Government of the Republic of Trinidad and Tobago
Ministry of Energy and Energy Industries
Head Office: Level 26, Tower C, International Waterfront Center, #1 Wrightson Road, Port of Spain, Trinidad and Tobago
PBX: (868) 225-4EEI (4334) Facsimile (868) 225-5766 Website: www.energy.gov.tt

Trinidad & Tobago Competitive Bidding Rounds 2022

Ministry of Energy and Energy Industries

Ms. Tanuja Balkeran
Geoscientist

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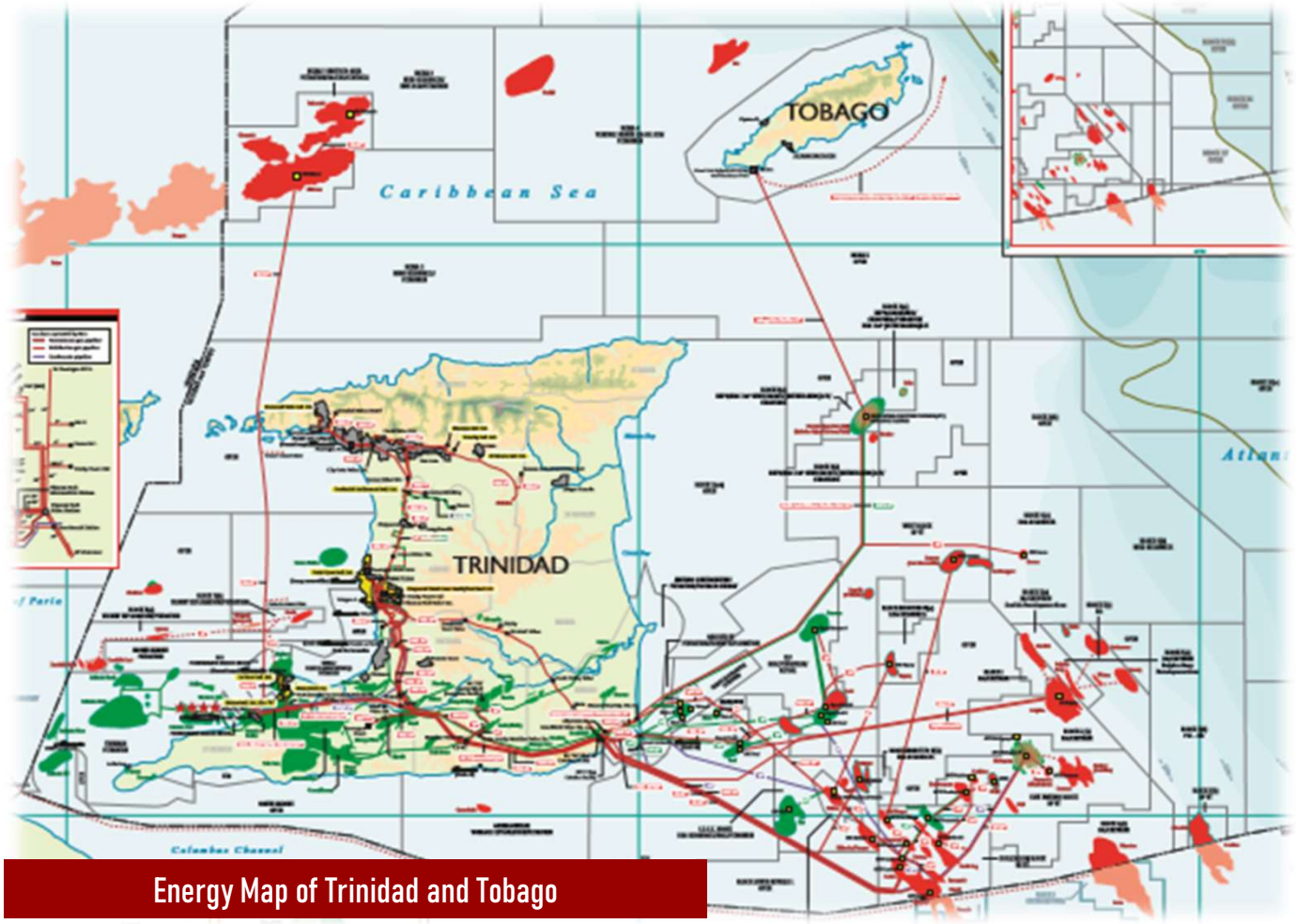
Overview of Trinidad and Tobago

Energy Sector Assets and Resources

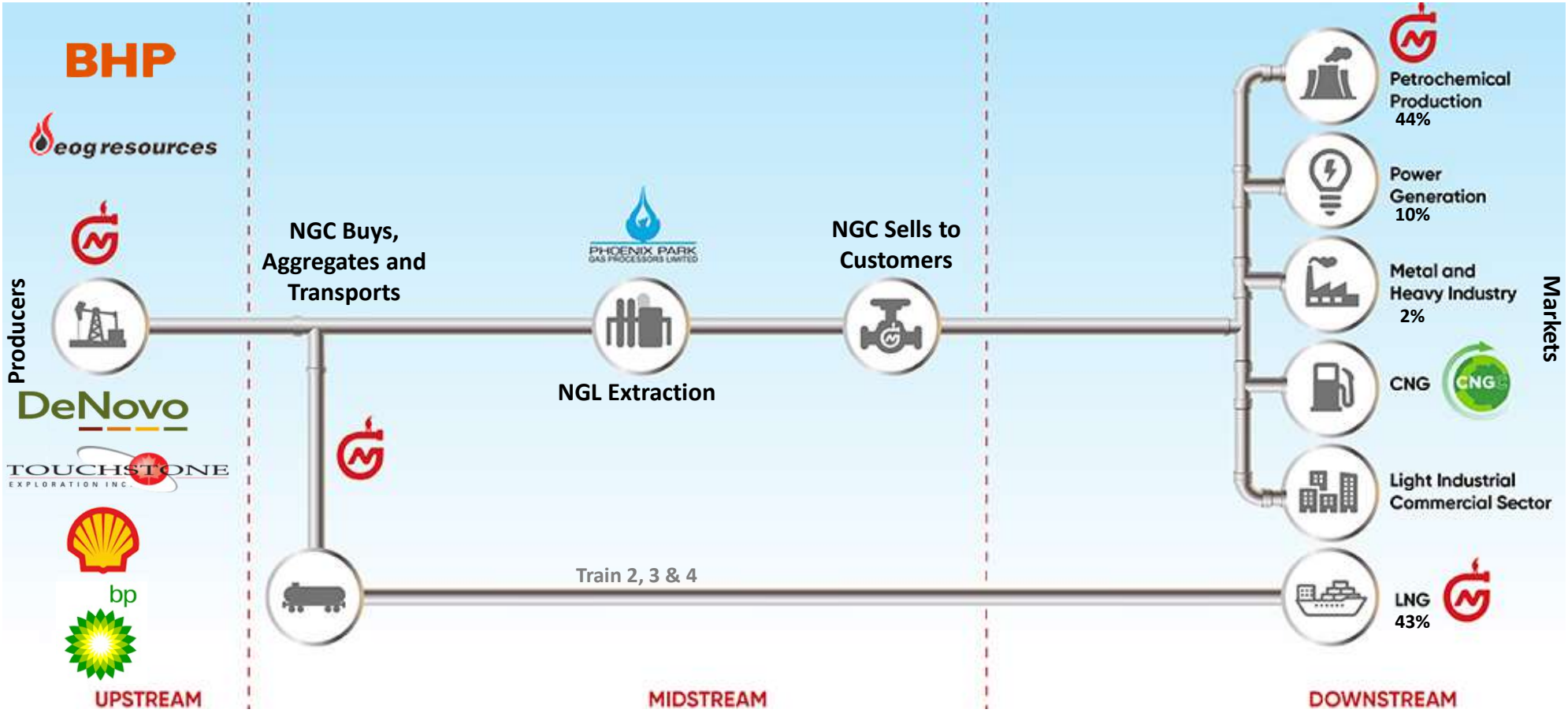


Energy Map of Trinidad and Tobago

Energy Sector Resources

Crude Oil Production (average for 2021)	59,832 bpd
Natural Gas Production (average for 2021)	2.58 Bcf/d
Total LNG Production (2021)	341,926,543 MMBtu
NGL Production (capacity)	70,000 bpd
Unrisked Technically Recoverable Resources (formerly 3P reserves) of Natural Gas (December 2020)	23.3 Tcf
Unrisked Proved Reserves of Crude Oil and Condensate (as of December 2018)	257 million bbls

Natural Gas Value Chain



Adapted from Natural Gas Company of Trinidad and Tobago Limited

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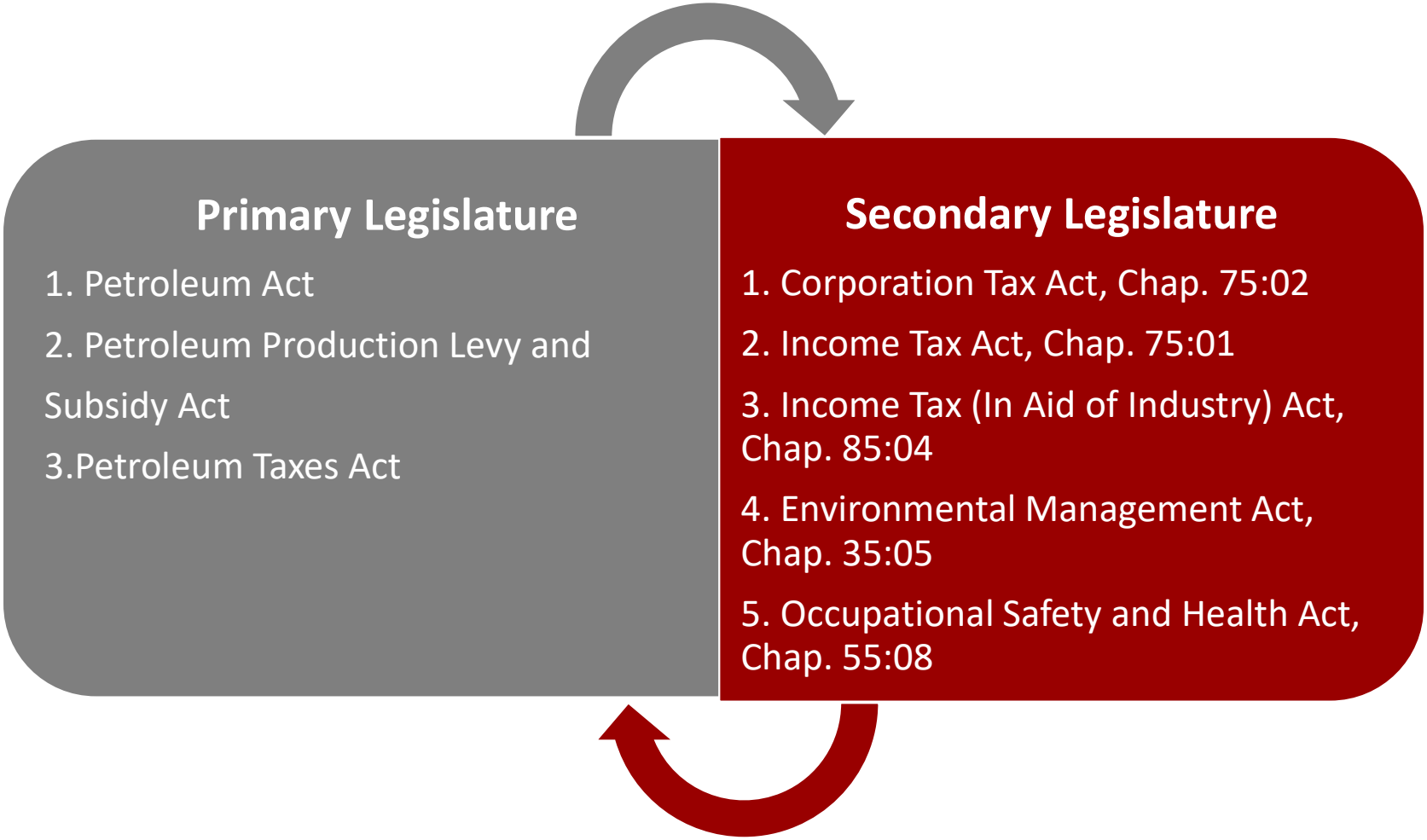
Legislative Framework

T&T Petroleum Legislation



Licensing Regime

Signature Bonuses
Paid on the signing of the PSC

Royalty Payments
12.5% Royalty & Petroleum Taxes paid by the Minister

Production Sharing Contracts (PSCs)
A contractual relationship that grants the right to conduct petroleum operations in exchange for the opportunity to recover its costs and a specified profit

