

Independents Find Gulf Opportunities

By Al Pickett
Special Correspondent

Deeper drilling and new reservoir discoveries are but two of the reasons why the Gulf of Mexico remains an exciting area for development and exploration. While the nation's unconventional shale plays seemingly have garnered much of the attention these days, the Gulf of Mexico still is enormously important to the nation's energy production.

Consider a couple GOM facts from the U.S. Energy Information Administration:

- Gulf of Mexico federal offshore oil production (1.8 million barrels a day) accounts for 23 percent of total U.S.

crude oil production, and federal natural gas production in the Gulf accounts for 7 percent of total U.S. dry gas production.

- There are more than 3,000 platforms operating in waters up to 650 feet deep, and an increasing number of rigs are drilling in ultradeep waters up to 9,000 feet deep. Additionally, there are more than 25,000 miles of oil and gas pipeline on the Gulf of Mexico seafloor.

"We have been in a lot of unconventional plays, such as the Bakken and the Anadarko Basin, as well as coalbed methane," remarks Bob Zahradnik, operating director for the Southern Ute Growth Fund, which owns Red Willow Offshore/Red Willow Production. "The 'find and develop' economics are better

in the Gulf."

He says the key is good exploration, and he credits Houston Energy for developing many of the prospects that Red Willow participates in. In fact, Zahradnik says, Red Willow Offshore and Houston Energy partnered to submit the largest single bid of \$52 million for Walker Ridge Block 107 in more than 5,000 feet of water in Central Gulf Lease Sale 235 in March.

"It looks like a good prospect," he says matter-of-factly. "We believe it is the last Miocene turtle structure left to drill in the Gulf. It is similar to Thunder Horse, only smaller."

The Bureau of Ocean Energy Management reports that 42 oil and gas companies submitted 195 bids on 169 tracts in Sale 235. Twice as many deepwater blocks received bids as shallow-water blocks, according to the BOEM, indicating the deepwater focus companies are taking in the Gulf.

Nonoperating Partner

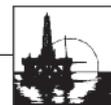
Red Willow may be one of the more unique players in the Gulf of Mexico, suggests Zahradnik, who says he was the company's first employee when the Southern Ute Indian Tribe founded Red Willow Production Company to operate the tribe's energy resources.

"Red Willow bought hundreds of small leases, many of which were on tribal land," he recounts. "In 1994, we bought a small gathering company in the northern San Juan Basin. We built it until we were handling 700 million cubic feet a day from coalbed methane, but we saw the peak was coming in 2000, and we needed to reorganize."

So the Southern Ute Growth Fund was formed, which has a business plan



Red Willow's first Gulf of Mexico partnership was a Mississippi Canyon project with Houston Energy in 2003. The company's GOM holdings have since grown to interests in six producing deepwater wells, five more that will begin producing this year, and 30 exploration projects. Here, Technip's *Deep Blue* lays pipe to Red Willow's first well in Mississippi Canyon 519, operated by Noble Energy, while the *Enso 8501* drills a second well.



that Zahradnik says separates the tribes' business activities from its governmental activities. Noting that the growth fund was authorized to begin investing off the reservation, he adds, "We buy and operate properties, including real estate from San Diego to Baltimore. It is a multibillion-dollar fund."

Included in those holdings, Red Willow has an active role as a nonoperator in the Gulf of Mexico.

"We formed a partnership with Houston Energy in 2003," Zahradnik relates. "Red Willow and Helis (later replaced by Ridgewood Energy) each had 47.5 percent of that initial project in Mississippi Canyon. Houston Energy had a 5.0 percent working interest and developed it. Helis has a good staff and does a great job."

He says Red Willow Offshore had the high bid on eight blocks in the March Central Gulf lease sale totaling \$59 million. LLOG Bluewater Holdings, Red Willow and Ridgewood Energy also had the combined high bid of \$17 million for Mississippi Canyon Block 769, he adds.

