PRODUCING WELLS
ACTIVE DRILLING RIGS
OIL & GAS PRODUCTION
### Wells

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>14,778</td>
</tr>
<tr>
<td>Conventional</td>
<td>1,875</td>
</tr>
<tr>
<td>Bakken/Three Forks</td>
<td>12,903</td>
</tr>
<tr>
<td><strong>Inactive</strong></td>
<td>1,458</td>
</tr>
<tr>
<td>+$50 for 90 days Jan 2018</td>
<td></td>
</tr>
<tr>
<td><strong>Waiting on Completion</strong></td>
<td>993</td>
</tr>
<tr>
<td>+$55 for 90 days Feb 2018</td>
<td></td>
</tr>
<tr>
<td><strong>Permitted</strong></td>
<td>1,922</td>
</tr>
<tr>
<td>+$60 for 90 days April 2018</td>
<td></td>
</tr>
<tr>
<td><strong>Increase Density</strong></td>
<td>13,087</td>
</tr>
<tr>
<td>Approved 07/06/18</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32,238</td>
</tr>
<tr>
<td><strong>Estimated Final</strong></td>
<td>42,000 - 75,000</td>
</tr>
<tr>
<td>$60-80/BO &amp; 60-70 rigs</td>
<td>24 - 49 years</td>
</tr>
</tbody>
</table>
Producing Wells

North Dakota Wells Producing

- Y-axis: Number of wells
- X-axis: Year (1950 to 2070)
- Graph shows the number of producing wells in North Dakota over time.
PRODUCING WELLS
ACTIVE DRILLING RIGS
OIL & GAS PRODUCTION
Rigs - 61
North Dakota Average Monthly Rig Count

Record High:
218 Rigs
May 2012

Current:
67 Rigs
July 2018
North Dakota Average Monthly Rig Count

- 2014 → 1 well / mth / rig
- 2018 → 2 wells / mth / rig

Rigs / Oil Price

Spuds / Month / Rig

[Graph showing trends and data points related to rig count, oil price, and spuds per month per rig.]
PRODUCING WELLS
ACTIVE DRILLING RIGS
OIL & GAS PRODUCTION
Oil & Gas Production

North Dakota Daily Oil Produced and Price

All-time high
1,244,629 barrels/day
May 2018
Oil & Gas Production

Typical Bakken Well Production

Year

Average BOPD
MCF Gas per Day
Oil & Gas Production

North Dakota Oil Production

- History
- Peak Production Estimate
- Current ND Revenue Estimate
- Current Production Limited to No Drilling
Gas Production Forecast

Reference: JJ Kringstad – North Dakota Pipeline Authority
Gas Processing Plants
Oil & Gas Production

North Dakota Oil Production and Price

$140
$120
$100
$80
$60
$40
$20
$0

$/Barrel ND Sweet History  Revenue Forecast  $/Barrel WTI - 10%
Enhanced Oil Recovery (EOR)\(^1\)

- EOG is the 1\(^{st}\) company to say it has significantly increased oil production from an unconventional play using gas injection.

- Field tests since program started in 2013:
  - The production increases on 15 wells indicated from 30-70% reserve gains.
  - A 32-well test in 2016 added 300,000 bbl of oil at $6/bbl finding cost.
  - Work is ongoing on 100 wells in six areas in 2017.

\(^1\) Source: EOG
Enhanced Oil Recovery (EOR)\(^1\)

**Inputs and Outputs**

- Additional capital costs average about $1 million per well
- The process uses associated gas from its wells
- Production response is in 2-3 months
- $1 invested adds $2 to net present value

**It Works if:**

- The formation is able to contain high-pressure gas injection near the well.
- Wellbores contact the most productive rock.
- The completion maximizes the fractured area within a restricted zone around the wellbore.

\(^1\) Source: EOG
Big Butte
Bear Creek
McGregor

[Map of McGregor with marked locations]
Red Wing Creek
Red Rock