Oil Industry Segment Update

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Rail Energy Transportation Advisory Committee
Surface Transportation Board

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US Crude Oil Market Environment

- Global crude oil inventories remain at high levels [Source: EIA Weekly Report]
- Prices remain relatively low and volatile
  - Cushing WTI Spot Price [Source: EIA Daily Reports]
    - October 6, 2014 = $90.33
    - October 5, 2015 = $46.28
    - October 3, 2016 = $48.80
    - October 2, 2017 = $50.59
- US land rig count down 53.1% from 2014 peak [Source: Baker Hughes]
- US land rig count increased 18% from 7/’15 to 7/’17 [Source: Baker Hughes]
- US production declined (-1.7%) from 7/’15 to 7/’17 [Source: EIA]
- Current economics favor pipe over rail [Source: RBN Energy]
- CBR volumes have declined to early 2012 levels [Source: EIA]
- US crude oil exports at 1.98 million bpd 9/29/17 week [Source: Reuters]
- US crude imports at 756K bpd 9/29/17 week [Source: Reuters]
- Brent WTI spread at $5.35 9/29/17 [Source: YCharts]
# Land Oil Rig Count

<table>
<thead>
<tr>
<th>Region</th>
<th>2014 Peak (October)</th>
<th>October 7th 2016</th>
<th>October 6th 2017</th>
<th>Count ‘16/’17 Change</th>
<th>% ‘16/’17 Change</th>
<th>% Change From Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>1,609</td>
<td>428</td>
<td>748</td>
<td>+320</td>
<td>+75%</td>
<td>-54%</td>
</tr>
<tr>
<td>Eagleford</td>
<td>206</td>
<td>32</td>
<td>62</td>
<td>+30</td>
<td>+94%</td>
<td>-70%</td>
</tr>
<tr>
<td>Permian</td>
<td>35% of US 562</td>
<td>203</td>
<td>51% of US 383</td>
<td>+180</td>
<td>+89%</td>
<td>-32%</td>
</tr>
<tr>
<td>Williston</td>
<td>198</td>
<td>30</td>
<td>50</td>
<td>+20</td>
<td>+67%</td>
<td>-75%</td>
</tr>
<tr>
<td>All Other</td>
<td>637</td>
<td>128</td>
<td>253</td>
<td>+125</td>
<td>+98%</td>
<td>-60%</td>
</tr>
</tbody>
</table>

*Source: Baker Hughes*
Oil and Gas Production Average Annual Employment
(Seasonally Adjusted)

Source: U.S. Bureau of Labor Statistics
Volume of Crude by Rail Carloads
Originated Carloads on US Class I Railroads (1,000’s)

2017 1Q was the lowest 1Q volume since 2012
[Source EIA]

Source: AAR
### Williston Basin Crude Oil Modal Share

**Source:** ND Pipeline Authority

<table>
<thead>
<tr>
<th></th>
<th>Average Production/BOPD</th>
<th>Rail/BOPD est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/2013</td>
<td>521,598</td>
<td>354,687</td>
</tr>
<tr>
<td>6/2014</td>
<td>1,092,519</td>
<td>644,586</td>
</tr>
<tr>
<td>6/2015</td>
<td>1,211,328</td>
<td>569,324</td>
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<tr>
<td>6/2016</td>
<td>1,027,131</td>
<td>297,866</td>
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<tr>
<td>6/2017</td>
<td>1,032,873</td>
<td>72,301</td>
</tr>
</tbody>
</table>

#### June 2017 Estimated

- Pipeline Export: 78%
- Refined: 7%
- Truck to Canadian Pipelines: 8%
- Estimated Rail: 7%
Williston Basin Crude Oil Production and Export Capacity, BOPD

Source: North Dakota Pipeline Authority

Note: DAPL volume at 470,000 BPD [Source: API]
Williston Basin Crude Oil Export Options
(Reported Capacity – Not Market Share)

Refinery & Pipeline
Rail
Total

Source: North Dakota Pipeline Authority

Rail: Loading terminal capacity/not railroad; NDPA assumes rail capacity at 1 MMOBD
Some Closing Thoughts

- US crude oil production has declined since 2015 but it is steadily continuing a gradual recovery; 9.238 million BPD July 2017
- Most rapid onshore production growth is in the pipe centric Texas
- Bakken production level at 1 million BPD+
- The marketplace continues adapting to the effects of high global inventories, instability and low price levels
- US unconventional oil producers continue responding to market realities with an efficiency/productivity focus
- July 2017 CBR volume has fallen to March 2012 levels
- Surplus capacity remains in the CBR marketplace
- Growing crude oil exports could be a potential plus for CBR
- Increasing Brent WTI spread could be a potential positive for CBR