
Bottom Current Drift Deposits in a Gulf of Mexico Minibasin

Erik Scott¹, Manasij Santra², Kevin Meazell², and Peter Flemings²

¹E&P Geoscience, LLC, Houston, Texas

²Department of Geological Sciences, University of Texas at Austin,
2275 Speedway Stop C9000, Austin, Texas 78712–1722

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EXTENDED ABSTRACT

Investigation of the shallow stratigraphy of a salt withdrawal minibasin that sits just north of the Sigsbee Escarpment in the Mad Dog area shows evidence of deposits formed by bottom current modified sediments. Seismic attributes from several stratigraphic levels show patterns of lineations and amplitude edges that are in variable orientations as well as crosscut each other (Fig. 1). These lineations do not match well with expected sedimentation patterns if they were solely related to sediment gravity flow (turbidity) deposits. The lineations correspond with negative (erosional) features as well as positive (depositional) features. Fairly straight edged amplitude bodies typically are associated with seismically resolvable erosional surfaces. Seismic sections show variable thickness packages in the stratigraphy of interest and exhibit geometries and features consistent with published bottom current drift patterns (Fig. 2). With the proximity of this minibasin to the Sigsbee Escarpment and the documented furrows along the base of and on the escarpment caused from strong (1 to 2 knot) bottom currents, it is postulated that the same currents would periodically come into this basin and rework the sediment gravity flow deposits in it (Fig. 3).

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