A Current Summary of the Utica Shale

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About Warlick Energy

An oil & gas intelligence firm based in Houston with special experience in unconventional resources serving the E&P, oilfield services & manufacturing and financial sectors since ‘76

Two practice areas:

1 - Market Research: Execute one-off market studies involving new product potential, technology reviews, competitor analyses, market audit, acquisition search and evaluation, perception of image and performance, market forecasts, litigation support.


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The Utica is among thirteen major US shale plays
The Utica Shale in Ohio
Characterizing the Utica Shale

- An Ordovician-age organic, rich black shale. It has enterbedded limestone with typical thicknesses of ~ 150-200 ft. Depths range from 7,500 – 9,250 ft with HZ target zones in the Point Pleasant.

- In eastern Ohio the Utica lies below the Marcellus, which may be encountered at depths less than 6,000 ft.

- Moving from west to the east in Ohio towards Pennsylvania, the Utica interval will thicken and go deeper.
Characterizing the Utica Shale

- The overall makeup and mineralogy in the Utica is said by experts to be quite similar to the Eagle Ford Shale with high carbonate/low clay content – which is quite amenable to hydraulic fracturing.

- It has sizable OOIP potential with 150-300 ft total thickness, TOC range 2% to 4% and reported average porosity ranging from 6% to 8%.

- The USGS estimates Utica may contain up to 61 TCF natural gas, 16 million bbl of NGLs and 1.4 billion bbl of crude oil – but there are other, variant estimates as well.

- More definition is needed from many more Utica completions in order to arrive at closer estimates.
Characterizing the Utica Shale

- As of mid-February a total of 518 drilling permits issued prospective to the Utica Shale
- Top four operators and their issued drilling permits:
  - Chesapeake – 329
  - Gulfport – 30
  - CONSOL/CNX – 21
  - Hess - 18
- At this point, 236 Utica Shale wells have been drilled with 65 in production
- Ohio has been a long-standing producer of natural gas—but the 65 producing Utica Shale wells (gas and liquids producers) are estimated to be producing ~ 57% of the production of 64,000 existing vertical gas wells in the state
- At present there are 28 rigs drilling
Busy Players in the Utica -- Chesapeake Energy

- CHK began drilling here in 2010 and has been the leader ever since
- Currently has approximately 1 million net acres in the Utica
- It helped that Total invested $2.3 billion in Chesapeake and EnerVest Utica holdings
  (EnerVest received $290 million)
- By the end of 2012, drilling carried from total was $1.15 billion, to be used through 2014
- Since 2010 Chesapeake has drilled 184 wells in the Utica
- Producing = 45, WOPL = 47 and 92 in varied states of completion
- Midstream/pipeline hookups are constrained, should improve greatly this year
Busy Players in the Utica -- Chesapeake Energy

- Chesapeake still showing dedication to the Utica, expecting their production growth to ramp up with completion of two sizable gas processing plants
- EUR projections in wet gas window are in a wide range, 5-10 BCFE
- Recent completion in this area had peak rate of 2,025 BOED
- Their 2013 drilling budget allocates 11% to the Utica (~$700 million) behind the Eagle Ford budget with 35% and the Anadarko basin at 28%
- Far and beyond the Utica’s biggest driller with 14 rigs running
Busy Players in the Utica - Gulfport Energy

- Presently has 128,000 net acres; accumulated over the years with early-2011 additions of 37,000 net acres ($300 million) and 22,000 net acres ($220 million).
- Overall, Gulfport has 856 gross locations, largely in Harrison and Belmont counties.
- Gulfport indicates their first 10 operated wells tested on average at 3,630 BOEPD – 1,166 Bbl of NGLs, 10 MMCFD of natural gas and 798 BD of condensate.
- Best of these 10 Wells tested at 7.5 MBOEPD including 3,207 BD liquids and 25.7 MMCFD.
- A distant #2 behind Chesapeake with 3 rigs running this year compared to 2 rigs in 2012.
- Their Utica 2013 capex = $382 to $426 million with plans to drill 50 gross wells.
CONSOL kicked off their Utica shale activity via the joint venture with Hess in late 2011.

This was a $594 million JV which involved 200,000 acres in a 50/50 deal – slightly more than half the leasehold came from CONSOL’s earlier acquisition of Dominion assets.

In the CONSOL-operated JV segment they drilled eight wells in 2012, completing four with horizontal laterals ranging from 2,785 to 7,568 feet with up to 16 frac stages.

They plan a two-rig, 11-well program for 2013.

