

Pursuing a New Exploration Trend in Guyana (Placeholder for abstract)

Regan. J. Palsgrove
Frontera Energy

Background

The first commercial oil discovery in the Guyana-Suriname Basin, the Tertiary-aged Tamboredjo heavy oil field, was discovered in onshore Suriname in 1965 and put on production in 1982. Before and after that, there were numerous other wells drilled in the basin onshore and in shallow water, with intriguing, but non-commercial results. The Guiana-Suriname Basin became an exciting focus for international exploration in 2015 with the discovery of the Liza oil field in deep water by Exxon, Hess and CNOOC. The Liza discovery is stratigraphically trapped, Upper Cretaceous basin floor sands. The successful play trend has been dubbed the “Golden Lane”. The resource of the Liza field and the successive discoveries in that geologic setting has been estimated at over 11 Bboe, with potential for more in deeper plays.

Frontera Activity

Recently, operators are targeting new exploration trends closer to shore, with discoveries in both Suriname and Guyana within the Upper Cretaceous slope paleoenvironment. Frontera Energy and partner/subsidiary CGX Energy jointly hold working interest in the Corentyne Block in Guyana, which sits offshore and alongside the Surinamese border. The Corentyne Block straddles the edge of the modern shelf, coincident with the Upper Cretaceous slope. The block is situated in the depocenter of the basin, and above the active kitchen of the primary source rock.

A new 3D seismic survey was acquired in 2019 over the northern portion of the block, to add to the 3D data set acquired previously; and several prospective play types were identified. Earlier this year, the Joint Venture announced a discovery at the Kawa-1 location on the block. The discovery is comprised of 5 gross pay intervals with 228 feet pay. The pay is dispersed over 5000 feet of strata, from Coniacian to Maastrichtian, with hydrocarbon charge in almost every zone; indicating good potential for further exploration and appraisal drilling targeting multiple zones. Hydrocarbon type was not confirmed with MDT or DST but was interpreted from multiple other data sources and advanced geochemical analyses. The trends observed were consistent with that seen in adjacent blocks, being oil-prone in the deepest horizons and more condensate-prone stratigraphically higher. High quality 3D seismic and integration with log data from Kawa-1 have allowed for detailed seismic modelling and mapping, and recognition of depositional environments and reservoir distribution. Sedimentary structures apparent on image logs, and fauna identified by biostratigraphic analysis support the interpretation of deposition of the Campanian and Upper

Santonian in an upper slope channel and lobe complex, with best reservoir quality associated with axial channel fill.

The CGX-Frontera JV is currently drilling our second well on the block, Wei-1. The location targets oil-prone Santonian and Campanian channel complexes similar to those proven to have potential in Kawa-1, as well as secondary Maastrichtian targets. Additional exploration opportunities in many other zones have been identified on other areas on the block, and they will become the target of future drilling.

Acknowledgements

I would like to acknowledge the contributions of the G&G Technical Team at Frontera, as well as our partners at CGX Energy, a subsidiary of Frontera Energy.