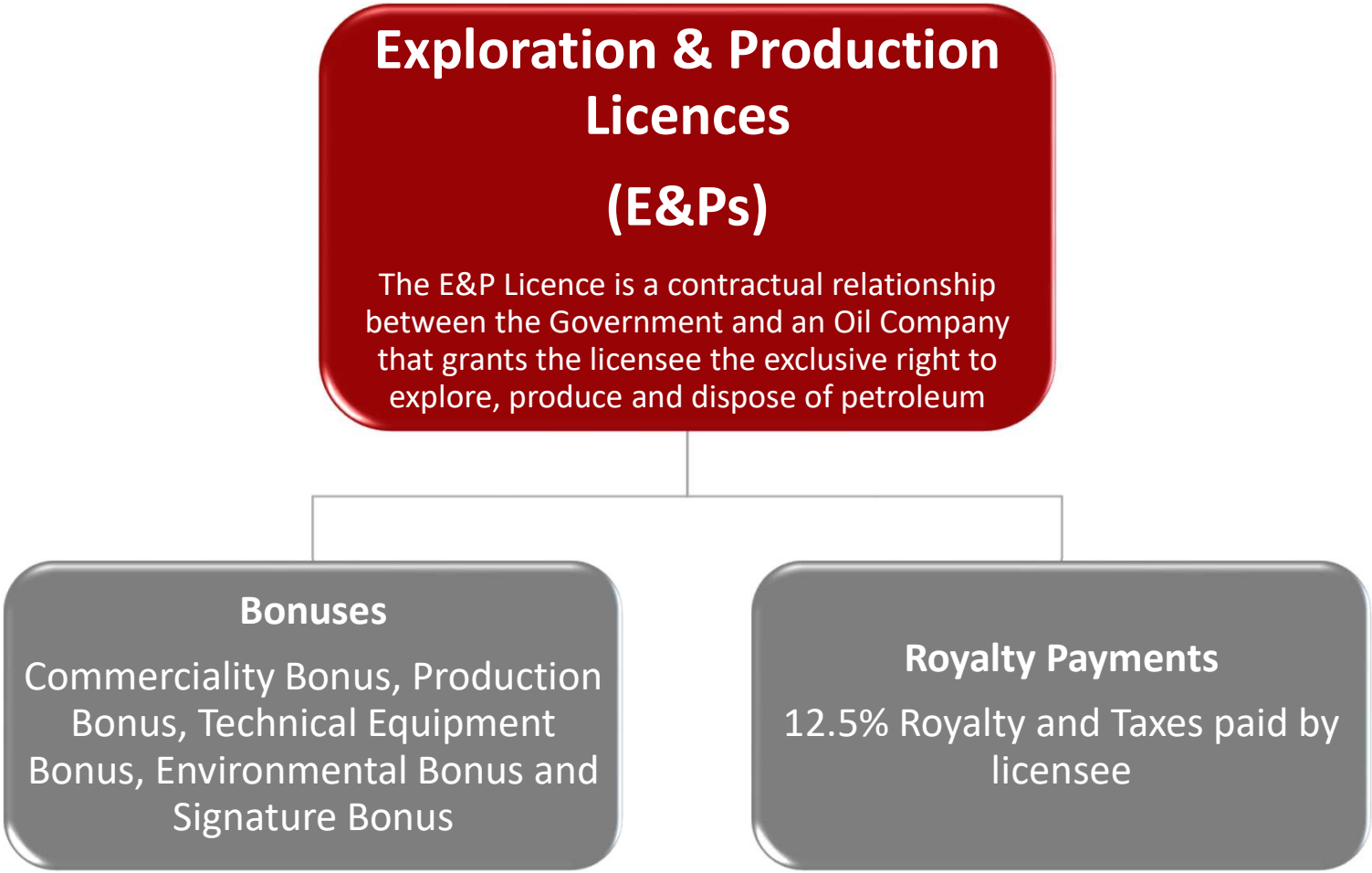
Cost and Risk
The contractor bears all costs and risks related to the exploration, development and production

Fiscal Regime
State pays most of the Contractor's taxes from its share of profit production

Cost Recovery
The contractor is allowed to take an agreed percentage (up to 80%) of field production as a return on his capital investment

Profit Share
After deducting cost, the remaining production, termed "Profit Petroleum" is shared between the State and the Contractor

Licensing Regime



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2022 Competitive Bidding Rounds

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2022/2023 Competitive Bidding Round Schedule

Deep Water Bid Round
June 2nd 2022

→

Onshore Bid Round
July 8th 2022

→

Shallow Water Bid Round
Launch Q1 2023

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Onshore and Nearshore Competitive Bidding Round 2022

Government of the Republic of Trinidad and Tobago
Ministry of Energy and Energy Industries

2022 Onshore and Nearshore Competitive Bidding Round Schedule

Onshore Exploration History

1857
First well drilled onshore by Merrimac Company reaching TD at 200ft

1903
Guayaguayare #3, first well drilled using rotary equipment

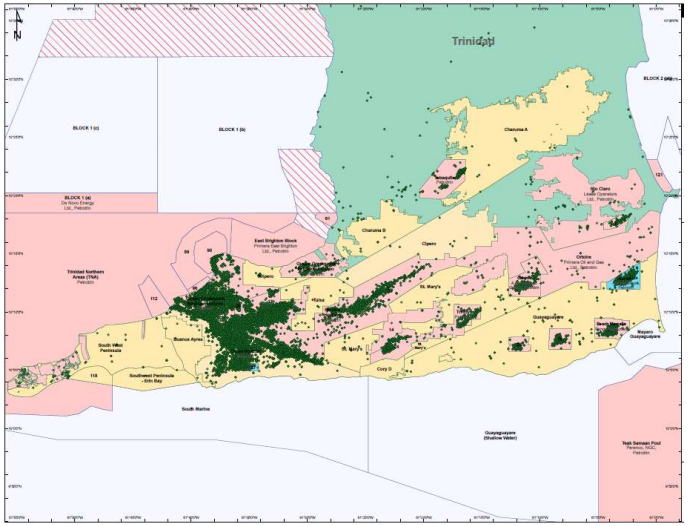
1990
Southern Basin Consortium (SBC) 2D Seismic survey acquired

2005
First onshore competitive bid round

2012
North West District (NWD) 3D Seismic survey acquired. Largest 3D survey onshore to date

2013
Last onshore competitive bid round. 3 blocks successfully awarded: Ortoire, Rio Claro and St. Mary's

2014- Present
7 wells drilled onshore uncovering 1 TCF gas in Ortoire block and 241 MMbbls oil in the South West Peninsula.



More than 13,000 wells drilled since commencement of exploration and over 3.5 BBO and 12 TCF gas produced.

Onshore and Nearshore Competitive Bidding Round 2022

11 Blocks Offered:

Aripero
Buenos Ayres
Charuma
Cipero
Cory D
Cory F
Guayaguayare
St. Mary's
SWP – Offshore
SWP – Onshore
Tulsa

Bid Round Timeline

- **Launch Date : July 8th , 2022**
- **Close Date: January 9th, 2023**
- **Bidders announced and blocks awarded: April 2023**

Bid Evaluation Criteria

1. **Financial Commitment**
   - **Production/Profit Sharing**
2. **Minimum Work Programme**
   - **Geophysical Programme**
   - **Geological and Geophysical Studies**
   - **Drilling**
3. **Competency**

Pre-Bid

- Bid fee ($30,000 USD or TTD equivalent)
- Obtain Data Package
- Right to bid on any or all blocks

Bid

- Technical and Commercial Evaluation
- Minimum Work Programme
- Minimum Expenditure
- Signature Bonus

Post Bid

- Technical Presentation
- Blocks awarded and licences executed

Onshore Geological Setting

Central Range

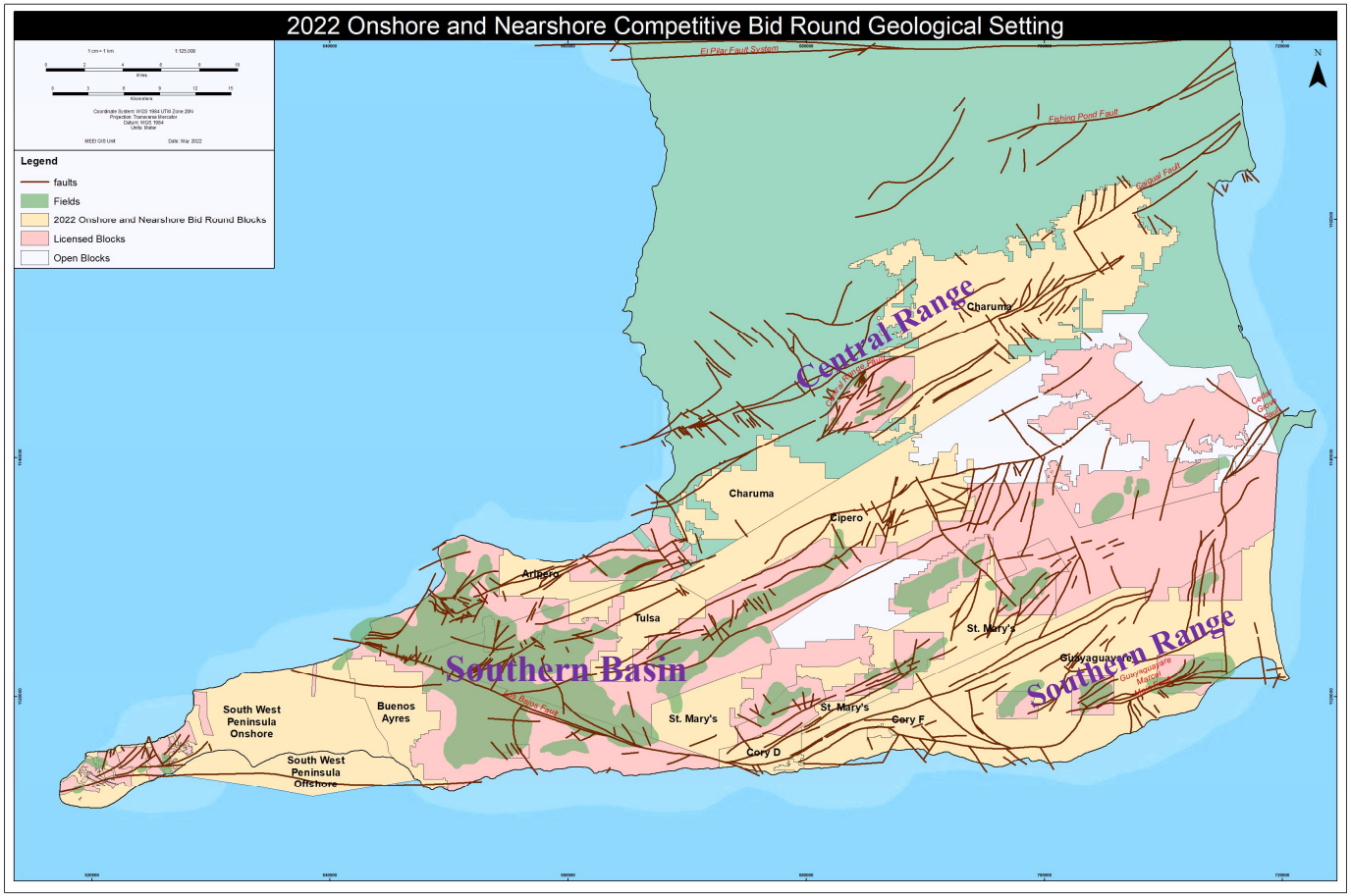
- Zone of complex deformation comprising Miocene thrusts and back thrusts associated with foreland basin development.
- Intersected by active strike-slip faults along the Warm Springs-Central Range-Caigual Fault System.

Southern Basin

- Originated as transpressional foreland basin during the late Oligocene.
- Basin dissected by NE-SW trending anticlines with NW-SE oriented tear faults and southward facing thrusts.
- Sedimentation across the Basin has been dominated by prograding delta lobes since the middle Miocene when the palaeo-Orinoco River shifted course.

Southern Range

- Uplifted and eroded part of the Southern Basin.



Onshore Petroleum System

Source – Naparima Hill Formation (La Luna equivalent)

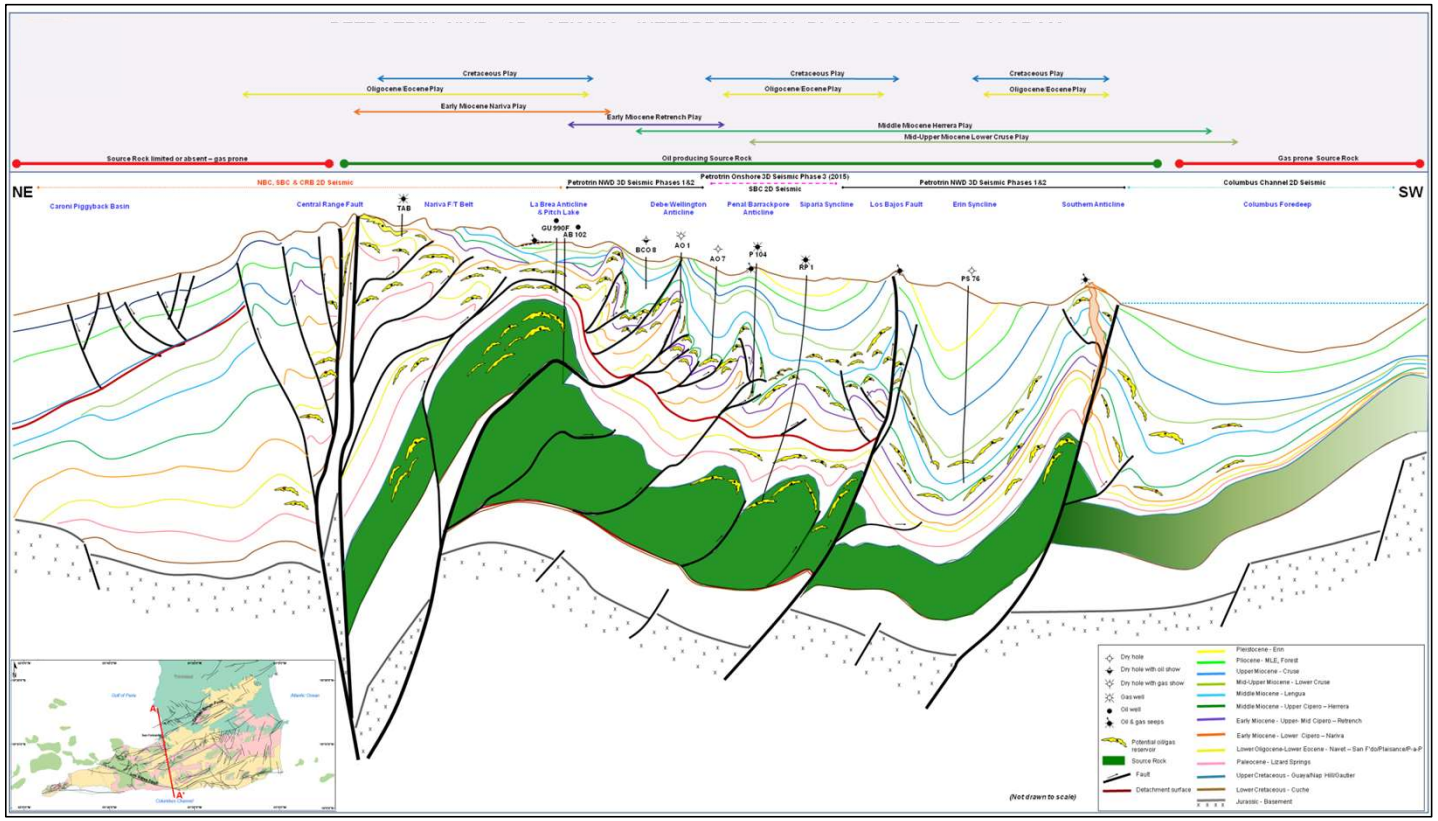
Main Play Types:

