



OTC 18590

## Codevelopment of Spiderman and San Jacinto Fields

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This paper was prepared for presentation at the 2007 Offshore Technology Conference held in Houston, Texas, U.S.A., 30 April–3 May 2007.

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### Abstract

A unique partnership has developed from the needs of multiple exploration and production companies and midstream energy companies to facilitate the development of several ultra-deepwater, natural gas discoveries in the Eastern Gulf of Mexico, resulting in the Independence Project. Two of the anchor fields for this 10-field project are a natural fit for co-development. Five months after Anadarko discovered Spiderman Field (De Soto Canyon 620/621) in November 2003, Dominion E&P announced the discovery of San Jacinto Field (De Soto Canyon 618/619). The proximity of these discoveries to each other along with their distance from the Independence Hub led to a beneficial commercial solution for all parties.

This paper is an overview of the projects from discovery through development planning to project sanctioning. A description will be presented of how early field modeling provided the technical basis to support a subsea co-development of the two fields. The paper will also describe the construction of a challenging co-development agreement involving four partners and two operators which allowed the use of the most cost-effective subsea development for both projects while providing a framework for sharing of capacity and costs.

### Overview

The Atwater Valley Producers Group (currently Anadarko Petroleum Corporation, Devon Energy Corporation, Dominion Exploration and Production, Hydro Gulf of Mexico) and two midstream companies (Enterprise Products Partners, Helix Energy Solutions Group) have collaborated on a deepwater hub and export pipeline system to serve fields in southeastern Mississippi Canyon, southwestern De Soto Canyon,

northeastern Atwater Valley, and northwestern Lloyd Ridge. The Independence Project will include a floating production system with a capacity of 1 billion standard cubic feet of gas per day and a 134-mile 24" diameter export pipeline to a new shallow-water platform in West Delta 68 that connects with the Tennessee Gas Pipeline system. To date, ten anchor fields (15 wells) have dedicated production to the facility. The discovery of the northernmost of these anchor fields, Spiderman and San Jacinto, had a significant impact on the selection of the location of the facility, moving the hub location northward (Figure 1). Due to their distance from the facility and the proximity to each other, Spiderman and San Jacinto fields were a natural fit for subsea co-development. However, with different operators and multiple interest owners, a co-development of these two fields proved challenging.

### History and Geology of Spiderman Field

The Spiderman Field (De Soto Canyon Blocks 620 & 621) is located in the eastern Gulf of Mexico about 200 miles southeast of New Orleans in approximately 8,100 feet of water in the supra-salt trend of northern De Soto Canyon. The amplitude-supported field lies south of, and up-thrown to, the main 3-way fault closure that trends west to east across DC 620 and DC 621. The field is co-owned by Anadarko, Dominion, and Hydro. Commercial hydrocarbon accumulations were encountered in four sandstone reservoirs during the exploration and appraisal drilling phases at Spiderman: the MM9 Upper, MM9 Middle, MM7 Main, and MM7 South.

The Middle Miocene deepwater sandstone reservoirs were discovered in the Anadarko-operated DC 621 #1 well in November 2003. The discovery well was drilled to a measured depth (MD) of 18,065', logging a total of 136 feet of net true vertical thickness (TVT) gas pay in the MM9 and MM7 sequences. The well was subsequently sidetracked in an updip position in December 2003. In March 2004 a second delineation well was drilled in DC Block 620. This well confirmed the lateral extent of the MM9 Middle and MM7 Main reservoirs on the western flank of the field. In December, 2005, the DC 621 #2 BP3 was drilled to determine the gas/water contact in the MM9 Middle sand and test the MM7 South reservoir. The well encountered the MM9 gas-water contact as expected at 14,473'