

Government of the Republic of Trinidad and Tobago MINISTRY OF ENERGY AND ENERGY INDUSTRIES

Welcome Address

Ву

Senator The Honourable Franklin Khan

Minister of Energy and Energy Industries

Announcement of Drilling of BHP Broadside Well

September 15, 2020

< List of Salutations >
Dr the Honourable Keith Christopher Rowley
Prime Minister of the Republic of Trinidad and Tobago
Mrs. Penelope Bradshaw-Niles
Permanent Secretary, Ministry of Energy and Energy Industries
Mr Vincent Pereira
President, BHP Trinidad and Tobago
Members of the Media

It is my pleasure to announce the drilling by BHP of the Broadside Well in the East Coast Deep Water Block TTDAA 3. On completion Broadside will be the deepest well drilled in Trinidad and Tobago. I wish to applaud BHP and all personnel associated with the project who despite set backs such as covid have ensured the drilling of the well continues apace.

Trinidad and Tobago's upstream sector has been largely spared from disruption to its activities by the effects of the covid pandemic. Oil and gas production have been maintained at levels required to meet demand, and planned investment as in the case of Broadside well is on stream. The outlook for the sector in terms of productive capacity is positive. Both oil and gas production are set to increase progressively in the near term. By 2022 gas production is projected to stabilize at 3.8 bcf per day and oil production is projected to peak at approximately 80,000 barrels per day.

Today's ceremony is in recognition that the future of the energy sector lies in our deep-water province. No production has as yet come on stream from the deep-water blocks. However, there have been exploration successes which have added to the country's natural gas reserves. In the medium to long term these exploration successes will manifest in hydrocarbon production.

There is the view that our land and shallow water acreages have reached maturity. However, technology in the form of 3D Ocean Bottom Node Survey and other technological advances have given these provinces a new lease of life. To date all hydrocarbon production comes from land and shallow water acreage. Based on current reserves and new projects in the pipeline oil and gas production will continue to be well served from our land and shallow water hydrocarbon provinces.

Oil and gas production occur mostly in the Southern Basin and Columbus Basin in both onshore and offshore areas to the south of the Central Range. There are some exceptions namely the Angostura Field and the Tabaquite Field in the Central Range and the Couva Marine Field in the offshore Caroni Basin in the Gulf of Paria.

The deep-water area is located approximately 150 km off the east coast of Trinidad and is positioned in the Barbados accretionary prism on the lower plate of a complex, obliquely convergent plate boundary. The deep-water licence area of Trinidad and Tobago has had a long and complex tectonic history that can be summarized into three tectonic phases namely the Jurassic to Early Cretaceous Rifting, Late Cretaceous Passive Margin, and Cenozoic Convergence.

Until the advent of BHP, except for few exploration wells, it was a largely untested hydrocarbon province. In terms of oil and gas potential there are three analogues that are relevant. They are the Guyana- Suriname Basin, the Transform Margin Offshore Ghana and the ultra- deep waters of Equatorial Guinea and Nigeria.

The prolific Guyana- Suriname Basin is the South East Extension of our Eastern Marine Area and most of the elements there should be present in our ultra-deep area. There are similarities in the structural style of our ultra- deep marine area and Ghana's Tano Basin which lies along the West African Transform Margin. In 2007 the Jubilee Field, a giant oil field, was discovered in the Tano Basin. Deepwater Equatorial Guinea and Nigeria have been the sites of several large oil and gas discoveries. There are major similarities between our eastern marine area and these sites.

BHP's entry into Trinidad and Tobago has been in the shallow marine blocks namely in the East Coast Marine Area blocks 2 ab, 2c and 3a. Its exploration activities in this eastern extension offshore of the Central Range Transpressive Zone resulted in a string of discoveries in block 2c in the lower Oligocene sands, not previously found in Trinidad and Tobago. This success was termed the Angostura sands. In this regard BHP can be considered a pioneer in exploration in Trinidad and Tobago. The company is also known for its perseverance and its willingness to stay the course. In Block 3a where after much in-depth review it has been able to unlock the hydrocarbon potential in that Block.

Based on its high regard of Trinidad and Tobago as a tier (1) one hydrocarbon province BHP decided to increase its footprint In Trinidad and Tobago with a focus on the country's untested deep water acreage. From a geological standpoint BHP holds the view of Trinidad and Tobago as a "world class source rock" comprising prospective acreage, its relationship to the Orinoco River system and the great possibility that it holds significant traps of hydrocarbons. It considers that Trinidad and Tobago is a deposition environment similar to the Niger Delta and the Gulf of Mexico and some of the other bigger deltaic basins.

Its participation in the country deep-water bid-rounds resulted in the award of nine (9) deep-water blocks either on its own or in partnership with other upstream companies. To date BHP has drilled 10 exploration wells, conducted 3D surveys in excess of 21,000 square kilometres covering its nine blocks as well as 16 unlicensed blocks. Seven (7) of the ten (10) exploration wells drilled were successful in finding approximately 6.6 TCF of commercially viable natural gas bearing sands. To date

the company expended approximately US\$1.0 billion in geological, geophysical and drilling work.

The current drilling programme in respect of the Broadside well is targeting an oil plays in late Miocene Reservoirs. The Broadside-1 Exploration Well is being drilled in Block TTDAA 3 of BHP's Southern Deepwater Acreage in a water depth of 6,624 ft. It is located approximately 32 km to the East of the previously drilled LeClerc-1 Exploration Well which was drilled in Block TTDAA 5.

To date the majority of successes in exploration in the eastern marine area have been gas/condensate fields underlain by deeper black oil accumulations. Oil discoveries have been limited due to the focus on natural gas and the reluctance to undertake deep drilling to go after oil legs.

BHP's continuing exploration efforts and faith in the prospectivity of the country's deep-water area are to be commended. As Minister of Energy and Energy Industries I wish the company every success in drilling of the Broadside well. The success already achieved by BHP in its deep-water exploration programme has served to validate the prospectivity of the country's deep-water area. This success will generate added interest in the upcoming deep-water bid-round that is to be undertaken by the Ministry of Energy and Energy Industries in 2021.

I look forward to the results of the drilling of the Broadside well and also to engage in discussion on the commercialization of BHP's current exploration successes.

I thank you.

Minister