ROUND XII INTRACAMPOS: EXPLORATION OPPORTUNITIES

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AGENDA

INTRODUCTION

REGIONAL GEOLOGY

EXPLORATION OPPORTUNITIES

DATA PACK
INTRODUCTION

Geological Setting

Transition between the Central Andes and the Northern Andes

Retro arc foreland basin system since Late Cretaceous times

Thick-skinned tectonics related to inversion of pre Cretaceous extensional fault systems

Three tectonic domains

From: Baby et al, 2013
Stratigraphic column of the Oriente Basin with tectonic events, associated magmatism and petroleum systems.
What are the Intracampos Exploration Opportunities?

Intracampos are low risk exploration opportunities (structures) with high geologic prospectivity.
The blocks on offer are geological structures with high prospectivity near currently producing fields in Ecuador.

**COLOMBIA**

- Charapa
- Chanangue
- Sahino
- Iguana
- Araza East
- Perico
- Espejo
- Pañayacu North
The blocks on offer are geological structures with high prospectivity near currently producing fields in Ecuador.
The blocks on offer have access to infrastructure and are located between some of Ecuador’s best producing fields.

Note: mmbbls – Million barrels of oil
Infrastructure: Oil and gas pipelines.
Infrastructure: Highways, Tracks, Rivers.
The Oriente basin has one of the most prolific petroleum systems in South America

**SOURCE ROCK**

The existence of an effective source rock can be proved by the presence of oil throughout the majority of the structures in the Oriente Basin. Marine shales and limestones from the Cretaceous Napo formation are the primary source rocks.

**RESERVOIR ROCK**

The Hollin and Napo formations contain the main reservoirs for the Oriente Basin

<table>
<thead>
<tr>
<th>Formation</th>
<th>Porosity (%)</th>
<th>Permeability (mD)</th>
<th>Thickness (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollin</td>
<td>12-19</td>
<td>10-250</td>
<td>100-300</td>
</tr>
<tr>
<td>Napo T</td>
<td>8-18</td>
<td>10-450</td>
<td>&gt; 80</td>
</tr>
<tr>
<td>Napo U</td>
<td>10-22</td>
<td>30-850</td>
<td>&gt; 50</td>
</tr>
<tr>
<td>Basal Tena</td>
<td>5-12</td>
<td>20-200</td>
<td>~ 30</td>
</tr>
</tbody>
</table>
The Oriente basin is one of the most prolific petroleum systems in South America

**SEAL ROCK**

The primary seal rock of the Oriente basin is composed of fine-grained and very fine sediments (shale and clay):

- Clays and siltstones in the **Basal Tena sands** reservoir
- Upper Napo shales in the “**U**” **sands** reservoir
- Middle Napo shales in the “**T**” **sands** reservoir
- Lower Napo shales in the “**Hollin**” **sands** reservoir

![Diagram of stratigraphy and units distribution](image)
The Oriente basin is one of the most prolific petroleum systems in South America

**GEOLOGICAL TRAPS**

1. **Structural Traps**: Associated to anticlines caused by inverted faults with north to south trend formed at Late Cretaceous, Eocene, Miocene and Pliocene.

2. **Stratigraphic Traps**: Associated to the sand reservoirs from the Cretaceous Napo and Hollin formations.

**TIMING**

The petroleum system had essential elements and processes to allow the generation, migration and accumulation of hydrocarbons for the Oriente basin.

**Note the cycles of transgression and regression in the lithological column.**
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Two prospects have been identified in Charapa Block

Area
243 km²

Seismic
288 km 2D

10% of 3D seismic coverage

Wells Drilled
4 wells

Primary Reservoir
Secondary Reservoir
Two prospects have been identified in Chanangue Block

**Area**
243 km²

**Seismic**
514 km 2D
90% 3D seismic coverage

**Wells Drilled**
1 well

**Analog Well**
- BTSS
- UUSS
- LUSS
- UTSS
- LTSS

- **Primary Reservoir**
- **Secondary Reservoir**
100% of the Perico block has 3D seismic data and two prospects have been identified.

**Perico**

- **Area**: ~72 km²
- **Seismic**: 100% 3D seismic coverage

**Analog Well**

- **Primary Reservoir**
- **Secondary Reservoir**

**Key Points**

- **Perico S P10**
- **Perico SE P10**
- **BTSS**
- **LUSS**
- **LTSS**
- **UHSS**
- **MHSS**
The Iguana block is located between the Lago Agrio and Guanta - Dureno fields.

**Iguana**

**Area**
~120 km²

**Seismic**
100% 3D seismic coverage

**Analog Well**

- BTSS
- LUSS
- LTSS
- UHSS
- MHSS

- Primary Reservoir
- Secondary Reservoir
Three prospects have been identified in the Sahino block, which is located next to the Cuyabeno field.

**Sahino**

- **Area**: ~99 km²
- **Seismic**: 100% 3D seismic coverage

**Analog Well**

- **BTSS**
- **LUSS**
- **LTSS**
- **UHSS**
- **MHSS**

- **Primary Reservoir**
- **Secondary Reservoir**
In the Pañayacu block, two prospects have been identified.

Pañayacu Norte

Area
~92 km²

Seismic
100% 3D seismic coverage

Analog Well

Primary Reservoir
Secondary Reservoir
One prospect has been identified in the Arazá Este block, which is located next to the Libertador field.

**Arazá Este**

- **Area**: ~44 km²
- **Seismic**: 90% 3D seismic coverage

**Analog Well**

- **Primary Reservoir**
- **Secondary Reservoir**
One prospect has been identified in the Espejo block, located between the Shushufindi and Fanny-Dorine fields.

**Espejo**

**Area**
~63 km²

**Seismic**
100% 3D seismic coverage

**Espejo P10**

**Analogue Well**

- **Primary Reservoir**
- **Secondary Reservoir**
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DATA PACK
The Data pack is integral, and a Virtual Data Room is also available to interested parties for preliminary visualizations.

Information Available (Data Pack)

- Well data from nearby fields
- Regional geological reports
- Seismic data
- Geographic data
- Blocks (OOIP) certified by Ryder Scott
- Social, political & environmental data
- Facilities data
- Terms of reference
- Proposed contract draft
Thank you