

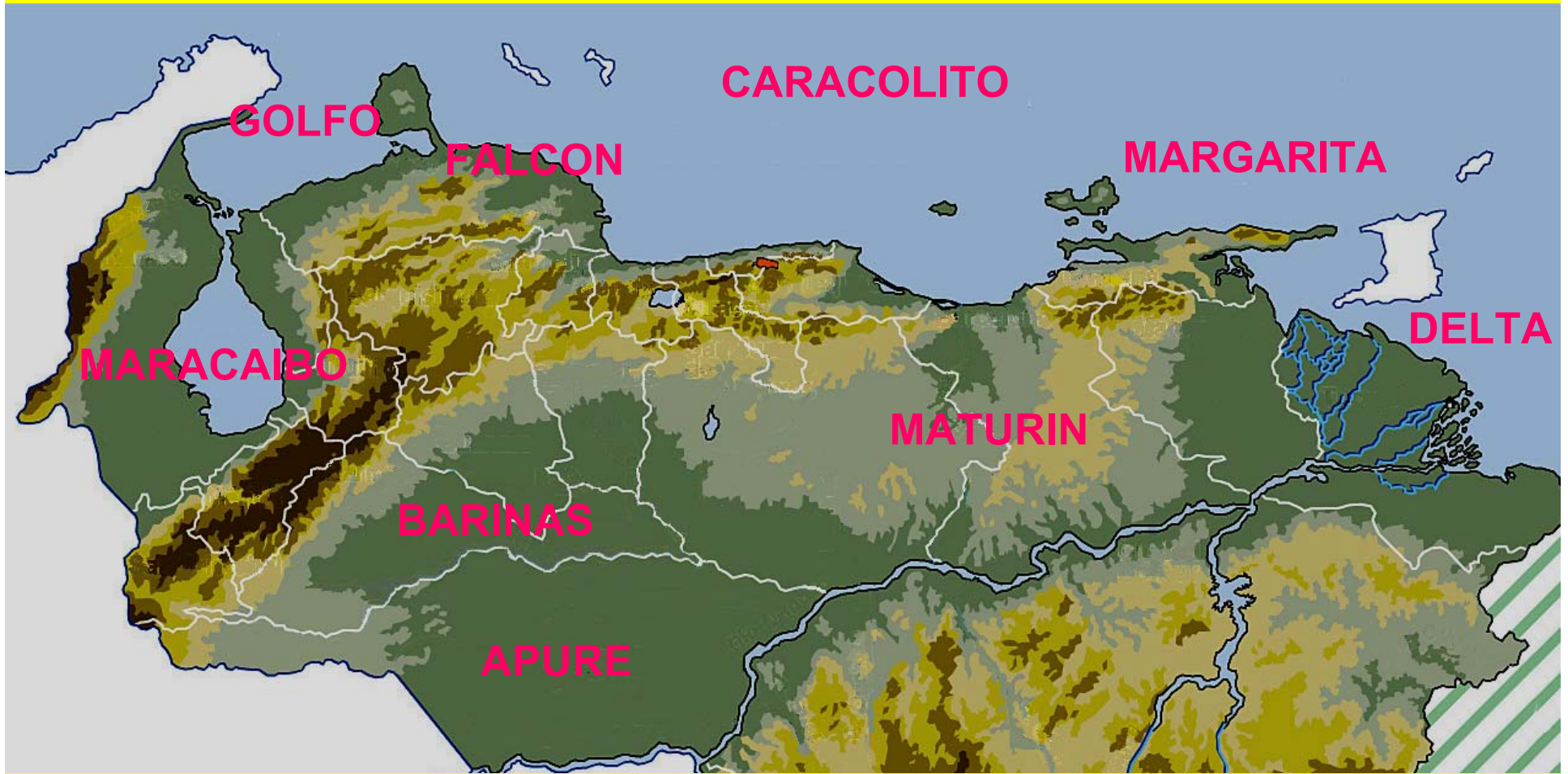
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Harmonization of Energy Reserves and  
Resources Terminology**