- Pleistocene to Late Miocene
  - Deltaic and estuarine sands of Forest, Cruse, Gros Morne and Mayaro Formations
- Miocene
  - Retrench, Herrera and Karamat deep water sands.
- Early Miocene/Oligocene
  - Nariva deep water sands.
- Eocene
  - San Fernando sandstones (Mt. Moriah)
- Cretaceous
  - Naparima Hill Argillite, Gautier and Cuche deep water sands

Traps

- Thrust faults, compressional anticlines with multiple imbricates.
- Folded growth faults, combination structural and stratigraphic trap types

Geological Cross Section of the Southern Basin, Trinidad



Adapted from Petrotrin & Getz NWD Interpretation Report, 2014

Guayaguayare

Background

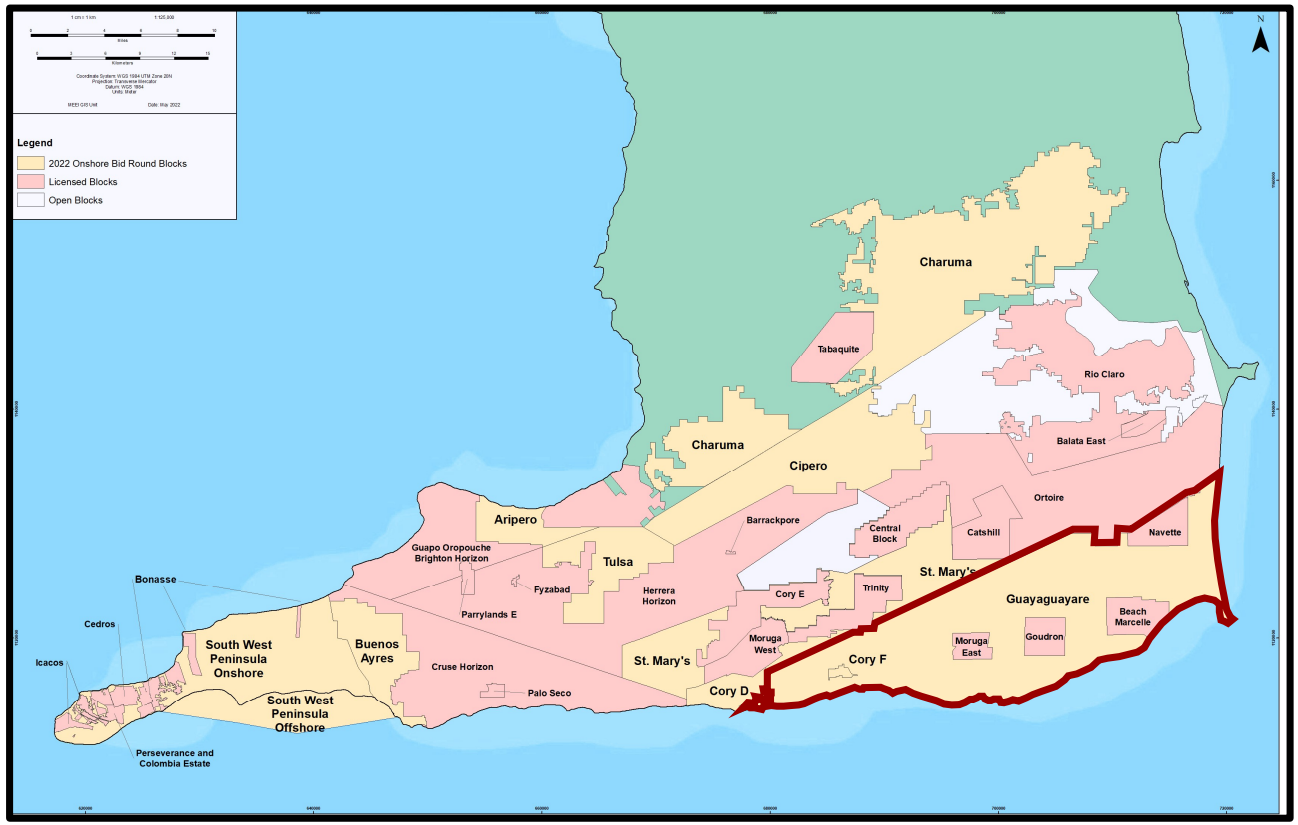
Block Size: 30,595.37 hectares

Block History:

- Exploration and production activities within this block began in 1902. Four fields within the Guayaguayare Sub-basin: Navette, Beach Marcelle, Moruga East and Goudron.
- Recent operators included Voyager - July 2009 to September 2015, and Range Resources - September 2015 to January 2020. Block subsequently reverted to the MEEI.

Petroleum System

- **Source:** Cretaceous Naparima Hill and Gautier Formations
- **Reservoirs:** Cretaceous Sands and Plio-Pleistocene Deltaic Deposits
- **Reservoir Depths:** 1500 ft – 11500 ft
- **Reservoir Quality:** 20-25% average porosity.
- **Trap types:** Combination traps including wrench-related anticlinal flower structures and pinch-outs
- **Seal:** Intraformational shales



Cory F

Background

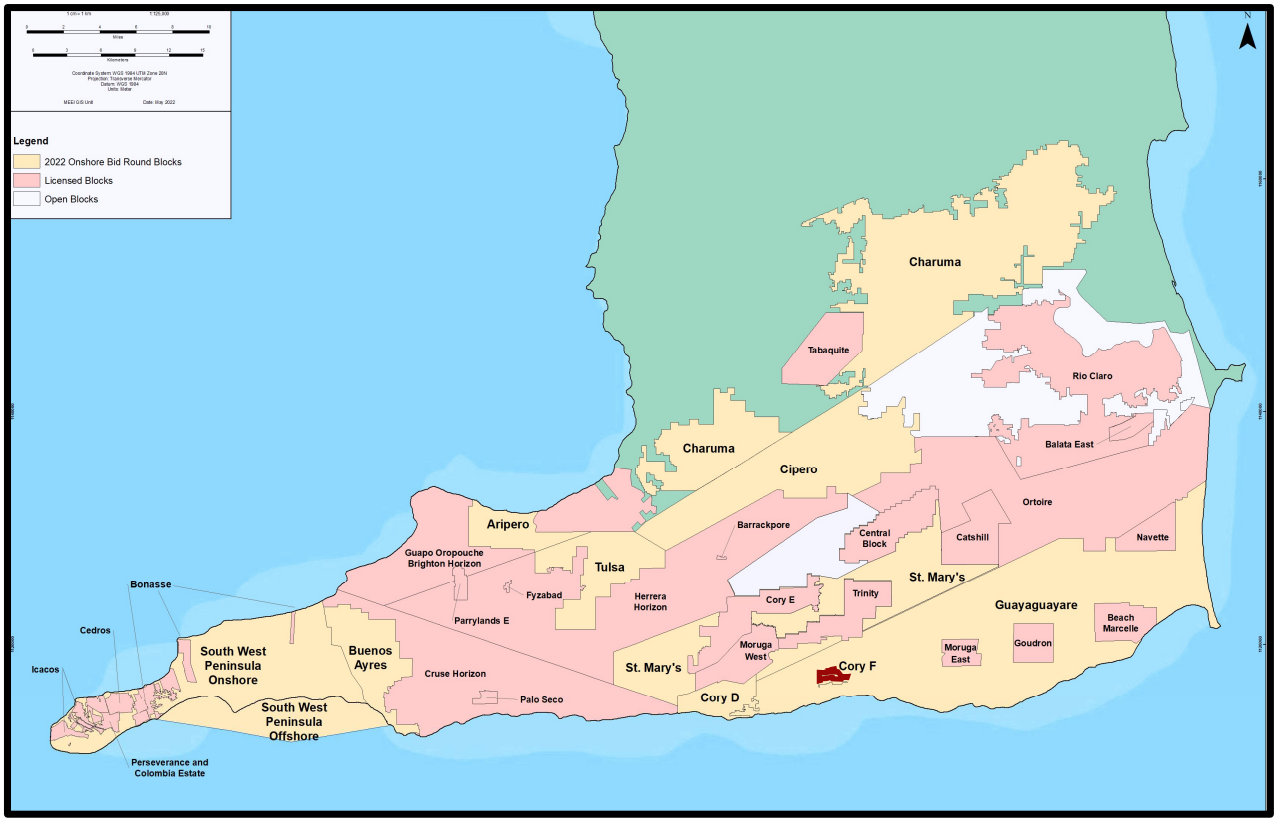
Block Size: 169.4 hectares

Block History:

- The Block was first operated on by the Cory Brothers in the 1930s – 1940s.
- In 2007 the Cory Blocks were awarded to Primera Oil and Gas Limited.
- In 2011 Primera surrendered the Cory F block.

Petroleum System

- **Source:** Naparima Hill Formation
- **Reservoir:** Miocene turbidites, Pliocene deltaic deposits, possible Cretaceous sands
- **Reservoir Depths:** 1500ft - 8000ft
- **Trap Types:** Structural
- **Seal:** Intraformational shales



Cory D

Background

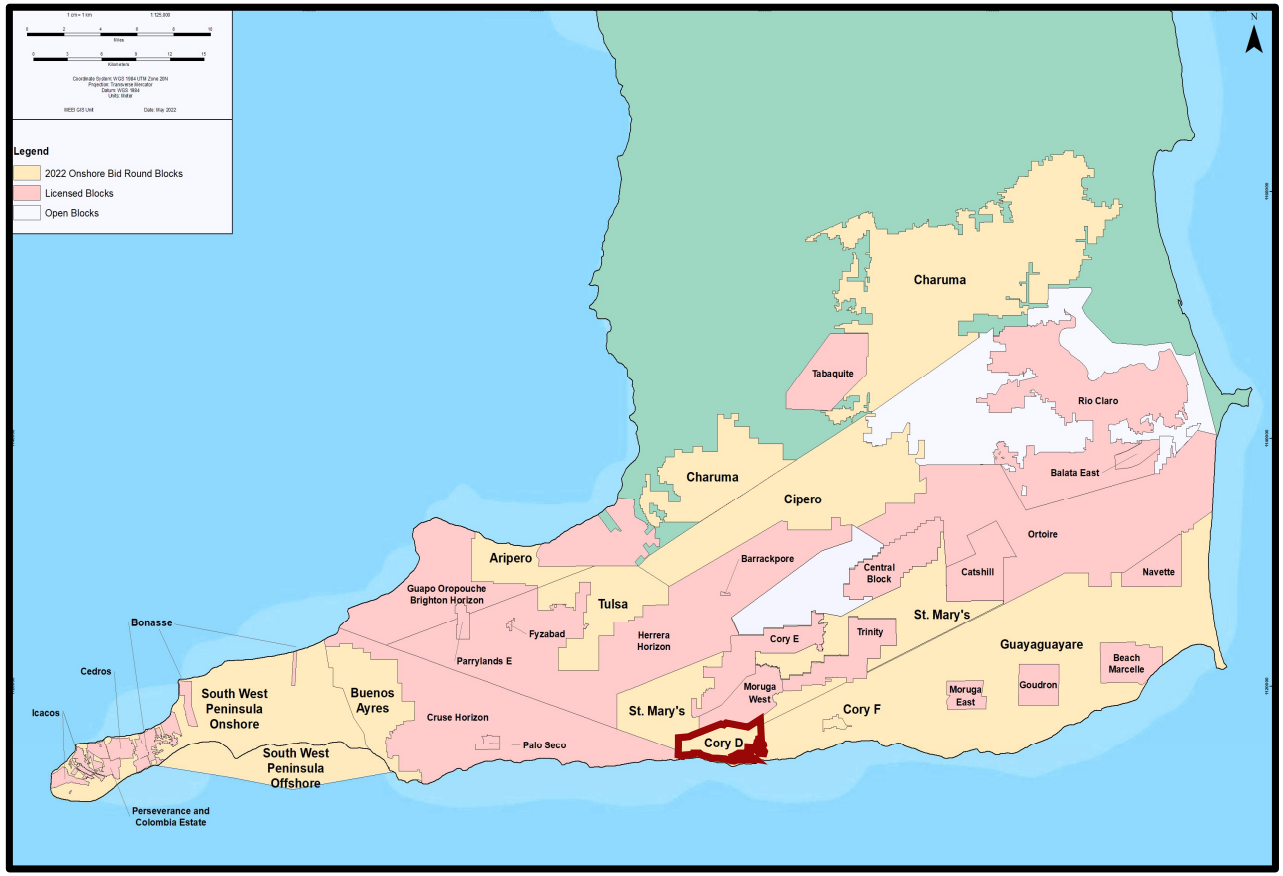
Block Size: 1,652.73 hectares

Block History:

- The Block was first operated on by the Cory Brothers in the 1930s – 1940s.
- In 2007 the Cory Blocks were awarded to Primera Oil and Gas Limited.
- In 2011 Primera surrendered the Cory D block.

