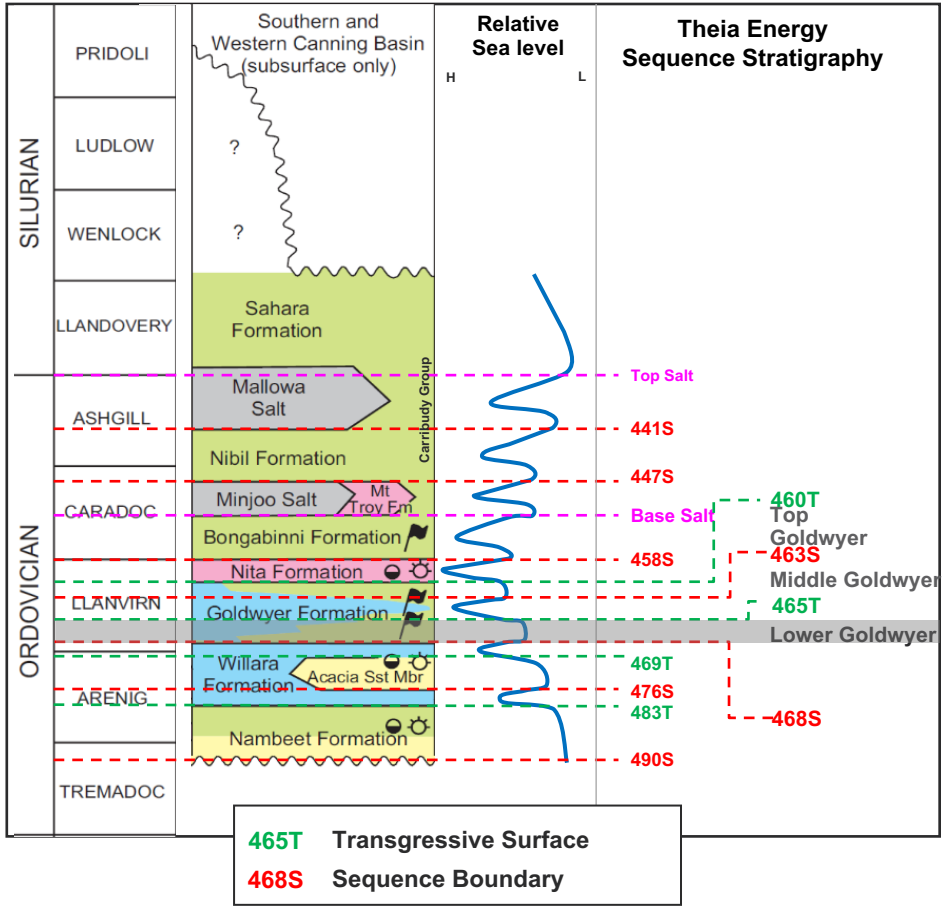
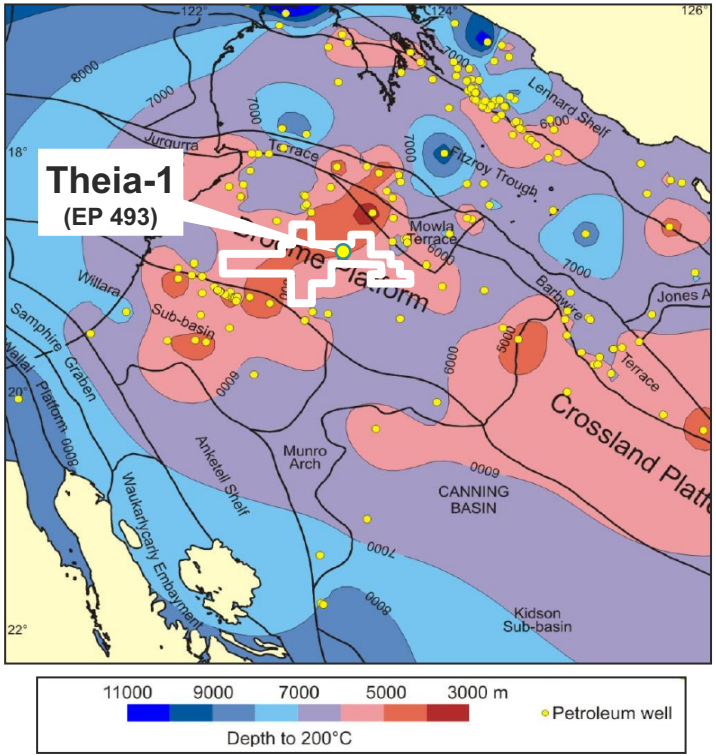
Canning Ordovician stratigraphy



