How Do You Survive In 2016?

Global Oversupply

Oil Price Collapse

Increasing Leverage

Sources of Capital for E&Ps in 2016

Asset Sales

Joint Ventures

Corporate Restructurings

- Debt for equity exchanges
- Bankruptcies (20+ already)
Quiet A&D Market In 2015; 2016 Expected To Be Much Busier

Annual U.S. E&P Onshore A&D Supply ($B) (1)

<table>
<thead>
<tr>
<th>Region</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Gas</td>
<td>$56</td>
<td>$55</td>
<td>$60</td>
<td>$60</td>
<td>$62</td>
<td></td>
</tr>
<tr>
<td>Gas Resource Plays</td>
<td>$8</td>
<td>$19</td>
<td>$18</td>
<td>$43</td>
<td>$17</td>
<td></td>
</tr>
<tr>
<td>Conventional Oil</td>
<td>$20</td>
<td>$8</td>
<td>$9</td>
<td>$7</td>
<td>$13</td>
<td></td>
</tr>
<tr>
<td>Oil Resource Plays</td>
<td>$5</td>
<td>$5</td>
<td>$31</td>
<td>$27</td>
<td>$13</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>$24</td>
<td>$24</td>
<td>$31</td>
<td>$27</td>
<td>$28</td>
<td>$13</td>
</tr>
</tbody>
</table>

Key Drivers to 2016 Supply
1. Borrowing base redeterminations
2. Capital markets largely closed
3. Lack of hedging
4. 2015 failed deals coming back around

Annual Deal Count ($100 MM+) (2)

<table>
<thead>
<tr>
<th>Region</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>39</td>
<td>23</td>
</tr>
<tr>
<td>Delaware Basin</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Midland Basin</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Bakken</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Eagle Ford</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Niobrara</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>SCOOP / STACK</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Marcellus / Utica</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>122</strong></td>
<td><strong>57</strong></td>
</tr>
</tbody>
</table>

(1) Includes onshore U.S. asset transactions greater than $20 million. (2) Includes onshore U.S. resource and conventional asset transactions greater than $100 million in select regions.

Source: RBC Richardson Barr internal database, public filings, company press releases.
Who is Selling?

2015 Asset Supply by Seller Type ($ MM)

- **Public**
  - Conventional Assets: $10.8

- **Private Equity**
  - Resource Plays: $8.9

- **Private Co.**
  - Resource Plays: $2.6

- **Other**
  - $0.2

- **MLP**
  - $0.3
Most Interesting Transactions Over The Last 12 Months

$3.0 B
$2.8 B
$1.1 B
$900 MM
$1.9 B

Key Takeaways

Enhance capital structure through acquisition with stock

Reeves Co.
$360 MM
Commodity Supply/Demand Fundamentals Trumping Geopolitics

WTI Oil Price – 1997 to 2015

<table>
<thead>
<tr>
<th>Event</th>
<th>1 Asian Financial Crisis</th>
<th>2 9/11 Attacks</th>
<th>3 Reduced Demand</th>
<th>4 Global Financial Crisis</th>
<th>5 Economic Slowdown</th>
<th>6 Oversupply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil price decline</td>
<td>41%</td>
<td>38%</td>
<td>32%</td>
<td>69%</td>
<td>29%</td>
<td>75%</td>
</tr>
<tr>
<td>Decline Period</td>
<td>5-7 months</td>
<td>~2 months</td>
<td>5-6 months</td>
<td>5-6 months</td>
<td>2-4 months</td>
<td>18 months +</td>
</tr>
<tr>
<td>Recovery</td>
<td>2-3 years</td>
<td>~1 year</td>
<td>~6 months</td>
<td>3-4 years</td>
<td>~2 months</td>
<td>?</td>
</tr>
</tbody>
</table>

Source: Bloomberg as of January 20, 2016. EIA historical data.
How Are Oil Prices Affecting Deal Making?

