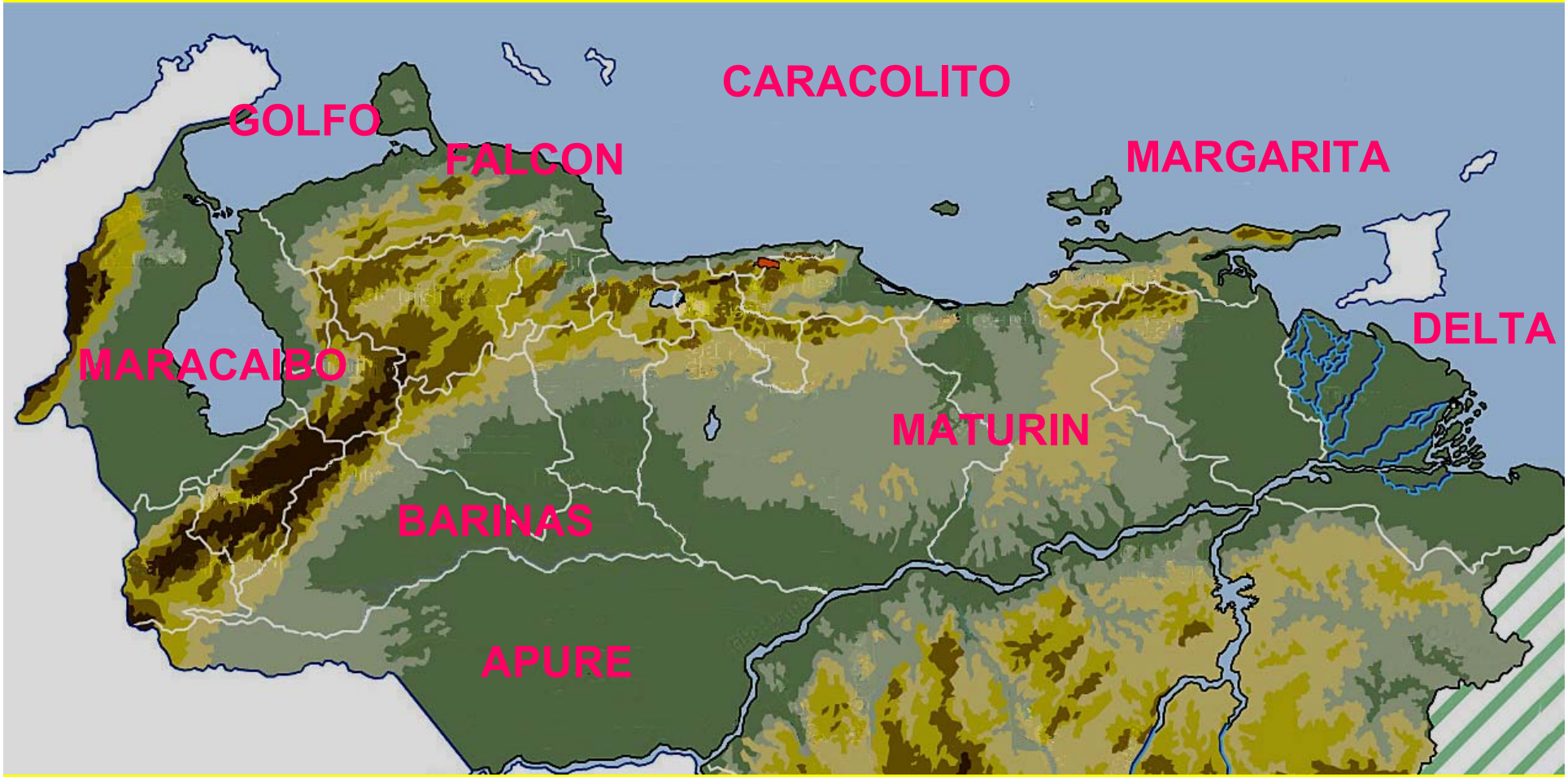
UNECE Ad Hoc Group of Experts on Harmonization of Energy Reserves and Resources Terminology

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 $0,5x10^9$ m^3 to $12,8x10^9$ m^3

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Natural gas reserves of Venezuela as of 31.12.2004 only increased $0,1x10^9$ m^3 to $4,3x10^9$ m^3

