The Oil Drum
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

Some technical information slips in

Posted by Heading Out on July 11, 2005 - 4:39am

There is a growing use of horizontal wells as a way of getting more oil out of a reservoir. In an earlier post I had discussed some of the benefits of this relatively new technology (though it is actually over 20 years old). And this week there have been stories, both about the new ability to profitably extract gas from under Ft Worth*.

> Using horizontal drilling, the well will drop straight down for two miles, then take a gradual turn and travel sideways until it reaches the rock underneath the subdivision. If it strikes gas, all she and her neighbors will see are royalty checks. "No one is going to get to be a millionaire, but the checks could be $100 to $200 a month and they will last longer than anyone here will live," she says. The company says Ms. Stanley's expectations are accurate.

The second story is that the longest well has just been drilled by Statoil

> Statoil ASA's A-6 natural gas well in Visund oil-gas field on Blocks 34/8 and 34/7, in the Tampen area of the Norwegian North Sea, is the longest well drilled from a floating platform, the company claims. The well reached a total measured length of 9,082 m.
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> Statoil said 4,590 m of the well were drilled with a single bit at the rate of 102 m/day.

You may note the speed at which the well was drilled, which is often much slower than it is with conventional vertical well drilling, since the drill is now more accurately steered to the place that the company wants it to reach.

This is usually in a specific position across the oil/gas bearing layer, although in the recent well in Alaska the horizontal well was deviated so that it undulated up into an overlying oil-containing layer for a while, then down into a thicker one underneath, and then back up into the upper oil-bearing layer etc.

In these cases the wells also have to be lined with a steel casing in order to control the stability of the hole that is drilled. (Otherwise as they pull the oil out the sides of the holes can collapse, particularly if the company tries to pull too much oil out of the rock too fast by dropping the well pressure). After this steel casing has been put in place, and cemented to seal it, where necessary, then it must have holes or slots cut through the wall so that the oil outside can get in. For technical reasons these holes usually work best when they are cut into the top side of the casing, at the required places.

I mention all this so that you can realize that while, in the end, these techniques can produce much more oil and gas from the rock in a shorter overall time, the time that it takes to prepare

the well becomes much longer. As a result it is relatively impractical to expect a company to be able to generate more wells than they have currently planned, and they also, as you can imagine, need a relatively skilled drilling crew to carry out these various jobs effectively.

On an unrelated topic the OGJ reports that Statoil is also starting to lay a pipeline to one of their fields to begin the injection of carbon dioxide. While I have posted earlier about doing this as a means of getting more oil out of a rock, the intent here appears just to get rid of the gas into the rock, rather than releasing it into the air. There have been a number of studies on doing this, but this one seems about to happen.

> Statoil ASA is laying a 151-km, 8-in. carbon dioxide injection pipeline from the MelkÃ¸ya gas terminal in northern Norway to SnÃ¸hvit natural gas field in the Barents Sea.
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> The CO2, separated from SnÃ¸hvit gas at the terminal, will be injected back to a storage structure beneath the gas-bearing layers on the Statoil-operated field.
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> The pipelay is being accomplished in five stages. The Skandi Navica pipelay vessel began work on the line in early June, laying 10-20 km/day of pipe, and work is slated for completion by the end of July.
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> Statoil has been separating CO2 from its Sleipner West natural gas production and storing it in a subsurface formation in the North Sea since 1996. The injection and storage, Statoil said, will reduce total carbon emissions from the two fields by at least 1.7 million tonnes/year, including 700,000 tonnes/year from SnÃ¸hvit.

As a housekeeping measure the reference to the increased export of distillate etc from the US to Europe that may explain some of the refinery activity, that was discussed in the comments to an earlier post, was given here.

Also, courtesy of the Energy Bulletin, the growing effects of the oil price rise on Asia can be found here.

* Sorry I can't find the Rigzone article I was going to refer to so these references are related.

Technorati Tags: peak oil, oil