**Venezuela –  
reserves and resources**

**Aníbal R Martínez**

**Geneva 9.11.2005**

# Sedimentary basins of Venezuela



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**Ministry of Energy and Petroleum  
decided on February 2005  
to eliminate natural bitumen  
as a portion of petroleum**

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**Crude oil plus natural bitumen  
reserves of Venezuela  
as of 31.12.2004  
increased  $0,5 \times 10^9 \text{ m}^3$  to  
 $12,8 \times 10^9 \text{ m}^3$**

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**Natural gas  
reserves of Venezuela  
as of 31.12.2004  
only increased  $0,1 \times 10^9 \text{ m}^3$  to  
 $4,3 \times 10^9 \text{ m}^3$**

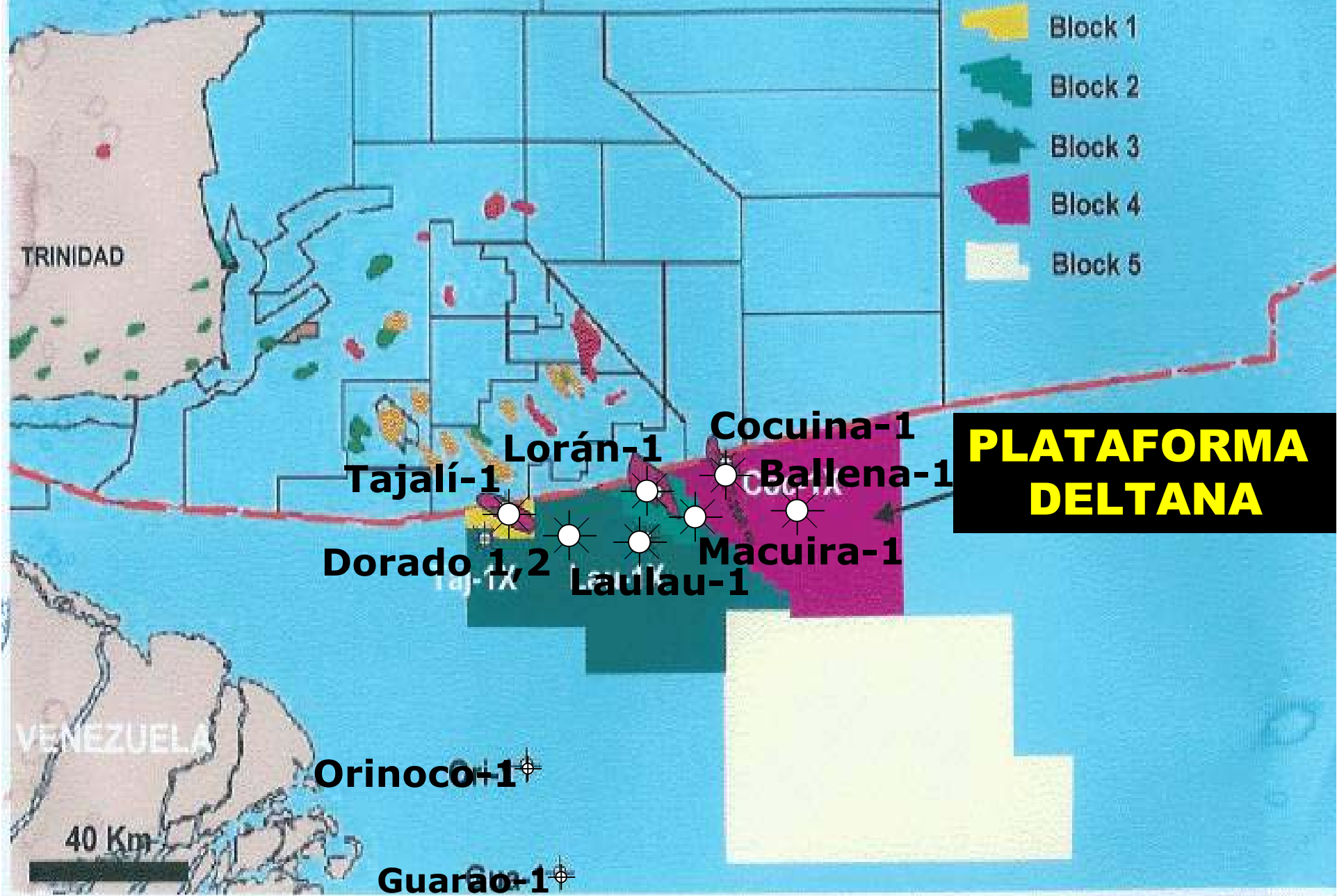
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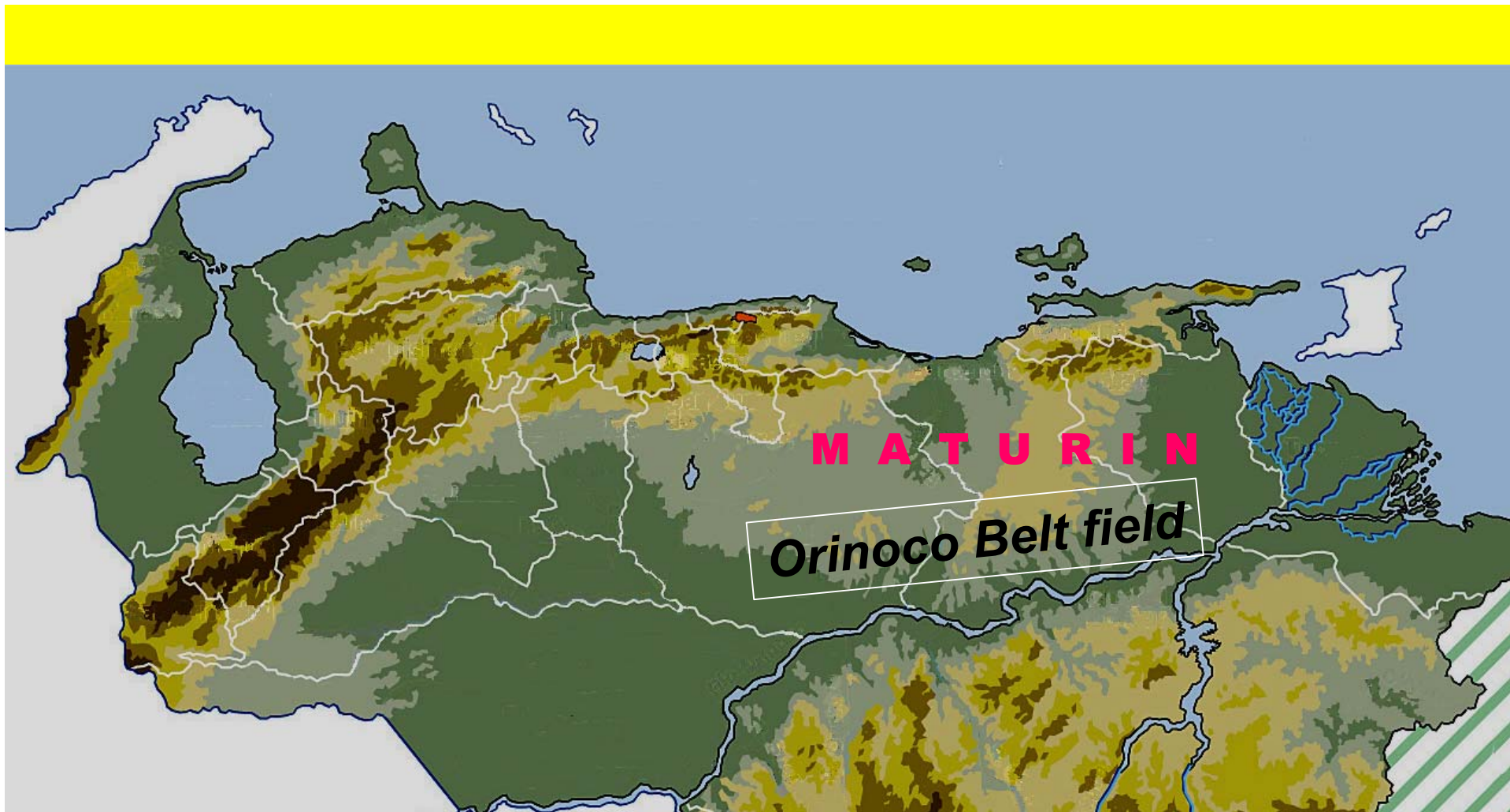
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**Exploration  
offshore the Orinoco river delta  
(Plataforma Deltana Project,  
Eastern Venezuela)  
for natural gas and condensate  
is proceeding successfully**

