Anadarko Region
Drilling Productivity Report

August 2019

- Oil: +10 barrels/day month over month
- Gas: +17 thousand cubic feet/day month over month

**Oil**
- **New-well oil production per rig**
  - Aug 2019: 582 Mbbl/d
  - Sep 2019: 619 Mbbl/d
- **Legacy oil production change**
  - Aug 2019: -350 thousand barrels/day
  - Sep 2019: -300 thousand barrels/day
- **Indicated change in oil production (Sep vs. Aug)**
  - Aug 2019: +43 thousand barrels/day, -46 thousand barrels/day, -3 thousand barrels/day
  - Sep 2019: +267 thousand barrels/day, -322 thousand barrels/day, -55 thousand barrels/day

**Gas**
- **New-well gas production per rig**
  - Aug 2019: 7,563 MMcf/d
  - Sep 2019: 7,508 MMcf/d
- **Legacy gas production change**
  - Aug 2019: -55 million cubic feet/day
  - Sep 2019: -55 million cubic feet/day
- **Indicated change in natural gas production (Sep vs. Aug)**
  - Aug 2019: +267 thousand barrels/day, -322 thousand barrels/day, -55 thousand barrels/day
  - Sep 2019: +267 thousand barrels/day, -322 thousand barrels/day, -55 thousand barrels/day

**Rig count**
- Aug 2019: 50 rigs
  - Sep 2019: 48 rigs

**Additions from one average rig**
- Aug 2019: +17 barrels/day
  - Sep 2019: +17 barrels/day

**Projected production through September**
- Oil: 2,968 thousand barrels/day
  - Gas: 2,951 thousand barrels/day

**Natural gas production**
- Aug 2019: 2,951 thousand barrels/day
  - Sep 2019: 2,951 thousand barrels/day

**Oil production**
- Aug 2019: 582 Mbbl/d
  - Sep 2019: 619 Mbbl/d

**Gas production**
- Aug 2019: 7,563 MMcf/d
  - Sep 2019: 7,508 MMcf/d

**Average rig**
- Aug 2019: 520 Mbbl/d
  - Sep 2019: 520 Mbbl/d

**Month over month**
- Oil production: +10 barrels/day
  - Gas production: +17 thousand cubic feet/day

**Notes**
- Drilling data through July
- Projected production through September
Appalachia Region
Drilling Productivity Report

Appalachia Region
New-well oil production per rig
barrels/day

Rig count
rigs

New-well oil production per rig

Rig count

Appalachia Region
Legacy oil production change
thousand barrels/day

Appalachia Region
Indicated change in oil production (Sep vs. Aug)
thousand barrels/day

Appalachia Region
Oil production
thousand barrels/day

Appalachia Region
Natural gas production
million cubic feet/day

Drilling data through July
Projected production through September

Oil +2

barrels/day
month over month

149
September
barrels/day

147
August
barrels/day

Appalachia Region
Monthly additions from one average rig

September 18,238
August 18,213
thousand cubic feet/day

Gas +25

thousand cubic feet/day/month over month

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

Rig count
rigs

New-well gas production per rig

Rig count

Appalachia Region
Legacy gas production change
million cubic feet/day

Appalachia Region
Indicated change in natural gas production (Sep vs. Aug)
million cubic feet/day

Appalachia Region
Natural gas production
million cubic feet/day

Oil +4

thousand barrels/day/month over month

Gas +367

million cubic feet/day/month over month

August 2019

+11 -7 +4

+1368 -1001 +367

+2

+25

August

+4

+367

September

+4

+367

+2

+25
Bakken Region

Drilling Productivity Report

August 2019

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### New-well Oil Production per Rig

- **Bakken Region**
- **New-well oil production per rig**: 1,437 barrels/day in September, 1,425 barrels/day in August.
- **Average rig count**: 250 rigs.

### Legacy Oil Production Change

- **Bakken Region**
- **Legacy oil production change** through August.

### Indicated Change in Oil Production (Sep vs. Aug)

- **Bakken Region**
- **Indicated change** in oil production: +76 thousand barrels/day, -73 thousand barrels/day, +3 thousand barrels/day.

### New-well Gas Production per Rig

- **Bakken Region**
- **New-well gas production per rig**: 10,500 thousand cubic feet/day.

### Legacy Gas Production Change

- **Bakken Region**
- **Legacy gas production change** through August.

### Indicated Change in Natural Gas Production (Sep vs. Aug)

- **Bakken Region**
- **Indicated change** in natural gas production: +113 million cubic feet/day, -101 million cubic feet/day, +12 million cubic feet/day.

