

No Time - Scrambling For Permian Crude Takeaway Options As Available Pipeline Capacity Vanishes

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Necessity is the mother of invention, and the desperate need to transport increasing volumes of crude oil out of the severely pipeline-constrained Permian is spurring midstream companies and logistic folks in the play to be as creative as humanly possible. With the price spread between the Permian wells and the Gulf Coast exceeding \$15/bbl in recent days — and possibly headed for \$20/bbl or more soon — there's a huge financial incentive to quickly provide more takeaway capacity, either on existing pipelines or by truck or rail. Are more trucks and drivers available? Is there an idle refined-products pipe that could be put back into service? Could drag-reducing agents be added to an existing crude pipeline to boost its throughput? How quickly could that mothballed crude-by-rail terminal be restarted? Today, we discuss frenzied efforts in the Permian to add incremental crude takeaway capacity of any sort — and pronto.

In our recent blog series, [All Dressed Up With Nowhere to Go](#), we examined how rising crude oil production in the Permian is surpassing pipeline takeaway capacity and (as a result) blowing out the differentials between Midland and destination markets at Cushing and the Gulf Coast. The series also considered [the severe lack of trucking capacity](#) in the Permian and what it means for those producers who have not planned ahead. And we looked at [what it will take](#) to move at least a few of the many new greenfield pipeline projects being planned from the drawing board to completion and operation by late 2019 or 2020. The bottom line of our review, however, is that — barring the addition of at least several hundred thousand barrels of incremental takeaway capacity over the next few months — the ballooning (and volatile) price spreads that have clobbered many Permian producers in recent weeks (dashed red oval in Figure 1) will be a fixture in the basin until those new greenfield pipes come online a year or two from now.

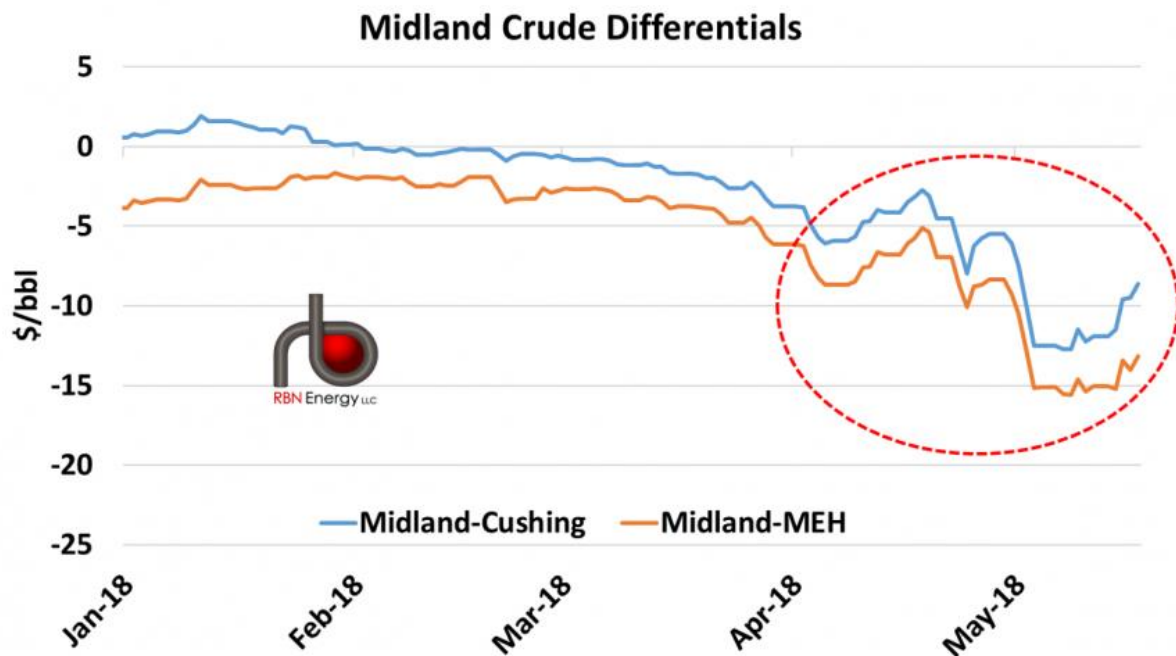


Figure 1. Source: Bloomberg

How bad is the crisis? (Yes, we used *that* word.) Well, the takeaway pipelines out of the Permian are running at or very near capacity, and Permian production has been growing by a rate of more than 70 Mb/d per month in recent months — an annual growth rate of more than 800 Mb/d. And crude prices north of \$70/bbl aren't giving Permian producers any incentive to pull back on their production plans, even if they have to eat a \$15 or \$20/bbl differential to the Gulf Coast and scramble to find ways to get all their crude to market. All of that incremental production needs — to put it simply — a way out.