"Our group bids on leases and then we work a deal with an operator," Zahradnik explains. "Noble Energy operated the first two wells we drilled. We have drilled a number of wells with LLOG Exploration Co., and we have an 18 percent working interest in the Delta House reserves. We have interests in six deepwater wells that are on production, five more that will begin producing this year, and 30 exploration projects. Six of those will be drilled this year.

"We typically have a 20-30 percent working interest," he adds.

He says Red Willow's nonoperating partnerships have been a huge success for the Southern Ute Growth Fund, and he credits Houston Energy, LLOG, Noble, Deep Gulf Energy and Ridgewood Energy as just several of the "wonderful partners" Red Willow has worked with in Mississippi Canyon and Green Canyon projects.

Zahradnik says Red Willow has interests in more than 1,800 wells in many of the major basins across the United States, including the Gulf of Mexico. Investing in the Gulf is a good fit for the Southern Ute Indian Tribe, he insists.

"The tribe is looking for long-term investments," he details. "Corporations think in terms of what they can do in the next quarter. Native Americans think in generational terms: What are they leaving their children and grandchildren? The rewards in the Gulf are enormous. The

economics are still good, even at today's prices."

Yeti Discovery

Another heretofore nonoperating partner in the Gulf is headed in the direction of taking the reins.

Statoil has four main producing fields in its Gulf of Mexico portfolio: Caesar Tonga, which is operated by Anadarko Petroleum; and St. Malo, Jack and Tahiti operated by Chevron Corp. Statoil's production is 40,000 barrels of oil a day, which the company hopes to increase to more than 100,000 bbl/d by 2020, according to a spokesman Jim Schwartz, who notes that would make Statoil the fourth largest producer in the Gulf.

Statoil has ownership in five other fields—Julia, Stampede, Vito, Heidelberg and Big Foot—that either have been sanctioned or expect to be soon, Schwartz adds.

The Chevron-operated Big Foot Field (Statoil has a 27.5 percent share) is expected to begin producing later this year, Schwartz continues. Statoil also has working interests in the Royal Dutch Shell-operated Vito Field, the Hess Corporation-operated Stampede Field, the Exxon-Mobil-operated Julia Field, and the Heidelberg Field, all of which are expecting startup over the next several years.

On the exploration side, Statoil made some news with a discovery in Yeti in the Gulf of Mexico, comments Jez Averty, senior vice president of exploration for North America. He says assessments are under way to determine its commercial potential. Yeti is a subsalt Miocene play that Averty says could become the company's first operated GOM field.

"The Yeti discovery expands the proven subsalt Miocene play farther south and west of Big Foot," he points out. "We are analyzing data to determine the size of the discovery and to agree on appraisal options."

The Yeti discovery was made in Walker Ridge Block 160, which is located nine miles south of the Big Foot Field and seven miles from the Cascade Field. Averty says all the blocks comprising Yeti were accessed by their owners in recent years. Statoil is the operator with a 50 percent working interest. Its partners are Anadarko (37.5 percent) and Samson Oil and Gas (12.5 percent).

Averty says Yeti was drilled with the *Maersk Developer* drilling rig, a sixth-generation semisubmersible. He says Sta-

toil's drilling efficiency with Yeti was among the best of any well drilled in Walker Ridge, achieving a penetration rate of 400 feet a day. The rig now is drilling Statoil's Thorvald prospect in Mississippi Canyon Block 814.

"When we entered the Gulf 10 years ago," Averty relates, "we did so because it fit our core strengths: deepwater production and complex fields that with the right investment in technology can become long-lasting producers."

The downward pressure on industry margins, which Averty contends started long before the collapse in oil prices, and then the fall in oil price are forcing a change in focus toward lower-cost solutions and lasting efficiency gains to improve profitability and robustness. Averty says Statoil's "heritage as an innovative problem solver makes it well placed to do just that."