WTI Oil Price

Consensus price decks versus the strip historically allowed publics to bid more aggressively.

Long Term Buyer Price Decks

Source: RBC Research, Bloomberg and Factset as of January 20, 2016.
Capital Markets Have Shut Down…Except For The Permian

### E&P Equity Capital Markets

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q 15</td>
<td>$8.1</td>
</tr>
<tr>
<td>2Q 15</td>
<td>$3.5</td>
</tr>
<tr>
<td>3Q 15</td>
<td>$1.1</td>
</tr>
<tr>
<td>4Q 15</td>
<td>$1.7</td>
</tr>
<tr>
<td>1Q 16</td>
<td>$1.6</td>
</tr>
</tbody>
</table>

### E&P Debt Capital Markets

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q 15</td>
<td>$7.0</td>
</tr>
<tr>
<td>2Q 15</td>
<td>$7.4</td>
</tr>
<tr>
<td>3Q 15</td>
<td>$1.2</td>
</tr>
<tr>
<td>4Q 15</td>
<td>$0.0</td>
</tr>
<tr>
<td>1Q 16</td>
<td>$0.0</td>
</tr>
</tbody>
</table>

Source: Dealogic, FactSet as of January 20, 2016.

Small / Mid Caps have raised ~$43 Billion in High Yield since 2013

HY Market Largely Closed; Turning to 2nd / 3rd Lien Market

RBC Capital Markets Richardson Barr
Lack of Hedging Will Lead To Increased Asset Supply

2016 Total Prod. Hedged & Leverage by Market Cap

- Less than 20% of estimated total U.S. production is hedged in 2016

- Net Debt / 2016E EBITDA
  - Oil: 2.1x
  - Gas: 4.0x
  - MLPs: 5.3x

Source: RBC Richardson Barr, public filings, company investor presentations
Decrease in Rig Activity & CapEx Across U.S. Resource Plays…

CapEx estimated to decrease by ~30% from 2015 to 2016

Sources: Baker Hughes Rig Count. Regions per Baker Hughes – SCOOP / STACK, Midland Basin, Delaware Basin per RBC Richardson Barr, OPEC, IEA, EIA, RBC Research.

January 9, 2015 Hz Rig Count
January 15, 2016 Hz Rig Count

9 Sources: Baker Hughes Rig Count. Regions per Baker Hughes – SCOOP / STACK, Midland Basin, Delaware Basin per RBC Richardson Barr, OPEC, IEA, EIA, RBC Research.
...Causing Production Declines In Most U.S. Basins...

Deepwater GOM (oil growth est. +19% 2015-2017) and Permian production growth offsetting production declines

...However, Global Supply Expected To Increase

Global Liquids Production (MMBopd)

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. Production</th>
<th>OPEC Production</th>
<th>Global Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9.2</td>
<td>31.3</td>
<td>50.5</td>
</tr>
<tr>
<td>2013</td>
<td>10.2</td>
<td>30.5</td>
<td>50.6</td>
</tr>
<tr>
<td>2014</td>
<td>11.8</td>
<td>30.3</td>
<td>51.3</td>
</tr>
<tr>
<td>2015E</td>
<td>12.8</td>
<td>31.4</td>
<td>51.9</td>
</tr>
<tr>
<td>2016E</td>
<td>12.3</td>
<td>31.9</td>
<td>51.8</td>
</tr>
<tr>
<td>2017E</td>
<td>12.7</td>
<td>32.2</td>
<td>51.4</td>
</tr>
</tbody>
</table>
Private Equity Armed With $85+ Billion

Financial Sponsors Increasingly Active In The E&P Space – ~$85+ B In E&P Focused Capital