The medium/long-term solution is new greenfield pipelines — when they are built, the differentials between Midland and the destination markets at Cushing and Houston are likely to shrink significantly. In the past few days there has been some positive news on that front. For example, EPIC Midstream said May 10 that it has secured commitments from Noble Energy and Apache to anchor its planned 590-Mb/d EPIC Crude Oil Pipeline from Orla, TX in the Permian's Delaware Basin to the Port of Corpus Christi (dashed purple-and-black line in Figure 2). The pipe's capacity out of the Permian would be 440 Mb/d; it would expand by 150 Mb/d when it passes through the Eagle Ford production area in South Texas. EPIC also says it's engaged in ongoing commercial negotiations representing at least 500 Mb/d in potential volume commitments. If several of those come through, the pipe's capacity out of the Permian could be increased by as much as 235 Mb/d, to 675 Mb/d.

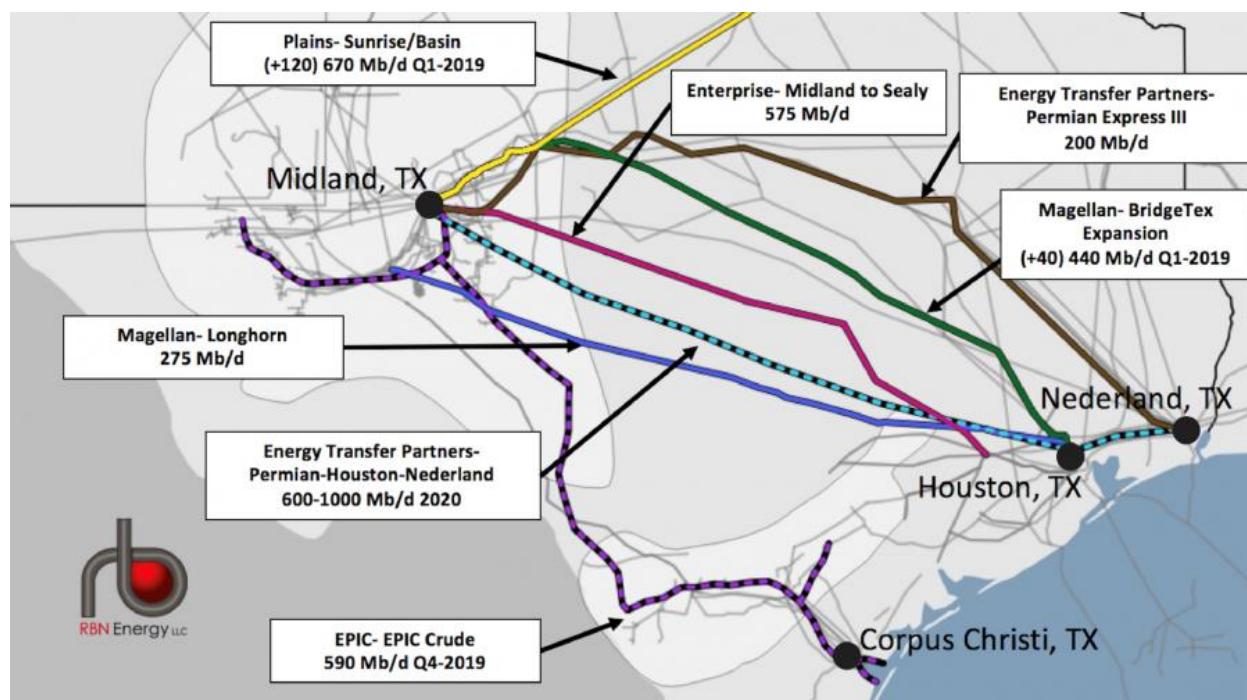


Figure 2. Source: RBN Energy

Also on May 10, Energy Transfer Partners said during its first-quarter earnings call that it is close to announcing a strategic partner for its proposed 600-Mb/d crude pipeline from Midland to Nederland, TX (dashed aqua-and-black line) — a 30-inch-diameter pipe that would include connections to the Houston Ship Channel and the Bayou Bridge Pipeline to Lake Charles (and soon St. James) in Louisiana, as well as refineries in the Beaumont/Nederland area. The planned pipe, which is expandable to 1 MMb/d, would come online as soon as 2020. More immediately, Energy Transfer has said that it will expand the capacity of its Permian Express III pipeline (PE3; brown line) from Midland to Nederland by an unspecified amount by the end of 2018 — an initial 100 Mb/d of capacity on PE3 started up in the fourth quarter of 2017 and flows on the pipe ramped up to about 200 Mb/d in the first quarter of 2018, according to the company.