In the Hess-operated segment of the JV, Hess is running one rig in Harrison County with plans to drill up to 16 wells in 2013.
Busy Players in the Utica - Hess

- In late 2011 Hess acquired Marquette Exploration plus a number of other leases in the Utica, a deal for $750 million for 85,000 net acres.
- Their properties are in Belmont, Harrison and Jefferson counties. Noted previously, Hess spent $594 million in their CONSOL JV soon afterwards so total investment = $1.3 billion.
- In overall Utica operations Hess spent ~ $300 million in Utica appraisal drilling during 2012 and plans to spend $400 million this year.
Some Utica Independents – Antero Resources

- Antero presently has 81,000 net acres, largely in Noble County (southern part of the Utica)
- They indicate about 90% of the acreage is rich-gas
- Three wells completed with tentative plans to spend ~ $150 million in the Utica this year, anticipating new gas processing to free up production
- Presently running two drilling rigs
Some Utica Independents – Halcon Resources

- Halcon has completed their first two wells with production coming spring 2013
- They have 130,000 net acres, 100% operated
- Drilling 10 wells to delineate acreage
- Drilling and completion budget ~ $200 million with 2-3 operated rigs by end of year
and in the Wings

- Anadarko Petroleum
  - Records indicate they have been issued 12 drilling permits
  - Approximately 7-8 operating wells
  - Reportedly will conclude their evaluation of Utica properties this spring.

- Carrizo Oil & Gas – Issued two permits, also in Trumbull County, OH – also has permits to drill the Utica in Mercer County, PA

- Chevron – Issued one permit to drill the Utica in Mercer County, PA

- ExxonMobil – Currently has around 52,000 acres in Belmont and Monroe Counties, OH and at present has 4 permits to drill
... but some are selling their Utica holdings

- **Devon Energy**
  - Announced they are marketing certain properties through Scotia Bank
  - Approximately 195,000 net acres, believe most in Guernsey County
  - Acreage is largely HBP
  - Devon has been issued 12 applications to drill in the area

- **EnerVest**
  - Selling 103,800 acres in four Eastern Ohio counties
  - Presently part of more than 330,000 acres being marketed by EnerVest
  - Ohio records indicate 16 drilling permits issued to EnerVest
Comparing the Utica to the Eagle Ford

The Utica-Point Pleasant core area is ~ 11 million acres, the Eagle Ford ~ 12.8 million acres.
Comparing the Utica to the Eagle Ford

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Utica Shale</th>
<th>Eagle Ford Shale</th>
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<tbody>
<tr>
<td>Initial Shale Development</td>
<td>Late 2010</td>
<td>Late 2008 - early 2009</td>
</tr>
<tr>
<td>Active Operators</td>
<td>24 companies</td>
<td>At least 52 companies</td>
</tr>
<tr>
<td>Top Five Operators</td>
<td>Chesapeake, Gulfport, CONSOL, Hess, Halcon</td>
<td>Anadarko, Chesapeake, EOG, Conoco Phillips, Marathon,</td>
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<tr>
<td>Drilling permits issued</td>
<td>First 2 years = 518</td>
<td>First 2 years = 120</td>
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<td></td>
<td></td>
<td>Year #3 = 1,010</td>
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<td></td>
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<td>Year #4 = 2,826</td>
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<tr>
<td></td>
<td></td>
<td>Year #5 = 4,143</td>
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<tr>
<td>D&amp;C Cost</td>
<td>$7 - $9.5 MM</td>
<td>$5.8 - $6.5 MM</td>
</tr>
<tr>
<td>EUR - BCFE</td>
<td>5 (CHK reported min.)</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Target Depths</td>
<td>7,000 - 8,700</td>
<td>8,000 - 9,500</td>
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<tr>
<td>Estimated Shale Wells Drilled 2013</td>
<td>95 - 125</td>
<td>5,200 - 5,800</td>
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Final Comments

- The Utica does have attractive potential
- Appears to be a good, liquids-rich opportunity
- Development & takeaway has been slowed by lack of midstream/pipeline infrastructure
- But new capacity is on the way, launching this year and extending into 2014
- At this point the Utica is a Chesapeake story, and they are committed with $700 million and 14 rigs this year. . . Total’s drilling carry helps
- Hesitation and seemingly-slow appraisal by several of the bigs a concern, the planned departure by Devon as well
- Summary: More confirmation of potential is needed, should have a better idea of Utica’s path forward late 2013-early 2014.
End of Presentation

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