



## Just the facts, ma'am, or checking oil production numbers

Posted by [Heading Out](#) on May 20, 2005 - 6:08am

The world seems awash in promises and worries about oil supplies and when we will arrive at Peak Oil. Many of these statements are based on political positions, rather than a level of reality. One of the things we hope to do with this site is to put up the occasional number that allows you to understand what a particular claim or worry might mean in actual numbers. As a result it might be possible to get some sense as to the credibility of the worry or promise.

To give an example of how this might be possible, on January 9th 2002 [Matt Simmons](#) presented a report on Giant Oil Fields. In that report (p 19) he gave a table for the average amount of oil produced per well per day for some of the top oil-producing countries. The data was obtained from the International Petroleum Encyclopedia of 2000, and is for 1998. (As far as I can tell it is not in the 2004 version and the 2005 version doesn't come out until next month). The data is as follows listing most the productive country first.

Norway.....	5,623 barrels of oil a day per well
Saudi Arabia.....	5,140
Iran.....	3,221
Kuwait.....	2,278
U.K.....	1,728
Abu Dhabi.....	1,595
Indonesia.....	1,592
Dubai.....	1,578
Iraq.....	1,252
Libya.....	947
Nigeria.....	940
Mexico.....	875
Algeria.....	642
Venezuela.....	200
China.....	44
U.S.A.....	11

Bear in mind that this is an average production, and wells in any given country will be at all sorts of levels from freshly started to almost done. And oil wells drop in production over the course of their life (an overall assumption in the past has been by around 7%). But by using these numbers we can get some sense of what is involved in a promise, say to increase production.

Let us say, for example, that Iran wanted to increase production by 1 mbd. Based on the above table then one could get a very rough estimate of how many wells they would have to drill. By dividing the amount desired (1,000,000) by the average production (3,221) you would get the number of new wells required (310). And if Iran has 31 onshore and 9 offshore rigs working, for a

total of 40 rigs, then each rig would have to drill between 7 and 8 wells a year to make this production. But if, for the sake of example, we know that those rigs take an average of 2 months to drill a well, then somehow the numbers won't seem to agree with the promise.

Now to make this form of calculation further, we need to have some sense of how many drilling rigs that there are in each country. Fortunately that is published very regularly by the drilling industry, though different sources give you slightly different numbers.

Using, for now, the [Baker Hughes Rig Count web site](#), it gives a list of how many rigs are working in each of country. As and of the end of last month the numbers are:

(The first number is the number of onshore rigs, the second is the offshore, the third is total)

Norway.....	0.....	19.....	19
Saudi Arabia...	28.....	3.....	31
Iran.....	32.....	9.....	41
Kuwait.....	14.....	0.....	14
UK.....	1.....	18.....	19
Abu Dhabi.....	8.....	3.....	11
Indonesia.....	37.....	15.....	52
Dubai.....	1.....	1.....	2
Iraq.....	0.....	0.....	0
Libya.....	9.....	1.....	10
Nigeria.....	0.....	8.....	8
Mexico.....	78.....	32.....	110
Algeria.....	19.....	0.....	19
Venezuela...	41.....	9.....	50
China.....	n/a.....	n/a	
U.S.A.....	1,645.....	92.....	1,737

Now these numbers are not fixed, Saudi Arabia for example are getting another 36 odd rigs this year, and there are some that were not working at the time of the survey. But you should be able to get the general idea of what is where, from the table.

Trying to upgrade these tables takes a bit of digging, and there are pages of likely reasons why these are all only rough guides. But it does allow one more step in the process. And, it will help you understand why I will on occasion, post numbers, for the initial production from a well.

These numbers also allow us to work the problem a slightly different way. If, for example, Saudi Arabia is now bringing in wells which will average a production of [3,300 bd](#) each, and it has 31 rigs working, then it will bring in 31 (no of rigs) x 6 (number of wells each drills a year) x 3,300 (barrels produced per well). This works out to 613,800 bd of new production this year. Note that this increased supply has also to replace any existing wells that are declining in production (and that number may well be on the order of 400,000 bd or more).

Now there are a lot of very simplifying assumptions in all of the above, but perhaps from this framework you might get a sense of where people come from when they question claimed future increases in production. But also remember that the top table is seven years old and that one of the things we will be working on is to change those numbers to more realistic current ones.

And you thought, with the end of the school year, that homework was over.

Technorati Tags: [peak oil](#), [oil](#)

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