A PE3 expansion will help. A few other projects that will provide incremental pipeline takeaway capacity out of the Permian in the next few months — in one case *last* month — are already under way. For example, there's Plains All American's Sunrise Pipeline project (yellow line), whose net

effect will be 120 Mb/d of additional pipeline capacity from Midland to Cushing by early 2019. And there's Enterprise Products Partners' addition of 35 Mb/d to its new 540-Mb/d Midland-to-Sealy pipeline (dark pink line) last month (April 2018) and Plains and Magellan Midstream Partners' plan to add 40 Mb/d to their jointly owned BridgeTex Pipeline (green line) from Colorado City, TX, to the Houston area by early 2019.

Both the Midland-to-Sealy and BridgeTex expansions are made possible in large part by the addition of operational enhancements in the form of drag reducing agents, or DRAs. As we explained in our "Kind of a Drag" blog series, DRAs are ultra-high molecular-weight, long-chain polymers that are injected into crude or refined-products pipelines just downstream of pumping stations. Once injected, these long polymers (think wet, flexible strands of spaghetti on a molecular level) help to minimize turbulence within the pipe. (See [Part 1](#) for a simplified description of how DRAs work.) Reduced turbulence eases the flow of crude (or refined products) through a pipeline, which increases the volume of fluid that can move through the pipe within any given period of time with the same amount of pumping energy applied to the system. As we noted in [Part 2](#), pipes that have the most turbulence are generally those that transport low-viscosity/easy-flowing refined products (like motor gasoline and diesel) or lighter crudes such as condensate or West Texas Intermediate (WTI). In other words, the use of DRAs can be well-suited for Permian takeaway pipes, which move light and superlight crudes.

DRAs have been part of the Permian crude takeaway story for at least a few years now. Back in 2013, Magellan converted its 18-to-20-inch-diameter Longhorn Pipeline (blue line) back to eastbound crude service between Crane (in West Texas) and the Houston area — the pipe for a few years had been reversed to move refined products west — and boosted its capacity by 50 Mb/d (to the current 275 Mb/d) by adding DRAs and making other operational tweaks. A number of other Permian takeaway pipelines also are believed to be using DRAs too, but pipeline owners are not required to report their use unless they want to. It's a good bet that every company that owns a Permian crude takeaway pipe is either already using DRAs or has been investigating whether doing so might be cost-effective in today's big-spread environment. And it's entirely possible that another DRA-related pipeline expansion could surface in the next few weeks, though as the Midland-to-Sealy and BridgeTex expansions noted above show, it can take six months or more to add a DRA system to a pipeline.

The 35 Mb/d of incremental capacity on Midland-to-Sealy now online and the extra 40 Mb/d on BridgeTex due to be added by early next year will help, of course, as will any other DRA-linked pipeline expansion efforts that might come out of the woodwork this spring or summer. But with Permian production rising by 70 Mb/d or so each month, DRA on its own is unlikely to solve takeaway constraints or do much to deflate the still-ballooning differentials between crude in Midland and in Cushing or the Gulf Coast. What other short-term takeaway options are out there? It really comes down to those old standbys: trucking and crude-by-rail. In the next episode in our series, we'll examine the potential for each. A caveat: Don't expect miracles from either.

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"No Time" is one of the best-known songs by The Guess Who, a Canadian rock band. Written by band members Randy Bachman and Burton Cummings, the tune has the distinction of being recorded twice, and appearing on two consecutive Guess Who albums. The first — a longer, more psychedelic version — appeared on the band's second album, 1969's *Canned Wheat*, and the second, shorter version was a track on the band's third LP, 1970's *American Woman*. It is the latter version of the song that most people would recognize today; it went to #5 on the U.S. charts and #1 in Canada. The personnel on both versions of "No Time" were Burton Cummings (lead vocals, guitar and piano), Randy Bachman (lead guitar and backing vocals), Jim Kale (bass and backing vocals) and Garry Peterson (drums).

The Guess Who was formed in Winnipeg — Manitoba's capital and largest city — in 1965. Many members have passed through the band's roster over the years. Mainstay guitarist and songwriter Randy Bachman left the band at the height of its popularity in 1970 and went on to form the highly successful Bachman-Turner Overdrive (BTO) a year later. Burton Cummings left The Guess Who in 1975, and went on to a successful career as a solo artist. Bassist Jim Kale owns the trademark to the name "The Guess Who" and sometimes tours the nostalgia circuit with various members under that name. Randy Bachman does the oldies circuit, too, with a band under the BTO moniker, and Burton Cummings still tours with a backup band, and occasionally gets together with his old Guess Who bandmate Randy Bachman as the "Bachman-Cummings Band," performing old hits from the Guess Who, BTO, and Burton Cummings catalogs.

The Guess Who released 11 albums in the Burton Cummings era (1965-75). The band was inducted into the Canadian Music Hall of Fame in 1987.