

The High-Risk Financing Behind the Dakota Access Pipeline: A Potential Stranded Asset in the Bakken Region of North Dakota

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Executive Summary

Construction of the Dakota Access Pipeline (DAPL) has sparked considerable public controversy, bringing national attention to issues that include tribal sovereignty and risks to drinking water.

Less publicized are the project's financial weaknesses, and the fact that DAPL may represent a substantial overbuilding of the Bakken region's oil-transport infrastructure.

DAPL faces a looming financial deadline. The pipeline's principal backer, Energy Transfer Partners (ETP), has conceded in court proceedings that it has a contractual obligation to complete the project by January 1, 2017. If it misses this deadline, companies that have committed long-term to ship oil through the pipeline at 2014 prices have the right to rescind those commitments—and may well exercise that right.

ETP will most likely miss this deadline. The company recently informed investors that it would take from 90 to 120 days to complete the pipeline after it receives its necessary easement from the Army Corps of Engineers to cross the Missouri River, which would push completion of the pipeline well past Jan. 1.

The broader economic context for the project has changed radically since ETP first proposed it, in 2014. Global oil prices began to collapse just a few months after shippers committed to using DAPL, and market forecasters do not expect prices to regain 2014 levels for at least a decade. As a result, production in the Bakken Shale oil field has fallen for nearly two consecutive years, creating major financial hardships for drillers.

Because the economic prospects for Bakken oil producers have dimmed dramatically since early 2014, oil shippers—in the interest of protecting their investors and shareholders—may attempt to renegotiate terms when ETP misses its Jan. 1 deadline, seeking concessions on contracted volumes, prices, or contract duration.

Moreover, if oil prices remain low, as projected, Bakken oil production will continue to decline, and existing pipeline and refinery capacity in the Bakken will be more than adequate to handle the region's oil production. If production continues to fall, DAPL could well become a stranded asset—one that was rushed to completion largely to protect favorable contract terms negotiated in 2014.

Background

The Dakota Access Pipeline, as proposed, is a 1,172-mile pipeline designed to carry 470,000 to 570,000 barrels of oil per day out of the Bakken shale oil field in western North Dakota to a major oil terminal in Patoka, Ill.

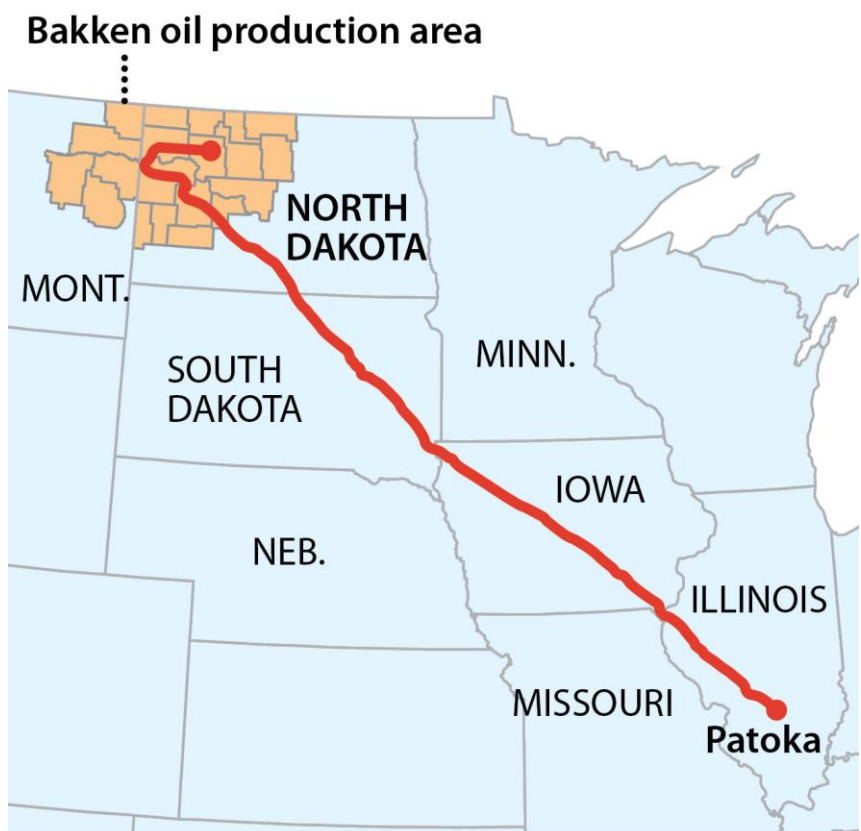
The \$3.8 billion project has been the subject of enormous public controversy, raising issues of tribal sovereignty and threats to drinking water at the pipeline's Missouri River crossing. As of early November 2016, the pipeline was 84 percent complete. The unfinished portion is at the Missouri River crossing, where the builder, Energy Transfer Partners (ETP), has yet to receive its final easement from the U.S. Army Corps of Engineers.¹

