SENATE TAXATION
EXHIBIT NO. 8
DATE 3-15-13
BILL NO. SB295

# What Can We Learn From Past Oil Production in the Elm Coulee Field to Understand the Impact of the Production Tax "Holiday"?

March 7, 2013

This presentation analyzes production and well performance in Montana's Elm Coulee field, and the impacts of the state's production tax holiday policies on industry and taxpayers. The slides that follow were prepared to illustrate informational witness testimony of Mark Haggerty during the Montana Senate Taxation Committee's discussion of SB 295, March 5, 2013.

**Summary Points:**

- The average horizontal oil well drilled in Montana's Elm Coulee Field averaged 246 barrels/day of initial production. Production subsequently declines quickly, dropping 65 percent in the first 18 months of production (see Slide 1).
- The average well will produce 227,374 barrels of oil over 10 years, and 37 percent of this production will occur in the first 18 months (see Slide 2).
- The average well in Montana's Elm Coulee field produces about half as much oil as a typical oil well in North Dakota (see Slide 3).
- Wells started during 2003 to 2005 were the most productive wells drilled in the Elm Coulee field. Later wells have lower rates of initial production (see Slide 4).
- Montana's Elm Coulee field started to decline after 2006 despite continued drilling. Montana's oil boom has passed unless significant new drilling can make up for current declines and add new production (see Slide 5).
- At an oil price of $80, the average well generated $15.2 Million in gross revenue on 227 thousand barrels of cumulative production (see Slides 2 and 7).
- With the 18 month production tax "holiday" in place, the average well paid $1.1 million in taxes over the first 10 years. Without the "holiday" in place, the average well would have paid $1.7 million in taxes over 10 years (see Slide 6).
- With the "holiday" in place, the average well net $5.3 Million over 10 years. The well pays for itself, in terms of cost recovery, in the fourth year after 38 months of production (see Slide 7).
- Without the "holiday" in place, the average well net $4.7 Million over 10 years. The well pays for itself, in terms of cost recovery, in the fourth year after 44 months of production (see Slide 8).
- For the average well, the value of the "holiday" to producers is equivalent to a change in oil price of $4.50 per barrel averaged over 10 years.

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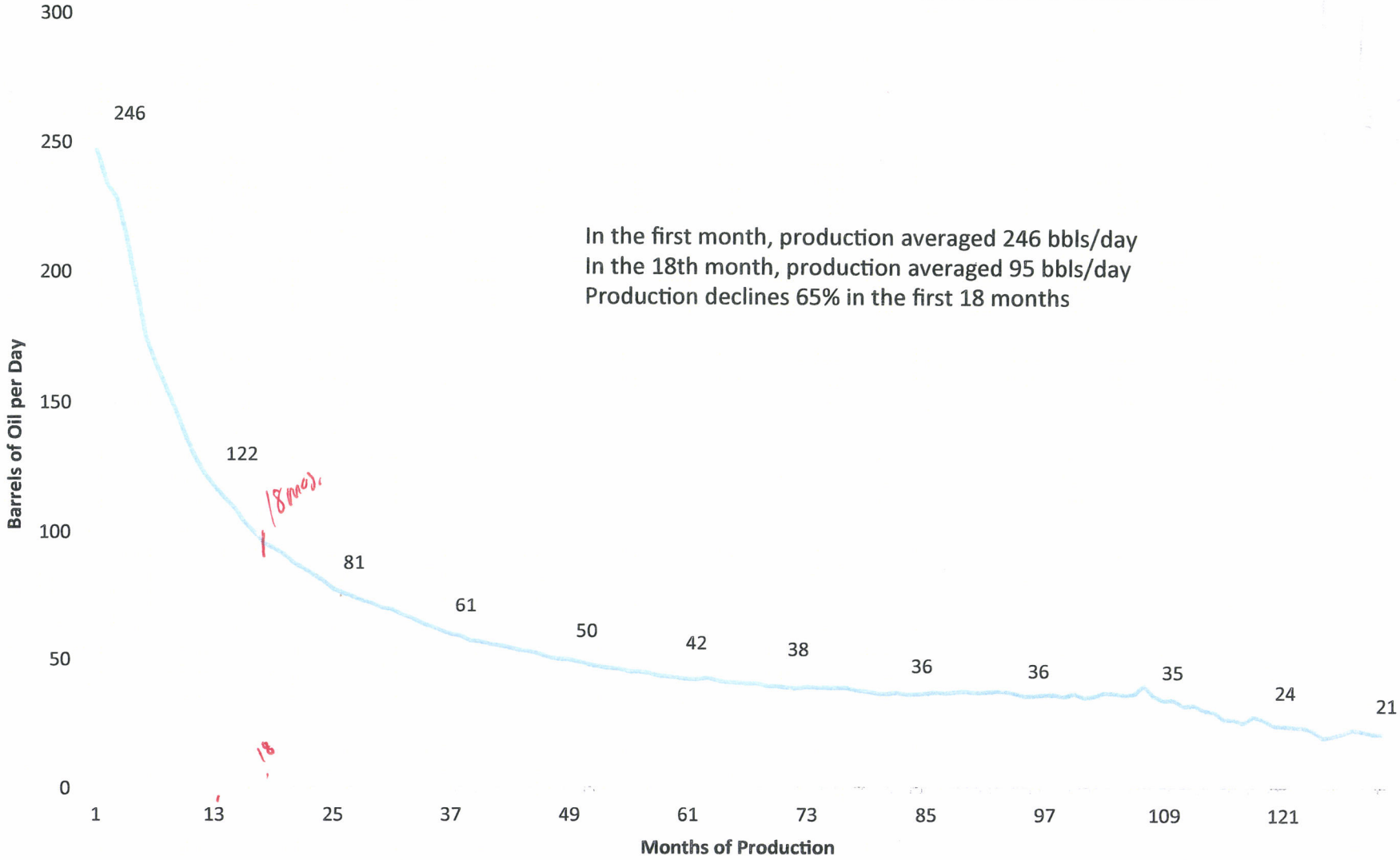
# Slide 1: Oil Production Declines By 65 Percent Over the First 18 Months from an Average Elm Coulee Well Drilled Between 2000 and 2012




