
Louisiana Bound—New Crude Routes From the Midwest

Proposed pipelines too late to replace Venezuela supply

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Scarce Sour Supplies at Gulf Coast

The spread between Louisiana Light Sweet and medium sour marker Mars at the eastern Gulf Coast has narrowed sharply this year. Mars traded at an average \$3.32/barrel below LLS in 2018 but was only discounted by an average \$1.88/barrel in January 2019. That's because supplies of traditionally less valuable medium sour crudes like Mars are scarce now in the face of OPEC production cuts as well as sanctions on Venezuelan and Western Canadian heavy crude. At the same time LLS crude delivered to St. James, Louisiana, traded at a \$6.20/premium to West Texas Intermediate delivered to the Midwest Cushing, Oklahoma, hub due to transport constraints in the Permian.

These disruptions signal increased crude demand in Louisiana to meet both local refiner needs and a growing market for exports. This note looks at planned infrastructure to deliver heavy crude from Canada and domestic shale from North Dakota and the Rockies to Louisiana. Those plans won't solve the immediate shortage of heavy crude at the Gulf Coast but will provide greater flexibility for refiners in the future.

Previously

Two weeks ago we detailed midstream infrastructure being built to deliver shale crude from Texas and North Dakota to the Mississippi River trading hub at St. James, Louisiana (see "[Shale Crude Heading East As Louisiana Market Opens Up](#)"). In part this new route to market reflects expected congestion at refining centers and ports along the Texas Gulf Coast in the face of a slew of new pipelines delivering additional crude to the Western Gulf (see our December 2018 note, "[Pipeline Plans Suggest Tsunami of Exports](#)"). In a note last week we pointed out how increased demand for medium sour crudes and lower production costs are making offshore Gulf of Mexico plays more attractive to producers (see "[Is Gulf of Mexico Offshore Crude a Better Deal for Producers?](#)"). Increases in offshore medium sour crude output will probably come ashore in Louisiana to be consumed by local refineries or exported from the Louisiana Offshore Oil Port, or LOOP. This time we turn our attention to midstream plans to bring crude to the Louisiana Gulf Coast from the Chicago region and from the Rockies via the Midwest Cushing hub.

Capline Reversal

The idea of reversing the 1.2 million barrel/day capacity Capline pipeline isn't new. Last April we described faltering flows on Capline (see "[Capline Empties As Louisiana Crude Market Evolves](#)"), which runs between St. James and Patoka, Illinois. Capline's value declined in the face of increased shale output from North Dakota and Canada supplying Midwest refineries and pushing out imports. Another blow came with the December 2017 opening of the Valero/Plains Diamond pipeline between Cushing,

Oklahoma, and Valero's 190 thousand barrel/day Memphis, Tennessee, refinery that was previously fed by a lateral from Capline. Given stagnant flows northbound, the idea of reversing this major conduit to ship either shale supplies from North Dakota or heavy crude from Western Canada into Louisiana has steadily gained traction with the pipeline's shareholders.

Last Wednesday (Jan 30 2019) Capline's owners—Plains All American (54%) and refiners Marathon (33%) and BP (13%)—launched a binding open season to reverse Capline as soon as September 2020 if they receive shipper support. Reversal is expected to initially compose 300 mb/d capacity southbound between Patoka and St. James with an additional reversal of the lateral between Memphis and Collierville, Tennessee, to allow supplies shipped from Cushing on the Diamond pipeline to reach St. James via Capline. Plains and Valero have indicated they are open to doubling Diamond's capacity, which primarily feeds the Memphis refinery, to 400 mb/d if there is shipper demand to move crude from Cushing to St. James.

Capline currently has access to about 1.9 mmb/d of incoming crude supplies at Patoka including the 470 mb/d Energy Transfer Dakota Access pipeline from North Dakota, the 600 mb/d TransCanada Keystone pipeline that delivers Canadian crude from Steel City, Nebraska, the 330 mb/d Enbridge Southern Access pipeline that connects Enbridge's Lakehead system at Flanagan, Illinois, to Patoka, the 360 mb/d Wood River, Illinois, to Patoka or WoodPat Enbridge system that delivers crude from Cushing as well as from Western Canada via the Enbridge Express pipeline, and the 100 mb/d Exxon/Marathon Mustang pipeline that connects Chicago to Patoka. Of these supplies, Western Canadian heavy crude is the most likely to flow south on a reversed Capline, although shale crude from North Dakota could use Capline in addition to the Energy Transfer Crude Oil Pipeline that links DAPL at Patoka with Nederland, Texas, and (via the Bayou Bridge pipeline) St. James.

Local Midwest refineries are absorbing today all incoming supply at Patoka, and congested pipelines out of Western Canada prevent additional imported crude reaching Patoka before the Enbridge Line 3 expansion comes online later this year adding 370 mb/d of new capacity. However, that new capacity will be bottlenecked in Chicago until Enbridge expands the Southern Access line to Patoka or builds alternative connectors. The long-awaited completion of the 830 mb/d TransCanada Keystone XL pipeline from Hardisty, Alberta, to Steel City and Cushing—now expected in 2021 at the earliest—would allow TransCanada to increase flows into Patoka on the existing Keystone line that currently splits its shipments at Steel City between Cushing and Patoka. In the meantime, southbound flows of Canadian crude on Capline will be limited, and shippers will probably move more North Dakota barrels on a reversed Capline in addition to Cushing supplies delivered via Memphis.

Another incentive for shippers looking to move barrels south on a reversed Capline is the newly proposed Marathon and Crimson 600 mb/d Swordfish pipeline linking St. James and Clovelly, Louisiana, the storage hub that connects with LOOP. We described Swordfish in our note two weeks ago (see "[Shale Crude Heading East As Louisiana Market Opens Up](#)"). The Swordfish link to LOOP offers Capline shippers a route to the export market.