Stampede

Jeff Wirth, asset director for the Gulf of Mexico at Hess Corporation, has 20 years of experience both on- and offshore. "Before rejoining the Gulf with Hess in 2013, I spent four years in North Dakota (in the Bakken Shale)," he reveals. "That was a great opportunity, but the Gulf is just as exciting. Hess is producing 80,000 barrels of oil equivalent a day net from 11 fields. It is an exciting portfolio and a key area for us. We have been active in the Gulf for 25 years."

A big difference between onshore and offshore is cycle time. As an example, Wirth says Hess' deepwater Stampede oil and gas field was discovered in 2005, 115 miles south of Fourchon, La., in Green Canyon Blocks 468, 511 and 512, but it wasn't sanctioned until fourth quarter 2014.

"We expect to have a rig on location in 2016 and first production in 2018," he calculates. "We have contracted 85 percent of the services: drilling rig, engineering and fabrication. We have been able to take advantage of lower prices."

The field is located in 3,500 feet of water and has a reservoir depth of 28,000-31,000 feet. Wirth says production facilities will consist of subsea production and injection wells tied back to a single tension leg platform. Gross topsides processing capacity for the project is 80,000 bbl/d oil and 100,000 bbl/d of water injection.

"We will have the deepest application gas lift yet," he projects. "Eventually, Stampede will have six producers and four water injection wells to recover 300 million-350 million barrels of oil equivalent."



The TLP hull will support a topsides deck with two levels. Subsea production wells will be drilled from two drill centers, according to Wirth, with piggable flowlines tying the wells back to the platform.

Hess will operate Stampede with a 25 percent working interest. Chevron U.S.A. Inc. subsidiary Union Oil Company of California, Statoil Gulf of Mexico LLC and Nexen Petroleum Offshore USA Inc. each has a 25 percent working interest.

Increasing Rig Activity

When Hess, which has interests in 11 Gulf of Mexico fields, brings in its first of two rigs to drill Stampede next year, it will have three rigs operating in the Gulf. Besides the rig drilling its Tubular Bells project, Wirth says Hess will bring in a rig to drill its legacy fields.

“Penn State and Conger have produced four times their sanctioned volumes, and we are adding more drilling locations,” he lauds.

He says the Tubular Bells deepwater oil and gas field, which was discovered in 2003, has been a tremendous success for Hess. It lies in 4,300 feet of water, 135 miles southeast of New Orleans, primarily in Mississippi Canyon Block 724.

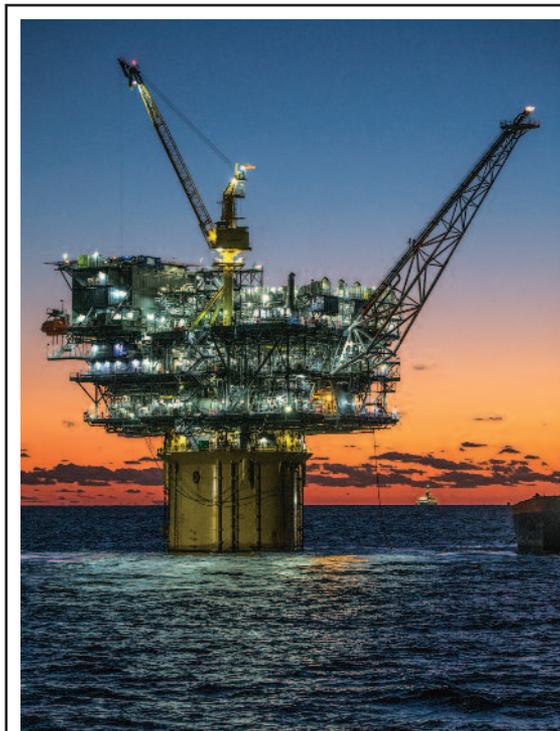
“The project was sanctioned in 2011, one year after Hess took over as operator,” Wirth recounts. “We brought it on line safely, on budget, and on time.”