Ref: Haines and Wingate (2011)

Geothermal gradient

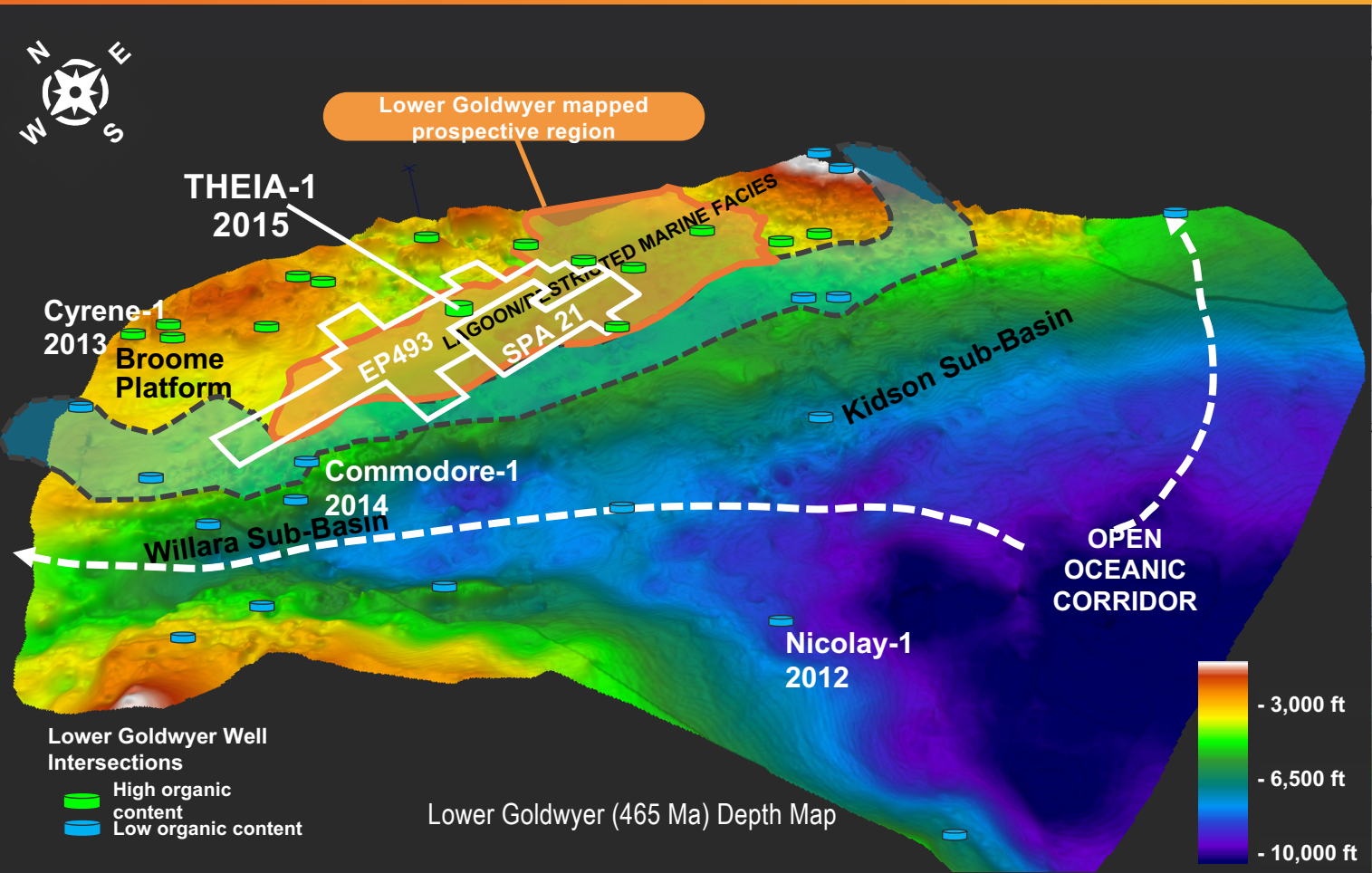
High geothermal gradient due to basement high over Broome Platform