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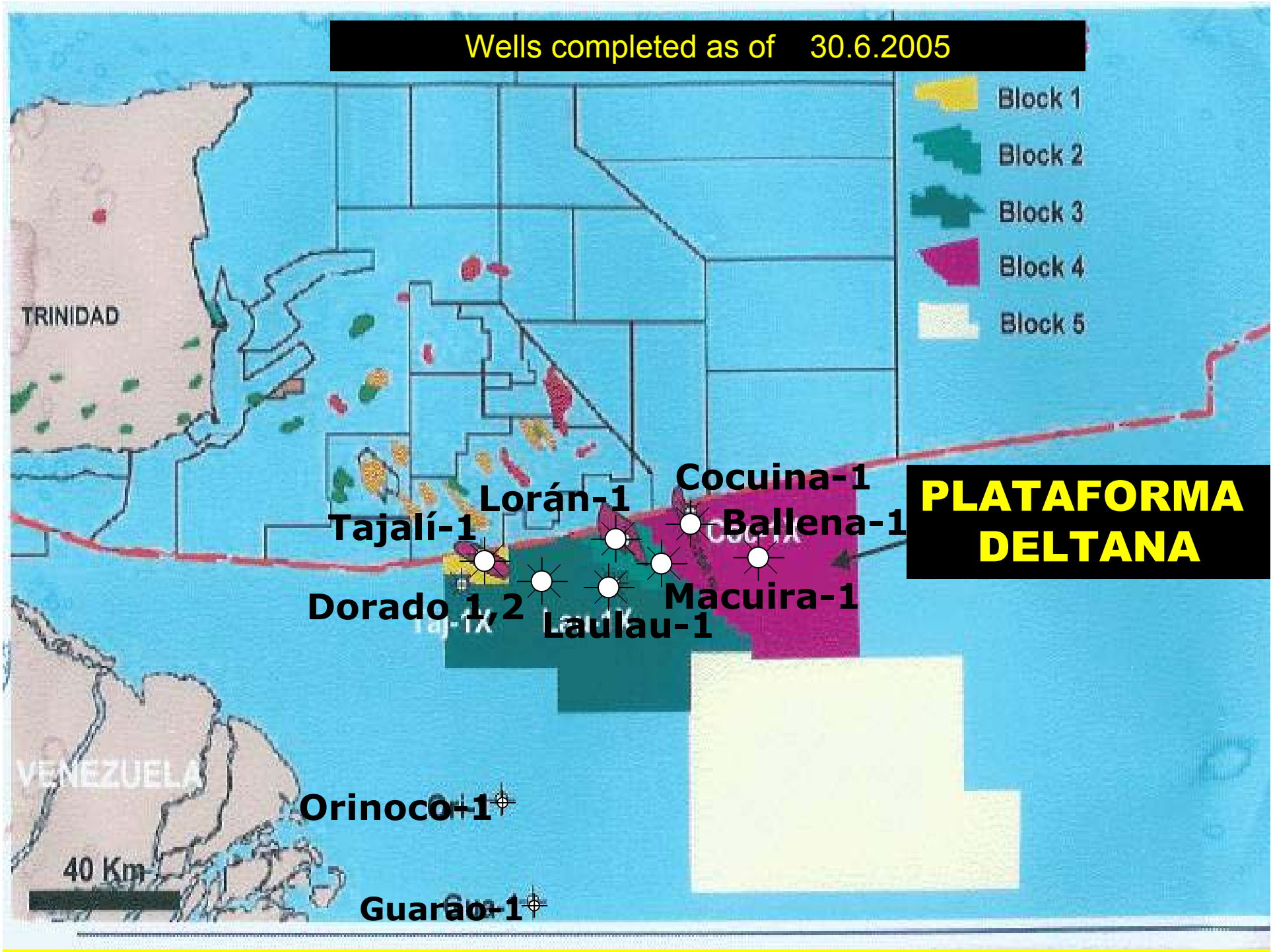
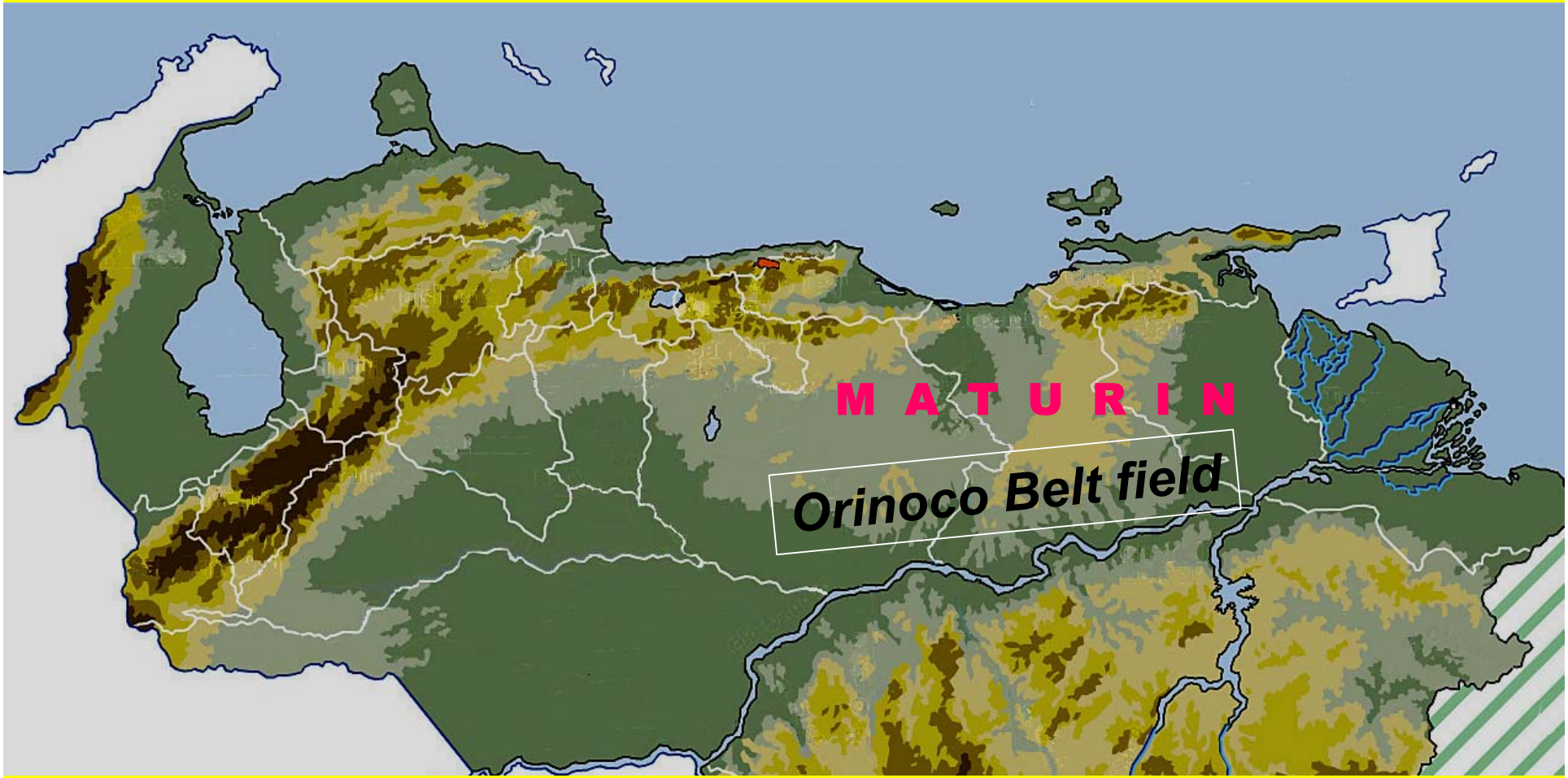
Exploration offshore the Orinoco river delta (Plataforma Deltana Project, Eastern Venezuela) for natural gas and condensate is proceeding successfully


