Methodology

• Met with 12 most active Bakken / Three Forks operators
  – 2010 → drilling plans

• Reviewed completion reports
  – Spud to spud time 25 → 20 days
  – Water use 1.5 million – 4.0 million gal / well
  – Drilling year round, fracturing 8 months / year

• Compared drilling, spacing, potential area
  – Reality check on wells / year and duration
102 rigs

800 semi-loads to drill and frac each well over a 30-35 day time period
average 1 semi-load per hour for 4-5 weeks
<table>
<thead>
<tr>
<th>Year</th>
<th>well cost</th>
<th>oil price</th>
<th>IP</th>
<th>stages</th>
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<tbody>
<tr>
<td>2010</td>
<td>$6,400,000</td>
<td>$70</td>
<td>850</td>
<td>20-40</td>
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<td>2009</td>
<td>$5,651,771</td>
<td>$60</td>
<td>654</td>
<td>10-20</td>
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<tr>
<td>2008</td>
<td>$5,413,471</td>
<td>$81</td>
<td>576</td>
<td>6-10</td>
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<td>2007</td>
<td>$4,386,927</td>
<td>$54</td>
<td>326</td>
<td>2-6</td>
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<tr>
<td>2006</td>
<td>$4,089,715</td>
<td>$52</td>
<td>195</td>
<td>1-2</td>
</tr>
</tbody>
</table>

Will take 15,000 – 20,000 to fully develop the Bakken – Three Forks
1,700 Bakken and Three Forks wells drilled and completed
4,000 drilling and spacing units approved to date
10,000 drilling and spacing units possible in thermal mature area
Pad Drilling
Ray-Tioga Area

• 430 to 540 wells per year

• 4 million gallons fracturing water and 8 million pounds of proppant per day

• 11 to 14 years
Williston Area
Williston Area

- 70 to 90 wells per year
- 1 million gallons fracturing water and 2 million pounds of proppant per day
- 8 to 20 years
Alexander Area

- 120 to 150 wells per year

- 2 million gallons fracturing water and 4 million pounds of proppant per day

- 12 to 15 years
Watford City - Keene Area

• 250 to 310 wells per year

• 2 million gallons fracturing water and 4 million pounds of proppant per day

• 5 to 7 years
Killdeer Area
Killdeer Area

- 235 to 290 wells per year
- 1 million gallons fracturing water and 2 million pounds of proppant per day
- 6 to 8 years
Parshall Area
Parshall Area

- 375 to 470 wells per year

- 2 million gallons fracturing water and 4 million pounds of proppant per day

- 7 to 8 years
Belfield Area

• 50 to 100 wells per year

• 1 million gallons fracturing water and 2 million pounds of proppant per day

• 10 to 15 years
Bottineau Area
Bottineau Area

• 50 to 100 wells per year

• 0.5 million gallons fracturing water and 1 million pounds of proppant per day

• 8 to 10 years
270 SWD wells
1/3 water trucked
700 Semi-loads / day
North Dakota Oil Export

2/3 of ND oil moves from well to pipeline or rail by truck
725 semi loads per day

- Bridger
- Enbridge ND
- Tesoro
- Plains
- Butte
- Belle Fourche

- 30,000-110,000 BOPD
- 60,000 BOPD
- 58,000 BOPD
- 120,000 BOPD
- 160,000 BOPD