Panel: Commodity Prices, Service Costs and Hedging
A guide to profit planning and protection in 2012

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November 11, 2011
Over the next 10 minutes we will address:

- Commodity and activity forecast for the next 12-18 months
- Macro-picture and how it has been affecting OFS companies
- Key tight markets including pressure pumping and drilling rigs
Commodity and rig count assumptions

US dry gas rig count is forecast to fall, while liquids-rich and crude oil drilling is forecast to continue to increase.

<table>
<thead>
<tr>
<th>Commodity Prices</th>
<th>2009</th>
<th>2010</th>
<th>2011E</th>
<th>2012E</th>
<th>2013E</th>
<th>10 vs 09</th>
<th>11 vs 10</th>
<th>12 vs 11</th>
<th>13 vs 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHUB Natural Gas Price ($/MMBtu)</td>
<td>$3.95</td>
<td>$4.40</td>
<td>$4.12</td>
<td>$4.30</td>
<td>$4.85</td>
<td>11%</td>
<td>-6%</td>
<td>4%</td>
<td>13%</td>
</tr>
<tr>
<td>WTI Price ($/b)</td>
<td>$61.85</td>
<td>$79.57</td>
<td>$91.00</td>
<td>$79.50</td>
<td>$82.00</td>
<td>29%</td>
<td>14%</td>
<td>-13%</td>
<td>3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rig Count</th>
<th>2009</th>
<th>2010</th>
<th>2011E</th>
<th>2012E</th>
<th>2013E</th>
<th>10 vs 09</th>
<th>11 vs 10</th>
<th>12 vs 11</th>
<th>13 vs 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>1,091</td>
<td>1,539</td>
<td>1,841</td>
<td>1,923</td>
<td>2,051</td>
<td>41%</td>
<td>20%</td>
<td>4%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal rigs</td>
<td>455</td>
<td>817</td>
<td>1,062</td>
<td>1,145</td>
<td>1,261</td>
<td>79%</td>
<td>30%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Directional rigs</td>
<td>202</td>
<td>223</td>
<td>228</td>
<td>225</td>
<td>225</td>
<td>10%</td>
<td>3%</td>
<td>-1%</td>
<td>0%</td>
</tr>
<tr>
<td>Total Horizontal/Directional</td>
<td>657</td>
<td>1,039</td>
<td>1,290</td>
<td>1,370</td>
<td>1,486</td>
<td>58%</td>
<td>24%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Vertical rigs</td>
<td>434</td>
<td>500</td>
<td>553</td>
<td>553</td>
<td>565</td>
<td>15%</td>
<td>11%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>1,091</td>
<td>1,539</td>
<td>1,843</td>
<td>1,923</td>
<td>2,051</td>
<td>41%</td>
<td>20%</td>
<td>4%</td>
<td>7%</td>
</tr>
</tbody>
</table>

| % of total - Hor/Dir            | 60%  | 68%  | 70%  | 71%  | 72%  |        |        |        |        |
| Oil rig count                  | 276  | 585  | 953  | 1,078 | 1,221 | 112% | 63% | 13% | 13% |
| Gas rig count                  | 802  | 943  | 880  | 838  | 820  | 18%  | -7% | -5% | -2% |
| Miscellaneous                  | 13   | 12   | 8    | 8    | 10   | -12% | -33% | -2% | 33% |
| Total                         | 1,091 | 1,539 | 1,841 | 1,923 | 2,051 | 41%  | 20%  | 4%  | 7%  |

| % oil                        | 25%  | 38%  | 52%  | 56%  | 60%  |        |        |        |        |
| % gas                        | 74%  | 61%  | 48%  | 44%  | 40%  |        |        |        |        |

Source: Bloomberg, Baker Hughes, CAODC, Macquarie Capital (USA), November 2011. Prices are in US$. 

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US Oil and Gas rig count by rig type

- US dry gas rig count is forecast to fall, while liquids-rich and crude oil drilling is forecast to continue to increase.

