

DELMAR M-8 CASE STUDY

Samson partners
with Delmar
Systems to develop
high-performance
anchor-retrieval line



OMNI-Max™ anchor uses M-8 as anchor-retrieval line

THE PROBLEM Hurricanes Ivan, Katrina, and Rita proved the true power of Mother Nature. As these storms swept through the Gulf of Mexico, several platforms were either severely damaged, parted their moorings, or both, resulting in billions of dollars in damages and loss of production. Since these storms, many regulations were changed to minimize the risk associated with mooring during hurricane season.

THE BUSINESS SITUATION To meet these regulations, Delmar Systems developed OMNI-Max™ gravity-installed anchor system for MODU installations in the Gulf of Mexico. This design called for a special anchor-retrieval line design because the use of traditional anchor chain in this application would affect the trajectory of the anchor's deployment, causing insufficient embedment into the seabed.

AN ENGINEERED SOLUTION Samson engineers were asked to engineer the anchor-retrieval line. M-8, an 8-strand rope of high-performance synthetic fiber was the result. In this unique design, each of the 8-strands is composed of a 3-strand, all-Dyneema® fiber core covered with a filter barrier to resist soil infiltration, and protected from abrasion by a braided Dyneema® fiber cover. Construction of the rope was accomplished through the combined efforts of Samson's Ferndale, Wash., and Lafayette, La., plants. The all Dyneema® fiber construction met all break strength requirements of Delmar and resulted in a rope with positive buoyancy that did not alter the anchor's trajectory when deployed.

TESTED IN THE FIELD Testing was conducted in 2006, at Vioska Knoll in about 1,400 ft. of water, and was sponsored by Shell. Additional testing conducted by Anadarko, near one of its spar production facilities took place in March, 2007. The first OMNI-Max™ anchor installation for offshore oil and gas use in the Gulf of Mexico was completed on December 30, 2007. This marked the first time a gravity-installed vertical-lift anchor has been successfully deployed for offshore outer-continental-shelf use in the Gulf of Mexico. The OMNI-Max™ can be scaled for various applications from permanent facilities to pipelines.

From the start of testing to the June 2008 installation of eight OMNI-Max™ anchors at Eni's Pegasus in approximately 3,600 feet of water, the Samson R&D team was there to ensure that the anchors would deploy and embed as designed, and be ready for retrieval whenever necessary.

PROMISED PERFORMANCE To date, OMNI-Max™ with M-8 mooring lines have performed as designed. The first installation received the ultimate test from Mother Nature, taking a direct hit from Hurricane Gustav. The storm wreaked havoc on this particular installation, resulting in the failure of many mooring components; however, even with seven of the eight mooring legs broken or damaged, the platform remained on location. Mooring wires, chains, and polyester lines all experienced failures. Of all the components in the mooring legs, the M-8 was the only component not to fail.

For more information on Samson's complete line of high-performance ropes specifically designed for offshore applications, visit our website, www.samsonrope.com, or contact our customer service department.

"The OMNI-Max™ system is working great and we are seeing some real cost savings. Installation times so far have confirmed our expectations that the OMNI-Max™ / M-8 combination is a more efficient anchor system to install," says Brady Como, executive vice president, Delmar Systems, Inc.

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PHOTOS COURTESY OF DELMAR
Delmar's OMNI-Max™ anchor is readied for test deployment.



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THE STRONGEST NAME IN ROPE

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