ETP proposed the pipeline in 2014 to provide transportation out of the "rapidly expanding Bakken and Three Forks production areas in North Dakota" and to promote "greater energy independence for the United States."²

As of mid-2016, the Dakota Access Pipeline had signed contracts for 90 percent of the capacity of the pipeline, with the remaining 10 percent reserved for "walk-up" shippers.³ Dakota Access has stated it has nine committed shippers, all of whom have signed contracts for pipeline capacity for up to 10 years.⁴

Dakota Access Pipeline Route

The Dakota Access Pipeline, as proposed, is a 1,172-mile pipeline designed to carry up to 570,000 barrels of oil per day out of the Bakken shale oil field in western North Dakota to Patoka, Illinois.



Sources: Energy Transfer Partners;
Energy Information Administration

¹ Energy Transfer Partners 3rd Quarter 2016 earnings call, November 10, 2016.

² Energy Transfer Partners: <http://www.dapipelinefacts.com/>

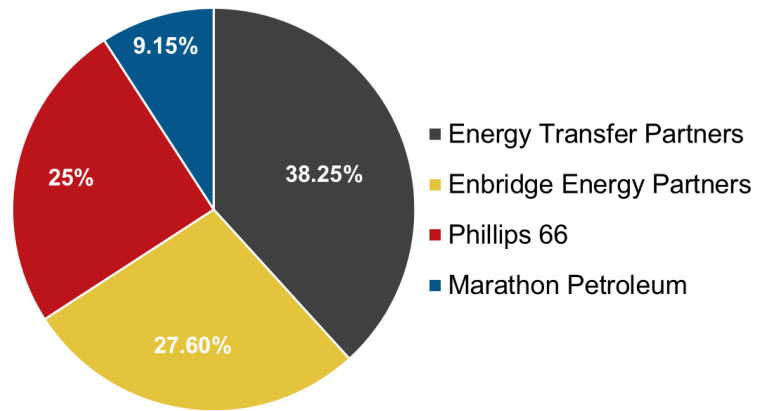
³ Dakota Access Pipeline Project, "Environmental Assessment", May 2016:
<https://www.fws.gov/uploadedFiles/DAPL%20EA.pdf>

⁴ Declaration of Joey Mahmoud in Support of Dakota Access, LLP's Opposition to Plaintiffs' Motion for a Preliminary Injunction, Standing Rock Sioux Tribe vs. U.S. Army Corps of Engineers, Case No. 1:16-CV-01534 in the U.S. District Court for the District of Columbia, August 18, 2016. paragraph 36

While the identity of most of these shippers is not public information, some shippers have announced their commitments. Phillips 66 has signed a long-term commitment with DAPL and Marathon Petroleum has announced intentions to do so.⁵ Further, Phillips 66, in addition to Hess, Tesoro, and Oasis Midstream, has announced plans to tie “collector” pipelines into DAPL.⁶

The pipeline was originally proposed in 2014 as a joint venture of Energy Transfer Partners (with a 75 percent stake) and Phillips 66 (with a 25 percent stake). On August 2, 2016, Energy Transfer Partners announced plans to sell 49 percent of its stake to a joint venture of Enbridge Energy Partners and Marathon Petroleum Corporation. The sale would result in the following ownership structure for the joint venture:

Owner	Ownership stake
Energy Transfer Partners	38.25%
Enbridge Energy Partners	27.60%
Phillips 66	25.00%
Marathon Petroleum	9.15%