Tubular Bells had first production in fourth quarter 2014, and Wirth says net production is forecast to average 30,000-35,000 boe/d this year. Hess is the operator with a 57 percent working interest. Chevron owns the other 43 percent. Hess has three wells on production in Tubular Bells, and Wirth says a fourth well has been completed and should come on line by midyear.

“We have the capability of executing highly complex deepwater projects,” he emphasizes. “Our co-owners have confidence that we are able to execute these deepwater projects.”

Tubular Bells’ reservoir targets are approximately 24,000 feet below the surface and under 10,000 feet of salt. Full field development is expected to include four or five producing wells and one or two water injection wells.

The production facilities consist of a subsea wet tree infrastructure tied to a three-level topside structure that has living quarters accommodating 50 persons, supported by a classic-design spar anchored by nine mooring lines. Wirth says the facility utilizes the most advanced, high-tech, vertical production



The Tubular Bells deepwater oil and gas field was discovered in 2003 in 4,300 feet of water in Mississippi Canyon Block 724. Jeff Wirth, Gulf of Mexico asset director for Hess Corporation, reports first production from Tubular Bells came on in fourth quarter 2014, and net production is forecast to average 30,000-35,000 barrels of oil equivalent by year-end.

tree system in the world.

The initial subsea development architecture has two drill centers connected to three production wells, a midfield in-line sled for a fourth production well and two water injection wells. Two eight-inch subsea production flowlines and one eight-inch water injection line tie back to the Tubular Bells floating production system. Oil and gas are transported to shore through two 12-inch export lines.

Wirth says Hess is planning further exploration, too, mentioning it was the high bidder on four blocks in the March lease sale.

Lean Thinking

Like efforts to become more efficient in onshore unconventional resource plays, Hess is trying to use what Wirth describes as “lean thinking” to become more efficient in the Gulf as well.

“It is step innovation,” he describes. “How do we innovate and then improve on it? In the Bakken, we cut drilling days in half. The same capability is being applied in deep water. For example, how do you cut in half the time it takes to change subsea chokes? In the deep water, it is all about reducing cycle time.”

One of the other keys to Hess’ GOM operations, according to Wirth, is operating safely. He uses lifting and hoisting as one example where Hess has made efforts

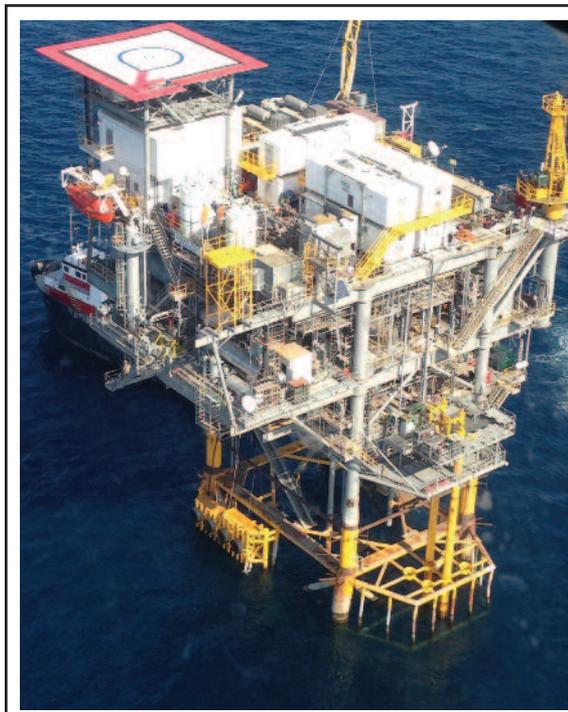
to improve safety by making problems visible with data and ensuring simple visual standards are in place. “This reduced the number of Hess’ lifting and hoisting incidents in the Gulf of Mexico by 40 percent in 2014,” Wirth proclaims. “A safe operation also is efficient. It goes hand-in-hand.”