Source: Smith Bits STATS, Macquarie Capital (USA), November 2011
Oilfield services equity reflecting doomsday scenario

Rig count corrections are usually steep and coincide with recessionary periods

<table>
<thead>
<tr>
<th>Event</th>
<th>Adverse Rig Count Declines</th>
<th>Subsequent recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Activity Decline Start</td>
<td>Associated Peak</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>Rig Count</td>
</tr>
<tr>
<td>Gulf War and Oil Spike</td>
<td>Jan-91</td>
<td>1,080</td>
</tr>
<tr>
<td>Asian Financial Crisis</td>
<td>Feb-98</td>
<td>907</td>
</tr>
<tr>
<td>“Dot-Com” Bubble / “9-11”</td>
<td>Sep-01</td>
<td>1,130</td>
</tr>
<tr>
<td>Financial/Sub-prime Crisis</td>
<td>Sep-08</td>
<td>2,022</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Negative commodity price shocks preceded recessionary periods and steep declines in drilling rig count

Source: FactSet, Baker Hughes rig count, Macquarie Capital (USA), November 2011
Short term, drilling permits remain best leading indicator

Permitting has been a good indicator of US land rig count, but in 2Q10, the relationship changed

Permitting 4-week moving average and US land rig count shows high correlation

Source: RigData, Baker Hughes, Company data, Macquarie Capital (USA), November 2011
Pressure Pumping Outlook:

- We expect the pressure pumping market to be still under-supplied in 2011 and estimate will not be in balance until 2013 barring a systemic event.

- Excludes:
  - Difference in service intensity between gas well and oil wells
  - Impact of 24/7 and 18-hour crews
  - Delays in the supply chain

<table>
<thead>
<tr>
<th>Gas rig count</th>
<th>3Q11</th>
<th>4Q11</th>
<th>3Q11</th>
<th>4Q11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haynesville</td>
<td>118</td>
<td>100</td>
<td>1.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Barnett</td>
<td>59</td>
<td>55</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Marcellus</td>
<td>141</td>
<td>135</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Fayetteville</td>
<td>30</td>
<td>25</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Arkoma Woodford</td>
<td>16</td>
<td>15</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Piceance</td>
<td>30</td>
<td>25</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Uinta</td>
<td>14</td>
<td>15</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other Hor.</td>
<td>31</td>
<td>26</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Niobrara-Vert.</td>
<td>13</td>
<td>11</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Eagle Ford</td>
<td>195</td>
<td>205</td>
<td>1.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Niobrara</td>
<td>4</td>
<td>5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cana Woodford</td>
<td>38</td>
<td>40</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Granite Wash</td>
<td>107</td>
<td>115</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Dir/Vert.</td>
<td>193</td>
<td>170</td>
<td>0.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oil rig count</th>
<th>3Q11</th>
<th>4Q11</th>
<th>3Q11</th>
<th>4Q11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakken</td>
<td>185</td>
<td>175</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Granite Wash</td>
<td>34</td>
<td>40</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Niobrara/PRB</td>
<td>1</td>
<td>3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Permian - Horizontal</td>
<td>68</td>
<td>75</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Other Hor.</td>
<td>74</td>
<td>75</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Permian - Vertical</td>
<td>192</td>
<td>200</td>
<td>1.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Dir/Vert.</td>
<td>218</td>
<td>205</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th></th>
<th>1,761</th>
<th>1,715</th>
<th>9.7</th>
<th>10.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross PP supply</strong></td>
<td>9.7</td>
<td>11.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gross utilization</strong></td>
<td>100%</td>
<td>92%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective supply (cut 15% for R&amp;M)</strong></td>
<td>8.6</td>
<td>10.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Effective utilization (%)</strong></td>
<td>114%</td>
<td>104%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Smith Bits STATS, Macquarie Capital (USA), November, 2011
Pressure Pumping Outlook (cont’d)

➔ NPC estimates global unconventional resources at 32,560tcf
➔ Also, Saudi Arabia, Australia, China, Argentina, India and North Africa seeing unconventional drilling
➔ International market primarily comprises cementing/acidization currently; a shift toward stimulation would boost per-well demand dramatically
Land Drilling Outlook

