Oil Industry Segment Update

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Rail Energy Transportation Advisory Committee
Surface Transportation Board

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Economic Contribution/Growth

2.5 million jobs are supported by the unconventional development of crude oil fields in 2015, and by 2025 the US GDP estimated to increase by $533 billion.

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Source: American Petroleum Institute, FRA, DOT
Growth of Crude by Rail Carloads

Originated Carloads on Class I Railroads (1,000’s)

Source: US - Association of American Railroads
Estimated North Dakota Rail Export Volumes

Source: North Dakota Pipeline Authority, February, 2015 Update,
Williston Basin Crude Oil Transportation

2013

- Rail Export 62%
- Pipeline Export 33%
- Tesoro Refinery 4%
- Trucked to Canadian Pipeline Export 1%

2014

- Estimated Pipeline Export 59%
- Tesoro Refinery 5%
- Truck to Canadian Pipelines 1%

Source: North Dakota Pipeline Authority, January 2014 and February 2015 Updates
WTI Price Decline

Cushing, OK WTI Spot Price FOB

Source: U.S. EIA
US Rig Count
February Year-to-Year Comparison

Source: Baker Hughes
North Dakota Rig Count
Are We Approaching the Bottom?

Annual and Monthly Averages

Source: Baker Hughes
Current Price Environment Impact

Source: North Dakota Pipeline Authority
So Where Are Prices Going?

West Texas Intermediate (WTI) Crude Oil Price

Note: Confidence interval derived from options market information for the 5 trading days ending Feb. 5, 2015. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, February 2015.
Williston Basin Oil Production & Export Capacity, BOPD

June 2014

January 2015

Source: North Dakota Pipeline Authority June 2014 and January 2015
Williston Basin Oil Production & Export Capacity, BOPD

Source: North Dakota Pipeline Authority January 2015
Williston Basin Crude Oil Export Options
(Capacity – Not Market Share)

<table>
<thead>
<tr>
<th>Year</th>
<th>Refinery &amp; Pipeline</th>
<th>Rail (Loading terminal capacity/not railroad)</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>2010</td>
<td>433</td>
<td>18</td>
<td>611</td>
</tr>
<tr>
<td>2011</td>
<td>658</td>
<td>295</td>
<td>953</td>
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<tr>
<td>2012</td>
<td>1,203</td>
<td>1,841</td>
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<td>2013</td>
<td>1,733</td>
<td>1,983</td>
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<tr>
<td>2014</td>
<td>1,983</td>
<td>2,317</td>
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<tr>
<td>2017</td>
<td>3,136</td>
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</tbody>
</table>

Source: North Dakota Pipeline Authority – February, 2015
Enhanced Rail Tank Car Standards

Proposed Rule

– Issued on August 1, 2014
– Applies to trains carrying flammable liquids
– Proposed 3 options for car thickness for new and existing tank cars – 2 shell options: 9/16-inch and 1 option: 7/16-inch
– New and existing cars to include jackets, full-height head shields, reconfigured bottom outlet valve handle, reclosing pressure relief valve, thermal protection system
– New cars must have top fittings protection; no additional top fittings protection required for existing cars
– Electronically controlled pneumatic brakes required for the Option 1 car
– Retrofit schedule for existing cars is staggered by Packing Group for material being transported beginning in 2017
– Sampling and testing program required
– 3 options for speed restrictions across the entire railroad network
– Additional reporting to assist emergency responders

Issues with Rule

– Modification timeline is unrealistic
– Proposal failed to account for repair shop ramp up period
– PHMSA’s predicted modification rate is too high
– Reduction in tank car capacity = more trains on the tracks, increased use of other transport options or production cutbacks
– Harmonization with Canada’s rule

Final Rule Expectations

– Under review at White House Office of Management & Budget; expected to be issued in May 2015
– Shell Thickness?
– Enhancements?
– Retrofit Schedule?
Conclusions

• All stakeholders are committed to the safe and compliant transport of crude oil by rail
• Unconventional production continues to contribute materially to employment, GDP & energy independence
• Oil has responded quickly to price pressure
• Unconventional production of crude oil is expected to grow slowly into 2Q 2015 then flatten
• Rail alternative will remain an important delivery mode particularly to the east and west coasts
• Marketplace awaits the finalization of the rulemaking