Petroleum System

- **Source:** Naparima Hill Formation
- **Reservoir:** Miocene turbidites, Pliocene deltaic deposits, possible Cretaceous sands
- **Reservoir Depths**: 1500 ft - 10000ft
- **Trap Types:** Structural
- **Seal:** Intraformational shales



St. Mary's

Background

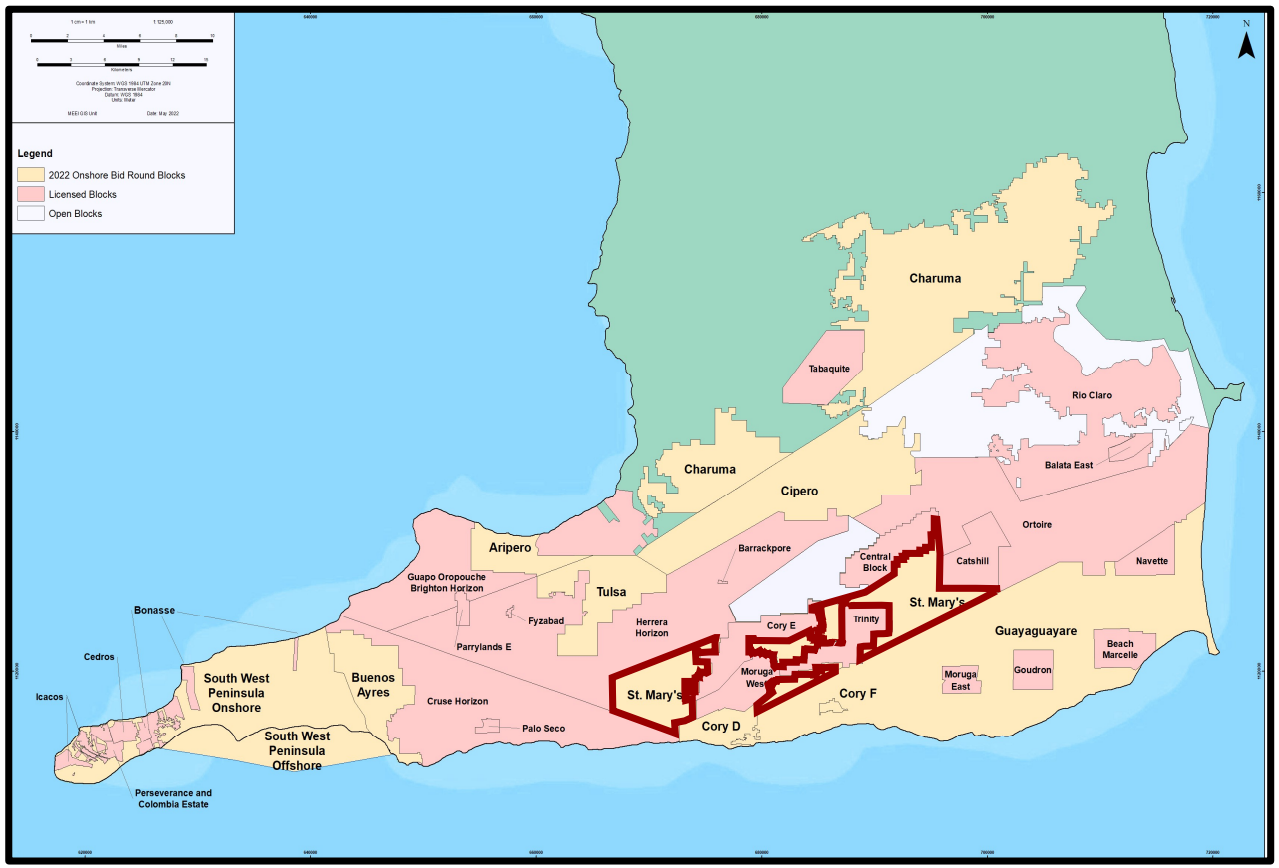
Block Size: 10,794.36 hectares

Block History:

- PSC signed in 2014; Licence Expired in 2020
- Operators: Range Resources (80%) and Petrotrin (20%)

Petroleum System

- **Source:** Cretaceous Naparima Hill and Gautier Formations
- **Reservoirs:** Pliocene deltaic and estuarine sands, Miocene Herrera turbidites, Cretaceous deep water sands
- **Reservoir Depths:** 3000 ft – 14000 ft
- **Trap Types:** Structural (2-way and 3-way dip closures) & stratigraphic pinch outs.
- **Seals:** Intraformational shales



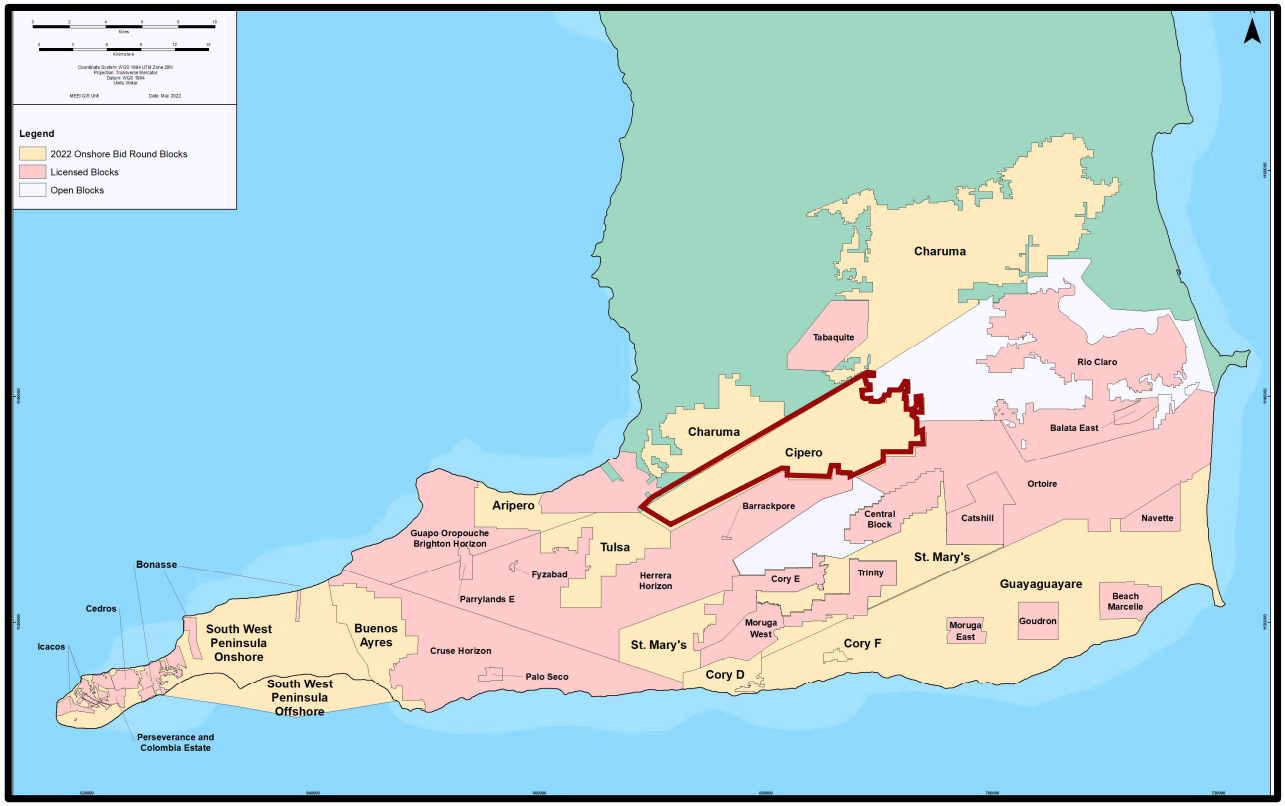
Cipero

Background

Block Size: 12,110 hectares

Block History:

- In 1989, the Southern Basin Consortium explored the deep horizons of the southern part of Trinidad, inclusive of the area now known as Cipero Block.
- Cipero Block was offered as part of Herrera block in the 1995-96 Bid round.
- Cipero was not included in the block award.



Petroleum System

- **Source:** Naparima Hill Formation
- **Reservoir:** Pliocene Deltaic sands, Miocene Herrera Turbidites, Cretaceous sands.
- **Reservoir Depths:** 3000 ft – 12000 ft
- **Trap Types:** Structural

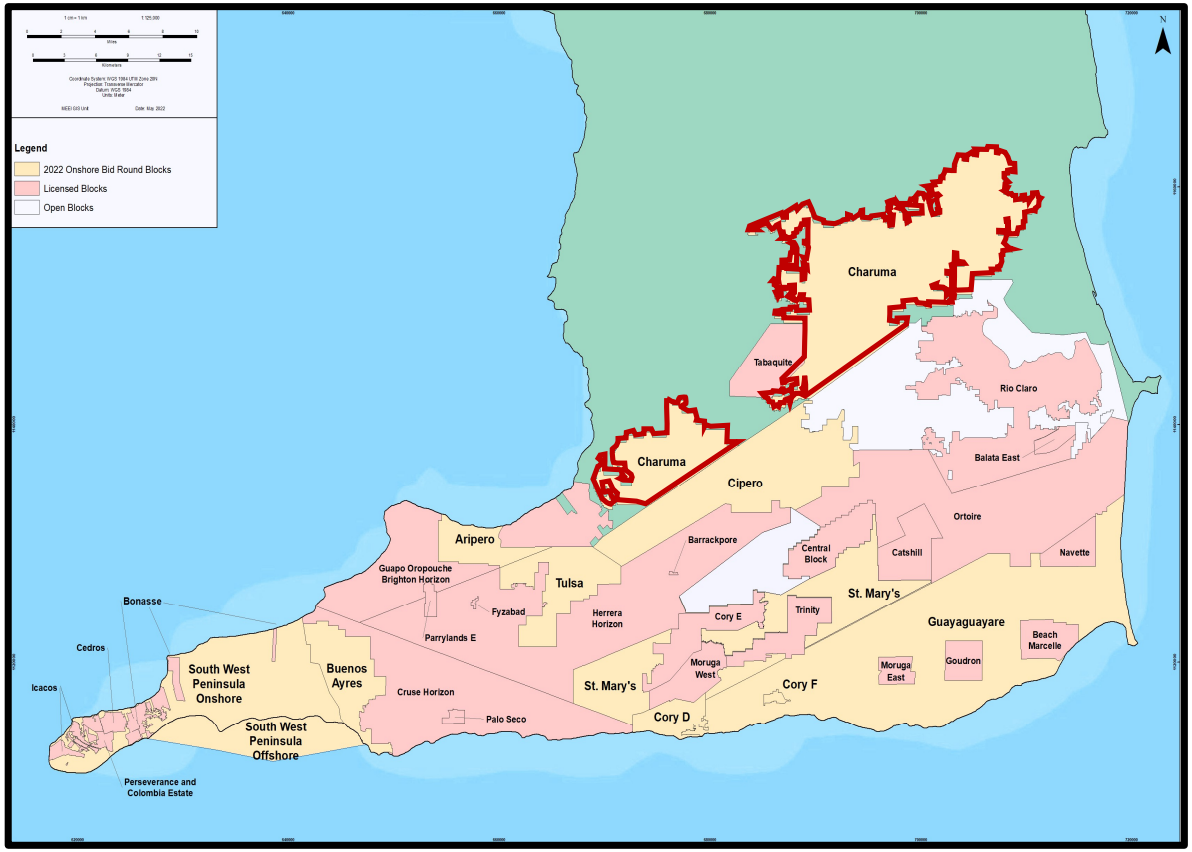
Charuma

Background

Block Size: 29,455.35 hectares (subdivided into two blocks)

Block History:

- Modified from 1989 Original Central Range Block
- Charuma Blocks Relinquished by Parex in 2014



Petroleum System

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoir:** Eocene- Miocene deep water sandstones and Cretaceous Argillites
- **Reservoir Depth**: 2000 ft – 7500 ft
- **Reservoir Quality**: Porosities: 15-20%,
  Permeabilities: 50 – 250mD
- **Trap**: Faulting along Warm Springs-Central Range-Caigual Fault Zone
- **Seal**: Cipero shales

Aripero

Background

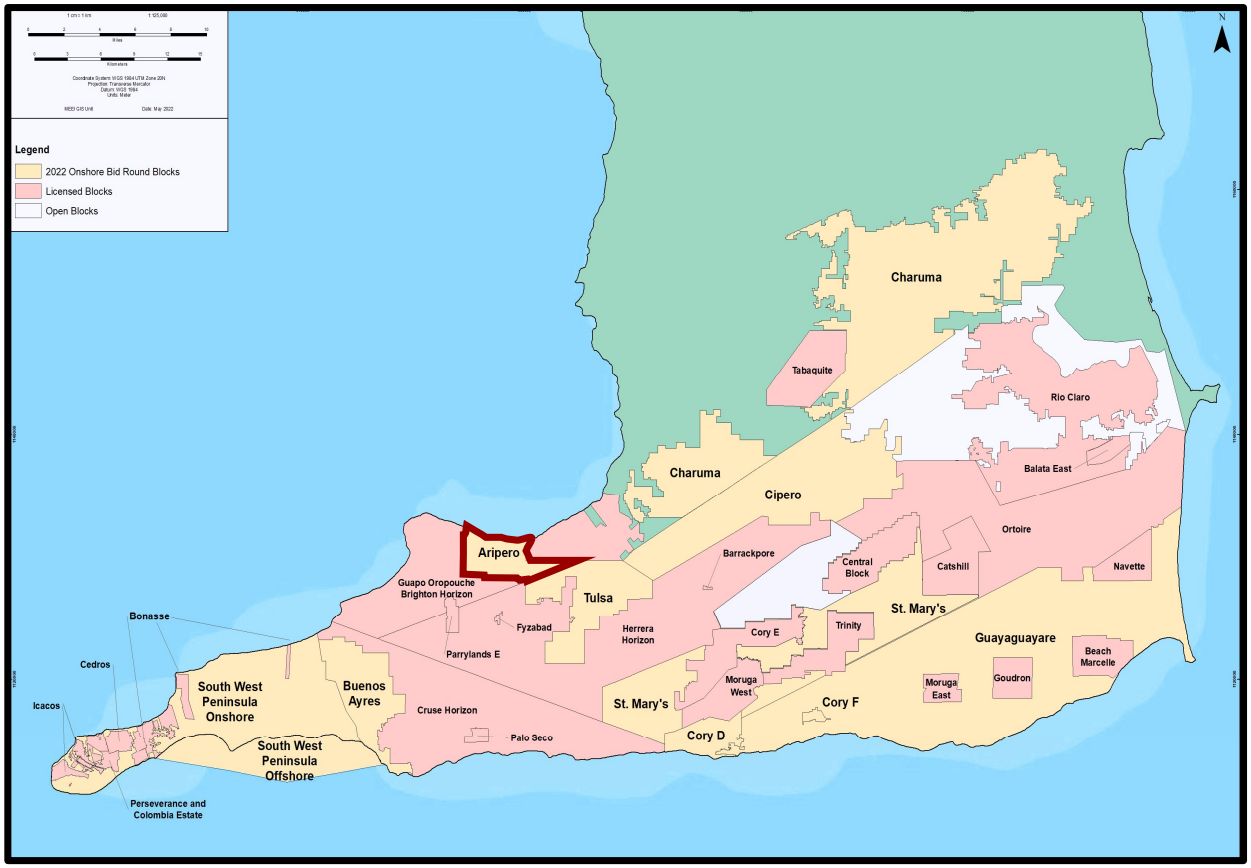
Block Size: 2,263.21 hectares

Block History:

- Portion of Guapo-Oropouche-Brighton Horizons E&P Licence referred to as Block I, was relinquished in 2012.
- Block I renamed Aripero in 2022.

