Drilling Productivity Report

For key tight oil and shale gas regions

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Anadarko Region

New-well oil production per rig (thousand barrels/day)

- Production from new wells
- Legacy production change
- Net change

Legacy oil production change (thousand barrels/day)

- June: 442 Mbbld
- July: 416 Mbbld

Indicated change in oil production (Jul vs. Jun) (thousand barrels/day)

- June: +9
- July: -35
- Net change: -26

Oil production (thousand barrels/day)

- June: 6,595 MMcf/d
- July: 6,395 MMcf/d

Indicated change in natural gas production (Jul vs. Jun) (MMcf/d)

- June: +55
- July: -255
- Net change: -200

Natural gas production (MMcf/d)

- June: 6,595 MMcf/d
- July: 6,395 MMcf/d

Legend:

- New-well oil production per rig
- Legacy oil production change
- Indicated change in oil production
- Oil production
- New-well gas production per rig
- Legacy gas production change
- Indicated change in natural gas production
- Natural gas production

Note:
- Drilling data through May
- Projected production through July
- June 2020

Oil and gas production changes are calculated over the previous month.
### Bakken Region

**Drilling Productivity Report**

**June 2020**

**Oil**
- Monthly additions from one average rig:
  - July: 1,357 barrels/day
  - June: 754 barrels/day

**Gas**
- Monthly additions from one average rig:
  - July: 2,207 thousand cubic feet/day
  - June: 1,226 thousand cubic feet/day

**New-well oil production per rig**
- Bakken Region
- New-well oil production per rig (thousand barrels/day):
  - 2011: 1,003 Mbbl/d
  - 2012: 1,204 Mbbl/d
  - 2013: 1,243 Mbbl/d
  - 2014: 1,137 Mbbl/d
  - 2015: 998 Mbbl/d
  - 2016: 912 Mbbl/d
  - 2017: 746 Mbbl/d
  - 2018: 680 Mbbl/d
  - 2019: 594 Mbbl/d
  - 2020: 548 Mbbl/d

**New-well gas production per rig**
- Bakken Region
- New-well gas production per rig (million cubic feet/day):
  - 2011: 2,269 MMcf/d
  - 2012: 2,166 MMcf/d
  - 2013: 2,055 MMcf/d
  - 2014: 1,912 MMcf/d
  - 2015: 1,756 MMcf/d
  - 2016: 1,597 MMcf/d
  - 2017: 1,450 MMcf/d
  - 2018: 1,328 MMcf/d
  - 2019: 1,229 MMcf/d
  - 2020: 1,155 MMcf/d

**Legacy oil production change**
- Bakken Region
- Legacy oil production change (thousand barrels/day):
  - 2011: -600 Mbbl/d
  - 2012: -450 Mbbl/d
  - 2013: -300 Mbbl/d
  - 2014: -150 Mbbl/d
  - 2015: 0 Mbbl/d
  - 2016: 150 Mbbl/d
  - 2017: 300 Mbbl/d
  - 2018: 450 Mbbl/d
  - 2019: 600 Mbbl/d
  - 2020: 754 Mbbl/d

**Legacy gas production change**
- Bakken Region
- Legacy gas production change (million cubic feet/day):
  - 2011: -150 MMcf/d
  - 2012: -300 MMcf/d
  - 2013: -450 MMcf/d
  - 2014: -600 MMcf/d
  - 2015: 0 MMcf/d
  - 2016: 150 MMcf/d
  - 2017: 300 MMcf/d
  - 2018: 450 MMcf/d
  - 2019: 600 MMcf/d
  - 2020: 754 MMcf/d

**Indicated change in oil production (Jul vs. Jun)**
- Bakken Region
- Indicated change in oil production (Jul vs. Jun) (thousand barrels/day):
  - June: +603 Mbbl/d
  - July: +29 Mbbl/d

**Indicated change in natural gas production (Jul vs. Jun)**
- Bakken Region
- Indicated change in natural gas production (Jul vs. Jun) (million cubic feet/day):
  - June: +603 MMcf/d
  - July: +29 MMcf/d

**Oil production**
- Bakken Region
- Oil production (thousand barrels/day):
  - 2011: 1,003 Mbbl/d
  - 2012: 1,204 Mbbl/d
  - 2013: 1,243 Mbbl/d
  - 2014: 1,137 Mbbl/d
  - 2015: 998 Mbbl/d
  - 2016: 912 Mbbl/d
  - 2017: 746 Mbbl/d
  - 2018: 680 Mbbl/d
  - 2019: 594 Mbbl/d
  - 2020: 548 Mbbl/d

