

# GEOLOGY OF THE JURASSIC, FLOMATON-JAY AREA, ALABAMA AND FLORIDA

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## ABSTRACT

Flomation field, located in Escambia County, is the first major gas condensate discovery from the Jurassic Norphlet Formation in Alabama. Structurally the field is a northwest-southeast trending low relief salt anticline bounded on the north and east flanks by a major down-to-the-basin fault which is part of the Pickens-Gilbertown-Pollard regional fault system. The Norphlet sand reservoir is about 60 feet thick within the field and produces CO<sub>2</sub> and sour gas with a high condensate yield.

The paleostructural history of the area indicates that early Louann salt movement and faulting occurred, probably as a result of gravity slide and basinward salt creep, forming structures necessary for trapping hydrocarbons. Jurassic deposition was affected by these early structural features and pre-salt topography.

Norphlet clastics were derived from the northeast and deposited by braided stream systems. As the Smackover seas transgressed the area, the upper part of the Norphlet was partially reworked. In the Flomation area, the Smackover Formation is a dark brown, dense, micritic limestone. The overlying Haynesville formation can be subdivided into an upper member consisting of predominately red, coarse clastics and a lower member consisting of fine, red clastics and evaporites. At Flomaton, over 300 feet of bedded salt has been drilled in the lower Haynesville causing many drilling and completion problems. The Cotton Valley Group marks the top of the Jurassic and consists primarily of coarse, gravelly clastics.

Exploration activity in southwest Alabama during 1969, 1970 and 1971 led to additional discoveries from the Jurassic. Among these is Jay field located in Santa Rosa County, Florida, seven miles southeast of Flomation field. Jay produces oil from Smackover dolomite and is the first Jurassic discovery in Florida. The discovery well produced 1710 barrels of oil per day and has resulted in one of the most active exploration plays in the United States.

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