Source: Montana Department of Natural Resources and Conservation, Board of Oil and Gas Conservation, Online Data Access, http://www.bogc.dnrc.mt.gov/WebApps/DataMiner/Default.aspx. The figures are constructed using monthly production data from all horizontally completed wells in the Elm Coulee field in MT from 2000 to 2012. Average producing well count in the first month is 789, in the 18th month is 711, and at 10 years is 23.

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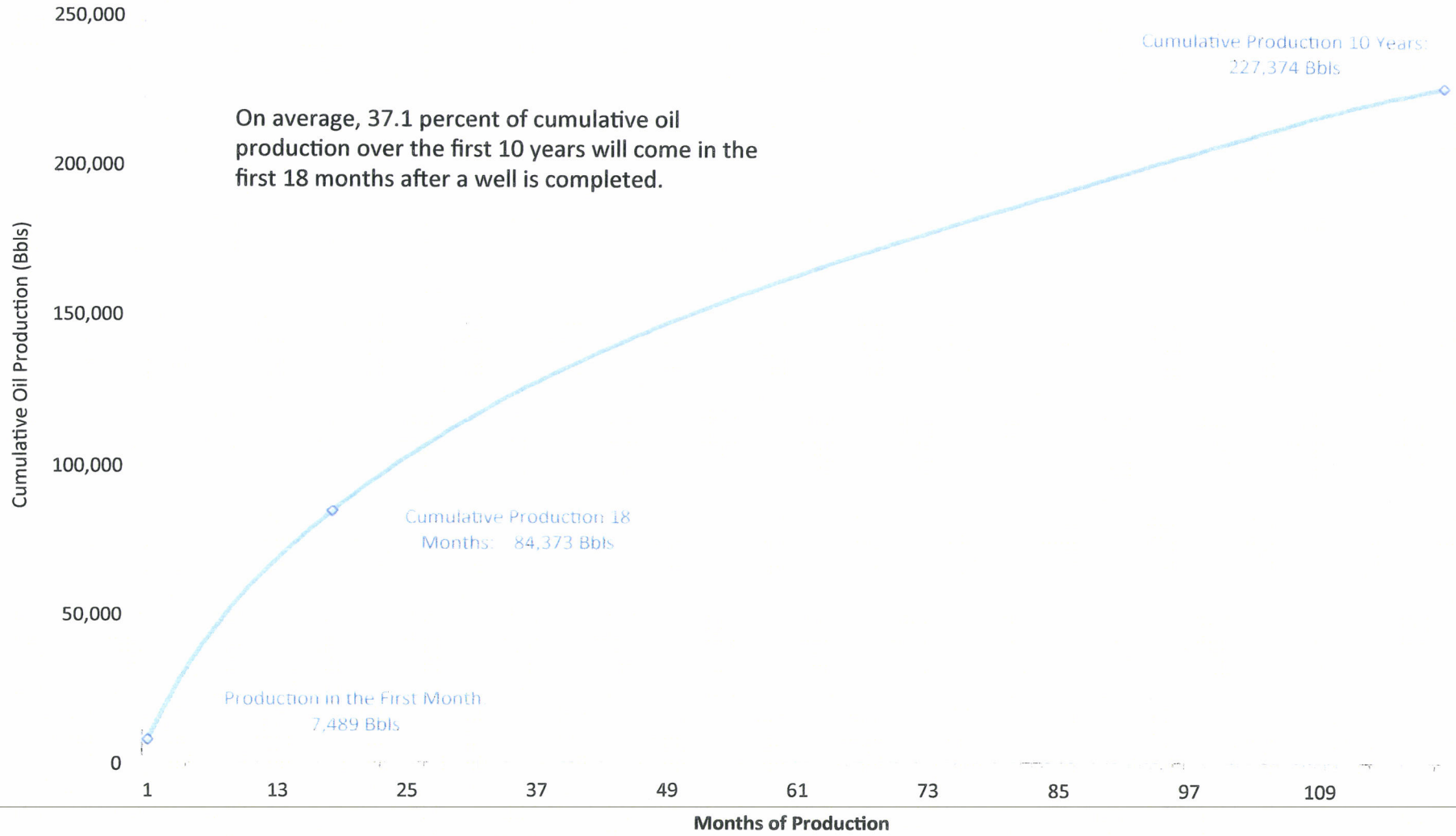
# Slide 2: An Average Elm Coulee Well Produces 227,374 Barrels of Oil Over 10 Years, with 37 Percent Coming in the First 18 Months




