

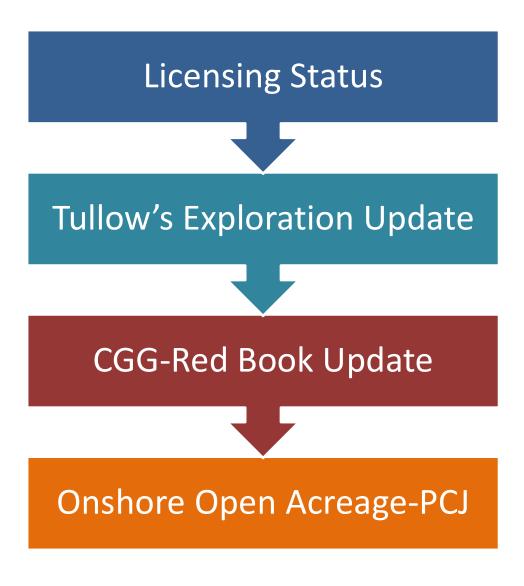
# Exploration Evolution: An Update on Jamaica's Hydrocarbon Exploration

Raymond Thompson (Senior Geologist) AAPG May 2018

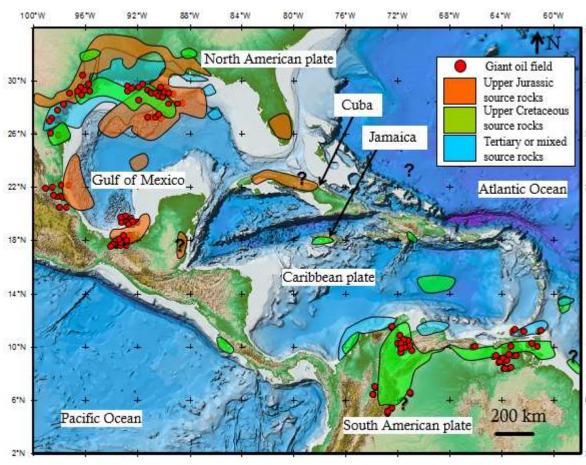


#### Introduction





#### Jamaica's Location to Major Producing States



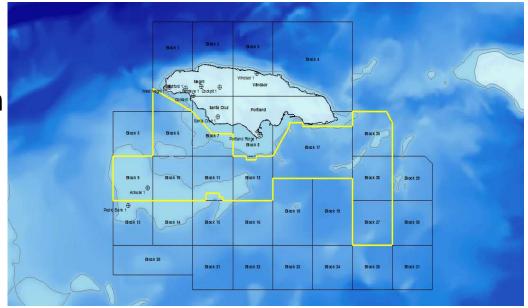
Jamaica: Maturing Caribbean Exploration Play

- Jamaica is located in the central Caribbean, 900km from Florida.
- Bordered to the north by the Cayman Trough and considered an extension of the Nicaragua Rise.
  - Ongoing exploration work in Bahamas,
    Dominican Republic,
    Barbados, Grenada,
    Aruba, Costa Rica and
    Honduras at present.



#### **Licensing Status**

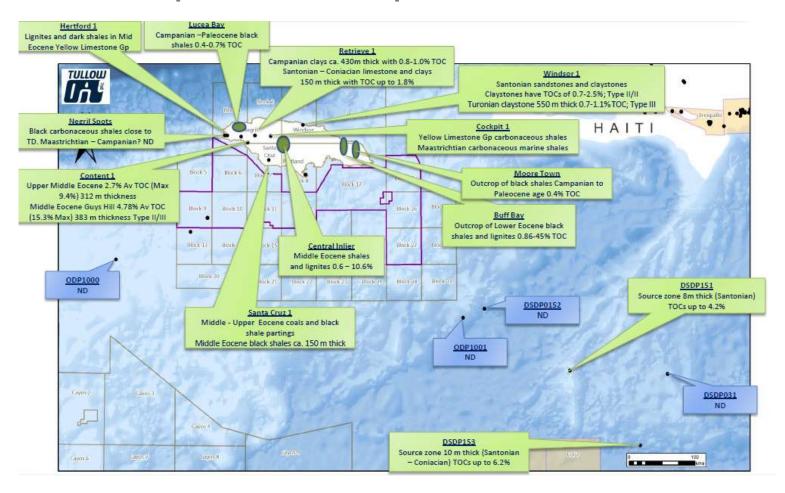
- Production Sharing
   Agreement signed with
   Tullow Jamaica Limited in
   2014 for 10 of the 31
   blocks offshore.
- Blocks to the South East are currently under negotiations with an international oil company.