Who Dat

LLOG Exploration Company LLC has been one of the most active operators in the Gulf of Mexico, and possesses a 70 percent success rate on nearly 200 exploration wells drilled in the past 10 years. It has 35 wells on line in the Gulf of Mexico and has interests in more than 135 blocks, states President and Chief Executive Officer Scott Gutterman, who says his company is continuing to focus on exploration in 2015.

Gutterman notes that LLOG is winding down initial development of Who Dat, located in Mississippi Canyon, 130 miles south of New Orleans. The discovery well was drilled in 2007.

“We are drilling the G-3 well, which will be the last well we drill in Who Dat for the next year or so,” he said in late May. “After completing the G-1 well, we have nine wells producing about 32,000 barrels of oil and 45 million cubic feet of natural gas a day. Who Dat was a game-changer for us. It was the first floating production facility we commissioned. It



LLOG Exploration Company LLC has two South Timbalier wells on line with gas condensate pay in its operated Powerball Field in 226 feet of water, 115 miles south of New Orleans. President and Chief Executive Officer Scott Gutterman reports the wells are producing 1,000 barrels of oil and 40 million cubic feet of natural gas a day.

has been fantastic.”

The Who Dat Field produces primarily oil, and consists of nine stacked, amplitude-supported reservoirs in a salt withdrawal mini-basin. Collectively, Gutterman says, the wells penetrated more than 700 feet of net pay in nine distinct reservoirs that ranged in depth from 12,000 to 17,000 feet true vertical depth. LLOG operates Who Dat with 50.25 percent interest in the project.

Gutterman says most of the wells employ smart completions, which he describes as sliding sleeves that the company can operate mechanically to open and shut zones.

Additional Activity

Although the downturn in commodity prices means lower cash flow, Gutterman says LLOG has not modified its budget significantly. “We are managing our

budget by deferring one or two developments and re-evaluating a couple of smaller projects that are marginal at current prices,” he allows.

The company has three deepwater rigs under contract. “We will retain and continue working our two new-build, dynamically positioned rigs (*Sevan Louisiana* and *Seadrill West Neptune*) and release our moored rig (*Noble Amos Runner*) when it terms out in the fourth quarter,” Gutterman states.

He says one has to think long-term in the deepwater Gulf of Mexico. “Typical developments in the deep water produce for 10-25 years. While we expect price volatility to have some impact on short-term margins, full cycle economics are still very robust. We try not to overreact when commodity prices drop,” he explains. “We have worked hard to build a healthy liquidity cushion that allows us to fund our current

budget comfortably, and potentially consider new opportunities that are often a byproduct of these down cycles.”

LLOG is active in a number of other areas as well. Gutterman says much of its activity is related to the Delta House floating production system in Mississippi Canyon, which initiated first production in mid-April of this year (see story page 88).

“We have drilled seven wells in the primary fields that feed our Delta House facility, and have two additional near-term development wells planned for 2015,” he observes. “Five of those wells had been brought on line by mid-May. Two more will see first production by late summer, and the two additional development wells will be brought into the facility within the next six to eight months. Another discovery, Otis, is scheduled to be tied back by mid-2016.”

LLOG has continued to see success outside of the Delta House and Who Dat developments, Gutterman continues. It has drilled a second well at the Taggart discovery, which encountered approximately 150 feet of net pay, and will be tied back to the Devil’s Tower spar. LLOG also has a nonoperated interest in the Kodiak Field, which is expected to begin producing in the fourth quarter, Gutterman says.

LLOG also brought on line two South Timbalier wells with gas condensate pay in its operated Powerball Field in 226 feet of water, 115 miles south of New Orleans. He says those two wells are producing 1,000 bbl/d oil and 40 MMcf/d of natural gas.

Gutterman calls OCS Lease Sale 235 “a light sale, by level of activity.”

“We moderated our approach,” he acknowledges. “We were a bit conservative, but were pleased with the blocks on which we were high bidder. Some fit nicely into our areas of focus, while others are stand-alone blocks, and a couple are support acreage.” □