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Tower Resources plc
("Tower" or the "Company")
Namibia Technical Update

Tower Resources plc (TRPL, TRP LN), the AIM-listed oil and gas company with a focus on Africa, is pleased to provide an update on activity in respect of license PEL 96 in Namibia, covering offshore blocks 1910A, 1911 and 1912B (the "Namibian Blocks") and, in particular, the recent basin modelling work undertaken over the license area.

Tower is the operator of license PEL 96 with an 80% working interest.

Highlights

- A basin and thermal maturity study has been undertaken within PEL 96 which has significantly progressed the understanding of the hydrocarbon prospectivity of the license. This basin modelling study has been carefully integrated with seismic sequence stratigraphic interpretation of the large 2D seismic datasets and integrated with the well data within PEL96 and available well data elsewhere in the Walvis Basin region.
- The integrated analysis of the seismic, wells and the basin modelling results shows clear evidence of a working petroleum system present within the Dolphin Graben in PEL 96; in the form of oil recovered from cores in the 1911/15-1 well and direct hydrocarbon indicators (DHIs) observed on seismic.
- The objectives of the basin modelling study were to assess the critical elements of the hydrocarbon charging system, i.e. thermal maturity, distribution of generative source kitchens, volumetric estimation of generative capacity of mature source rocks, timing of generation/expulsion of hydrocarbons and mapping of migration pathways.
- Main conclusions of basin modelling study:
 - Generative source kitchens have been calculated and have been mapped within PEL 96. Lower Cretaceous syn-rift sediments within the main depocenters of the Dolphin Graben calculate as mature for main oil and late oil generation.
 - Timing of the main and late oil generation phases calculated to be mid-Tertiary (Oligocene) to present-day.
 - Migration pathways for oil charge have been mapped and the main foci of migration identified. The volumes of hydrocarbons generated have been calculated for each source kitchen.
 - The main fetch areas that are able to focus migration towards each of the main prospects are calculated as having potentially generated oil within the following volumetric ranges; Alpha Prospect fetch area - ca. 45 to 79 billion barrels ("bbls") oil, Gamma Prospect fetch area - ca. 15 to 23 billion bbls oil.
 - The potential for stratigraphic traps is recognised on the 2D seismic data where Cretaceous reservoir targets onlap onto highs along the western and eastern flanks of the Dolphin Graben. These potential stratigraphic traps are located directly on several of the main migration pathways out of the generative kitchens. These potential stratigraphic traps show similarities to the recent major discoveries in South Africa and Namibia.
- The Company is currently undertaking an oil seep analysis to accompany the basin modelling work, and a review of the existing volumetric data on the prospects and leads that have already been identified is underway.

Jeremy Asher, Tower's Chairman and CEO, commented:

"We are excited by the results of the basin modelling work and its indication of the prospectivity of Tower's licenses in Namibia. It explains neatly the results of the Norsk Hydro well, the source of the lacustrine oil found within it, and the reasons why that oil found its way into that well and subsequently migrated away from it. The conclusions indicate the potential for either of the giant billion-barrel-plus structures in the West of the license to be charged; furthermore, the migration pathways, coupled with the recent impressive industry successes in drilling stratigraphic plays in the Orange Basin to the South, enhance our interest in the similar stratigraphic leads that we interpret on the flanks of the Alpha Prospect structure in particular. We look forward to updating investors further as our work progresses."

Background

As part of its work programme, Tower has recently concluded a geochemical and thermal maturity basin modelling study, the results of which have positive implications for the prospectivity of the license and which are now being incorporated into a play fairway analysis covering the full PEL 96 license area.

The 1911/15-1 well drilled by Norsk Hydro in 1994 within the Dolphin Graben encountered several potential source horizons in both the Upper and Lower Cretaceous and has provided the most valuable and well-documented calibration point for the basin modelling. This well has been critical for identifying the most regionally geologically consistent input parameters for the computer models and has provided crucial geochemical data for optimising the basin modelling inputs, and ensuring a very close fit between the output predictions of the computer models and the real-world measurements from the wells and seismic data. The careful optimisation of the basin models to achieve a very close calibration of outputs to the actual observed well data is essential to having useful predictive model outcomes. PEL 96 (and the northern Walvis Basin generally) is an expansive area and therefore it has taken a substantial amount of new work to refine the models.

There is clear evidence of a working petroleum system present in PEL 96. The presence of an oil-mature early Cretaceous (and/or potentially older) source rock is proven by:

- a. The presence of a light (thermally mature) oil which was recovered from core samples taken from an Albian-aged carbonate in the exploration well 1911/15-1. The well drilled an intra-basinal high within the central part of the Dolphin Graben. The basin modelling outputs are consistent with the observed well data. This implies that this oil represents hydrocarbons that have migrated from a nearby mature source kitchen within the adjacent half-grabens during Oligo-Miocene times. Additionally, the oil samples recovered from 1911/15-1 have biomarkers indicative of a lacustrine source (of likely syn-rift origin), which implies Barremian and/or older early Cretaceous source rocks. This new technical work conducted by Tower, especially the detailed migration pathway analyses, suggests the presence of only residual hydrocarbons was due to trap breaching, caused by later structural movement and tilting, which spilled any accumulation to the East.
- b. The presence of compelling seismic evidence of widespread direct hydrocarbon indicators. These are in the form

of large gas chimneys, where gas is observed to be migrating up and along deep-seated faults from half graben depocenters, and also from the presence of seismic anomalies indicating shallow gas accumulations above and in the vicinity of the gas chimneys. These shallow gas anomalies and gas chimneys are particularly prevalent along the western margin of the Dolphin Graben and directly along mapped major migration pathways, and are associated with major extensional faults that extend into the deepest parts of the half graben basins.