However, the financing for this sale cannot be finalized until DAPL receives its final easement from the Army Corps of Engineers.⁷

⁵ Argus Media, “US midstream focus turns near-sighted; P66”, May 6, 2016, <http://www.argusmedia.com/pages/NewsBody.aspx?id=1236011&menu=yes>; Marathon Petroleum Corporation, “Press Release: Marathon Petroleum Corporation agrees to equity participation in Bakken pipeline system,” August 2, 2016: <http://ir.marathonpetroleum.com/phoenix.zhtml?c=246631&p=irol-newsArticle&ID=2192194>

⁶ R. Jean, “Epping Transmission to tie into DAPL: Sixth company applies for permit to join Bakken’s largest pipeline,” Williston Herald, October 1, 2016.

⁷ Energy Transfer Partners 3rd Quarter 2016 earnings call, November 10, 2016.

The Finances of Bakken Oil Production Have Changed Dramatically in the Past Two Years

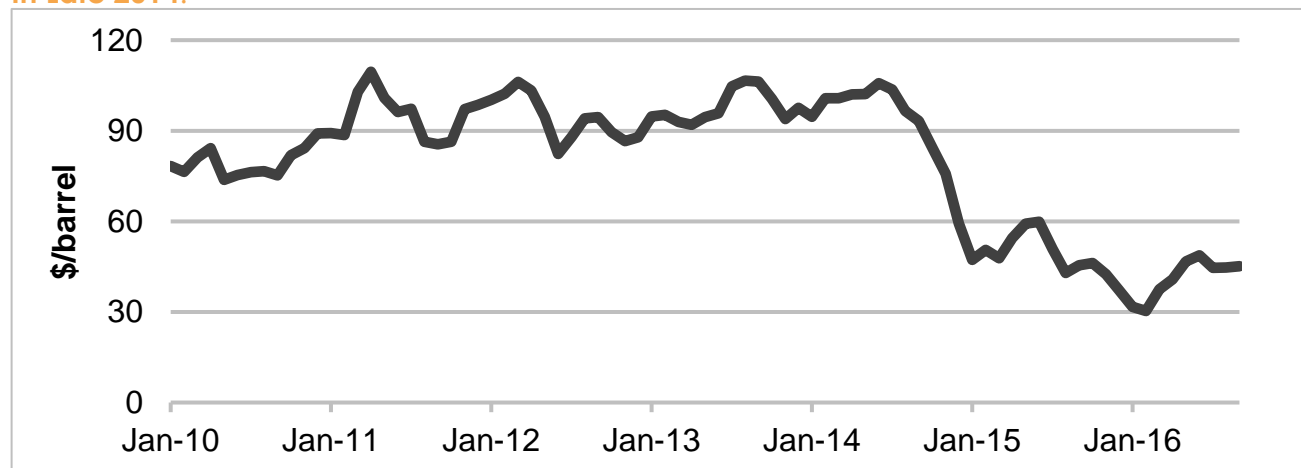
The Dakota Access Pipeline was originally proposed when high global oil prices were spurring increased oil production in the Williston Basin, a geologic formation in North Dakota, South Dakota and Montana that includes the Bakken, Three Forks and other smaller oil fields.

The U.S. Energy Information Administration in July 2014 forecast WTI crude oil prices in 2015 continuing to average \$95 per barrel.⁸ And in 2015, the EIA predicted that oil production from the “Northern Great Plains” region (primarily the Bakken and Three Forks oil fields) would increase to nearly 2 million barrels per day by 2020.⁹

The market crashed, however.

Prices fell below \$75 per barrel in December 2014 and have yet to recover. Prices from January 2015 through September 2016 have averaged \$45 per barrel, less than half the average price of \$96 per barrel in 2013-2014.

Figure 1. Crude Oil Spot Prices (West Texas Intermediate) Have Not Recovered Since Plunging In Late 2014.



