

UPPER FORT UNION (PALEOCENE) DEPOSITION ON THE NORTH FLANK OF MADDEN ANTICLINE, WIND RIVER BASIN, WYOMING

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ABSTRACT

Recent drilling on the north flank of Madden Anticline has resulted in the discovery of natural gas in the Upper Fort Union (Paleocene) sandstones locally known as the Shotgun member of the Fort Union Formation. Sample quality has been very poor, but from log data, 3-D seismic, and outcrop work (Phillips, 1983), the producing sandstones appear to be part of an alluvial fan complex that emanates from the Owl Creek Thrust system six miles to the north. Over 2,000 feet of sandstone rich beds grade into the pelagic, organic-rich shales of the Waltman Shale member of the Fort Union as we move south to the crest of the Madden Anticline. Seismic shows clinoforms prograding to the south. Outcrop work by Phillips (1983) on the exposures of the Waltman and Shotgun in the eastern Wind River Basin revealed: "Alluvial fans issued from the basin margins and developed fan-delta deposits where their distal reaches prograded into a restricted body of fresh water that occupied the basin." Further drilling will be needed to define the extent of the natural gas deposits.

Phillips, S. T., 1983, Tectonic influence on Sedimentation, Waltman Member, Fort Union Formation, Wind River Basin, Wyoming: p.149-160 in Rocky Mountain Foreland Basins and Uplifts, editor James D. Lowell, RMAG 1983.

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