**Natural gas production**
- Bakken Region
- Natural gas production (million cubic feet/day):
  - 2011: 2,269 MMcf/d
  - 2012: 2,166 MMcf/d
  - 2013: 2,055 MMcf/d
  - 2014: 1,912 MMcf/d
  - 2015: 1,756 MMcf/d
  - 2016: 1,597 MMcf/d
  - 2017: 1,450 MMcf/d
  - 2018: 1,328 MMcf/d
  - 2019: 1,229 MMcf/d
  - 2020: 1,155 MMcf/d

**Drilling data through May; projected production through July.**
Oil
+275 barrels/day month over month
1,803 July
1,528 June
barrels/day

Gas
+945 thousand cubic feet/day month over month
6,191 July
5,246 June
thousand cubic feet/day

Eagle Ford Region
New-well oil production per rig
barrels/day

Rig count
rigs

Eagle Ford Region
New-well gas production per rig
thousand cubic feet/day

Rig count
rigs

Eagle Ford Region
Legacy oil production change
thousand barrels/day

Eagle Ford Region
Legacy gas production change
million cubic feet/day

Eagle Ford Region
Indicated change in oil production (Jul vs. Jun)
thousand barrels/day

Eagle Ford Region
Indicated change in natural gas production (Jul vs. Jun)
million cubic feet/day

Eagle Ford Region
Oil production
thousand barrels/day

Eagle Ford Region
Natural gas production
million cubic feet/day

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June 2020
Drilling data through May
projected production through July
**Haynesville Region**

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**June 2020**

- Drilling data through May
- Projected production through July

### New-well Oil Production per Rig

- **Haynesville Region**
- New-well oil production per rig: 2,000 barrels/day (June 2012) to 0 barrels/day (June 2020)

### Legacy Oil Production Change

- **Haynesville Region**
- Legacy oil production change: 0.0 thousand barrels/day (2011) to -1 thousand barrels/day (2020)

### Indicated Change in Oil Production (Jul vs. Jun)

- **Haynesville Region**
- Indicated change in oil production: +1 thousand barrels/day (June) to -1 thousand barrels/day (July)

### New-well Gas Production per Rig

- **Haynesville Region**
- New-well gas production per rig: 12,000 thousand cubic feet/day (June 2012) to 12,000 thousand cubic feet/day (June 2020)

### Legacy Gas Production Change

- **Haynesville Region**
- Legacy gas production change: 0 million cubic feet/day (2011) to +361 million cubic feet/day (2020)

### Indicated Change in Natural Gas Production (Jul vs. Jun)

- **Haynesville Region**
- Indicated change in natural gas production: +361 million cubic feet/day (June) to -433 million cubic feet/day (July)

### Oil Production

- **Haynesville Region**
- Oil production: 2,000 thousand barrels/day (2011) to 0 thousand barrels/day (2020)

### Natural Gas Production

- **Haynesville Region**
- Natural gas production: 12,000 million cubic feet/day (2011) to 12,000 million cubic feet/day (2020)

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Permian Region
Drilling Productivity Report

**Oil**
- July: +24 barrels/day
  - Month over month
- June: +797 barrels/day

**Gas**
- July: +48 thousand cubic feet/day
  - Month over month
- June: +1,582 thousand cubic feet/day

**New-well oil production per rig**
- Permian Region: 600 barrels/day
- Rig count: 600 rigs

**Legacy oil production change**
- Permian Region: 0 thousand barrels/day
- Jun: 4,270 Mbbl/d
- Production from new wells: 821 Mbbl/d
- Legacy production change: -797 Mbbl/d
- Net change: 4,270 Mbbl/d
- Jul: 4,263 Mbbl/d

**Indicated change in oil production (Jul vs. Jun)**
- Permian Region: +148 - 155 - 7 thousand barrels/day

**Natural gas production**
- Permian Region: 15 million cubic feet/day
  - Month over month

**New-well gas production per rig**
- Permian Region: 6,000 thousand cubic feet/day
- Rig count: 600 rigs

**Legacy gas production change**
- Permian Region: 0 million cubic feet/day
- Jun: 16,044 MMcf/d
- Production from new wells: 4,800 MMcf/d
- Legacy production change: -3,144 MMcf/d
- Net change: 16,044 MMcf/d
- Jul: 16,029 MMcf/d

**Indicated change in natural gas production (Jul vs. Jun)**
- Permian Region: +293 - 308 - 15 million cubic feet/day

**Drilling data through May**
**Projected production through July**

**June 2020**

U.S. Energy Information Administration | Drilling Productivity Report
The Drilling Productivity Report uses recent data on the total number of drilling rigs in operation along with estimates of drilling productivity and estimated changes in production from existing oil and natural gas wells to provide estimated changes in oil and natural gas production for seven key regions. EIA's approach does not distinguish between oil-directed rigs and gas-directed rigs because once a well is completed it may produce both oil and gas; more than half of the wells do that.