The purpose of the basin modelling analysis was to assess three critical elements of the hydrocarbon charging system:

- (i) to provide an evaluation of thermal maturity of the main known source rocks and their areal extent (i.e. the areal distribution of the generative kitchens);
- (ii) to estimate the generative capacity of the mature source rocks within the generative kitchens within PEL96 and volumes of hydrocarbons generated; and,
- (iii) to assess the timing of generation/expulsion of hydrocarbons, phase of hydrocarbons expelled and map main migration pathways for hydrocarbons, and to assess volumetrics of the principal fetch areas for each exploration target.

Initial conclusions:

The main conclusions of the basin modelling study are:

1. The results of the basin modelling analysis, integrated with seismic sequence stratigraphic interpretation of the extensive 2D seismic data sets, indicate that oil-mature Lower Cretaceous source prone intervals belonging to the early Cretaceous syn-rift phase of the basin are widespread within PEL 96 and present over much of the Dolphin Graben throughout PEL 96. Note that additional sub-basins are present in the western part of PEL 96 that may extend the presence of source-prone early Cretaceous, with the potential for additional hydrocarbon generation in this area.
2. Lower Cretaceous source-prone intervals are calculated to sit within the oil window over a large part of the Dolphin Graben within PEL96, reaching Main and Late Oil Maturity Windows over much of the area.
3. Timing of the source-prone intervals entering the main and late oil generation windows (the critical maturity zones which account for the major component of oil generated that has the capability to migrate) calculates to be mid-Tertiary (Oligocene) to present-day.
4. Migration pathways have been analysed and mapped. The main foci of migration out of the source kitchens have been identified and the volumes of hydrocarbons generated in each fetch area have been quantified. Note that the basin has undergone a significant young structural tilting event (Mio-Pliocene age) which has re-orientated several of the major migration pathways. Therefore, it has been necessary to construct migration maps for both the present-day and also back-strip the basin configuration to map the main migration pathways at a time pre-dating the tilting and coinciding with onset of main oil generation (mid-Oligocene).
5. Source kitchens have been calculated and have been mapped within PEL 96. Several of these have configurations that would focus any hydrocarbon migration towards several of the key prospects and play fairways (note that each of these sub-divisions of the generative kitchen which define migration of oil into any individual prospect or play are termed 'fetch areas'). Generally, the Dolphin Graben is more mature towards the north and therefore the main volumes of migrations generated and migrated are in the northern parts of the basin, i.e. within PEL 96 and especially within the northern and central parts.
6. The fetch areas that focus migration towards each of the main prospects are calculated as having generated oil within the following volumetric ranges (note that some gas and gas condensates are also calculated to have been generated in some deeper parts of the basin and the volumetrics of these additional generated hydrocarbons are still being assessed):
 - a. Alpha Prospect fetch area - is calculated to have generated in the range 45 to 79 billion bbls oil,
 - b. Gamma Prospect fetch area - is calculated to have generated in the range 15 to 23 billion bbls oil,
7. Phoenix High play fairway (with potential for stratigraphic trapping up-dip to the east) - is calculated to have generated in the range 45 to 59 billion bbls oil. Note that the ranges in volumes of hydrocarbons generated per fetch area is in part a reflection of the late tilting of the basin which causes a reorganisation of the migration pathways from Oligocene to present-day and which changes the areal extent of each fetch area over time; this therefore changes the volume of hydrocarbons capable of being focused towards each prospect with time.
8. The potential for stratigraphic traps with major regional onlaps of the main Cretaceous reservoir targets are identified on the seismic data to be located directly on several of the main migration pathways out of the generative kitchens. This is especially interesting for prospectivity since any oil migrating towards the western mega-high prospects, for instance, the Alpha or Gamma Highs, must first pass through these stratigraphic trapping areas with potential for these stratigraphic traps to be substantially oil charged.

Potential stratigraphic traps are recognised in western areas of PEL 96 along the eastern flanks of the Alpha and Gamma highs in both Lower and Upper Cretaceous reservoir-target sequences. These potential stratigraphic traps have an up-dip towards the ocean (west) architecture, similar to recent major discoveries by TotalEnergies in South Africa.

Potential stratigraphic traps are also recognised in central areas of PEL 96 along the western flanks of the Phoenix High, and potentially the Elephant High slightly to the South. These potential stratigraphic traps have an up-dip to the coast (east) architecture similar to some of the major recent discoveries further south in Namibia.

Next steps

The Company is currently undertaking an oil seep analysis to accompany the basin modelling work, and a review of the existing volumetric data on the leads that have already been identified. This will result in a revised evaluation of the prioritisation, and volumetrics associated with those leads, which the Company will share with investors in due course.

In addition to highlighting the potential of the Tower Resources Namibian Blocks, the results of the recent technical work will provide a good foundation in ensuring the remaining initial exploration phase of the PEL 96 work programme, including the acquisition of new 3D seismic data as set out in the Company's work programme, is sufficiently optimised and targeted to unlock the full prospectivity of the license.

The Company is currently finalising a technical presentation on the basin modelling, which will be posted to the Company's website in due course. The Company will notify investors when this is available.

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Notes:

Dr Mark Enfield, BSc, PhD, and a member of the Board of Tower Resources plc, who has over 30 years' experience in the oil & gas industry, is the qualified person that has reviewed and approved the technical content of this announcement.

Market Abuse Regulation (MAR) Disclosure

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulations (EU) No. 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ('MAR'). Upon the publication of this announcement via Regulatory Information Service ('RIS'), this inside information is now considered to be in the public domain.

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