Source: Montana Department of Natural Resources and Conservation, Board of Oil and Gas Conservation, Online Data Access, http://www.bogc.dnrc.mt.gov/WebApps/DataMiner/Default.aspx. The figures are constructed using monthly production data from all horizontally completed wells in the Elm Coulee field in MT from 2000 to 2012. Average producing well count in the first month is 789, in the 18th month is 711, and at 10 years is only 23.

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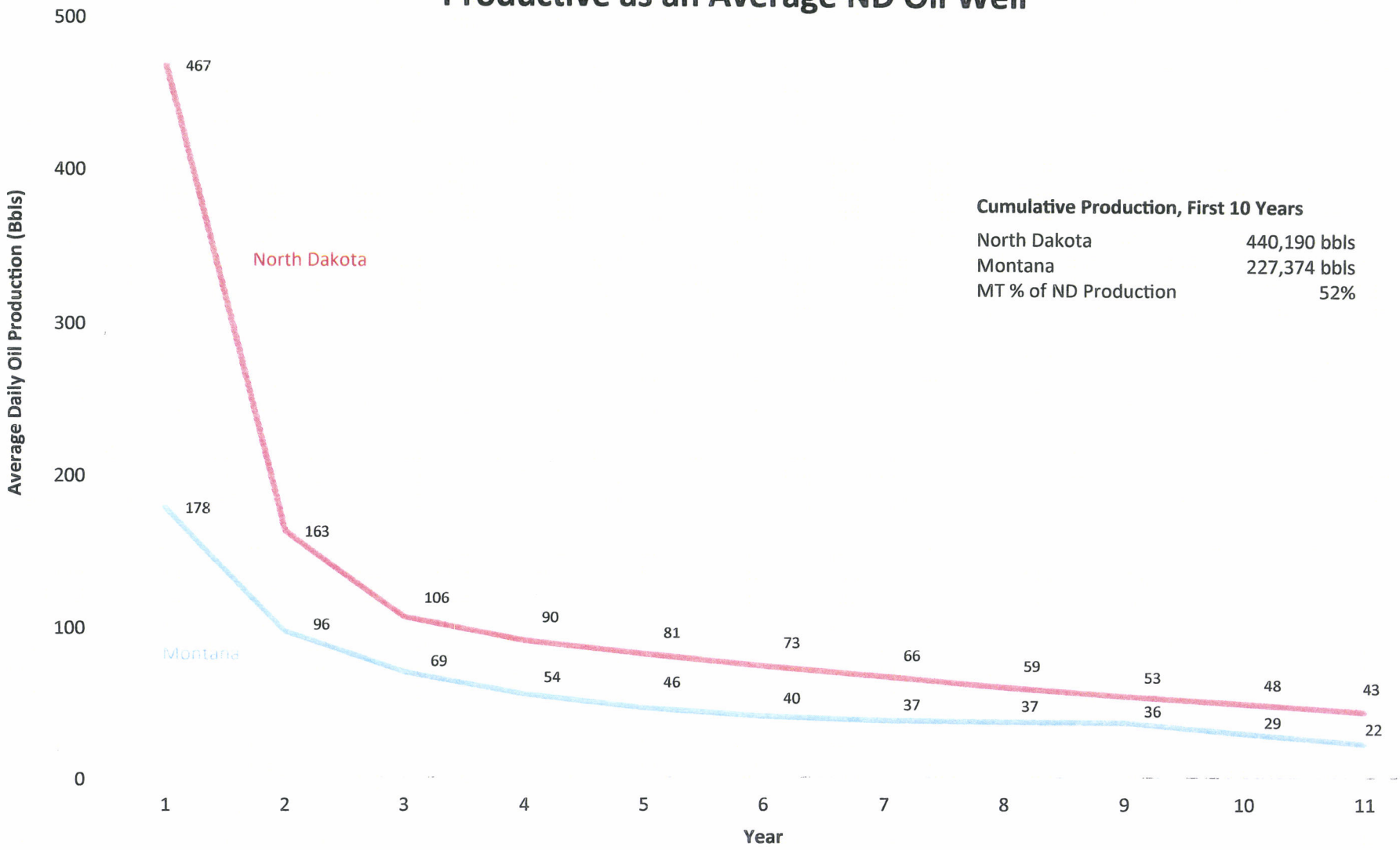
# Slide 3: An Average MT Oil Well in the Elm Coulee is About Half As Productive as an Average ND Oil Well