Today, Bakken drillers are cutting back on capital expenditures and even “shutting in” production. Whiting Petroleum, one of the largest Bakken drillers, has cut its capital budget for exploration and development by nearly 80 percent for 2016, as a result of low oil prices.¹⁰ Continental, another large Bakken driller, reports that capital expenditures excluding acquisitions for the first three quarters of 2016 are down 63 percent over the same period in

⁸ U.S. Energy Information Administration, “Short-Term Energy Outlook,” July 2011, p. 4

⁹ U.S. Energy Information Administration, “U.S. Crude Oil Production to 2025: Updated Projection of Crude Types,” May 28, 2015, p. 12

¹⁰ Whiting 2015 10-K p. 48

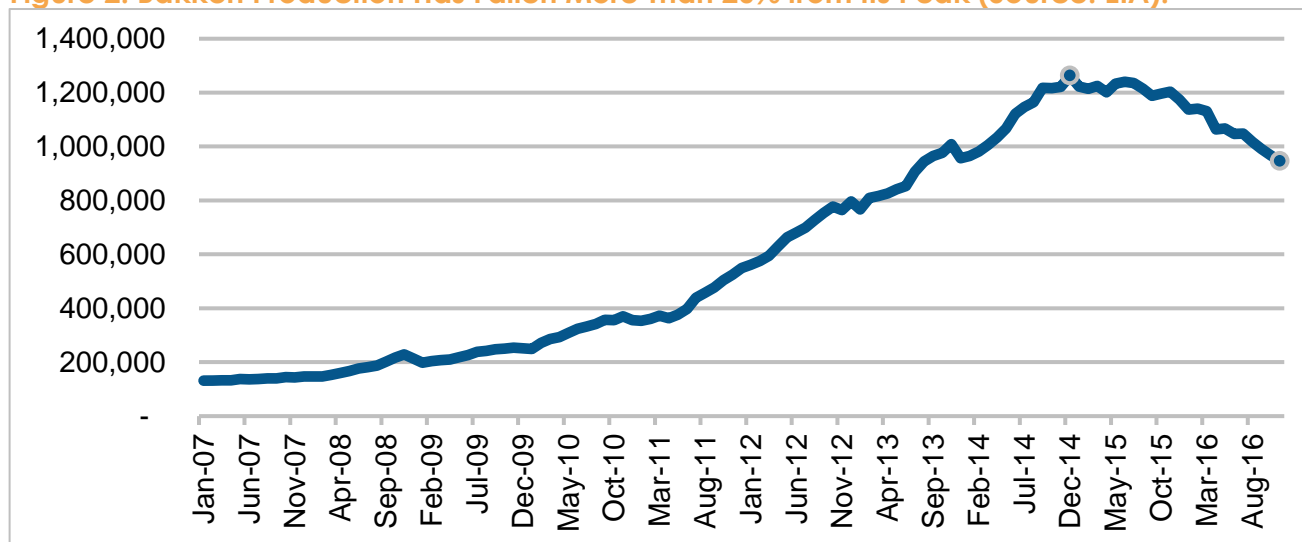
2015.¹¹ Continental also curtailed production at some of its Bakken wells in the third quarter of 2016.¹²

As with many “tight oil” formations, oil wells in the Bakken deplete quickly,¹³ so the reduction in capital expenditures in the Bakken has led to rapid declines in production. At today’s low oil prices the Bakken oil industry is completing few new wells, and depletion of existing wells is outpacing new production.

Bakken oil output in November 2016 fell by more than 20 percent compared with the prior November, and by more than one-quarter from its peak in December 2014 (see Figure 2). Bakken production has been falling at a rate of 1.5 percent to 2.5 percent per month since mid-2015 as companies have cut back on drilling new wells and on completing (via hydraulic fracturing) previously drilled wells.

Just to maintain Bakken production at its prior peak rate of 1.2 million barrels per day, the industry would have to add 157 new producing wells each month.¹⁴ This year, it has added only 44 wells per month on average.¹⁵

Figure 2. Bakken Production Has Fallen More Than 20% from Its Peak (Source: EIA).



