

West Data Block 107 Field: Hidden Under a Mudflow

Carl W. Kuhnen

Walter Oil & Gas Corp., 1100 Louisiana, Suite 200, Houston, TX 77002

West Delta Block 107 Field, located eight miles seaward of the Southwest pass of the Mississippi River of 235 ft of water, contains approximately 18 million barrels of oil (MMBO) and 70 billion cubic ft of gas (BCFG) (recoverable) in 19 Pliocene sands. Hydrocarbons are trapped in a three-way structural closure downthrown to a large down-to-the-southwest growth fault.

Walter Oil & Gas Corporation discovered the field in 1993 with its OCS-G 8736 no. 1 well, located within a large active mudflow lobe that has caused major difficulties in seismic and drilling exploration over the years. Due to effects of the mudflow, pre-1983 2-D seismic data did not adequately define the amplitude response or the structure of the prospect. Only after 1988 3-D seismic data were reprocessed with refraction statics corrections by Shell

Offshore, Inc. in 1993 was it possible to interpret structure and amplitude correctly enough to discover the field. A 1996 3-D survey has further improved data quality and has refined our understanding of the field.

The field has been developed by seven wells. Five of those wells were drilled from a conventional platform site (West Delta 106 "A" platform) outside of the mudflow and two miles west of the field. The two other wells (including the discovery well) are active subsea completions. Field production rate since February 1995 has averaged 7200 barrels of oil and 17 million cubic feet of gas daily. The Block 107 Field was nearly found in 1968 by a Humble well and in 1983 by a McMoran well, each of which missed the main accumulation by less than 200 feet horizontally.