**Cumulative Production, First 10 Years**

| | |
|---|---|
| North Dakota | 440,190 bbls |
| Montana | 227,374 bbls |
| MT % of ND Production | 52% |

Source: Montana DNRC, Board of Oil and Gas Online Data Miner; North Dakota Industrial Commission, Oil and Gas Division.

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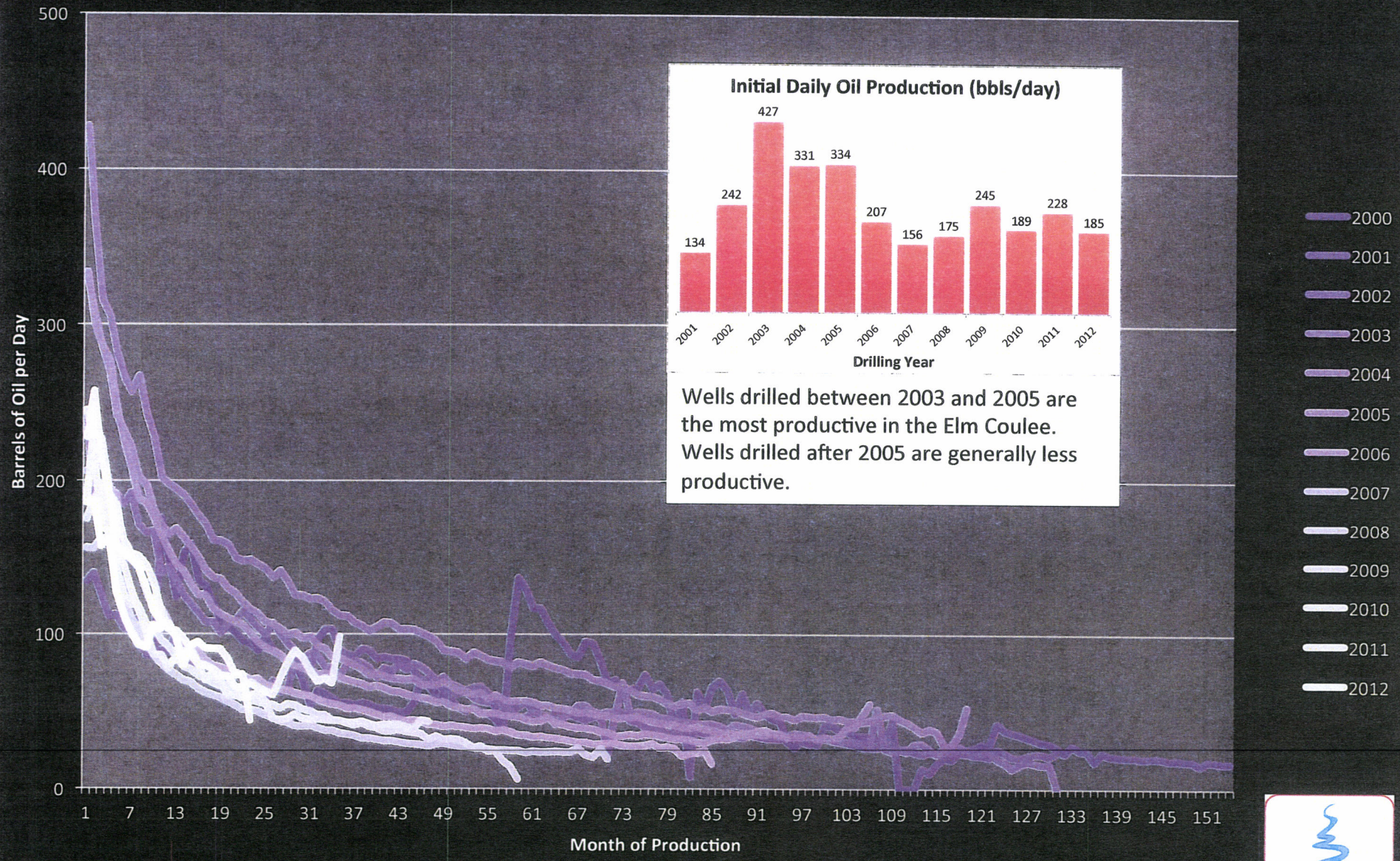
# Slide 4: Recent Wells Drilled in the Elm Coulee are not as Productive as Wells Drilled Between 2003 and 2005, During the Height of the Boom