Recent forecasts of global oil prices do not suggest any recovery of Bakken oil production for at least a decade. The World Bank’s forecast of oil prices through 2025 does not show real oil prices climbing above \$70 per barrel. This is consistent with shorter-term oil price forecasts

¹¹ Continental 3Q 2016 10-Q, p. 19

¹² Ibid p. 18

¹³ On average, oil production declines more than 60% in the first year. (See, for example: <http://oilprice.com/Energy/Crude-Oil/Bakken-Decline-Rates-Worrying-For-Drillers.html>; <http://www.bloomberg.com/news/articles/2013-10-10/u-dot-s-dot-shale-oil-boom-may-not-last-as-fracking-wells-lack-staying-power>)

¹⁴ David Hughes, *Bakken Reality Check*, Post Carbon Institute, Fall 2015.

¹⁵ North Dakota Department of Mineral Resources, “ND Monthly Bakken Oil Production Statistics,” <https://www.dmr.nd.gov/oilgas/stats/historicalbakkenoilstats.pdf>

from the International Monetary Fund, the Organization for Economic Cooperation and Development, and The Economist Intelligence Unit.¹⁶

Bakken oil producers are in financial distress.

The 2014 oil price collapse, which has coincided with a period of low natural gas prices, has triggered a wave of bankruptcies among oil and natural gas producers. Deloitte estimates that fully one-third of exploration and production companies worldwide are at high risk of bankruptcy.¹⁷ One hundred and five North American oil and gas producers have filed for bankruptcy since 2015, including 61 in 2016,¹⁸ up from an average of 13 bankruptcies per year from 2010 to 2014.¹⁹ Financial analysts see as many as 135 additional companies are on the verge of bankruptcy,²⁰ and regulators have warned that aggressive acquisition and exploration pursued by oil and gas companies from 2010 through 2014 led companies to take on unsustainable debt, leaving them vulnerable once commodity prices collapsed.²¹

Bakken drillers are experiencing serious financial problems, as is clear from the financial metrics for three of the top Bakken drillers, Whiting Petroleum Corporation, Continental Resources and Hess. All three have had credit rating downgrades within the last year, and credit rating agencies have questioned their high debt levels.

The following table shows long-term credit ratings from S&P and Moody's:

	Moody's	S&P
Whiting Petroleum	B3, outlook stable ²²	B+, outlook negative ²³
Continental Resources	Ba3 ²⁴	BB+, outlook stable ²⁵
Hess Corporation	Ba1, outlook stable ²⁶	BBB-, outlook stable ²⁷

Whiting, Continental and Hess have reported significant total revenue declines since 2014 (see Figure 3). Revenues at all three companies for the first nine months of 2016 are 60 percent to 70 percent lower than for the same period in 2014. As a result of this rapid revenue

¹⁶ Knoema, "Crude Oil Price Forecast: Long Term 2016 to 2025," last updated November 9, 2016.

<https://knoema.com/yxptpab/crude-oil-price-forecast-long-term-2016-to-2025-data-and-charts>

¹⁷ M. Passwaters, "A third of listed E&Ps worldwide at high risk for bankruptcy, Deloitte says," SNL Financial, February 19, 2016.

¹⁸ Haynes and Boone, LLP, "Oil Patch Bankruptcy Monitor," October 19, 2016.

http://www.haynesboone.com/~media/files/attorney%20publications/2016/energy_bankruptcy_monitor/oil_patch_bankruptcy_20160106.ashx

¹⁹ Sean Moran, "Trends in Oil and Gas Transactions," presentation to the Platts 9th Annual Appalachian Oil and Gas Conference, October 2016.

²⁰ Lee Masterson, "135 Oil Companies Teeter on Bankruptcy Edge," MSN Money, October 13, 2016.

²¹ Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, "Joint Press Release: Shared National Credits Review Notes High Credit Risk and Weaknesses Related to Leveraged Lending and Oil and Gas," November 5, 2015.

<https://www.federalreserve.gov/newsevents/press/bcreg/20151105a.htm>

²² Moody's, "Rating Action: Moody's upgrades Whiting's CFR to B3," July 28, 2016. Moody's had previously downgraded Whiting, (Moody's, "Rating Action: Moody's concludes reviews for 11 US Ba-rated E&P companies," February 11, 2016).

²³ Standard & Poor's, "Press release: S&P Takes Rating Actions On 45 US Speculative-Grade E&P Firms," February 10, 2016.

