



U.S. Geological Survey

3 to 4.3 Billion Barrels of Technically Recoverable Oil Assessed in North Dakota and Montana's Bakken Formation—25 Times More Than 1995 Estimate—

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Update: USGS Releases 2013 Update Assessment for Bakken and Three Forks Formations (January 5, 2015)

- [DOI News Release](http://www.doi.gov/news/pressreleases/usgs-releases-new-oil-and-gas-assessment-for-bakken-and-three-forks-formations.cfm) (<http://www.doi.gov/news/pressreleases/usgs-releases-new-oil-and-gas-assessment-for-bakken-and-three-forks-formations.cfm>)
- [USGS Top Story](http://www.usgs.gov/blogs/features/usgs_top_story/usgs-releases-new-oil-and-gas-assessment-for-bakken-and-three-forks-formations/) (http://www.usgs.gov/blogs/features/usgs_top_story/usgs-releases-new-oil-and-gas-assessment-for-bakken-and-three-forks-formations/)
- [Podcast](http://gallery.usgs.gov/audios/452#.VKq6hyujO-0) (<http://gallery.usgs.gov/audios/452#.VKq6hyujO-0>)

- Read [FAQs about the Bakken Formation](http://www.usgs.gov/faq/taxonomy/term/9778) (<http://www.usgs.gov/faq/taxonomy/term/9778>). (link updated 1/5/2015)
- [Listen to a podcast](http://www.usgs.gov/corecast/details.asp?ep=38) (<http://www.usgs.gov/corecast/details.asp?ep=38>) with the lead scientist on this topic.

Reston, VA - North Dakota and Montana have an estimated 3.0 to 4.3 billion barrels of undiscovered, technically recoverable oil in an area known as the Bakken Formation.

A U.S. Geological Survey assessment, released April 10, shows a 25-fold increase in the amount of oil that can be recovered compared to the agency's 1995 estimate of 151 million barrels of oil.

Technically recoverable oil resources are those producible using currently available technology and industry practices. USGS is the only provider of publicly available estimates of undiscovered technically recoverable oil and gas resources.

New geologic models applied to the Bakken Formation, advances in drilling and production technologies, and recent oil discoveries have resulted in these substantially larger technically recoverable oil volumes. About 105 million barrels of oil were produced from the Bakken Formation by the end of 2007.

The USGS Bakken study was undertaken as part of a nationwide project assessing domestic petroleum basins using standardized methodology and protocol as required by the Energy Policy and Conservation Act of 2000.

Related Podcasts

3 to 4.3 Billion Barrels of Oil in North Dakota and Montana

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http://www.usgs.gov/corecast/podcasts/audio/ep38/20080410_38_Bakken_Formation.mp3

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The Bakken Formation estimate is larger than all other current USGS oil assessments of the lower 48 states and is the largest "continuous" oil accumulation ever assessed by the USGS. A "continuous" oil accumulation means that the oil resource is dispersed throughout a geologic formation rather than existing as discrete, localized occurrences. The next largest "continuous" oil accumulation in the U.S. is in the Austin Chalk of Texas and Louisiana, with an undiscovered estimate of 1.0 billions of barrels of technically recoverable oil.

"It is clear that the Bakken formation contains a significant amount of oil - the question is how much of that oil is recoverable using today's technology?" said Senator Byron Dorgan, of North Dakota. "To get an answer to this important question, I requested that the U.S. Geological Survey complete this study, which will provide an up-to-date estimate on the amount of technically recoverable oil resources in the Bakken Shale formation."

The USGS estimate of 3.0 to 4.3 billion barrels of technically recoverable oil has a mean value of 3.65 billion barrels. Scientists conducted detailed studies in stratigraphy and structural geology and the modeling of petroleum geochemistry. They also combined their findings with historical exploration and production analyses to determine the undiscovered, technically recoverable oil estimates.

USGS worked with the North Dakota Geological Survey, a number of petroleum industry companies and independents, universities and other experts to develop a geological understanding of the Bakken Formation. These groups provided critical information and feedback on geological and engineering concepts important to building the geologic and production models used in the assessment.

Five continuous assessment units (AU) were identified and assessed in the Bakken Formation of North Dakota and Montana - the Elm Coulee-Billings Nose AU, the Central Basin-Poplar Dome AU, the Nesson-Little Knife Structural AU, the Eastern Expulsion Threshold AU, and the Northwest Expulsion Threshold AU.

At the time of the assessment, a limited number of wells have produced oil from three of the assessments units in Central Basin-Poplar Dome, Eastern Expulsion Threshold, and Northwest Expulsion Threshold. The Elm Coulee oil field in Montana, discovered in 2000, has produced about 65 million barrels of the 105 million barrels of oil recovered from the Bakken Formation.

Results of the assessment can be found at <http://energy.usgs.gov> (<http://energy.usgs.gov>).

For a podcast interview with scientists about the Bakken Formation, listen to episode 38 of CoreCast at <http://www.usgs.gov/corecast/> (<http://www.usgs.gov/corecast/>).

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