Wells drilled between 2003 and 2005 are the most productive in the Elm Coulee. Wells drilled after 2005 are generally less productive.

Source: Montana DNRC, Board of Oil and Gas Online Data Miner. Number of well starts in 2001: 11. Number of wells started in 2005: 146. Number of wells started in 2012: 57.

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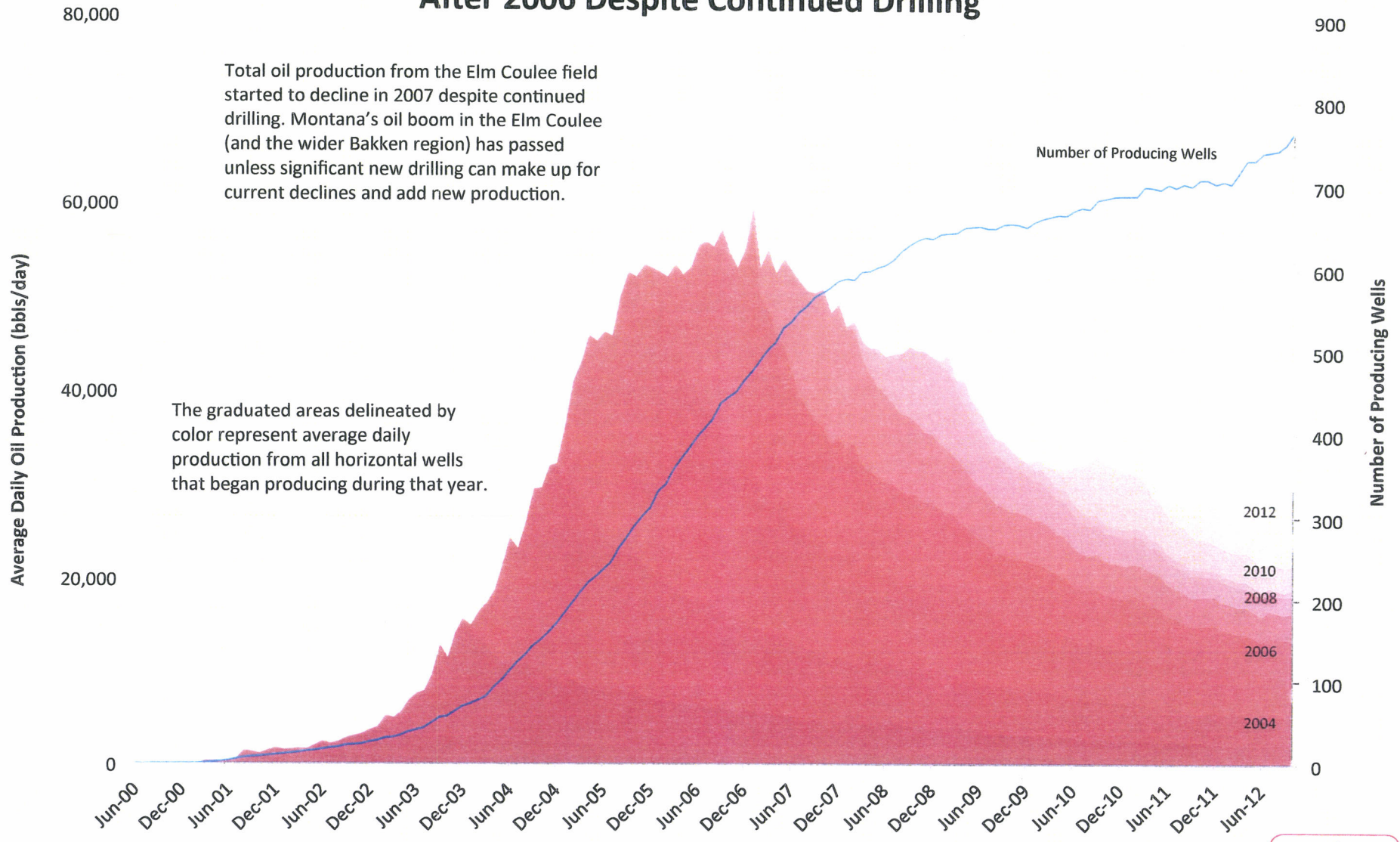
# Slide 5: Average Daily Oil Production in the Elm Coulee Field, MT Declined After 2006 Despite Continued Drilling




