

**ENERGY GUEST BLOG -- JIM SAMUEL**

**The Utica shale is more than a shale play**

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Last week, the United States Geological Survey (USGS) released its first official estimates of the Utica/Point Pleasant shale play. The numbers were very positive for the energy and economic development outlook of the region. But as with many reports like this, it is often what you don't read that is most interesting.



*Jim Samuel is founder and principal of Capitol Integrity Group, a fellow of the Levin College at Cleveland State University and a founding partner of the Ohio Shale Consortium. He has worked extensively in the economic development and public policy arena and serves as a consultant to the energy industry.*

If you are keeping up on the industry, let's not miss what you may have already read in the standard media coverage. The USGS estimated a total mean recoverable reserve in the Utica of 38 trillion cubic feet of natural gas, 940 million barrels of oil and 208 million barrels of natural gas liquids. A tremendous amount of energy reserves right here under our feet in Ohio and the surrounding region — and a significant shale play by any account.

One of the first things I find interesting; geologists are a conservative bunch who don't want to overestimate their work.

In 2002, the USGS released its first mean recoverable estimate of the Marcellus Shale play showing 2 trillion cubic feet of natural gas and 10 million barrels of natural gas liquids. In 2011, with a lot more known about the Marcellus and new drilling techniques perfected, the USGS increased their estimates to 84 trillion cubic feet of gas and 3.4 billion barrels of liquids that might be recovered — an astounding jump.

I am not going to leap to some ridiculous conclusion and try to apply a factor of '40x' to the Utica numbers, but I am willing to "peek under the sheets" a bit and look at some of the other numbers in the just released report.

Most observers have been focused on the mean of the recoverable estimates. For a moment, let's look at the high-end of the spectrum at what is called the 'F5' or the number that represents a 5% likelihood of return. (The low-end estimate is called the 'F95' as in a 95% likelihood of return.) At the high end, we could be looking at nearly 61 trillion cubic feet of natural gas, 1.4 billion barrels of oil and 398 million barrels of natural gas liquids. Significantly higher . . . and possible.

What else did I find interesting about the just released USGS estimate on the Utica? The last sentence of the introduction, an easily overlooked statement. It says, "These are potentially technically recoverable resources that can be exploited by using horizontal drilling combined with hydraulic fracturing techniques."

Why do I find this statement important? It is the key mention of the technologies used to extract the resource. The report cites data and models from as far back as the 1980's. As

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many geologists have told me, what is contained in the shale is not new to them. We didn't suddenly discover and drill into the Utica shale formation a few years ago; drillers have been penetrating it for decades and core samples have been evaluated for their content. In fact, the name Utica shale actually dates back to the 1840s, when it was categorized and named for a point in New York State where it outcrops near the city of Utica.

That USGS nod to the role of hydraulic fracturing underscores that the Utica is more than a shale play. It is a technology play. It is not the discovery of some newly found resource, it is really the application of newly proven technologies allowing for this vast new source of domestic energy production.

I could expound on that point, but would rather let the geologist do it for me. As was cited in the USGS report in 2011: "Since the 1930's, almost every well drilled through the Marcellus found noticeable quantities of natural gas. However, in late 2004, the Marcellus was recognized as a potential reservoir rock, instead of just a regional source rock, meaning that the gas could be produced from it instead of just being a source for the gas. Technological improvements resulted in commercially viable gas production ...."

The point is, it's not that the shale is now being discovered; it's that we now have the technology that allows us to obtain and utilize it.

All of this is important for economic development, jobs creation and more. Foremost on people's minds is working America back toward a path that allows it to determine its energy future. The combination of the Utica and Marcellus shale plays in this region of the United States, combined with the technological leaps of the American R&D sector has put our nation on a path toward energy security.

By this measure, energy security has a payoff that is incalculable. We have been sending troops to deal with regional conflicts in the Middle East for decades, because that's where we got our energy.

If we were instead to rely on energy from the Marcellus and Utica shale plays, regional conflicts over energy would become more like arguments over the Browns vs. Steelers or the Nittany Lions vs. the Mountaineers — issues that could be settled over a Pottsville Yuengling instead of a Potsdam Conference.



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