²⁴ Moody's, "Rating Action: Moody's concludes review for 9 US Baa-rated E&P companies and 2 MLPs," February 18, 2016.

²⁵ S&P Global Ratings, "Continental Resources, Inc." February 3, 2016.

²⁶ Moody's, "Rating Action: Moody's assigns Ba1 rating to Hess's senior unsecured notes issue," September 19, 2016.

²⁷ S&P Global Ratings, "Hess Corp." February 3, 2016.

decline, the companies have less cash available for debt service. They have seen a steady decline in their cash flow coverage ratio (the ratio of cash from operating activities to long-term debt—a common measure of leverage (see Figure 4)). Additionally, all of the companies have substantially cut capital expenditures.

Figure 3. Total Revenues For Three Of The Top Bakken Drillers Have Plummeted.

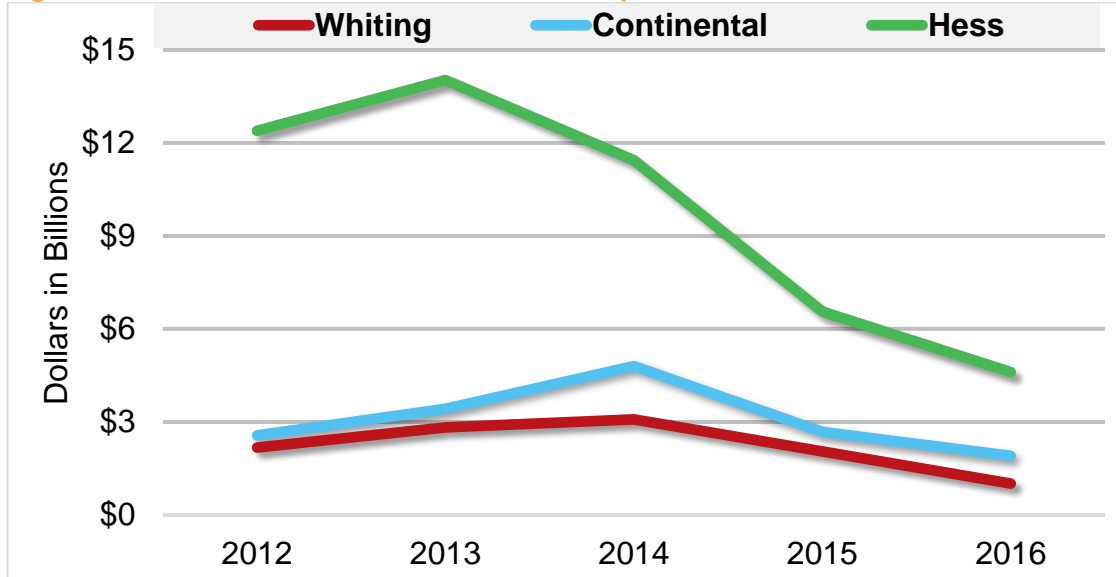
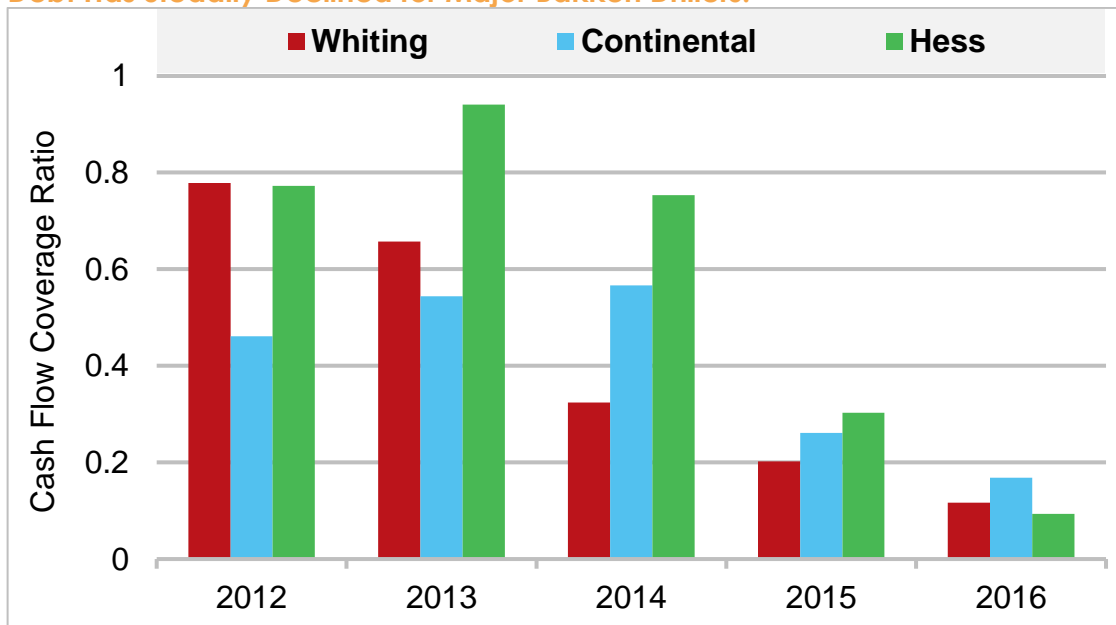