Source: Montana DNRC, Board of Oil and Gas Online Data Miner.

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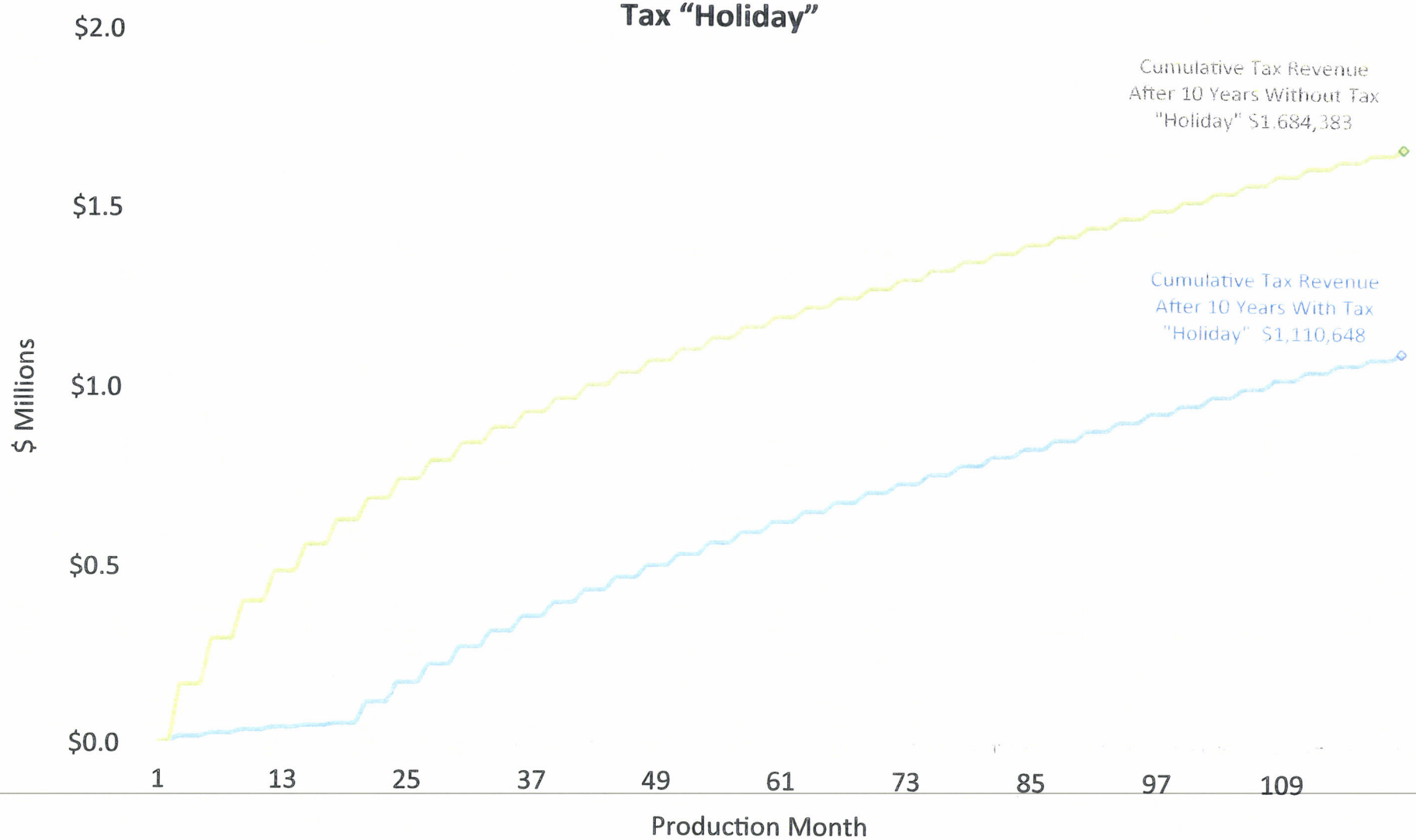
## Slide 6: An Average Elm Coulee Oil Well Generates $1.1 Million in Revenue Over 10 Years With the "Holiday," and $1.7 Million in Revenue Without the Tax "Holiday"