Petroleum System

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoirs:** Late Miocene to Early Pliocene deltaic and estuarine sands.
- **Reservoir Depths:** 800 ft - 14500 ft
- **Trap Types:** Structural
- **Seal:** Intraformational shales



Tulsa

Background

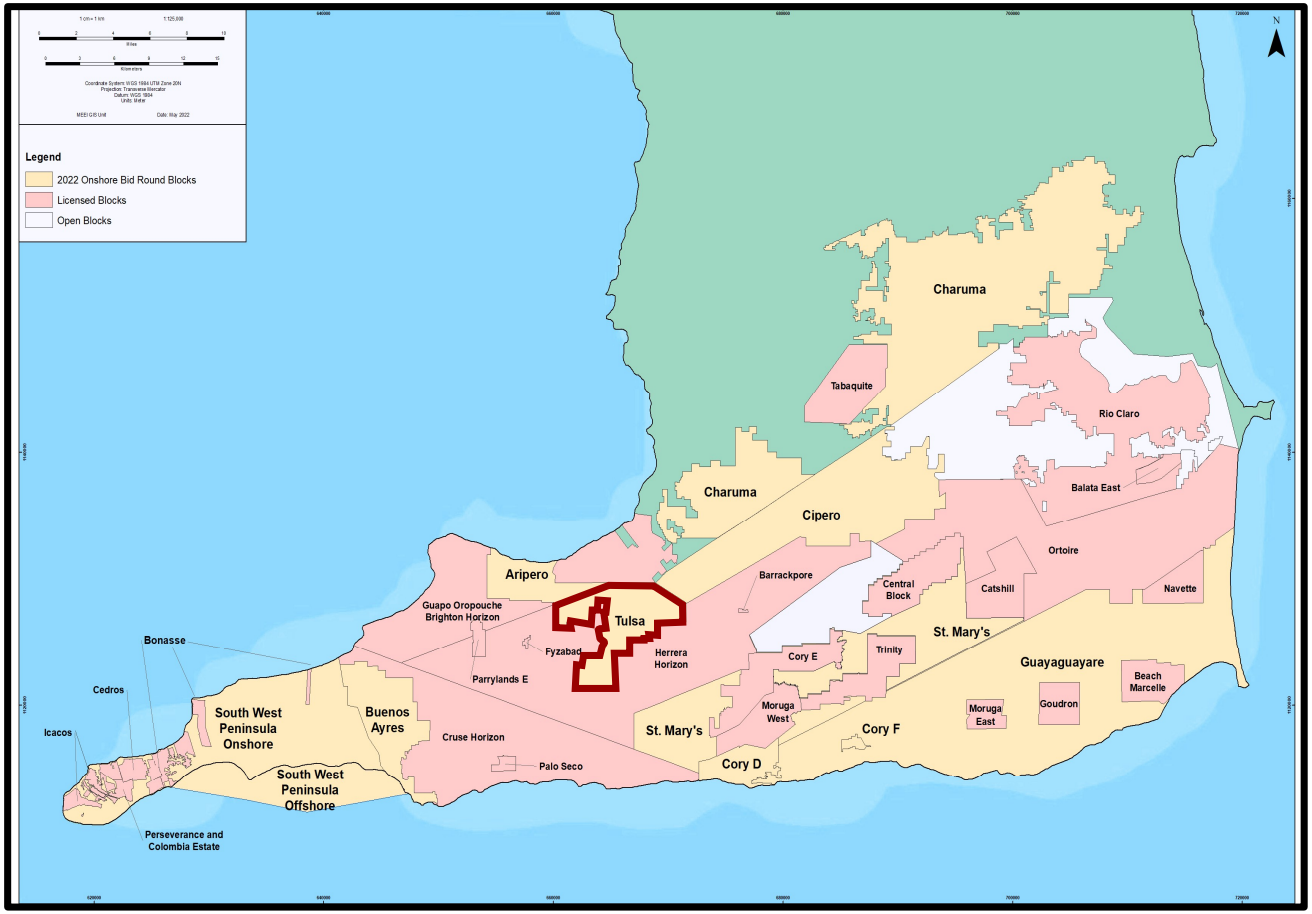
Block Size: 4,673.39 hectares

Block History:

- Portion of Herrera Horizons E&P Licence referred to as Block H, was relinquished in 2012.
- Block H renamed Tulsa in 2022.

Petroleum System

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoirs:** Late Miocene to Early Pliocene deltaic and estuarine sands.
- **Reservoir Depths:** 2000 ft - 12000 ft
- **Trap Types:** Structural, stratigraphic and combination trap types
- **Seal:** Intraformational shales



Buenos Ayres

Background

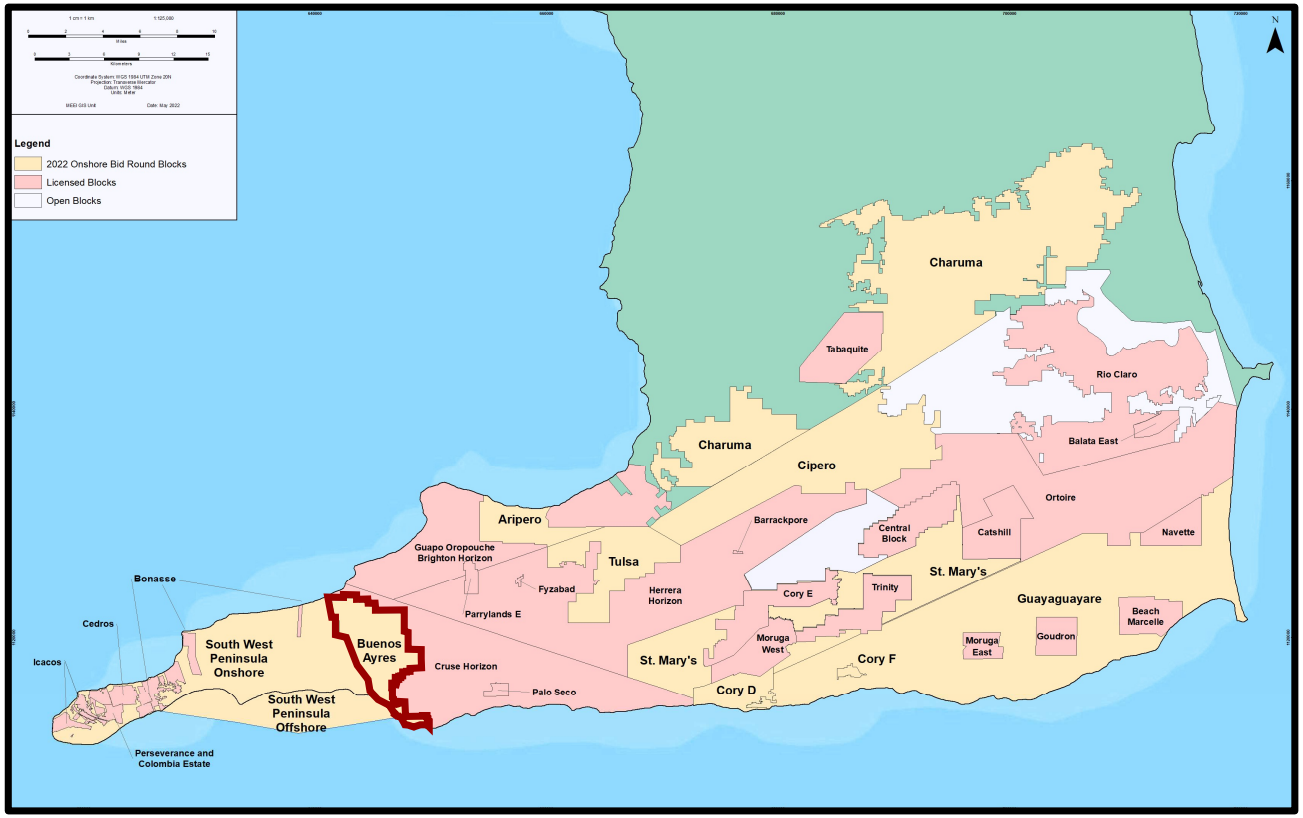
Block Size: 4,105.97 hectares

Block History:

- Portion of Cruse Horizon E&P licence referred to as Block A, was relinquished in 2012.
- Block A was renamed Buenos Ayres in 2012.

Geological Overview

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoirs:** Pliocene deltaic and estuarine sands
- **Reservoir Depths:** 7200 – 11000 ft
- **Traps:** Structural and Stratigraphic
- **Seals:** Intraformational shales



South West Peninsula (Onshore)

Background

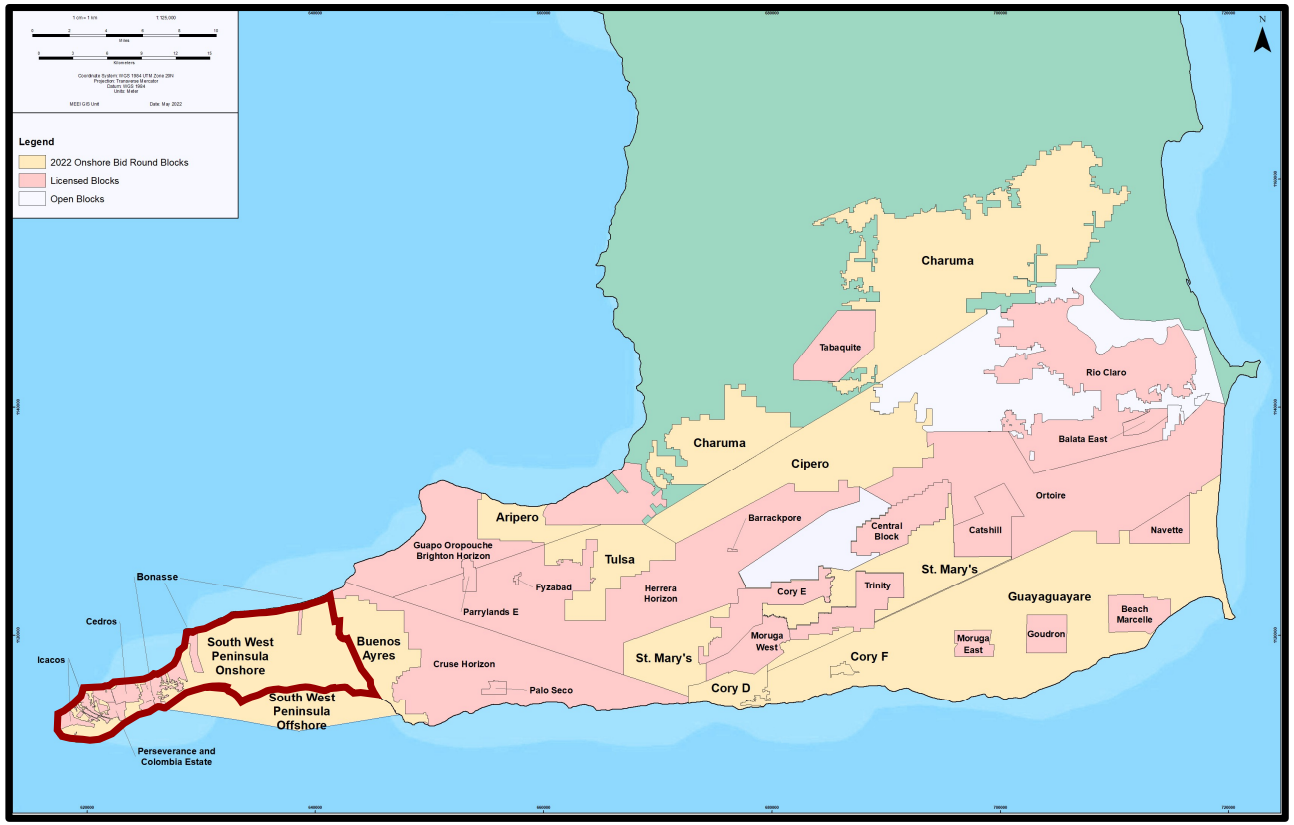
Block Size: 14,451.69 hectares

Block History:

- E&P licence signed on 24th May 2007 between the MEEI and Trinidad Exploration Development Company Limited (TED) and Petrotrin.
- Licence expired on 23rd May 2013.

