



Integration of Micro- and Nannofossil data for High Resolution Biostratigraphy in the onshore Southern Basin of Trinidad

*Author:*¹ *Ashleigh Costelloe, Tamara de Nobriga, Marina Ciummelli, David Rutledge, John Gregory*

¹ashleigh.costelloe@biostratjv.com - presenter, Biostrat JV Ltd., Trinidad and Tobago

Theme: CG: Biostratigraphy

Keywords: Biostratigraphy, nannofossils, microfossils, Trinidad, stratigraphy, southern basin

Calcareous nannofossils are important biostratigraphic tools, having a global presence in open marine settings at low and high latitudes. They are widely-preserved and abundant in sediments ranging in age from Pleistocene back to Late Triassic, and include many key marker taxa used for global correlation of the geologic record. Recent refinements of biostratigraphic schemes further add to their utility.

This case study integrates nanno- and microfossil (foraminifera) data sets from an onshore well drilled in the Central Block of the Southern Basin, Trinidad. The study was conducted by Biostrat JV Ltd to demonstrate the practicality of using nannofossils in the Southern Basin and improved biostratigraphic resolution when integrated with microfossil data.

Traditionally, microfossil data has been exclusively used in exploration onshore Trinidad, whereas both micro- and nannofossil disciplines are typically used together offshore Trinidad. In the Central Block (Trinidad), well-preserved and abundant nannofossils are observed, including key markers which are used to interpret the Middle to Late Miocene succession.

Nannofossils provide better resolution compared to foraminifera alone; however, integration of both disciplines enables even higher resolution and confidence and – just as offshore - would be recommended whenever real-time biostratigraphic picks are required to assist drilling decisions.