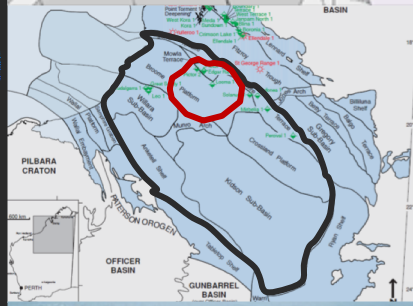


Theia-1 Lower Goldwyer **~5,000 ft** depth

Ref:Ghori, 2011

The Lower Goldwyer liquids rich resource play, Onshore Canning Basin, WA



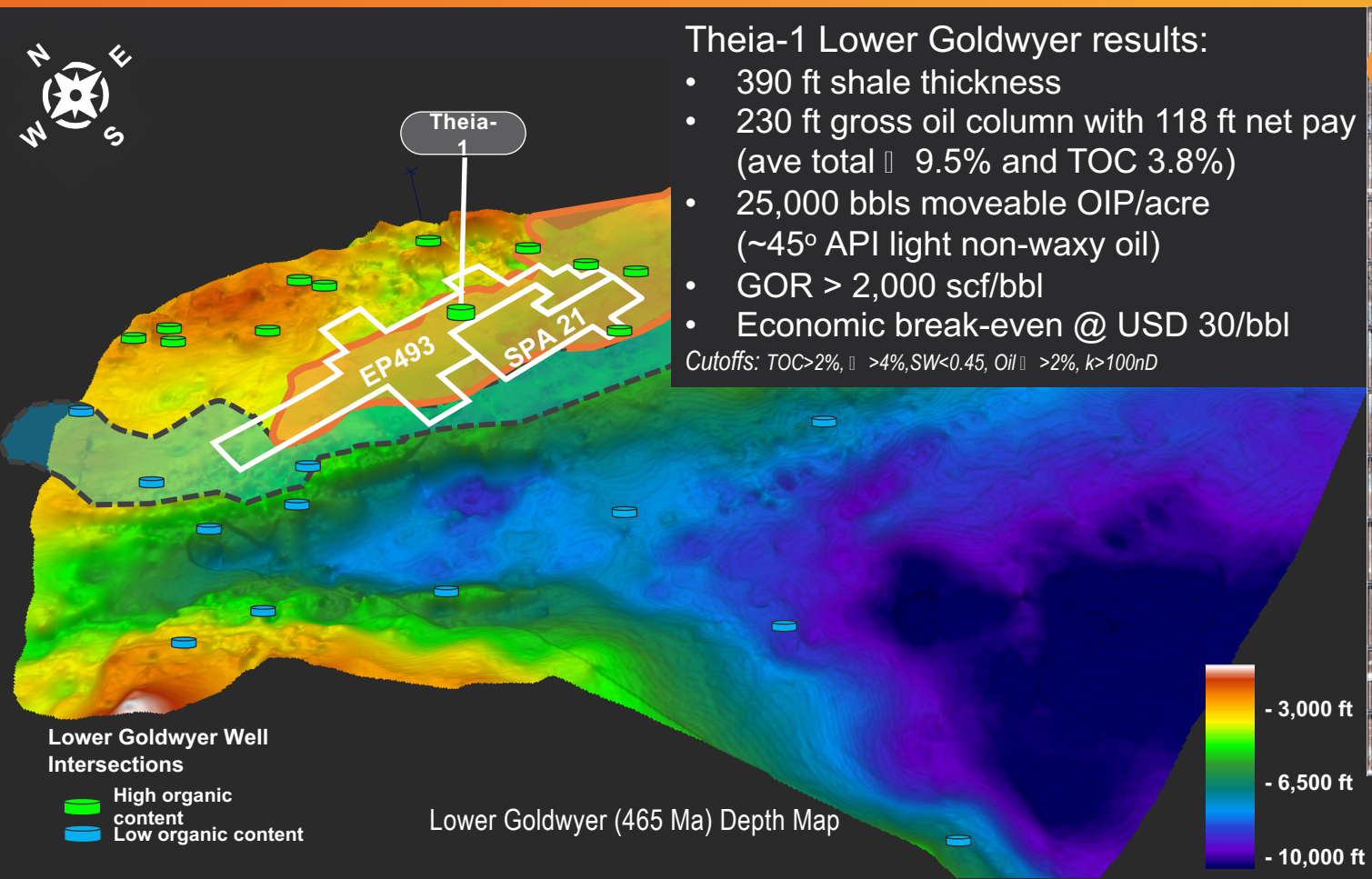


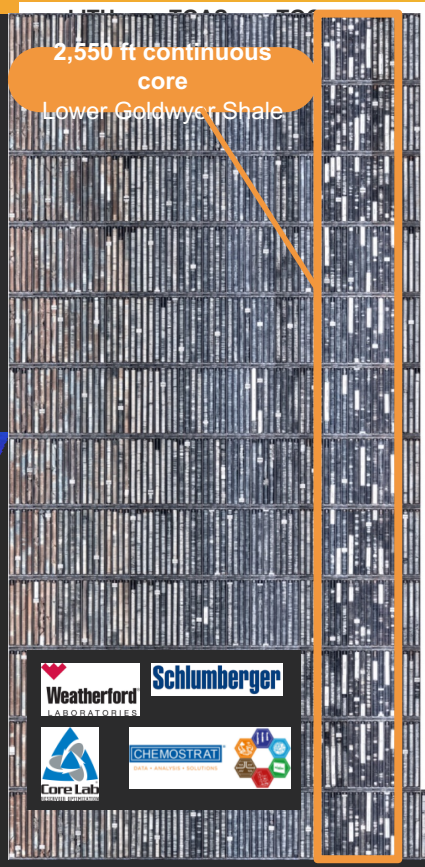
2015 Theia-1 results (light oil with associated gas)

Theia-1 Lower Goldwyer results:

- 390 ft shale thickness
- 230 ft gross oil column with 118 ft net pay (ave total ϕ 9.5% and TOC 3.8%)
- 25,000 bbls moveable OIP/acre (~45° API light non-waxy oil)
- GOR > 2,000 scf/bbl
- Economic break-even @ USD 30/bbl

Cutoffs: TOC>2%, ϕ >4%,SW<0.45, Oil ϕ >2%, k>100nD





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Shale Play Elements – Lower Goldwyer (Theia-1 results)

01 RESERVOIR

Laterally extensive ✓
(depositional environment)
Anoxic shallow marine lagoon

Gross Thickness > 100ft ✓
(sufficient for completion)
246 – 377 ft (Average 308ft)

Porosity >5% ✓
Permeability >10nD
8 – 11% total porosity
200 nD to 720 nD permeability

Mineralogy ✓
(no/low swelling clay)
Little/no smectite present

02 CHARGE

Organic characteristics ✓
TOC > 2%

2.3 – 4.4% (avg. 3.8% at Theia-1)
Type II and I kerogen,
algal/bacterial marine source