Figure 4. Cash Flow Coverage Ratio: The Ratio of Cash Flow From Operations To Long-term Debt Has Steadily Declined for Major Bakken Drillers.



Regional Oil-Transport Infrastructure is Overbuilt Already; Collapsing Bakken Oil Production Suggests DAPL Is Superfluous

The Bakken already has ample takeaway capacity for the oil it produces. The U.S. Energy Information Administration reports that oil companies operating in the Bakken currently produce fewer than 950,000 barrels of oil per day (bpd).²⁸

The region's existing pipelines and oil-by-rail facilities, together with local oil refineries, can handle nearly 2.5 million barrels of Bakken crude throughput per day. Five existing pipelines can transport more than 760,000 barrels of oil per day (bpd). Two existing regional refineries can handle 88,000 bpd, and a third planned new regional refinery will take an additional 20,000 bpd by the end of 2018.²⁹ The region's 21 crude-by-rail terminals can handle 1.5 million bpd.³⁰

So the region's oil transport infrastructure is already overbuilt, with some 60 percent of its capacity currently unutilized.

Energy Transfer Partners CEO Kelcy Warren has been frank in the past about the pipeline industry's tendency toward overbuilding, stating, "The pipeline business will overbuild until the end of time. I mean that's what competitive people do."³¹

The transportation glut in the Bakken is poised to grow even larger.

If Bakken production continues its slump—a near inevitability at today's oil prices—the region will produce less than 800,000 bpd by the end of 2017. At that point, existing pipelines and refineries could handle the region's entire oil output, even without the addition of DAPL—while leaving every single oil-by-rail facility completely idle.

Although rail shipments of Bakken crude plummeted in 2015 as the price premium in coastal oil markets evaporated, more than 250,000 barrels per day (bpd) on average of Bakken crude still moves by rail.³² Shipments to the Pacific Northwest have remained particularly steady, leading many industry observers to surmise that Northwest oil refiners are beholden to long-term supply contracts with Bakken oil producers that obligate them to either purchase more than 100,000 bpd or face stiff contractual penalties.³³ If even modest volumes of Bakken oil continue to move by rail, DAPL's capacity could become superfluous by mid-2017. In short, unless oil prices spike and Bakken production rebounds promptly, the region may soon find that its oil pipeline capacity is already overbuilt even without DAPL. Completing

²⁸ Energy Information Administration, "Drilling Productivity Report," October 17, 2016. <http://www.eia.gov/petroleum/drilling/>

²⁹ MHA Nation Clean Fuels Refinery: <http://www.mharefinery.com/about-us/>

³⁰ Tom Biracree, "Tighten Up – Dakota Access to Close Gap in Bakken Pipeline Takeaway Capacity," RBN Energy, August 1, 2016.

³¹ Energy Transfer Partners 2nd quarter 2015 earnings call, August 6, 2015.

³² U.S. Energy Information Administration, "Movements of Crude Oil and Selected Products by Rail between PAD Districts," October 31, 2016. http://www.eia.gov/dnav/pet/PET_MOVE_RAIL_A_EPCO_RAIL_MBBL_M.htm

³³ Sandy Fielden, "Slow Train Coming – Crude by Rail to Northwest Refineries Still Resilient," RBN Energy, March 22, 2016.