Source: Montana DNRC, Board of Oil and Gas Online Data Miner. Montana Department of Revenue. *Oil and Gas Production Tax Comparison: Montana and North Dakota*. July 19, 2012.

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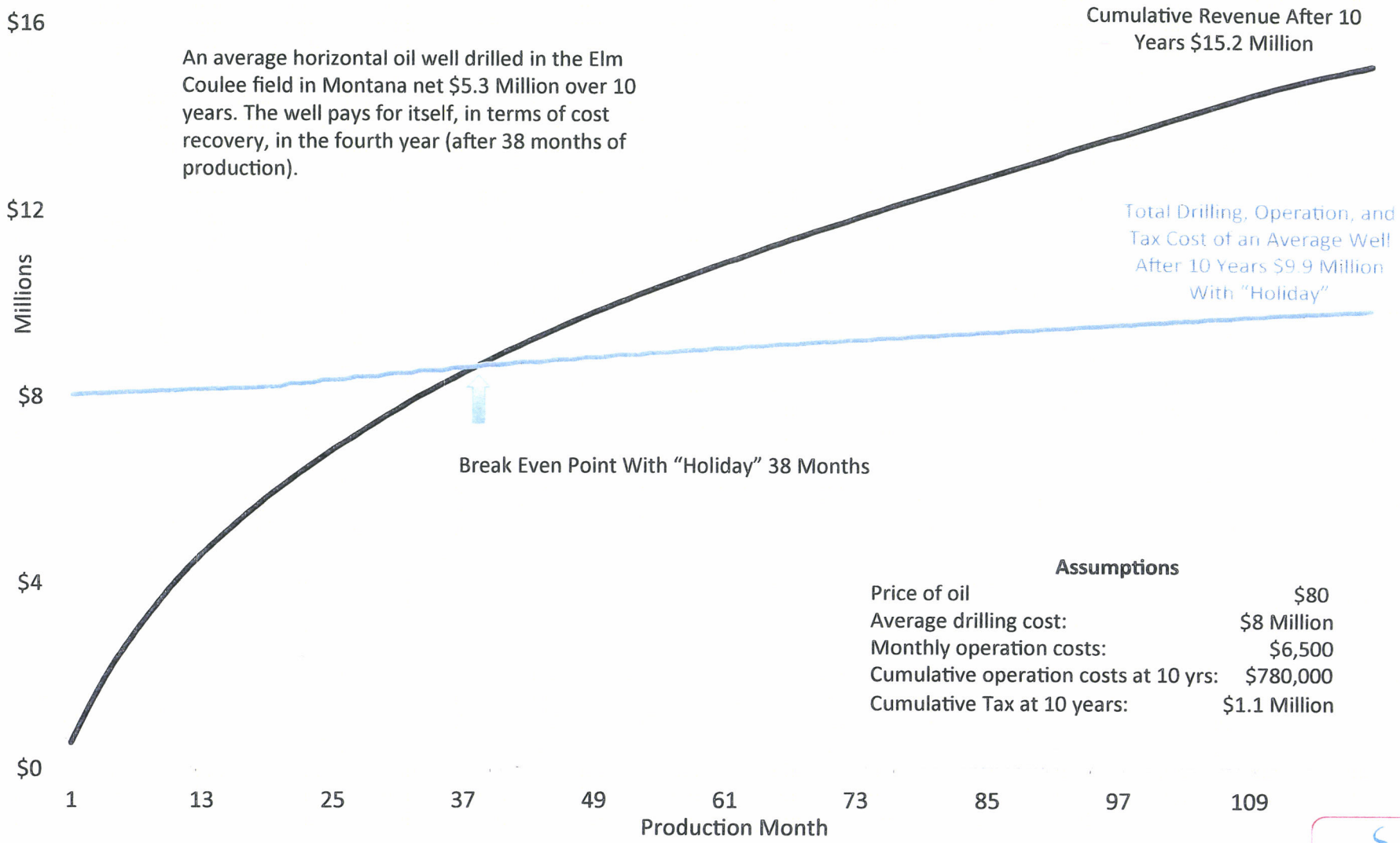
# Slide 7: The Break Even Point for an Average Elm Coulee Well in MT With the Tax "Holiday" is 38 Months




Source: Montana DNRC, Board of Oil and Gas Online Data Miner. Montana Department of Revenue. *Oil and Gas Production Tax Comparison: Montana and North Dakota*. July 19, 2012.