- Non-Texas-based
- Texas-based

Financial Sponsor Universe – 250+ Total U.S.-Focused E&P Management Teams

Source: RBC Richardson Barr internal database.
### Publics’ Cautious Acquisition Posture Creating Opportunity for Private Equity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>$2,750 MM</td>
<td>$620 MM</td>
<td>$3,873 MM</td>
<td>$2,500 MM</td>
</tr>
<tr>
<td>Acreage</td>
<td>$36,000/acre</td>
<td>$10,700/acre</td>
<td>$31,500/acre (2)</td>
<td>$21,500/acre (3)</td>
</tr>
</tbody>
</table>

- **Delaware**: (70%) (47%)
- **Utica**: (46%) (52%)
- **Delaware / Eagle Ford**: (44%) (54%)
- **SCOOP/STACK / Powder River**: (41%) (26%)

(1) Amount includes two separate transactions.
(2) Represents Delaware undeveloped acreage value only.
(3) Represents Felix undeveloped acreage only.

Source: Factset data as of 1/14/2016.
**When Will Core-of-Core Valuations Start To Be Impacted?**

### Permian Basin Valuations Versus Oil Price

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
<th>Price</th>
<th>Acreage Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2014</td>
<td>$7,080 million</td>
<td>$41,900 / Acre</td>
<td></td>
</tr>
<tr>
<td>July 2015</td>
<td>$281 million</td>
<td>$35,500 / Acre</td>
<td></td>
</tr>
<tr>
<td>November 2015</td>
<td>$1,084 million</td>
<td>$29,200 / Acre</td>
<td></td>
</tr>
<tr>
<td>October 2014</td>
<td>$1,240 million</td>
<td>$20,000 / Acre</td>
<td></td>
</tr>
<tr>
<td>January 2016</td>
<td>$360 million</td>
<td>$22,500 / Acre</td>
<td></td>
</tr>
</tbody>
</table>

Source: RBC Richardson Barr, public filings. Some figures above may represent RBC estimates.

Note: Acreage metric calculated after allocating PDP PV-10 for existing production.
RBC Insights On Current Buyer Methodology

<table>
<thead>
<tr>
<th>Reserve Category</th>
<th>Present Value ($MM) At Varying Discount Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PV&lt;sub&gt;0&lt;/sub&gt;</td>
</tr>
<tr>
<td>PDP</td>
<td>![Image]</td>
</tr>
<tr>
<td>PDNP</td>
<td></td>
</tr>
<tr>
<td>Bench 1 (Core)</td>
<td>![Image]</td>
</tr>
<tr>
<td>Bench 2 (Core)</td>
<td>![Image]</td>
</tr>
<tr>
<td>Bench 3 (Emerging Core)</td>
<td>![Image]</td>
</tr>
</tbody>
</table>
A&D Adjusts As It Needs To – Just Need Stability

Oil Price vs. Rig Activity

Source: Bloomberg and Baker Hughes data as of January 14, 2016.
### How Do You Get A Deal Done In The Current Environment?

1. Sellers acceptance of bid valuations
2. Market for bigger deals is very efficient (you’re not going to “steal” anything)
3. Marry technical valuation with market metrics
4. Creativity to narrow bid / ask spread (e.g. price kickers)
5. Pre-empt – “bird-in-hand” for a seller more valuable in this kind of market
## RBC Deal In The Market: Vanguard SCOOP / STACK

### Opportunity Highlights

<table>
<thead>
<tr>
<th>Asset Overview</th>
<th>Asset Locator Map</th>
</tr>
</thead>
</table>
| - 20,000+ net acres across the SCOOP / STACK  
  - Acreage is predominantly held by production | ![Map of SCOOP / STACK areas] |
| - Current net production of ~8,000 Boepd  
  - 50% liquids / 50% gas | |
| - Exposure to multiple high-return zones including Woodford, Meramec and Springer | |
| - Single-well economics providing attractive, industry leading returns in current environment | |

### Tremendous Horizontal Upside from Multiple Stacked Pays

- SCOOP / STACK has emerged as a premier U.S. resource play
- Low breakeven development costs with commodity diversification
- Operators testing and optimizing development through downspacing and staggered lateral tests