- Tullow Jamaica Limited Current Acreage

 The 4 onshore blocks are available and have detailed well, geochemical and geological reports (1D Modelling).

### Tullow's Exploration Update



 Working petroleum system on land proven with Cretaceous and Tertiary source rocks with Clastic and Carbonate Reservoirs

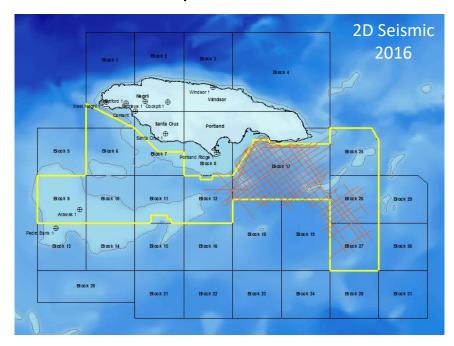


#### Tullow's Exploration Update

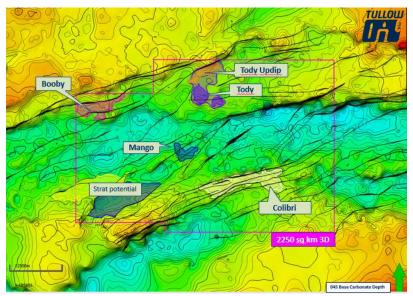


- Multiple leads identified from the 2D seismic with potential reserves of 200 to 300 million barrels.
- Active Cretaceous offshore oil seep identified by local fisher men and confirmed by Tullow.

- United Oil and Gas (UOG) farmin of 20% in 2017.
- The ten blocks of 32,000 sq km are co owned by Tullow Jamaica Limited (80%) and UOG (20%).
- Water Depth is +/- 750 meters.



#### Tullow's Exploration Update



Caribbean Sea

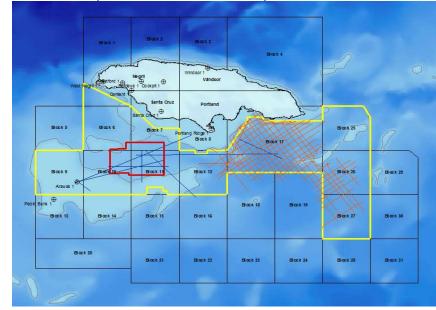
Walton Morant
Licence

2018 3D
Survey Outline

Tullow 80%
32,065 sqkm

Caribbean
Sea

- 2016/2017 2D seismic high graded leads and justified a 3D Survey in 2018 with the main target being Colibri.
- Jamaica's first every 3D survey shot in April to May 2018.
- Target reservoirs include clastics and carbonates.
- Trap styles are structural and/or stratigraphic pinch outs.
- Drill/Drop decision in early 2019/2020.





### CGG Red Book Update

 CGG Geoconsulting in conjunction with the PCJ has completed Jamaica's "Red Book" in 2018.

The main aspects of the study include:

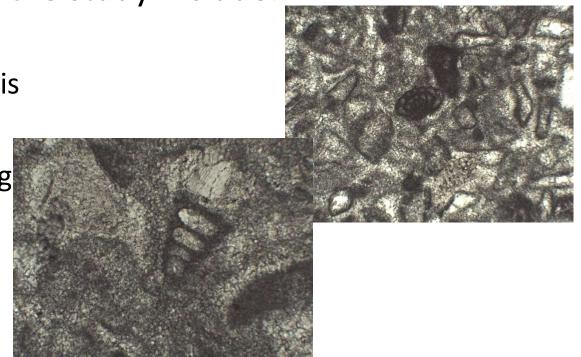
Biostratigraphy

Geochemical Analysis

Play fairway maps

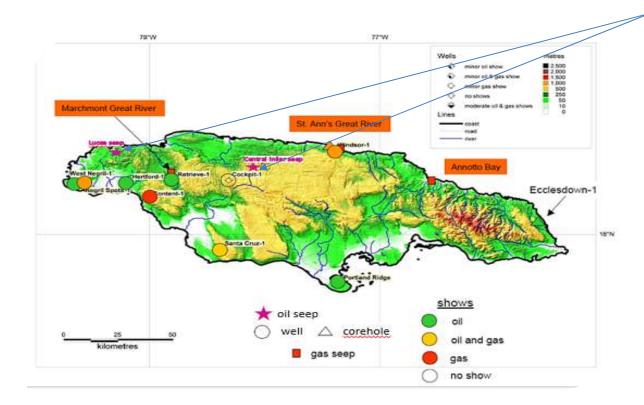
Source rock mapping

Seep analysis





#### CGG Red Book Update



Map of Wells, Shows and Seeps

Active recently identified Oil Seeps in Jamaica.

- Western Jamaica Oil Seep #1 biomarkers show similarities with the Rio Nuevo Fm.
- Central Inlier Oil
   Seep #2 bio markers
   shows similarities to
   the Sunderland Fm



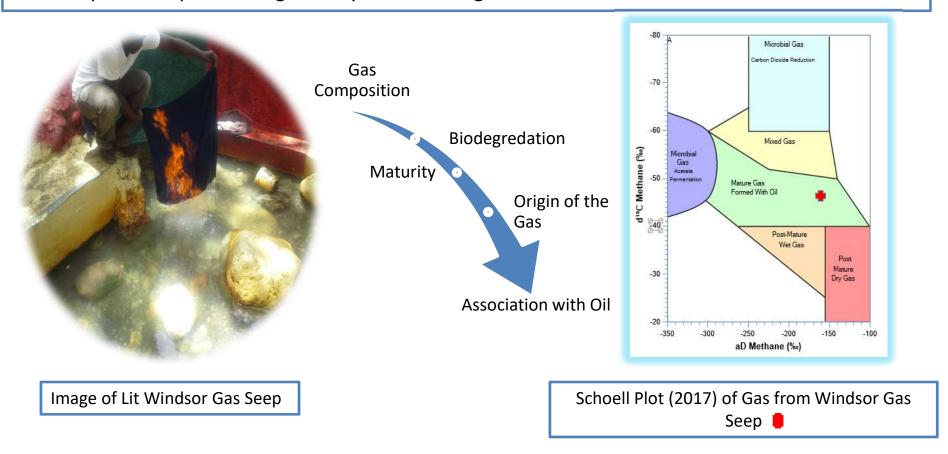
#### CGG Red Book Update

- Updated Biostrat work done in Jamaica highlighting depositional environments.
- Island wide revised stratigraphy to map formations and facies variation.
- Refined geochemical analysis of all source rocks confirming petroleum potential.
- QEMSCAN of various formations high grading reservoirs.
- Seismic reservoir characterization.
- Paleogeographic reconstruction.
- Revised provenance studies that proved similarities between Jamaica and Honduras/Nicaragua prior to passing very close to the Yucatan where fluvio-deltaic sedimentation occurred.



#### Onshore Open Acreage-PCJ

- The Windsor Gas Seep consistently tested demonstrates a naturally occurring Petroleum System in Jamaica.
- Recent 1D modelling suggest that the Windsor Basin is actively generating hydrocarbons.
- Compositions prove this gas is dry and thermogenic.

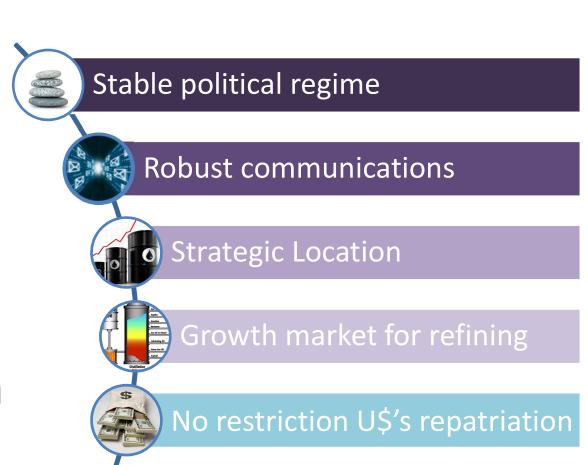


**Production Sharing Agreements** 



PCJ open for business

#### **Investment Conditions**



Jamaica open for business

Major transshipment port

Developing LNG market

## Questions