Wells completed as of 30.6.2005
Block 1
Block 2
Block 3
Block 4
Block 5
TRINIDAD
Cocuina-1
Lorán-1
Tajalí-1
Ballena-1
PLATAFORMA DELTANA
Dorado 1 y 2
Laulau-1
Macuira-1
VENEZUELA
Orinoco-1
40 Km
Guarao-1

•First well of Petróleos de Venzuela
250 km offshore Dorado nº1
was big natural gas and condensate discovery
with multiple deposits below 3500 m;
one test yielded
$2x10^6$ m^3/day natural gas and 200 m^3/day condensate

MRE/Frente, Río WPC17, 2002



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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 119×10^9 m^3, and that of natural bitumen-initially-in-place 63×10^9 t.

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 m³ extraheavy crude oil of 993/1014 kg³/m³ density, upgraded to a product for export of 904/871 kg³/m³ density*

*8/11 to 25/31º API

A volume of $50x10^6$ 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 $5,6x10^9 m^3$

Unproven reserves $16x10^9 m^3$

Contingent resources $22,4x10^9 m^3$

Prospective resources $0,7x10^9 m^3$

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Orinoco Belt field

(natural bitumen)

Proven reserves 300x10^6 t

Unproven reserves 600x10^6 t

Contingent resources 14,4x10^9 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

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UNFC applied to Orinoco Belt field (extraheavy crude oil)

111 Proven reserves $5,6x10^9$ m^3

121 Unproven reserves $16x10^9$ m^3

221 Contingent resources $22,4x10^9$ m^3

334 Prospective resources $0,7x10^9$ m^3

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UNFC applied to Orinoco Belt field (natural bitumen)

111 Proven reserves 300×10^6 t

121 Unproven reserves 600×10^6 t

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