Multi-TCF Wet Gas Exploration Opportunities Close to Existing and Imminent LNG Export Infrastructure Onshore PNG

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1. **Introduction**

2. **PPL437 & PPL676 – Western Province PNG**
   - TCF+ wet gas opportunity in the western clastic play of the Papuan Basin comprising late Jurassic to early Cretaceous sandstone reservoirs charged from deeper Jurassic source and sealed by intact early to mid Cretaceous shales
   - Very high gas wetness ratios present early liquids monetisation opportunity in advance of gas sales

3. **PPL 388, PPL 581 & PPL 596- Onshore Gulf Province**
   - Multi TCF gas opportunity in the emerging eastern carbonate LNG play of the Papuan Basin comprising Oligo-Miocene to late Miocene reef and platform carbonate reservoirs directly overlying mid to late Jurassic source facies
   - Logistics and access much better than fold belt terrain with licences less than 300km from Port Moresby and good road access from Port Moresby to nearby Kerema
Today we present 2 exciting farm-in opportunities in Papua New Guinea (PNG)

PNG is located 6km from the Australian border and is currently exporting LNG into the Asian and international markets from Port Moresby, its capital, via the Exxon PNG LNG project

Two new multi-TCF projects Papua LNG Project; 2023 and P’Nyang; 2028 will be the next 2 LNG projects to be commercialised

Extended infrastructure will herald the development of existing and new discoveries in the foreland basin south of the fold belt

Here we present 2 onshore farm-in opportunities adjacent to existing discoveries and proximal to proposed infrastructure:

- PPL437 & PPL676 Western Province PNG
- PPL338, 581 and 596 onshore in Gulf Province
Western Province – PPL437 & PPL676

- PPL437 and PPL676 are highly prospective licences within the Western Papuan Basin, onshore PNG. The licences are located in the Foreland, south of the Papuan fold belt where the success rate is 1 in 2 for valid traps.

- The licences are in a proven hydrocarbon fairway between the Stanley and P’Nyang fields to the northwest, the Juha and Muruk fields to the northeast and along strike from the Elevala/Tingu and Ketu gas condensate fields.

- They will also benefit from proposed infrastructure for gas pipeline from P’Nyang to the LNG plant in Port Moresby and the upcoming development of the Stanley Field.

- The combined licences comprise 36 graticular blocks and cover an area of 3081 km².

- The primary prospect, Malisa, has gross prospective resource of 2TCF (whole trap), with another 4TCF in the other leads.
**Licence Commitments and Work Program**

**PPL437**
- Licence awarded 16th November 2020 for a period of 5 years
- Work commitments are light, total minimum expenditure is $2.3m
- Note: 12 month extension awarded on 10th August 2021 for Covid. 12 month extension from the initial date of expiry

<table>
<thead>
<tr>
<th>Year</th>
<th>Dates</th>
<th>Work Commitment</th>
<th>Minimum Expenditure Commitment (US$)</th>
</tr>
</thead>
</table>
| 1 & 2 | 16th Nov 2020 – 15th Nov 2022 | • Soil gas survey  
• Commercial screening study  
• Seismic acquisition study/planning  
• Drilling cost studies | 200,000 |
| 3,4,5 | 16th Nov 2022 – 15th Nov 2025 | • Drill Malisa prospect  
OR  
• Acquire 60km 2D seismic data  
• Permit review | 15,100,000 |

**Total 5 year expenditure** 15,300,000 OR 2,300,000

**PPL676**
- Licence application submitted November 2021, awaiting formal approval from government
- Option to “walk away” end of each two year period
- Idea is to carry joint WP between APPL676 and PPL437 – joint studies for the geological work program, soil gas survey etc

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<th>Minimum Expenditure Commitment (US$)</th>
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</thead>
</table>
| 1 & 2 | TBC | • Soil gas survey  
• Seismic field crew studies | 150,000 / 50,000 |
| 3 & 4 | TBC | • Seismic survey  
• Land rig drilling study | 2,000,000 |
| 5 & 6 | TBC | • Drill one slim hole well | 15,000,000 |

**Total 6 year term commitment** 17,200,000
Arbitrary Seismic Line and Petroleum System
Line through Malisa Prospect and Ketu/Ubuntu discoveries