**Monthly additions from one average rig**
Monthly additions from one average rig represent EIA's estimate of an average rig's contribution to production of oil and natural gas from new wells. The estimation of new-well production per rig uses several months of recent historical data on total production from new wells for each field divided by the region's monthly rig count, lagged by two months. Current- and next-month values are listed on the top header. The month-over-month change is listed alongside, with +/- signs and color-coded arrows to highlight the growth or decline in oil (brown) or natural gas (blue).

**New-well oil/gas production per rig**
Charts present historical estimated monthly additions from one average rig coupled with the number of total drilling rigs as reported by Baker Hughes.

**Legacy oil and natural gas production change**
Charts present EIA’s estimates of total oil and gas production changes from all the wells other than the new wells. The trend is dominated by the well depletion rates, but other circumstances can influence the direction of the change. For example, well freeze-offs or hurricanes can cause production to significantly decline in any given month, resulting in a production increase the next month when production simply returns to normal levels.

**Projected change in monthly oil/gas production**
Charts present the combined effects of new-well production and changes to legacy production. Total new-well production is offset by the anticipated change in legacy production to derive the net change in production. The estimated change in production does not reflect external circumstances that can affect the actual rates, such as infrastructure constraints, bad weather, or shut-ins based on environmental or economic issues.

**Oil/gas production**
Charts present all oil and natural gas production from both new and legacy wells since 2007. This production is based on all wells reported to the state oil and gas agencies. Where state data are not immediately available, EIA estimates the production based on estimated changes in new-well oil/gas production and the corresponding legacy change.

**Footnotes:**
1. Oil production represents both crude and condensate production from all formations in the region. Production is not limited to tight formations. The regions are defined by all selected counties, which include areas outside of tight oil formations.
2. Gas production represents gross (before processing) gas production from all formations in the region. Production is not limited to shale formations. The regions are defined by all selected counties, which include areas outside of shale formations.
3. The monthly average rig count used in this report is calculated from weekly data on total oil and gas rigs reported by Baker Hughes.
4. A new well is defined as one that began producing for the first time in the previous month. Each well belongs to the new-well category for only one month. Reworked and recompleted wells are excluded from the calculation.
5. Rig count data lag production data because EIA has observed that the best predictor of the number of new wells beginning production in a given month is the count of rigs in operation two months earlier.
The data used in the preparation of this report come from the following sources. EIA is solely responsible for the analysis, calculations, and conclusions.

**Drilling Info** (http://www.drillinginfo.com) Source of production, permit, and spud data for counties associated with this report. Source of real-time rig location to estimate new wells spudded and completed throughout the United States.

**Baker Hughes** (http://www.bakerhughes.com) Source of rig and well counts by county, state, and basin.

**North Dakota Oil and Gas Division** (https://www.dmr.nd.gov/oilgas) Source of well production, permit, and completion data in the counties associated with this report in North Dakota

**Railroad Commission of Texas** (http://www.rrc.state.tx.us) Source of well production, permit, and completion data in the counties associated with this report in Texas

**Pennsylvania Department of Environmental Protection** (https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx) Source of well production, permit, and completion data in the counties associated with this report in Pennsylvania

**West Virginia Department of Environmental Protection** (http://www.dep.wv.gov/oil-and-gas/Pages/default.aspx) Source of well production, permit, and completion data in the counties associated with this report in West Virginia

**Colorado Oil and Gas Conservation Commission** (http://cogcc.state.co.us) Source of well production, permit, and completion data in the counties associated with this report in Colorado

**Wyoming Oil and Conservation Commission** (http://wogcc.state.wy.us) Source of well production, permit, and completion data in the counties associated with this report in Wyoming

**Louisiana Department of Natural Resources** (http://dnr.louisiana.gov) Source of well production, permit, and completion data in the counties associated with this report in Louisiana

**Ohio Department of Natural Resources** (http://oilandgas.ohiodnr.gov) Source of well production, permit, and completion data in the counties associated with this report in Ohio

**Oklahoma Corporation Commission** (http://www.occeweb.com/og/oghome.htm) Source of well production, permit, and completion data in the counties associated with this report in Oklahoma