The Exploration Evolution of Marmalard Field: A Result of Improved Seismic Algorithms and Methods

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ABSTRACT

Marmalard Lead (MC 255, 256, 299 & 300) was generated using NAZ PSTM contractor (TGS MC Revival) speculative 3D with AVO attributes. Subsequently, TGS reprocessed those data using an anisotropic PSDM algorithm that yielded a better structural solution where the prospect goes subsalt in the northwest part of the prospect area. The improved structural model/interpretation allowed the Marmalard Lead to be elevated to a Prospect. Marmalard’s probability of success (Ps) was still too low to be moved on to the drill schedule because of the weak AVO response. Proprietary PSTM poststack gather conditioning (Generation Services) vastly improved the AVO attributes and the AVO analysis. To further improve the structural (specifically for the NW subsalt area) model/interpretation, the TGS Justice WAZ seismic survey was purchased and a proprietary reprocessing was done. These data led to a more confident structural model/interpretation and increased the Ps to allow Marmalard Field to be drilled (LLOG Exploration). Currently there are 4 productive wells flowing ~ 36,000 BOD and 73 MMCFGD to LLOG’s Delta House FPS.