Geological Overview

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoirs:** Pliocene deltaic and estuarine sands
- **Reservoir depths:** 3000ft – 16000ft
- **Trap Types:** Structural and Stratigraphic
- **Seals:** Intraformational shales



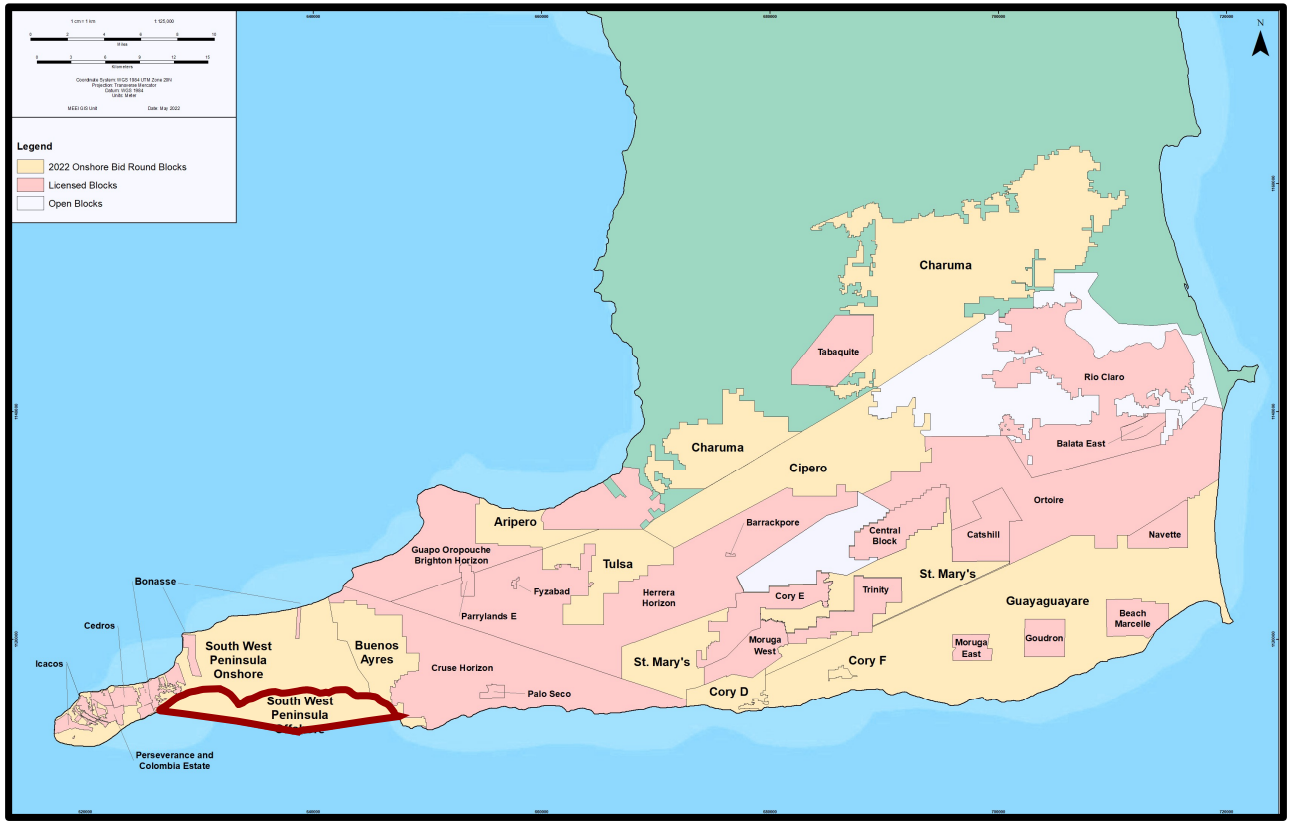
South West Peninsula (Offshore)

Background

Block Size: 4,843.7 hectares (SWP Offshore block was previously two separate blocks called SWP Islote Bay and SWP Erin Bay).

Block History:

- E&P licence signed on 24th May 2007 between the MEEI and Trinidad Exploration Development Company Limited (TED) and Petrotrin.
- These licenses expired on 23rd May 2013.



Geological Overview

- **Source:** Cretaceous Naparima Hill Formation
- **Reservoirs:** Miocene to Pliocene deltaic and estuarine sands
- **Reservoir depths:** 6500ft – 12000ft
- **Trap Types:** Structural and Stratigraphic
- **Seals:** Intraformational shales

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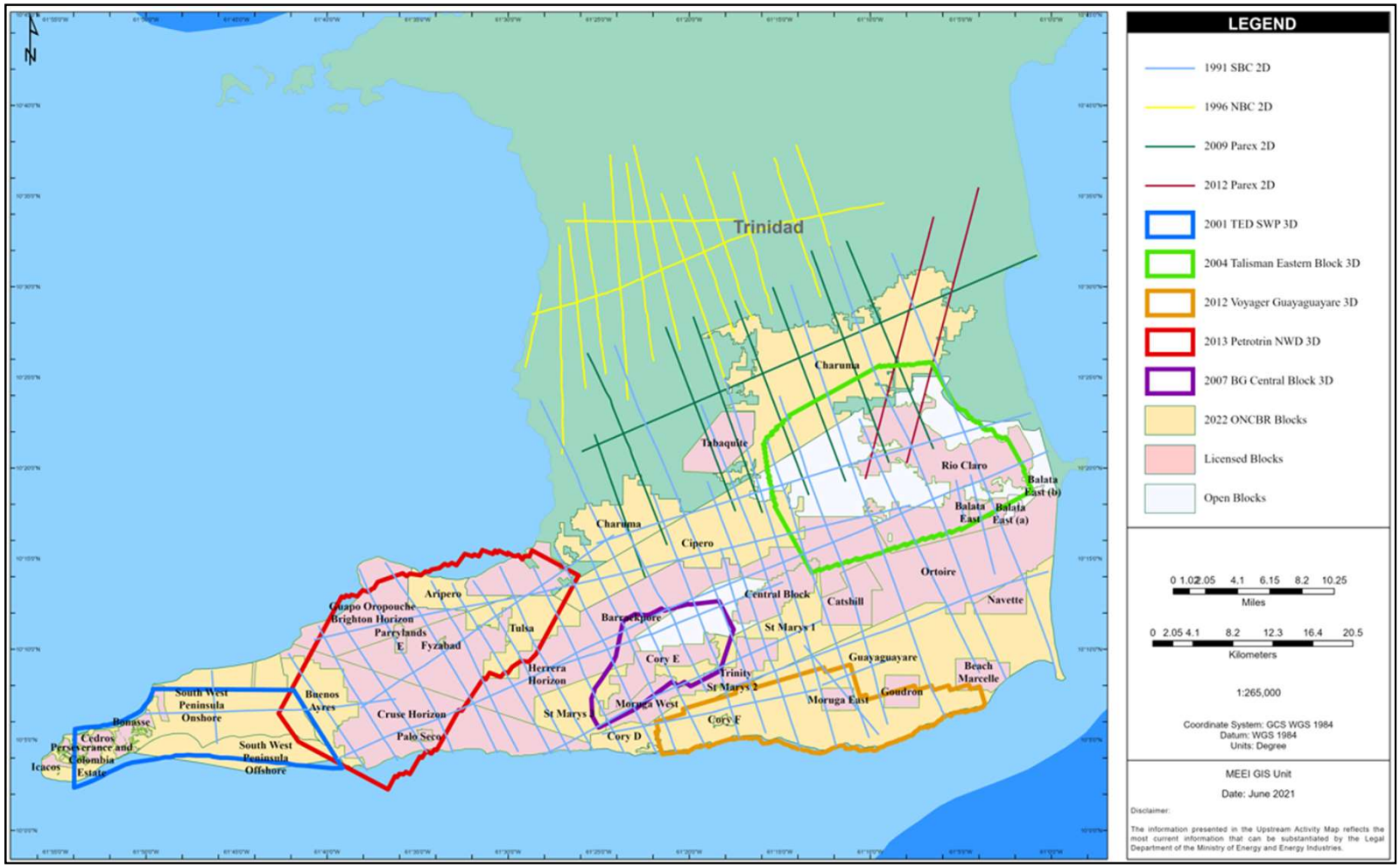
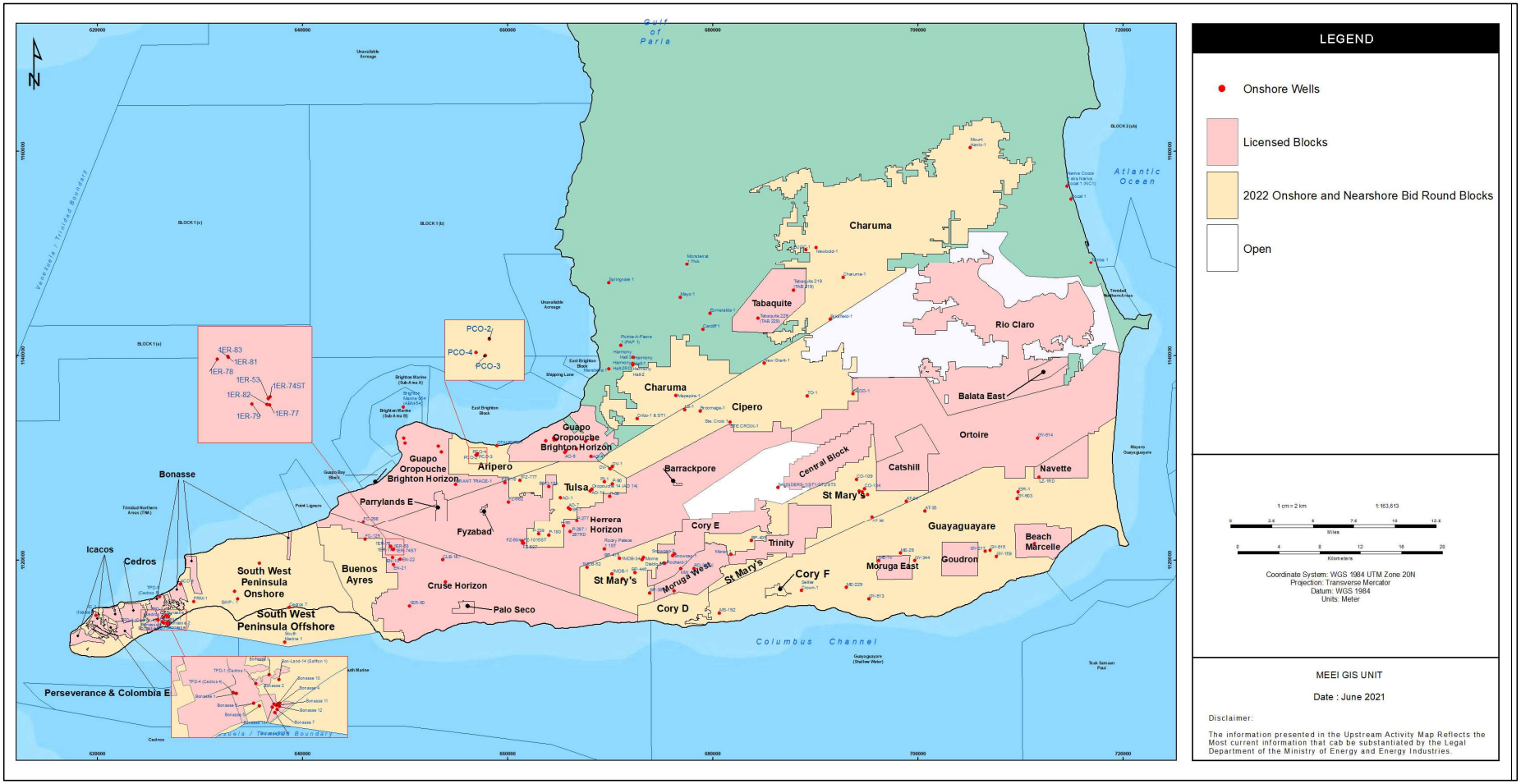
Onshore and Nearshore Dataset

Onshore and Nearshore Seismic Data

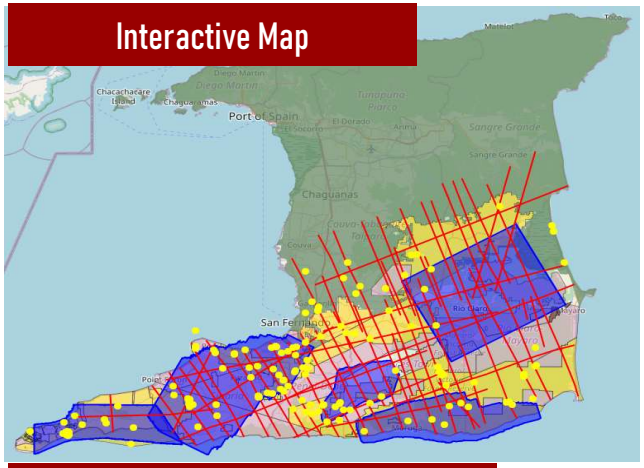


Onshore and Nearshore Well Data

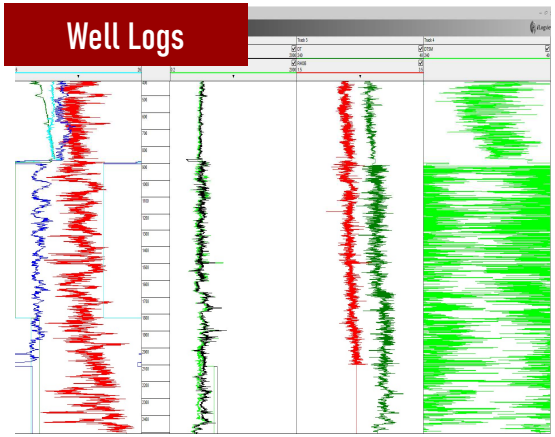


Virtual Data Room

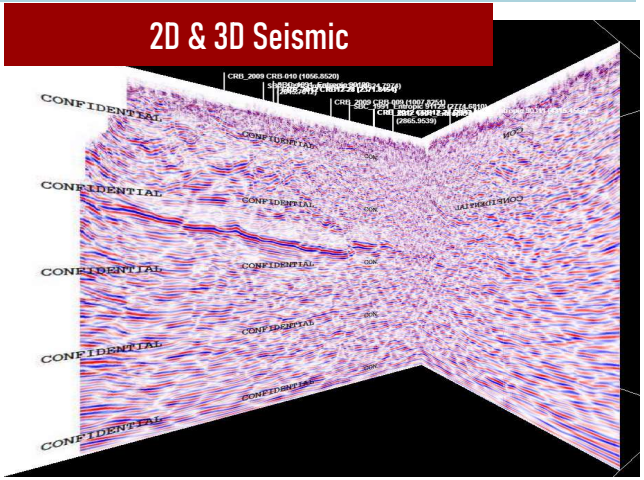
Interactive Map



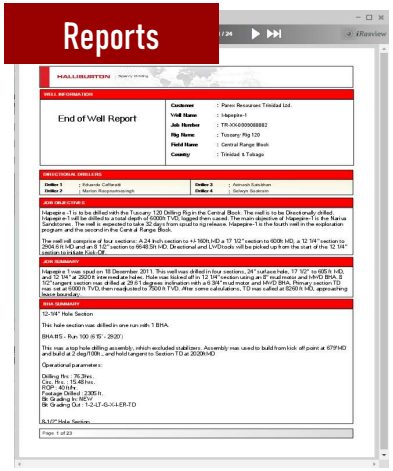
Well Logs



2D & 3D Seismic



Reports



https://ttdataroom2021.com

Fill Out Data Request Form

Review, sign and submit DUA

Access Data

Government of the Republic of Trinidad and Tobago
Ministry of Energy and Energy Industries