**West province Petroleum Systems**

<table>
<thead>
<tr>
<th>Play</th>
<th>Gas/Condensate in basement drape/inversion structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearby Fields</td>
<td>Elevala, Tingu, Ketu, Stanley, P’Nyang</td>
</tr>
<tr>
<td>Reservoirs</td>
<td>Oligocene Stanley Sandstone</td>
</tr>
<tr>
<td></td>
<td>Cretaceous Bulago sandstones</td>
</tr>
<tr>
<td></td>
<td>Shows in Elevala, Ubuntu (gas)</td>
</tr>
<tr>
<td></td>
<td>Cretaceous Elevala Sandstone</td>
</tr>
<tr>
<td></td>
<td>Proven in Elevala, Ketu, Ubuntu and Tingu (gas)</td>
</tr>
<tr>
<td></td>
<td>Cretaceous Toro Sandstone</td>
</tr>
<tr>
<td></td>
<td>Proven in Stanley, P’Nyang (gas)</td>
</tr>
<tr>
<td></td>
<td>Jurassic Kimu Sandstone</td>
</tr>
<tr>
<td></td>
<td>Proven in Stanley (gas)</td>
</tr>
<tr>
<td>Seal</td>
<td>Ieru shales</td>
</tr>
<tr>
<td></td>
<td>Imburu intraformational shales</td>
</tr>
<tr>
<td>Source</td>
<td>Middle - Late Jurassic</td>
</tr>
<tr>
<td>Trap</td>
<td>Structural, basement drape, possible stratigraphic components</td>
</tr>
<tr>
<td>Prospects/Leads</td>
<td>Malisa, Ebony, Mango, Kandis, Ketu Nth</td>
</tr>
</tbody>
</table>
Malisa Prospect
Seismic Comparison with Nearby Fields

- Malisa has a similar structural style to nearby discoveries at Elevala, Ketu and Stanley
- These are all basement drape structures overlain by Elevala, Toro, Kimu reservoir sands
- The seal for these reservoirs is the Ieru formation and they are sourced from the Jurassic Magobu formation
Monetisation & Export Options

- An immediate monetisation opportunity exists due to the gas condensate nature of the prospective resource.
- The Stanley development to the west is an example of a condensate stripping/gas recycling project. Stanley CGR is 30bbls/mmscf. We expect Malisa to be condensate richer and more profitable.
- The stripping is achieved by relatively simple J/T expansion not by Turbo expander and deep recovery.
- Development economics are enabled by an attractive fiscal regime and export of dead condensate via river barge avoiding significant pipeline costs.
- Medium to longer term gas can be monetized by blowdown as ullage appears in existing LNG developments and/or additional LNG projects are sanctioned.
- The proposed P’Nyang gas pipeline is local to Malisa (runs through the PPL437/676 blocks).
- Reserves base in PNG could support further LNG developments as the LNG prices in Asian target markets are expected to remain high for many years.

### PPL437/676 Mean Prospective Resource Summary (Whole Trap)

<table>
<thead>
<tr>
<th>Name</th>
<th>Reservoir / Target</th>
<th>Play</th>
<th>Expected Hydrocarbon</th>
<th>Probability of achieving mean</th>
<th>Whole Trap Gross Unrisked Mean GIP</th>
<th>Whole Trap Gross Unrisked Mean OIP</th>
<th>Gross Unrisked Mean Potential Gas Resources</th>
<th>Gross Unrisked Mean Potential Liquid Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malisa</td>
<td>Elevala/Toro + Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>36%</td>
<td>2,027</td>
<td>N/A</td>
<td>1,323</td>
<td>48</td>
</tr>
<tr>
<td>Ketu North</td>
<td>Elevala/Toro + Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>20%</td>
<td>709</td>
<td>N/A</td>
<td>462</td>
<td>18</td>
</tr>
<tr>
<td>Ebony</td>
<td>Elevala/Toro + Imburu/Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>27%</td>
<td>1,467</td>
<td>N/A</td>
<td>960</td>
<td>36</td>
</tr>
<tr>
<td>Ebony East</td>
<td>Elevala/Toro + Imburu/Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>21%</td>
<td>517</td>
<td>N/A</td>
<td>338</td>
<td>13</td>
</tr>
<tr>
<td>Ebony West</td>
<td>Elevala/Toro + Imburu/Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>21%</td>
<td>316</td>
<td>N/A</td>
<td>206</td>
<td>8</td>
</tr>
<tr>
<td>Mango</td>
<td>Elevala/Toro + Imburu/Kimu</td>
<td>Clastic Cretaceous / Jurassic</td>
<td>Wet Gas</td>
<td>25%</td>
<td>1,868</td>
<td>N/A</td>
<td>1,216</td>
<td>46</td>
</tr>
</tbody>
</table>

