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Mariano Carrera¹, Tricia Andrew², Dane Mayers³, Hasely Vincent³, Noel Tyler⁴, Douglas Hamilton⁵ (1) Venture Production (Trinidad) Limited, South Oropuche, Trinidad and Tobago (2) Petrotrin Exploration & Production SBU, Santa Flora, Trinidad and Tobago (3) Petrotrin, Santa Flora, Trinidad and Tobago (4) The ARC Group, LLC, Leander, TX (5) ARC Group LLC, Austin, TX

The Cruse Formation in Parrylands Oilfield Trinidad and Tobago

The mature Parrylands oilfield is located South Trinidad, northeast of the Los Bajos fault 5km from the town of Point Fortin. The area covers 2397.4 acres and has over 430 wells drilled since 1913. The Cruse and Forest are the main reservoirs. The Cruse reservoirs in Parrylands comprise Miocene to Pliocene deposits which are markedly heterogeneous because of both stratigraphic and structural control. The sequences represented from Cruse I through Cruse VII range from submarine fan complexes, wave-dominated deltas, incised valley-fills, barrier-island complexes to fluvial and tidal deltas. The intervening clays and silty-clays complete the multiple regressive-transgressive cycles seen in this 1500 foot sequence. Reservoir architecture contributes to the heterogeneity of the reservoirs studied. Where flow of the movable hydrocarbons is constrained there is ultimately a reduction in reservoir producibility. This relationship underpins the stratigraphic facies-control that dominates Parrylands. As a result of this study, a total of forty-three new prospects and fourteen re-completion opportunities within five conceptual categories (fault seal, stratigraphic pinch out, infill, outsteps and exploratory) were generated. Eight new wells have been drilled to date testing all plays except exploratory. Five of these wells have been both geological and economic successes. The remaining three wells suffered mechanical problems. This result gives validity to the study undertaken and increases the potential for the redevelopment of old fields in Trinidad. From these opportunities and their reserves, oil production for the project area is expected to increase threefold.