Shallow Water Competitive Bidding Round 2023

Shallow Water Geological Setting

North Coast Marine Area

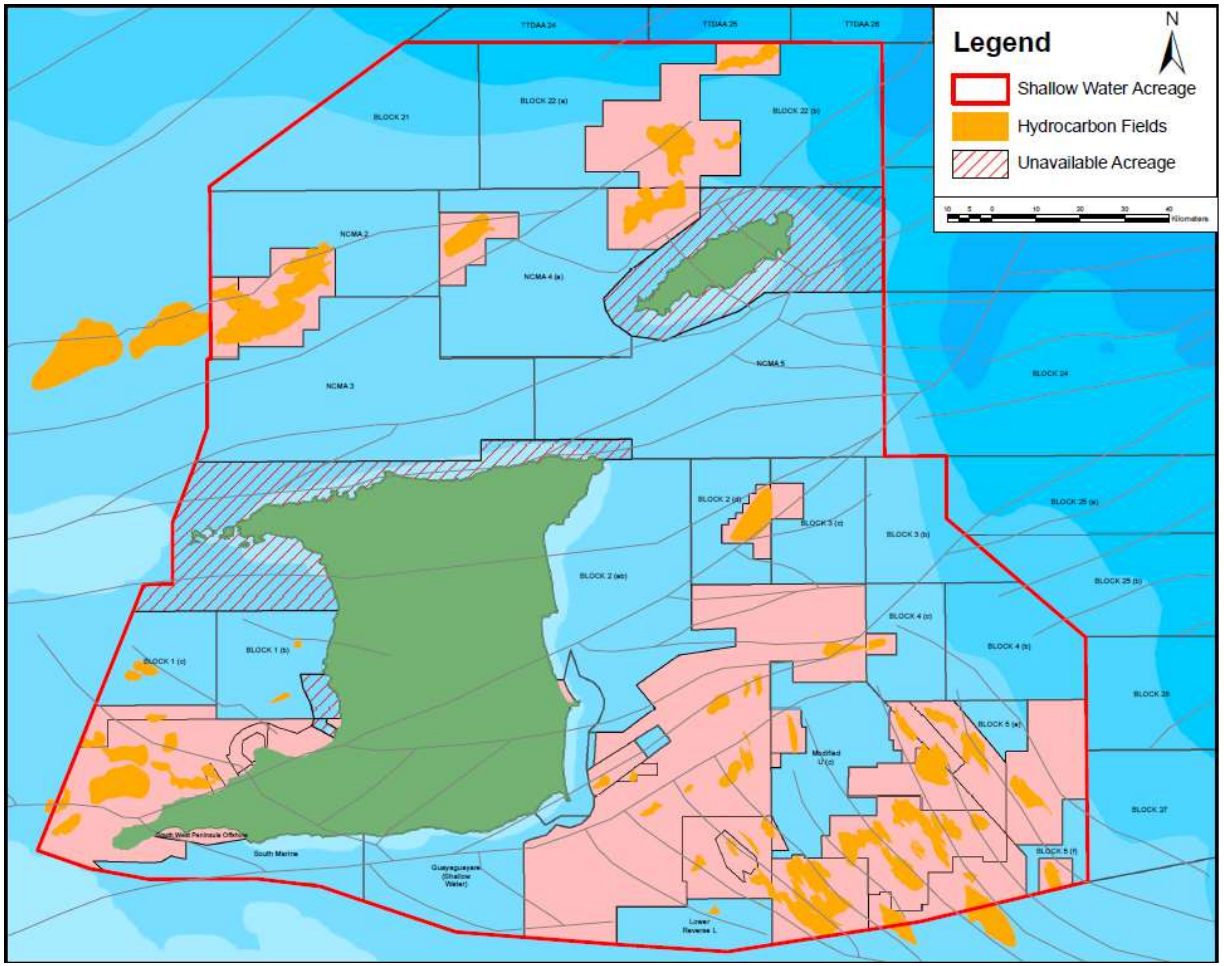
- Patao High formed due to oblique strain tectonics in the region. NE trending antiform which plunges to the E and is truncated by a series of NW-SE normal en-echelon faults.
- Tobago Basin: wedge shaped prism of Oligocene–Miocene to Pleistocene sediment

East Coast Marine Area

- Columbus Basin was formed by regional strike-slip interaction between the South American and Caribbean tectonic plates
- The Basin is filled with thick deltaic and estuarine deposits since the Middle Miocene and as a response to the subduction, tectonic loading and progradation of the Orinoco Delta.

Gulf of Paria

- Gulf of Paria Pull-Apart Basin formed in late Miocene with the stepover of the El Pilar fault to the EW trending Warm Springs Fault and the NE trending CRFZ. Compressional basin due to the NW verging thrusts associated with the CRTZ.



Shallow Water Petroleum System

North Coast Marine Area

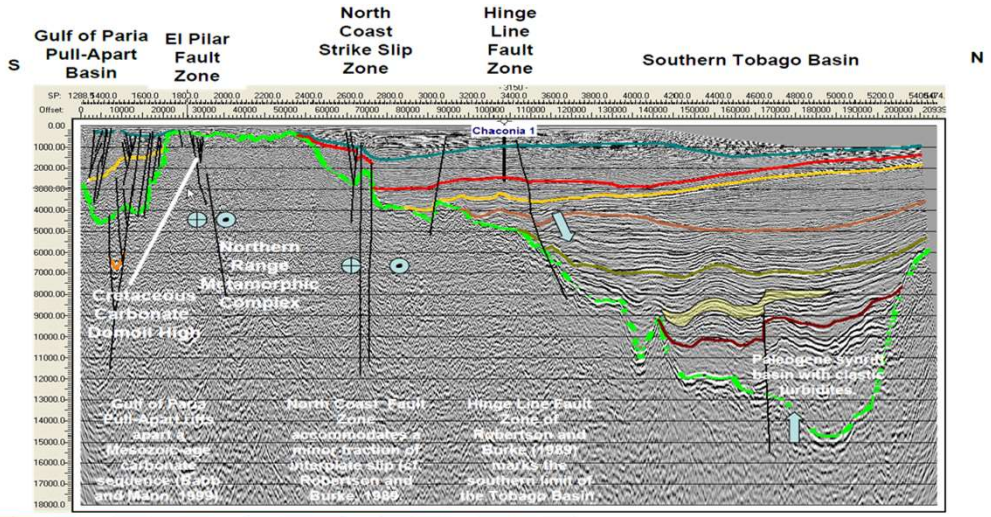
- Biogenic gas
- Miocene-Pleistocene shelf reservoirs charged by intraformational seals also acting as seals
- Traps are mainly structural and stratigraphic

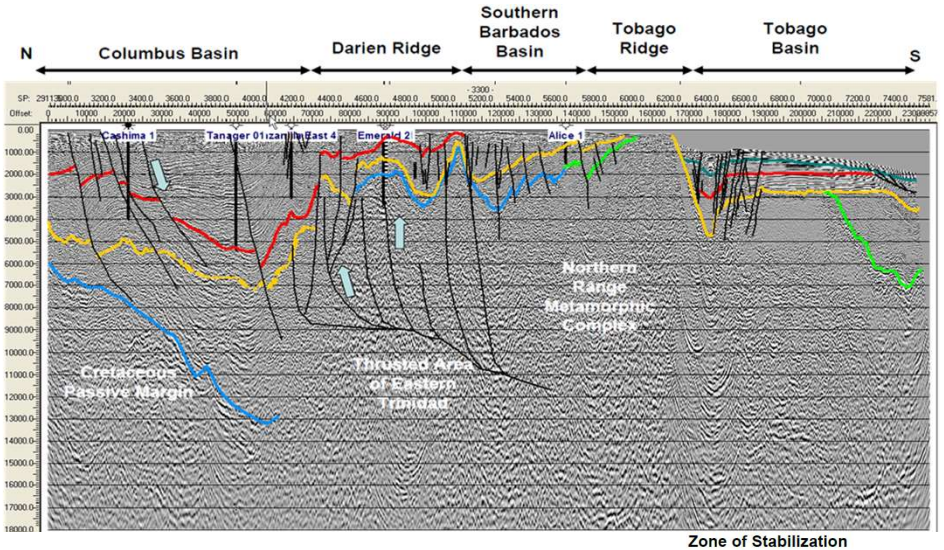
East Coast Marine Area

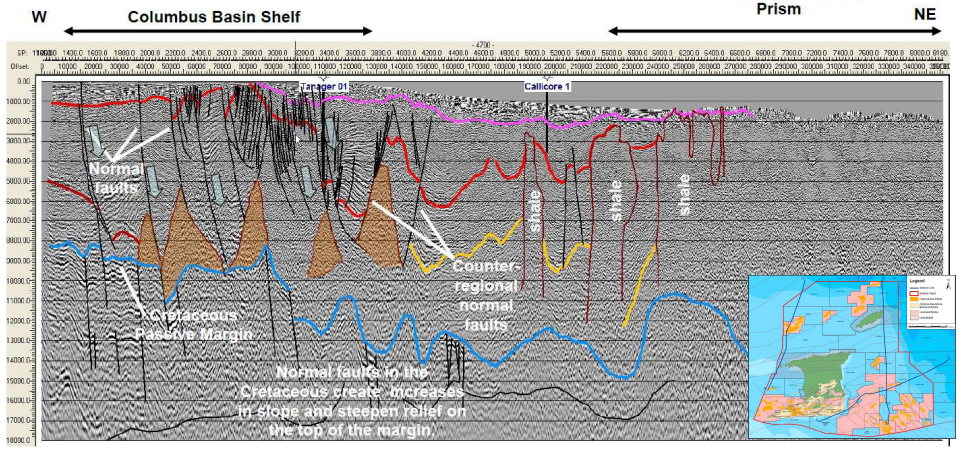
- Biogenic gas and condensate
- Miocene-Pliocene sandstones and siltstones
- Traps are mainly structural

Gulf of Paria

- Biogenic gas, condensate and oil
- Miocene-Pliocene source and reservoir sands
- Traps are mainly structural and stratigraphic