DAPL will have little effect on the long-term declines in Bakken oil production that result from low national and international oil prices.

Energy Transfer Partners Is Under Extreme Financial Pressure to Complete DAPL

ETP, the lead developer of DAPL and the partner with the largest equity stake, has strong financial interests in completing the pipeline.

Like many oil and natural gas midstream companies, ETP is structured as a master limited partnership, or MLP, an investment structure designed to create steady yield.

Pipelines lend themselves to the MLP structure because they throw off stable, long-term revenue. In an MLP, a large fraction of the revenue is pledged as distributions to equity investors in the partnership at a ratio that is much larger than the fraction of net income that would be pledged as dividends under a traditional corporate structure. (The MLP structure also provides certain tax advantages to equity investors). Distribution growth is key to MLPs attracting new capital, and the recent collapse in global oil prices has put pressure on the MLP business model.³⁴ The Alerian MLP Index, a NYSE index of pipeline and transportation companies, has fallen by 40 percent since November 2014, a period in which the S&P 500 index has gained about 10 percent. ETP's stock has largely tracked the Alerian MLP index, falling by 42 percent in the same period.

ETP has been in a phase of rapid, high-risk growth, which has required it to raise capital quickly. Its total assets grew from \$4.4 billion in 2005 to \$12.1 billion in 2010 and then to \$65.2 billion in 2015. In addition to the \$3.8 billion DAPL project, ETP is the lead developer of the \$3.7 billion Rover pipeline in the eastern U.S., the Bayou Bridge pipeline in Louisiana, and two pipelines in Mexico. In June 2016, Moody's placed ETP on a "negative outlook" for its high leverage.³⁵

ETP, in short, is under extreme financial pressure to that its investments generate cash for its investors.

Beyond this immediate need, ETP appears to be incentivized to rush to finish DAPL construction before January 1, 2017, in order to meet commitments it has made to oil producers. In an August 2016 court filing, DAPL highlighted its vulnerability on this point, stating:

"In connection with its long-term transportation contracts with 9 committed shippers, Dakota Access has committed to complete, test and have DAPL in service by January 1, 2017. The long-term transportation contracts give shippers a right to terminate their commitments if DAPL is not in full service per the contract deadline. Meanwhile, faced with an uncertain delay, shippers would

³⁴ Corrie Driebusch, "Oil Rout Accelerates Selloff in Master-Limited Partnerships," Wall Street Journal, December 8, 2015.

³⁵ Moody's, "Rating Action: Moody's changes Energy Transfer Partners' outlook to negative," June 29, 2016.

need to determine alternative sources for secure, reliable transportation of crude oil supplies to the refineries. These costs cannot be recovered and loss of shippers to the project could effectively result in project cancellation.³⁶

It is unlikely that DAPL will be in service by Jan. 1, 2017, however, as ETP recently advised investors that it will take between 90 and 120 days to complete the pipeline—if and when it receives its river-crossing easement from the Army Corps of Engineers.

This raises the distinct possibility that oil companies that committed to DAPL will seek to renegotiate their contracts.

Most of the shipping contracts for DAPL were signed when the outlook for Bakken production was far more positive than it is today, and before low oil prices had caused serious financial harm to oil and natural gas producers.

Conclusion

The rush to build the controversial Dakota Access Pipeline stems largely from the financial motivations of Energy Transfer Partners, motivations that do not necessarily coincide with the interests of Bakken oil drillers or with any economic rationale for increased regional pipeline capacity. The contracts for DAPL were signed in a radically different economic environment in which Bakken oil production was growing and drilling companies were doing well financially. The DAPL is a superfluous project being built to preserve the favorable contract terms that its developers negotiated in 2014.

³⁶ Declaration of Joey Mahmoud in Support of Dakota Access, LLP's Opposition to Plaintiffs' Motion for a Preliminary Injunction, Standing Rock Sioux Tribe vs. U.S. Army Corps of Engineers, Case No. 1:16-CV-01534 in the U.S. District Court for the District of Columbia, August 18, 2016. paragraph 36

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