> We expect land drilling rates to remain flat into 2012; adjusting for seasonal effects weather in Q4 and Q1

> Top three drillers are each deploying 2-4 rigs per month into the market

> Almost all of this new capacity is to target unconventional demand, yet capacity is barely keeping up

Source: Company data, Macquarie Capital (USA), November 2011
Land Drilling Outlook (cont’d)

- Rig count driven by unconventional plays – but learning curve is shorter
- As the US shales continue to evolve, geoscientists and operations staff are bringing basins to peak activity much faster.

Source: Smith Bits STATS, Macquarie Capital (USA), March 2011
Questions?
Recommendation definitions

**Macquarie - Australia/New Zealand**
- Outperform – return > 3% in excess of benchmark return
- Neutral – return within 3% of benchmark return
- Underperform – return < -3% below benchmark return

Benchmark return is determined by long term nominal GDP growth plus 12 month forward market dividend yield

**Macquarie - Asia**
- Outperform – expected return >+10%
- Neutral – expected return from -10% to +10%
- Underperform – expected < -10%

**Macquarie First South - South Africa**
- Outperform – return > 10% in excess of benchmark return
- Neutral – return within 10% of benchmark return
- Underperform – return < 10% below benchmark return

**Macquarie - Canada**
- Outperform – return > 5% in excess of benchmark return
- Neutral – return within 5% of benchmark return
- Underperform – return < 5% below benchmark return

**Macquarie - USA**
- Outperform (Buy) – return > 5% in excess of benchmark return
- Neutral (Hold) – return within 5% of benchmark return
- Underperform (Sell) – return < 5% below benchmark return

Volatility index definition*
This is calculated from the volatility of historic price movements.

**Very high–highest risk** – Stock should be expected to move up or down 60-100% in a year – investors should be aware this stock is highly speculative.

**High** – stock should be expected to move up or down at least 40-60% in a year – investors should be aware this stock could be speculative.

**Medium** – stock should be expected to move up or down at least 30-40% in a year.

**Low–medium** – stock should be expected to move up or down at least 25-30% in a year.

**Low** – stock should be expected to move up or down at least 15-25% in a year.

*Applicable to Australian/NZ stocks only

Recommendation – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

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**Important disclosures:**

Financial definitions
All “Adjusted” data items have had the following adjustments made:

**Added back:** goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense

**Excluded:** non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

**EPS** = adjusted net profit / equivalent fully paid ordinary weighted average number of shares

**ROA** = adjusted ebit / average total assets

**ROA Banks/Insurance** = adjusted net profit / average shareholders funds

**Gross cashflow** = adjusted net profit + depreciation

**Volatility index definition**
This is calculated from the volatility of historic price movements.

**Recommendation proportions – For quarter ending 30 September 2011**

<table>
<thead>
<tr>
<th></th>
<th>AU/NZ</th>
<th>Asia</th>
<th>RSA</th>
<th>USA</th>
<th>CA</th>
<th>EUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outperform</td>
<td>57.35%</td>
<td>65.88%</td>
<td>56.94%</td>
<td>46.54%</td>
<td>74.68%</td>
<td>47.85%</td>
</tr>
<tr>
<td>Neutral</td>
<td>31.99%</td>
<td>20.68%</td>
<td>31.94%</td>
<td>50.00%</td>
<td>23.42%</td>
<td>34.66%</td>
</tr>
<tr>
<td>Underperform</td>
<td>10.66%</td>
<td>13.45%</td>
<td>11.11%</td>
<td>3.46%</td>
<td>1.30%</td>
<td>17.49%</td>
</tr>
</tbody>
</table>

*(for US coverage by MCUSA, 11.63% of stocks followed are investment banking clients)

*(for US coverage by MCUSA, 9.30% of stocks followed are investment banking clients)

*(for US coverage by MCUSA, 6.47% of stocks followed are investment banking clients)
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