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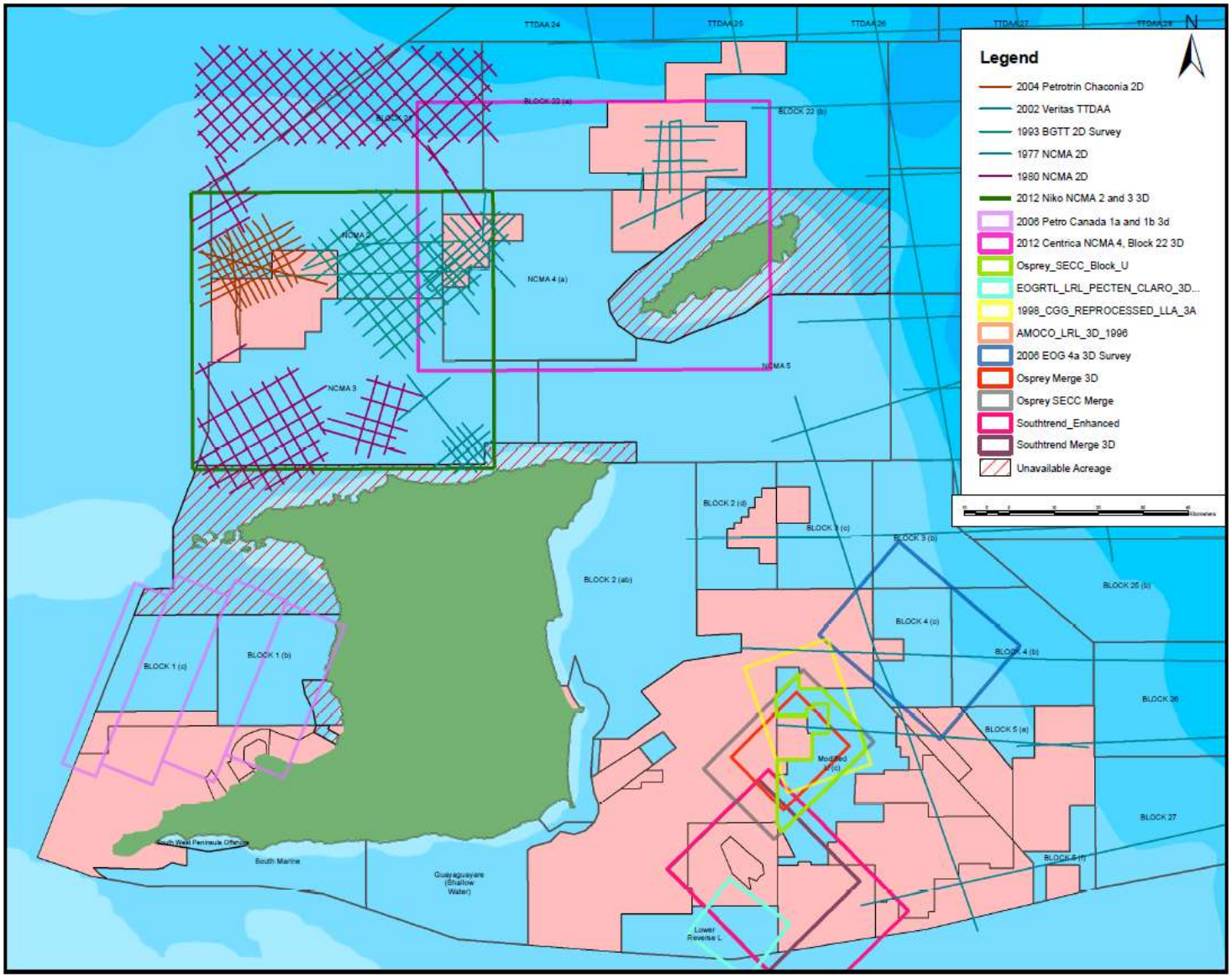
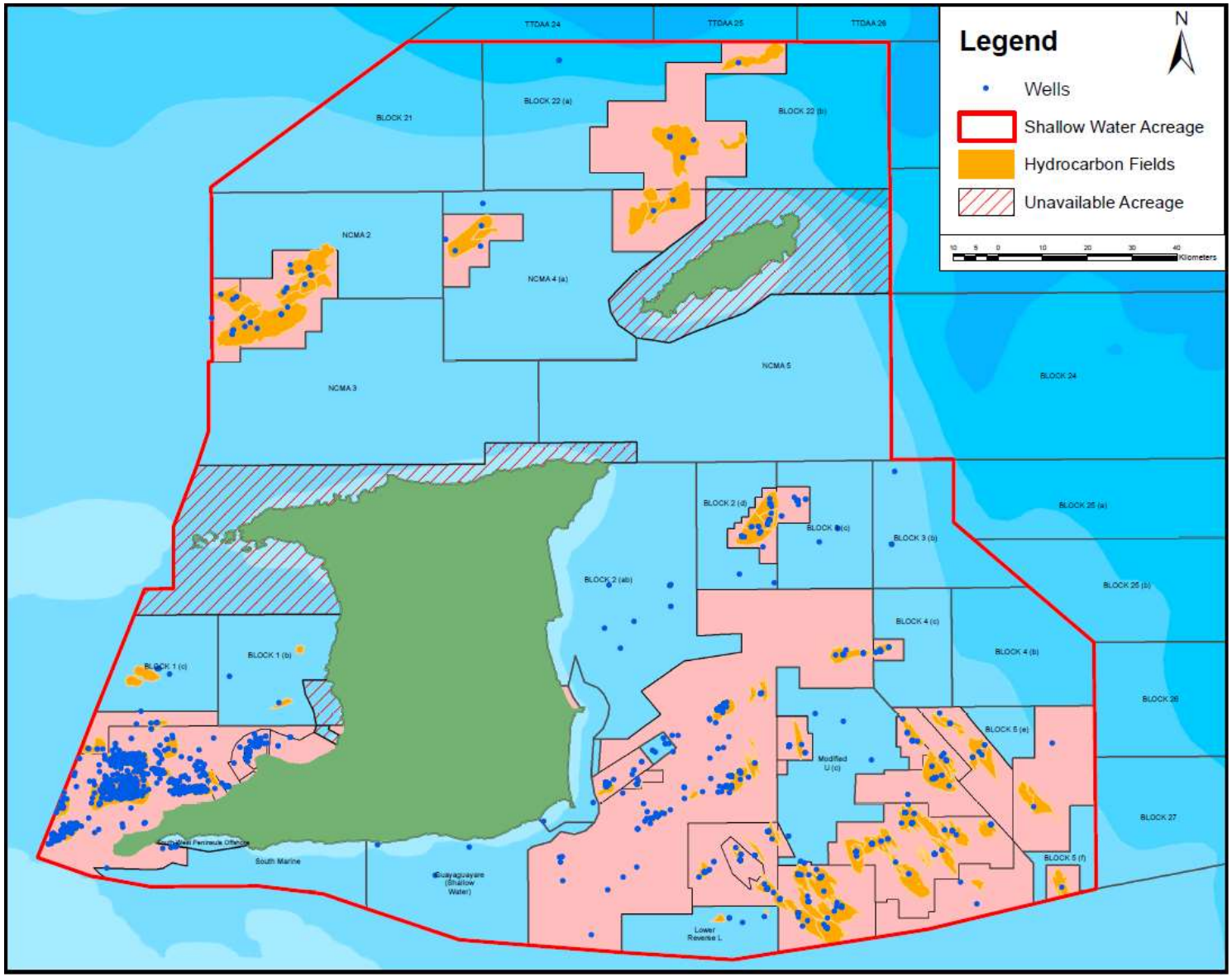
Ministry of Energy and Energy Industries

Shallow Water Dataset

Shallow Water Seismic Dataset



Shallow Water Well Dataset



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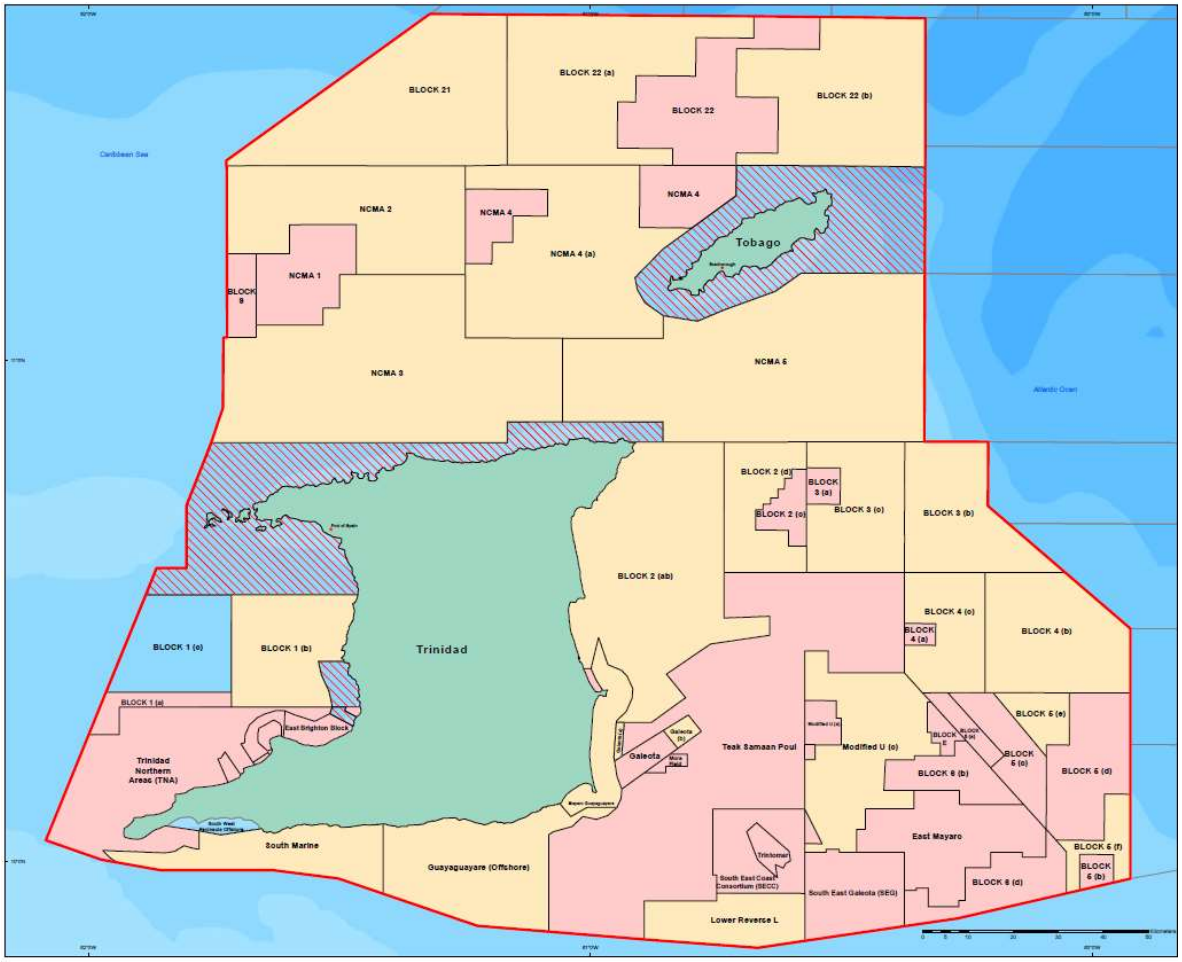
Shallow Water Nominations

Shallow Water Nominations 2022



Nominations to be submitted via email to the Permanent Secretary at:
bidround@energy.gov.tt

Blocks available for nomination for inclusion in Shallow Water Competitive Bidding Round 2022:

1. Block 1(b)
2. Block 2(ab)
3. Block 2(d)
4. Block 3(b)
5. Block 3(c)
6. Block 4(b)
7. Block 4(c)
8. Block 5(e)
9. Block 5(f)
10. Block 21
11. Block 22(a)
12. Block 22(b)
13. Galeota (a)
14. Galeota (b)
15. Guayaguayare (Offshore)
16. Lower Reverse L
17. Mayaro Guayaguayare
18. Modified U(c)
19. NCMA 2
20. NCMA 3
21. NCMA 4
22. NCMA 5
23. South Marine

Nominations Timeline

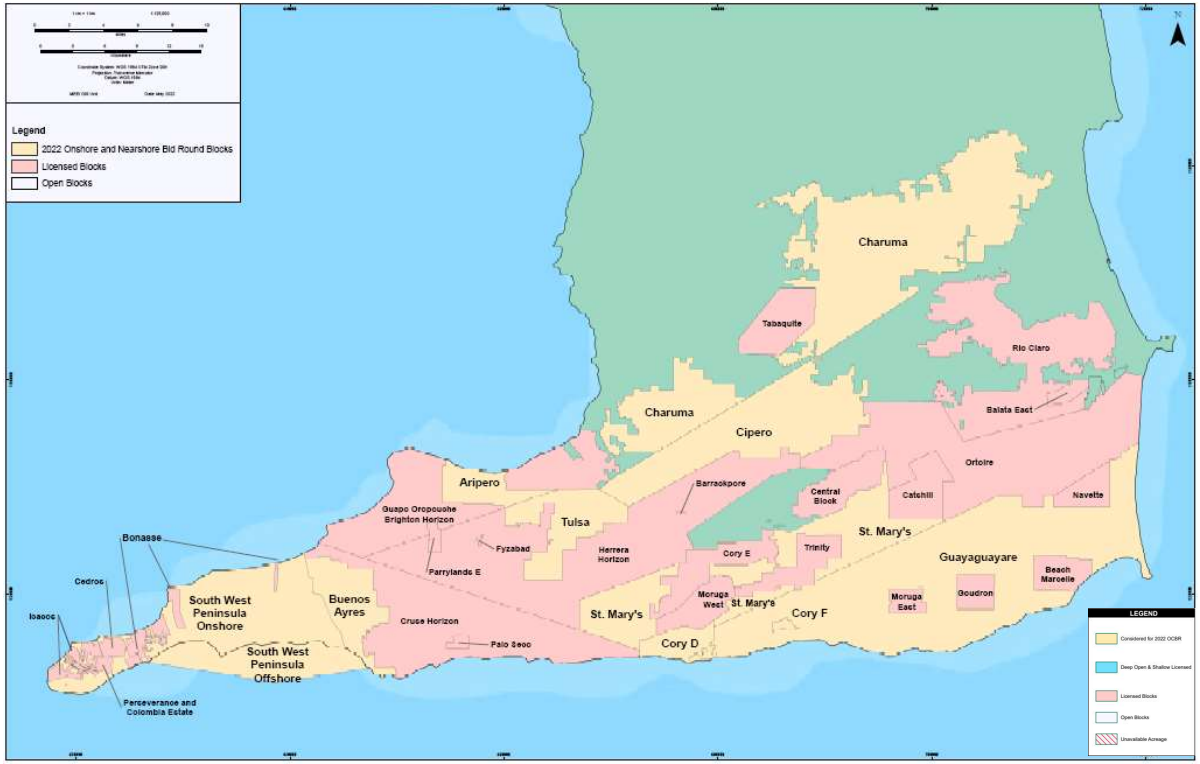
Launch
August 30th 2022

Close
October 11th 2022

Government of the Republic of Trinidad and Tobago
Ministry of Energy and Energy Industries
Head Office: Level 26, Tower C, International Waterfront Center, #1 Wrightson Road, Port of Spain, Trinidad and Tobago
PBX: (868) 225-4EEI (4334) Facsimile (868) 225-5766 Website: www.energy.gov.tt

Don’t Forget

Onshore and Nearshore Competitive Bidding Round 2022



11 Blocks under consideration:

Aripero
Buenos Ayres
Charuma
Cipero
Cory D
Cory F
Guayaguayare
St. Mary's
SWP – Offshore
SWP – Onshore
Tulsa

Bid Round Timeline

Launch
July 8th 2022

Close
January 9th 2023

Blocks Awarded
April 2023

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Trinidad and Tobago

VISIT US

at the

International Pavilion

Government of the Republic of Trinidad and Tobago
Ministry of Energy and Energy Industries

FOR FURTHER INFORMATION

VISIT OUR WEBSITE AT
https://energy.gov.tt

CONTACT
bidround@energy.gov.tt

Thank you!