Wells completed as of 30.6.2005



- First well of Petróleos de Venezuela  
250 km offshore **Dorado n°1**  
was big natural gas and condensate  
discovery  
with multiple deposits below 3500 m;  
one test yielded  
 $2 \times 10^6$  m<sup>3</sup>/day natural gas and 200  
m<sup>3</sup>/day condensate



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**The Orinoco Belt field  
is the largest petroleum  
accumulation in the world**

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**The volume of  
extraheavy crude oil-initially-in-place  
in the field is  $119 \times 10^9 \text{ m}^3$ ,  
and that of  
natural bitumen-initially-in-place  
 $63 \times 10^9 \text{ t}$ .**

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**There are 6 main producing areas  
in the field, which contain  
80% of the petroleum-initially-in-  
place.**

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**Four strategic associations  
are producing 80 000 m<sup>3</sup>  
extraheavy crude oil  
of 993/1014 kg<sup>3</sup>/m<sup>3</sup> density,  
upgraded to a product for export of  
904/871 kg<sup>3</sup>/m<sup>3</sup> density\***

**\*8/11 to 25/31° API**

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**A volume of  $50 \times 10^6 \text{ m}^3$   
natural bitumen  
was produced during 1991-2002,  
for making of the new fuel  
orimulsion.**

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**Government decided on July 2003  
to stop orimulsion sales expansion.  
From 2004, natural bitumen  
production is included with  
extraheavy crude oil production**

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**Petróleos de Venezuela  
signed an agreement with ChNP  
to construct a second orimulsion  
module in the Orinoco Belt field  
for export to China  
exclusively**

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# **Orinoco Belt field**

## **(extraheavy crude oil)**

**Proven reserves  $5,6 \times 10^9 \text{ m}^3$**

**Unproven reserves  $16 \times 10^9 \text{ m}^3$**

**Contingent resources  $22,4 \times 10^9 \text{ m}^3$**

**Prospective resources  $0,7 \times 10^9 \text{ m}^3$**

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# **Orinoco Belt field**

## **(natural bitumen)**

**Proven reserves  $300 \times 10^6$  t**

**Unproven reserves  $600 \times 10^6$  t**

**Contingent resources  $14,4 \times 10^9$  t**

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**Subcategory E1.2 of UNFC  
Exceptional Economic  
may in some areas be used  
for the hydrocarbons in  
the Orinoco Belt field**

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**Subcategory F1.1 of UNFC  
Project in Production  
applies to all  
the four strategic associations  
in operation in  
the Orinoco Belt field**

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**Subcategory G1 of UNFC**

**Reasonably Assured Geological Conditions  
applies to all  
the Orinoco Belt field,  
except for plays  
in the Espino graben  
in the Zuata main producing area**

## **UNFC applied to Orinoco Belt field** **(extraheavy crude oil)**

<b><u>111</u></b>	<b>Proven reserves</b>	<b><math>5,6 \times 10^9 \text{ m}^3</math></b>
<b><u>121</u></b>	<b>Unproven reserves</b>	<b><math>16 \times 10^9 \text{ m}^3</math></b>
<b><u>221</u></b>	<b>Contingent resources</b>	<b><math>22,4 \times 10^9 \text{ m}^3</math></b>
<b><u>334</u></b>	<b>Prospective resources</b>	<b><math>0,7 \times 10^9 \text{ m}^3</math></b>

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**UNFC applied to Orinoco Belt field**  
**(natural bitumen)**

**111 Proven reserves  $300 \times 10^6$  t**

**121 Unproven reserves  $600 \times 10^6$  t**

**221 Contingent resources  $14,4 \times 10^9$  t**