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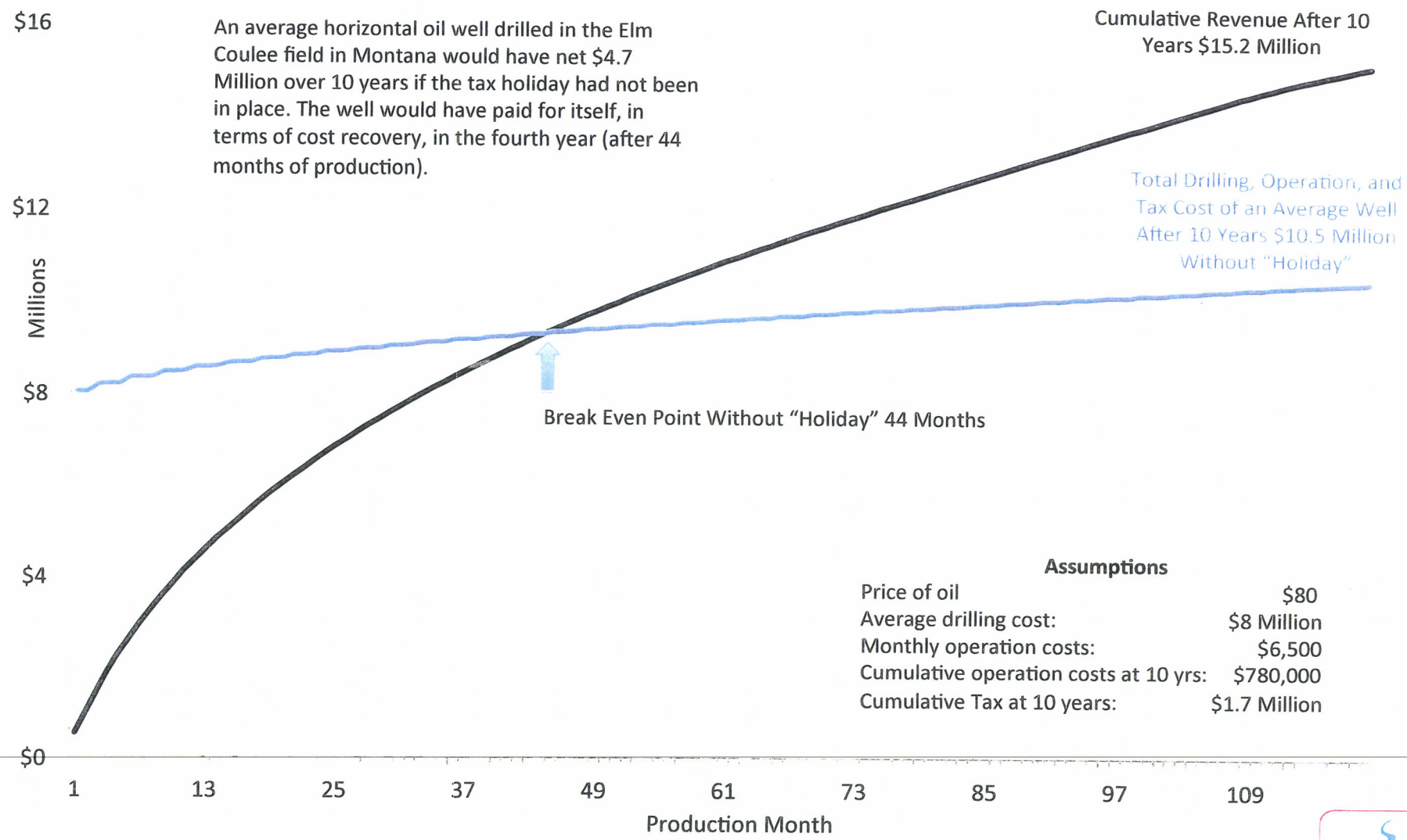
# Slide 8: The Break Even Point for an Average Elm Coulee Well in MT Without the Tax "Holiday" is 44 Months




Source: Montana DNRC, Board of Oil and Gas Online Data Miner. Montana Department of Revenue. *Oil and Gas Production Tax Comparison: Montana and North Dakota*. July 19, 2012.

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