Thermal maturity ✓
Vitrinite reflectance (R_o)
$0.7\% < R_o < 1.4\%$

Geochemistry, Palynology, PSM
Vr 0.7 – 1.1% (avg Vr. 1.08%)
Peak oil window

03 PRODUCIBILITY

Faulting ✓
(low density, compressional)
None identified in core or FMI

Shale pore pressure ✓
(overpressure)
Specific Gravity = 1.22

Stress regime ✓
SH_{max} N70°E = regional trend

Rock geomechanics ✓
Prone to vertical fracturing

GOR (> 500) for oil ✓
Gas-Oil-Ratio = 2+ Mscf/stb

Oil/Gas flow to surface ⏸
WELL TEST

Testing planned 2020

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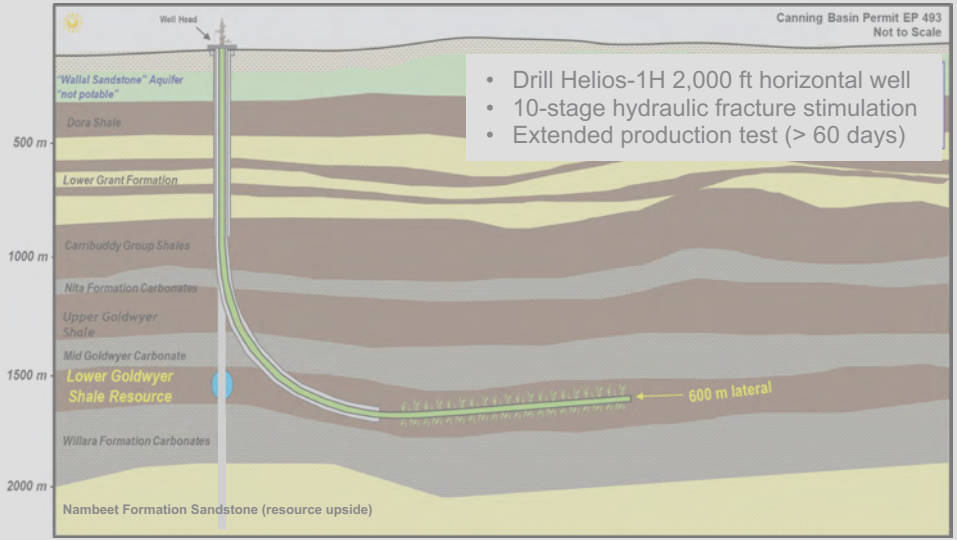
Deal Terms and Capital Investments

Theia Energy at Booth 1535
(Australia Petroleum)

2020 Helios-1H HFS & extended production test (Helios Operations)



Appraisal & Development Program (6,000 ramp-up to 250,000 bbl/d)

- **2020** extended flow test to confirm flow rates, evaluate deeper formations with resource upside (Nambeet)
- ***2022*** trucking 6,000 bbl/d export to nearby south-east Asia markets
- **2025** ramp-up to large-scale production domestic and international markets
- Northern Australia Infrastructure Facility (NAIF) - USD3.5 billion to boost infrastructure development

Capital Investments and Deal terms

Capital Invested from 2014 to 2020
(Regional work, Theia-1 discovery well & Helios operations)

- USD38 million (regional work, three wells, multi stage horizontal HFS and flow test)

Prospective resource per block:

75 MMbbl oil & 180 Bcf gas [2]

Four nominated block options on offer (USD100 million/block)

- Block options exercisable post Helios Operations (USD5,000/acre)
  - 25% non-refundable payment on option grant
  - 75% upon exercising option
- Theia Energy will:
  - Fund and complete the Helios Operations and provide all results to Company including Theia-1 well data
  - Declare a location & apply for a retention lease over nominated blocks
  - Upon exercising of option/s by Company Theia Energy will transfer 100% of its interest in the applicable retention lease to Company
- Company can then apply for a production license and proceed into development with a 100% working interest

Notes:
1. Plus associated gas production 5 PJ to 200 PJ per annum
2. Mid case prospective resource per 20,000 acre block

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