Total: 6,903 bcf, 4,506 MMstb, 168 MMboe
The JV has obtained a contemporary seismic database of >1400km through acquisition, reprocessing and data trades:

- In 2014 the JV acquired 106km modern 2D seismic data
- 884km legacy seismic data has been reprocessed

Seismic interpretation, offset well analysis, extensive regional biostratigraphic and reservoir characterisation has confirmed the Malisa Prospect

50% equity is available for drilling Malisa-1 to test Elevala, Toro and Kimu Sandstones

P50 Well cost US$14.5m (2019)

Aim is to drill the well while rig is onsite for the Stanley development

Numerous follow up leads exist in the licences in the event of success
PPL338, PPL 581 and PPL 596 are very prospective licences in the Eastern Papuan Basin, onshore PNG. The licences are located in the foreland south of the Papuan fold belt.

The licences are in a proven hydrocarbon fairway between the offshore Uramu Field, the giant Elk Antelope Fields (located in the fold belt) and the Kuru Field to the northwest.

The southern licences are east of the Ieru shale truncation edge allowing direct access from Mesozoic source rocks to Tertiary carbonate reservoirs.

Any discovery in the south will benefit from upcoming infrastructure for the proposed gas development pipeline from Elk Antelope to the coast and the LNG plant in Port Moresby.

The licences lie in flat terrain covered by nipa palm and open grass land. Proximity to the coast allows good access.

They are located on the Uramu Platform where well data confirms presence of platform and reefal carbonate development similar to the reservoir encountered in Elk Antelope.

The Nipa, Mangrove and Snake leads are potentially large with a combined P50 resource estimate of greater than 8TCF.

New seismic data is required to confirm a drilling location at Nipa Mangrove or Snake.

The combined licences comprise 30 graticular blocks and cover an area of 2430 km².
West of the Uramu Platform, continued late stage uplift has exposed the carbonates at surface on the Darai Platform.

Reinvestigation of the Uramu, and Iviri wells shows many of the favourable characteristics recognised at Elk Antelope are present on the Uramu Platform.

Antelope to Uramu Well Correlation

Demonstrates good reservoir presence, source rock and seal on the Uramu Platform.
The Uramu Platform remained fallow until the giant Antelope discovery in 2007.

Structures on the Uramu Platform are potentially large (2-5 TCF) but poorly constrained by seismic data.

A majority of available seismic data are of 60s and 70s vintage. Reprocessing has improved data quality but modern data is needed to delineate the structures on the Uramu Platform.
Licence Commitments and Work Program

- **PPL338**
  - Licence awarded 31st January 2017 for a period of 5 years
  - 12 month extension awarded on 10th August 2021 for Covid.
  - 12 month extension from the initial date of expiry
  - Work commitments currently require seismic

- **PPL581**
  - Licence awarded 31st January 2017 for 6 year period
  - 12 month extension awarded on 10th August 2021 for Covid.
  - 12 month extension from the initial date of expiry
  - Work commitments currently require seismic

- **PPL 596**
  - Licence awarded 31st March 2017 for 6 year period
  - 12 month extension awarded on 10th August 2021 for Covid.
  - 12 month extension from the initial date of expiry
  - Work commitments currently require seismic

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Proposed Work Program

- The 3 licences are held by Kina 100%
- Kina proposes rationalising its holdings in the east to 1 licence covering the Uramu Platform
- Kina envisages a work program comprising 250 to 300km of seismic over Nipa, Mangrove and Snake
- Program costs are likely to be of the order of US$6 million & we are looking for a carry through the seismic
Thank you!