### Key Dates

<table>
<thead>
<tr>
<th>Executive Summary</th>
<th>Data Room Presentations</th>
<th>Bid Date</th>
<th>PSA Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>In The Market</td>
<td>January 26th – February 19th</td>
<td>February 22nd</td>
<td>Early March</td>
</tr>
</tbody>
</table>
RBC Deal In The Market: EnerVest Barnett

Opportunity Highlights

- **Asset Overview**
  - **116,444 gross / 72,601 net acres** spanning all major phase windows of the Barnett (93% HBP)
  - Avg. 56% WI / 44% NRI
  - Upside includes low-risk development drilling, downspacing opportunities (250’ spacing successfully tested), re-fracs and uphole recompletions

- **Substantial Production Base With Deep Inventory**
  - Recent net production of ~160 MMcfpd (64% gas)
  - Shallow base decline of ~14% forecast in 2016
  - ~1,400 producing wells, ~87% EnerVest operated
  - Over 1,300 quantified horizontal drilling locations
  - ~400 identified behind pipe and refrac opportunities

Key Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>February 4th</td>
</tr>
<tr>
<td>Data Room Presentations</td>
<td>February 15th – March 11th</td>
</tr>
<tr>
<td>Bid Date</td>
<td>March 15th</td>
</tr>
<tr>
<td>PSA Signed</td>
<td>Early April</td>
</tr>
</tbody>
</table>
Recent U.S. RBC Richardson Barr Transactions

$500+ Million

- **RBC Richardson Barr served as financial advisor to Tall City and Element Oil, L.P. in the Permian Basin to a Confidential Buyer.**
  - **$1,084,000,000**
  - **October 2014**

- **RBC Richardson Barr served as financial advisor to Tall City and Element Oil, L.P.**
  - **~$1,300,000,000**
  - **December 2014**

- **RBC Richardson Barr served as financial advisor to Apache Corporation in the Hugoton Basin.**
  - **$1,950,000,000**
  - **November 2014**

- **Confidential**
  - **$1,300,000,000**
  - **March 2015**

- **RBC Richardson Barr advised on the divestiture of oil and natural gas properties and undeveloped acreage located in the Appalachian Basin to a Confidential Buyer.**
  - **$850,000,000**
  - **September 2015**

- **RBC Richardson Barr served as financial advisor to Three Rivers Energy Advisors, LLC.**
  - **$324,000,000**
  - **December 2013**

- **RBC Richardson Barr served as financial advisor to SanRidge in the South Louisiana Gulf Coast Region to two Confidential Buyers.**
  - **$750,000,000**
  - **February 2014**

- **RBC Richardson Barr served as financial advisor to SanRidge in the Ark-La-Tex regions to two Confidential Buyers.**
  - **$652,000,000**
  - **August 2015**

$100 – $500 Million

- **RBC Richardson Barr provided a Fair Market Valuation of the assets to Exelon Corporation.**
  - **$259,000,000**
  - **September 2015**

- **RBC Richardson Barr advised on the divestiture of oil and natural gas properties and undeveloped acreage located in the Appalachian Basin to a Confidential Buyer.**
  - **$281,000,000**
  - **December 2013**

- **RBC Richardson Barr provided a Fair Market Valuation of the assets to EXXONMobil.**
  - **$1,300,000,000**
  - **November 2015**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **$100 – $500 Million**
  - **$250,000,000**
  - **October 2014**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **$242,000,000**
  - **September 2014**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **$281,000,000**
  - **August 2015**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **$126,000,000**
  - **July 2015**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **$120,000,000**
  - **November 2014**

- **RBC Richardson Barr services as financial advisor to EDFs Southwestern Energy Company.**
  - **~$1,300,000,000**
  - **December 2013**

Note: Represents select RBC Richardson Barr advised transactions.
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