



Given the shortage of oil rigs

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In the past week or so there have been a number of posts relating to the growing shortage of oil drilling rigs. This problem has been made worse by the losses in the Gulf, following the Hurricanes.

But it is also influenced by the declining production that comes as oilfields lose driving power. This means that, to sustain production, an increasing number of wells must be drilled each year, since, in a given reservoir, the production from each will be less. In addition smaller fields decline in production faster, since they do not have as much volume.

But it is also in the largest fields that we see the problem. Yesterday we talked a little of Ghawar, today consider [Cantarell](#)

This story is a little old, but consider the situation south of the border

Increased E&P spending has made contract work an increasingly attractive prospect, with good day rates being applied to long-term contracts. Independent leg jackups are paid \$50-60,000/day, while semisubmersibles fetch \$70-80,000/day. Pemex is paying a premium of almost 10% compared to the US Gulf, and activity is picking up. The company foresees growing activity on its offshore Ixtal-Manik, Kanaab, Tabasco Littoral, and Ku-Maloob-Zaap projects in the coming months. The mobile offshore drilling unit market in the Mexican Gulf has almost tripled over the last three years, with 55 rigs (27 jackups, 11 semisubmersibles, 13 platform rigs, three inland barges, and a drillship) working in Mexican waters, according to a July count.

However, they must find a way to replace the falling production from Cantarell.

Pemex has set a production goal of 3.44 MMb/d for 2005. Output for the first half of the year averaged 3.37 MMb/d, down 0.9% year-on-year, but picked up to 3.43 MMb/d in 2Q. Offshore output for the first half averaged 2.8 MMb/d, also marginally down year-on-year. Cantarell accounts for 62% of the nation's total output and 74% of offshore output. A recent Pemex report says, "Pemex's challenge is to maintain the production levels on Cantarell close to 2.0 MMb/d." The report, meanwhile, acknowledges that output from the field is expected to fall from 2.08 MMb/d in 2Q of 2005 to 1.99 MMb/d in 2006, mainly due to well shut-ins. Cantarell output has already dropped by 64,000 b/d year-on-year, down from 2.14 MMb/d in 2Q 2004. A decline in Cantarell output is a given in coming years, yet it remains to be seen just how fast the decline will happen. For some time now, Pemex officials and documents have referred to a likely long-term

decline, which could pull Cantarell output down to about 1.0 MMb/d before the end of the decade. . . . The magic political date of December 2006, when a new government will take office, may well be the key to understanding much of the current Pemex administration's efforts. Pemex has been rushing to drill 53 new wells on Cantarell to ensure that there will be no major decline in output from the field before year end 2006. It seems likely Cantarell's demise could be more pronounced after that. . . . Pemex says it expects that increased output from other offshore projects, particularly heavy crude from Ku-Maloob-Zaap and light crude from the Tabasco Littoral fields, will offset lower Cantarell output, with overall Mexican crude oil production increasing by 80,000 b/d next year.

So there will be an increased demand for drilling in Mexican waters. At the same time the [SEG](#) was hearing of the increasing shortages of manpower, equipment and services. Industry will rely heavily on new technologies, the meeting was told, though again it is hard to find much evidence of an investment outside their own companies of much money in such new technology by either industry or the government, and most of their own research seems to focus on computer models, which are obviously the big thing these days. But beware of false prophets

Allegations of a peak in world oil production don't hold water, Gould and Cejka said. "The trouble with peak oil theories is that geologists know nothing of economics and economists know little about geology," Gould said. Neither do investment bankers, said Cejka. "The Saudi fields are world scale fields.

- I wonder whom they could have been thinking of? Wonder if he will mention it in Denver?

Oh, and for those of us who worry about the ageing work force, the article ends with

Gould and Cejka said Schlumberger and ExxonMobil have taken actions to see that expertise is transferred from an aging work force to newer employees.

Cejka said, "A large number of our most experienced staff will retire in the next few years. We have taken steps to maximize the efficient transfer of learning to the next generation of geoscientists, pairing mentors with new employees. Our recruitment has remained constant over time and has not been dependent on oil prices." For the last 10 years we have successfully managed a new-hire development program that puts graduates through an initial 2-year program with three real work assignments in very different parts of our business." More than 1,200 geoscientists took more than 8,300 workdays of training at an ExxonMobil Houston facility in 2004, he said. ExxonMobil spends \$200 million/year supporting graduate and undergraduate work in university earth science programs.

The lack of exploration and production professionals is as acute on the service side as it is in the operators, Gould said. "The service industry is not particularly ready to meet the needs of a rapid ramp-up in activity."

Cejka said every able US drilling rig is working, the world deepwater rig market has never been tighter, and the number of full service geophysical vendors has declined 70% in the last 10 years. "The industry's about flat out," he said.



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