NORTH DAKOTA
DEPARTMENT OF MINERAL RESOURCES:
OIL & GAS 2020

October 8, 2020 | WDEA

Black Swans in Bevys

Visit Us: www.dmr.nd.gov
WHAT IS HAPPENING

WHERE ARE WE
WELLS – RIGS – JOBS – PRODUCTION

WHERE ARE WE GOING
PRICES – RIGS – PRODUCTION – JOBS

WHAT CAN WE DO

COUNTY BY COUNTY
WHAT IS HAPPENING

WHERE ARE WE
WELLS – RIGS – JOBS – PRODUCTION

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COUNTY BY COUNTY
What Is a Black Swan?
A black swan is an unpredictable event beyond what is normally expected of a situation. It has potentially severe consequences, which are extremely rare. The impact can be severe, and there is widespread insistence that they were obvious in hindsight.
World liquid fuels production and consumption balance
million barrels per day

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, September 2020
Tundra Swan License Availability

Season Information

View lottery results

Lottery Deadline: Wed, 08/12/2020
Lottery Deadline Date Status: Finalized

Availability

No Available Licenses

Total Licenses: 0
WHAT IS HAPPENING

WHERE ARE WE
WELLS – RIGS – JOBS – PRODUCTION

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PRICES – RIGS – PRODUCTION – JOBS

WHAT CAN WE DO

COUNTY BY COUNTY
### Wells

<table>
<thead>
<tr>
<th>Status</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Aug 2020</strong></td>
<td>15,111</td>
</tr>
<tr>
<td>Conventional</td>
<td>1,992</td>
</tr>
<tr>
<td>Bakken/Three Forks</td>
<td>13,119</td>
</tr>
<tr>
<td><strong>Inactive Aug 2020</strong></td>
<td>2,719</td>
</tr>
<tr>
<td>$35-$45 WTI – NYMEX 2Q 2020 - 4Q 2022</td>
<td></td>
</tr>
<tr>
<td><strong>Waiting on Completion Aug 2020</strong></td>
<td>846</td>
</tr>
<tr>
<td>$45-$50 WTI - NYMEX 4Q 2025 EIA 2Q 2021</td>
<td></td>
</tr>
<tr>
<td><strong>Permitted Aug 2020</strong></td>
<td>1,450</td>
</tr>
<tr>
<td>$55-$60 for 90 days NYMEX &gt; 10 years EIA 1Q 2024</td>
<td></td>
</tr>
<tr>
<td><strong>Increase Density Sep 1, 2020</strong></td>
<td>12,036</td>
</tr>
<tr>
<td>ICO 31037</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32,162</td>
</tr>
</tbody>
</table>

| Estimated Final                |            |
| $60/BO = 55-65 Rigs = 20 Yr   | 40,000     |
| $70/BO = 65-75 Rigs = 45 Yr   | 65,000     |
| $80/BO = 70-80 Rigs = 70 Yr   | 85,000     |
Rigs -45 > 10  Frac Crews -20 > 5
- 11,100 jobs
North Dakota Daily Oil Produced and Price

BOPD

ND Sweet $/BO

0 200
$0  $200
$20  $40  $60  $80  $100  $120  $140  $160  $180  $200


BOPD --- $/BO
70 completions per month
35 drilling rigs
10-15 frac crews
WHAT IS HAPPENING
WHERE ARE WE
WELLS – RIGS – JOBS – PRODUCTION
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PRICES – RIGS – PRODUCTION – JOBS
WHAT CAN WE DO
COUNTY BY COUNTY
OIL PRICE AND PRODUCTION
SEPTEMBER 2020 REVENUE FORECAST

70 completions per month
35 drilling rigs
10-15 frac crews
WHAT IS HAPPENING

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WELLS – RIGS – JOBS – PRODUCTION

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WHAT CAN WE DO

COUNTY BY COUNTY
Innovate
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Active May 2020</td>
<td>12,809</td>
</tr>
<tr>
<td>Conventional</td>
<td>1,540</td>
</tr>
<tr>
<td>Bakken/Three Forks</td>
<td>11,269</td>
</tr>
<tr>
<td>Inactive May 2020</td>
<td>2,719</td>
</tr>
<tr>
<td>Abandoned May 2020</td>
<td>784</td>
</tr>
<tr>
<td>Orphaned</td>
<td>380</td>
</tr>
<tr>
<td>Confiscated</td>
<td>334</td>
</tr>
<tr>
<td>Confiscation Pending</td>
<td>46</td>
</tr>
<tr>
<td>RTP-RTI-PA-TA by operator</td>
<td>69</td>
</tr>
<tr>
<td>Total committed to date</td>
<td>$60,100,000</td>
</tr>
<tr>
<td>380 Plugging contracted</td>
<td>43,800,000</td>
</tr>
<tr>
<td>53 Reclamation contracted</td>
<td>3,975,000</td>
</tr>
<tr>
<td>133 Reclamation bid let</td>
<td>12,325,000</td>
</tr>
<tr>
<td>Total spent to date</td>
<td>$12,119,000</td>
</tr>
<tr>
<td>98 Plugged</td>
<td>11,294,000</td>
</tr>
<tr>
<td>3 Reclaimed / 8 in progress</td>
<td>825,000</td>
</tr>
<tr>
<td>North Dakota May 2020</td>
<td></td>
</tr>
<tr>
<td>859,362 BOPD</td>
<td></td>
</tr>
<tr>
<td>$14.27 / BO</td>
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### CARES ACT PROPOSAL

<table>
<thead>
<tr>
<th>Category</th>
<th>Active May 2020</th>
<th>Inactive May 2020</th>
<th>Abandoned May 2020</th>
<th>Orphaned</th>
<th>DUC Wells</th>
<th>Total possible repurpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Bakken/Three Forks</td>
<td>12,809</td>
<td>6,109</td>
<td>784</td>
<td>380</td>
<td>334</td>
<td>$16,875,000</td>
</tr>
</tbody>
</table>

- **Active May 2020**: 12,809
  - Conventional: 1,540
  - Bakken/Three Forks: 11,269
- **Inactive May 2020**: 6,109
- **Abandoned May 2020**: 784
- **Orphaned**: 380
- **DUC Wells**: 334

**Total possible repurpose**: $16,875,000

- 5 frac crews currently operating
- 6 frac jobs per month per crew
- 140 completions by YE 2020 needed to maintain production
- 80 DUC well completions needed
- 5-10 more frac crews needed
- 500-1,000 jobs supported
- 250,000 Barrels water per frac
- Grant $200,000 per DUC well = 40% of water acquisition & disposal cost

**North Dakota May 2020**
- 859,362 BOPD
- $14.27 / BO

**Grant**: $16,000,000
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COUNTY BY COUNTY
MONTHLY OIL PRODUCTION FOR LOCAL COUNTIES

0 rigs

250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0


McLEAN  wells
NORTH DAKOTA
DEPARTMENT OF MINERAL RESOURCES

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