A deepwater well in the Gulf of Mexico with bottomhole pressure of approximately 10,000 psi (690 bar) produced 38°API gravity oil that contained approximately 1.3% asphaltenes. Analyses of the oil showed a CII index of 1.27, which indicated that the asphaltenes were unstable and would deposit on subsea and surface equipment.

Since the well was in 3,800 ft (1158 m) of water and tied back to a tension leg platform 16 miles (25 km) away, the operator was concerned that asphaltene deposition would damage both downhole and surface equipment. To alleviate this problem the customer asked Baker Hughes for a solution.

Baker Hughes collected and analyzed samples and examined a number of asphaltene inhibitors to find the best chemical for the particular well. After extensive testing and modeling, the FATHOM™ certified PAO3042 asphaltene inhibitor was selected for the application. Baker Hughes recommended injecting the PAO3042 inhibitor using a 5/8-in. (1.2-cm) capillary line through an uninsulated umbilical. The mudline water temperature was approximately 40°F (4.4°C).

The customer agreed to the Baker Hughes recommendations and started injecting the FATHOM certified asphaltene inhibitor at an initial dose of 400 ppm. After treating all of the production with the inhibitor, production volumes averaged 5,000 BOPD (795 m³/d).

This case history is presented for illustration purposes only, as results may vary between applications.