### Oil and Gas Production

- **Oil production**: 1,437, +12% month over month.
- **Gas production**: 2,138, +46% month over month.
**Eagle Ford Region**

**Drilling Productivity Report**

**August 2019**

**Drilling data through July**

**Projected production through September**

**Oil**

- New-well oil production per rig: 1,361 barrels/day (August)
  - 1,366 barrels/day (September)

**Gas**

- New-well gas production per rig: 4,864 thousand cubic feet/day (August)
  - 4,882 thousand cubic feet/day (September)

**Oil production**

- Oil production: 1,389 thousand barrels/day (August)
  - 1,383 thousand barrels/day (September)

**Gas production**

- Gas production: 6,748 million cubic feet/day (August)
  - 6,732 million cubic feet/day (September)

**Monthly additions from one average rig**

- Oil: +5 barrels/day month over month
  - Gas: +18 thousand cubic feet/day month over month

**Indicated change in oil production (Sep vs. Aug)**

- Oil: +112 thousand barrels/day
  - Legacy production change: -118 thousand barrels/day
  - Net change: -6 thousand barrels/day

**Indicated change in natural gas production (Sep vs. Aug)**

- Gas: +400 million cubic feet/day
  - Legacy production change: -416 million cubic feet/day
  - Net change: -16 million cubic feet/day

**New-well oil production per rig**

- Eagle Ford Region

**New-well gas production per rig**

- Eagle Ford Region

**Legacy oil production change**

- Eagle Ford Region

**Legacy gas production change**

- Eagle Ford Region

**Eagle Ford Region Oil production**

- September: +5 barrels/day

**Eagle Ford Region Natural gas production**

- September: +18 thousand cubic feet/day
August 2019
Drilling Productivity Report

**Haynesville Region**

**Oil**
- September: 26 Barrels/day
- August: 26 Barrels/day

**Gas**
- September: 10,128 Thousand cubic feet/day
- August: 10,122 Thousand cubic feet/day

**New-well oil production per rig**
- Rig count: 250
- Haynesville Region: 2010 - 2019

**Legacy oil production change**
- Thousand barrels/day
- Haynesville Region: 2010 - 2019

**Indicated change in oil production (Sep vs. Aug)**
- Thousand barrels/day
- Haynesville Region: 2010 - 2019

**Natural gas production**
- Million cubic feet/day
- Haynesville Region: 2010 - 2019

**New-well gas production per rig**
- Rig count: 250
- Haynesville Region: 2010 - 2019

**Indicated change in natural gas production (Sep vs. Aug)**
- Million cubic feet/day
- Haynesville Region: 2010 - 2019

**Legacy gas production change**
- Million cubic feet/day
- Haynesville Region: 2010 - 2019

**New-well gas production per rig**
- Rig count: 250
- Haynesville Region: 2010 - 2019

**Indicated change in gas production (Sep vs. Aug)**
- Million cubic feet/day
- Haynesville Region: 2010 - 2019

**Rig count**
- Haynesville Region: 2010 - 2019

**Monthly additions from one average rig**
- Oil: 0 Barrels/day
- Gas: +6 Thousand cubic feet/day

**Oil production**
- Thousand barrels/day
- Haynesville Region: 2010 - 2019

**Natural gas production**
- Million cubic feet/day
- Haynesville Region: 2010 - 2019
### Permian Region

**New-well oil production per rig**
- barrels/day
- Average rig: 768 barrels/day
- New-well oil production per rig:
  - August: 1,244 thousand barrels/day
  - September: 1,426 thousand barrels/day

**Legacy oil production change**
- thousand barrels/day
- Production change:
  - New-well: +339 barrels/day
  - Legacy: -264 barrels/day
  - Net change: +75 barrels/day

**Indicated change in oil production (Sep vs. Aug)**
- thousand barrels/day
- Aug 4,348 Mbbld
- Sep 4,423 Mbbld
- Change:
  - Production from new wells
  - Legacy production change
  - Net change

**Natural gas production**
- million cubic feet/day
- Aug 14,620 MMcf/d
- Sep 14,860 MMcf/d
- Change:
  - Production from new wells
  - Legacy production change
  - Net change

**New-well gas production per rig**
- thousand cubic feet/day
- Average rig: 1,426 thousand cubic feet/day
- New-well gas production per rig:
  - August: 1,244 thousand cubic feet/day
  - September: 1,426 thousand cubic feet/day

**Legacy gas production change**
- million cubic feet/day
- Production change:
  - New-well: +629 MMcf/d
  - Legacy: -389 MMcf/d
  - Net change: +240 MMcf/d

**Indicated change in natural gas production (Sep vs. Aug)**
- million cubic feet/day
- Aug 14,620 MMcf/d
- Sep 14,860 MMcf/d
- Change:
  - Production from new wells
  - Legacy production change
  - Net change
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\(^1\) and natural gas\(^2\) 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\(^3\) contribution to production of oil and natural gas from new wells.\(^4\) 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.\(^5\) 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.