

Jones Island: Charming Aspects of an Unsuccessful 700 MMBO Prospect and What May Have Gone Wrong

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The Jones Island Prospect was located offshore, in shallow water, northwest of Mine Point Oil Field. It was a 27,000 acre Sadlerochit structural closure inboard of the Seal Island-Sandpiper productive trend. It was identified, mapped, and leased by Amerada Hess during the Beaufort Sea exploration campaign in the 1980s. ARCO and Union Texas farmed-in from Amerada and drilled a dry hole at Jones Island in April of 1993.

Jones Island was a very impressive structural high on strike seismic lines but not on dip seismic lines. The problem on dip seismic lines was pull-up to the south caused by increasing permafrost thickness under the shallow Beaufort Sea islands. To get the correct dip structural picture, the effects of permafrost had to be removed. A structural nose in time became a large, four-way closure in depth.

Besides its large four-way closure, Jones Island's charms included an apparent Ivishak amplitude anomaly conforming to structure and light oil versus gas or water from fluid substitution modeling. The probability of success seemed high because reservoir quality, source, seal, trap, and time of migration were all positive in surrounding Ivishak oil accumulations.

Post-mortem analysis may have identified the culprit - a blocked migration pathway during Upper Cretaceous time.