Brazilian Pre-Salt Prospectivity

Eliane Petersohn
Chief Geologist
Outline

1. The Brazilian Pre-Salt
2. Areas on Offer for the 2nd and 3rd Pre-Sal Bidding Rounds
3. Future Perspectives
4. Final Remarks
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Pre-Salt

The Pre-Salt comprises huge accumulations underneath the salt layers;

Light Oil with excelente quality accumulations and high comercial values;

1) Great prospectivity, potential for giant oil fields;

2) High wells productivity related to high quality carbonate reservoirs and extensive and thick production zones.
Oil Production in Brazil

- Total Oil
- Post-Salt
- Pre-Salt
- Onshore
The Pre-Salt production comes from 77 wells (52 in Santos Basin and 25 in Campos Basin).
Lapa (2 wells)
Oil: 43.7 M bbl/d
Gas: 1.2 MM m³/d

Pampo
Oil: 276 bbl/d
Gas: 12 M m³/d

Barracuda
Oil: 2.9 M bbl/d
Gas: 43 M m³/d

Caratinga
Oil: 14.3 M bbl/d
Gas: 211 M m³/d

Itapu
Oil: 29 M bbl/d
Gas: 388 M m³/d

Lula (37 wells)
Oil: 763.1 M bbl/d
Gas: 33.6 MM m³/d

Lapa (2 wells)
Oil: 43.7 M bbl/d
Gas: 1.2 MM m³/d

Sapinhoa (12 wells)
Oil: 260 M bbl/d
Gas: 9.7 MM m³/d

Jubarte (9 wells)
Oil: 137.8 M bbl/d
Gas: 4.7 MM m³/d

Baleia Franca (2 wells)
Oil: 34.3 M bbl/d
Gas: 1.2 MM m³/d

Baleia Azul (5 wells)
Oil: 41.2 M bbl/d
Gas: 1.4 MM m³/d

Marlim Leste (4 wells)
Oil: 21.3 M bbl/d
Gas: 342 M m³/d

Marlim
Oil: 2.2 M bbl/d
Gas: 68 M m³/d

Voador
Oil: 2.7 M bbl/d
Gas: 83 M m³/d

~1.34 million barrels of oil/day

June/2017
Productivity

10 most productive Pre-Salt wells

<table>
<thead>
<tr>
<th>Well</th>
<th>Productivity (thousand barrels per day)</th>
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<tr>
<td>7JUB34HES</td>
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<tr>
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<tr>
<td>8L37DRJS</td>
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</tbody>
</table>

June/2017
Potential for Giant Oil Fields

Pre-salt fields under development phase:

- Buzios
- Sepia
- Berbigao
- Sururu
- Libra Accumulation

Great prospectivity for oil:
Most part of the recoverable resources are yet to be produced.
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Carcara and Gato do Mato
Exploration phase
(First oil ~ 2017)

Tartaruga Verde
under development

Sapinhoa
Producing field
(260,000 barrels of oil/day)
3rd Pre-Salt Bidding Round

Legend
- **Pre-Salt Round 3**
- Pre-Salt Polygon
- Oil/Gas Field
- Onshore Basin
- Offshore Basin
- Basement

Exploration Block
- Green: Round 2
- Orange: Round 3
- Light Green: Round 7
- Gray: Pre-Salt Round 1
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Final Remarks

- The Brazilian Pre-Salt is the biggest oil Discovery of the world in the last 50 years;
- The Pre-Salt province is characterized by its remarkable high productivity of the wells in addition to its potential for giant fields discoveries;
- Currently the Pre-Salt accounts for over 50% of the entire brazilian production;
- Most of the recoverable resources are still available to be produced;
- All of the areas on offer holds great prospectivity for large oil discoveries (Peroba, Pau Brasil, Carcará e Alto de Cabo Frio).
National Agency of Petroleum, Natural Gas and Biofuels - ANP

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