Cushing and the Rockies

The attraction of shipping additional crude from Cushing to Memphis on an expanded Diamond pipeline to reach St. James via a reversed Capline lost some of its shine considering the Seahorse pipeline project first proposed by Tallgrass Midstream in August 2018. The Seahorse project as originally announced proposed a new 800 mb/d pipeline connecting Cushing with St. James as well as an export terminal at Plaquemines, Louisiana, on the Mississippi River (Exhibit 1). In effect—depending on tariffs—Seahorse offers Cushing shippers a quicker route to St. James than a reversed Capline as well as access to an export dock on the Louisiana Gulf Coast.

Exhibit 1 Seahorse Pipeline Proposal



Source: Tallgrass Energy Presentation

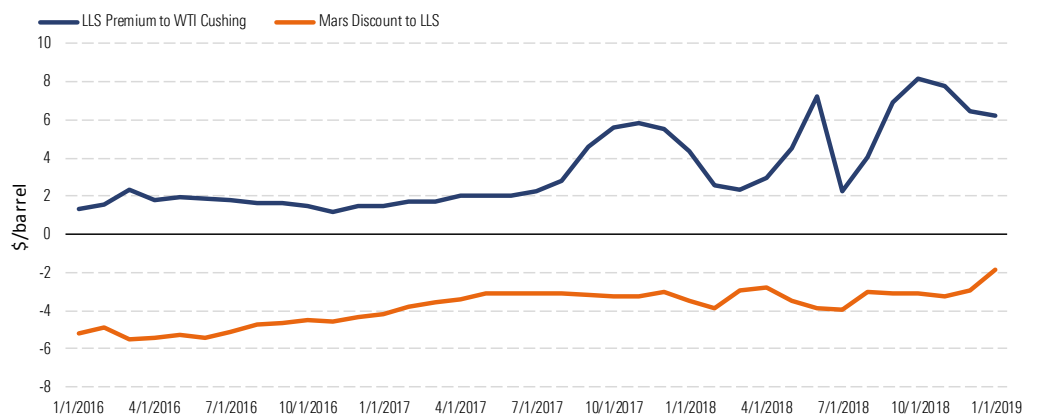
In November Tallgrass announced plans to expand its existing Pony Express crude pipeline by 300 mb/d. Pony currently delivers up to 400 mb/d from the Powder River basin in Wyoming and the Denver-Julesburg basin in Colorado, running between Guernsey, Wyoming, and Cushing. That announcement would facilitate direct shipping of Rockies crude to St. James via the proposed Seahorse pipeline. A further announcement in late January proposed a more extensive pipeline gathering system in the Rockies connected with the North Dakota Williston basin as well as to Western Canada via a joint venture between Tallgrass and Kinder Morgan which will contribute gas pipelines in the Rockies to the

project to be repurposed for crude. In total, the combined system is expected to deliver up to 800 mb/d of light crude and 150 mb/d of heavy crude from points in Wyoming and Colorado to Cushing. Seahorse would allow up to 800 mb/d of that crude to be shipped to St. James. The proposed Plaquemines Liquids Terminal, located about 35 miles downriver from New Orleans, adjacent to the 247 mb/d Phillips 66 Alliance refinery, will have up to 20 million barrels of storage, a rail unload facility, and docks capable of handling partially laden very large crude tankers. Tallgrass is also considering developing an offshore terminal off the coast of Venice, Louisiana, to handle fully laden VLCC imports and exports.

Changing Price Spreads

As we mentioned at the start of this note, light and heavy crude price spreads in Louisiana have changed over the past three years in response to booming U.S. production of light shale crude and a shortage of the heavier medium sour crudes that Gulf Coast refiners prefer (see our August 2016 note: [“Gulf Coast Refiners Enjoy Higher Margins”](#)). As shale output ballooned in the West Texas Permian basin, pipeline takeaway capacity became congested, weighing on WTI prices in the production region at Midland, Texas, and at the Cushing trading hub. Those inland discounts increased premiums for Louisiana equivalent crude LLS threefold from an average \$1.68/barrel in 2016 to \$4.98/barrel in 2018 and up another 25% to \$6.20/barrel in January 2019 (blue line in Exhibit 2). At the same time tight supplies of medium sour crude Mars have narrowed that crude’s discount to LLS from about \$5/barrel in 2016 to \$3.32/barrel in 2018 and \$1.88/barrel in January 2019 (orange line in Exhibit 2). These price spreads both encourage the infrastructure build out described here. The LLS premium over WTI Cushing provides incentive for shippers to move shale crudes to Louisiana from the Midwest. Stronger relative prices for Mars also incentivize Canadian producers to ship barrels to the Louisiana market. Such shipments would have gone a long way to relieve the current shortage of heavy crude created by the U.S. imposition of sanctions on Venezuela.

Exhibit 2 Gulf Coast Crude Spreads



Source: CME Group, Morningstar.

How This Plays Out

As with all crude transportation barriers, once new infrastructure is built to relieve congestion, price spreads will narrow in response. And it is not clear now how this plays out for Capline and Tallgrass. Shippers in Canada and the Midwest will enjoy increased options to move barrels to Texas or Louisiana Gulf Coast markets. For shale, the choice is likely to be determined by tariff cost and export infrastructure since most incremental barrels will be headed to export docks. Canadian heavy barrels will be able to choose between selling to Louisiana refiners and replacing existing imports or sending crude direct to docks for export. In either case the availability of export infrastructure adds flexibility for shippers. The possibility that Texas Ports becomes congested or that new proposed offshore terminals in Texas take longer to permit and build than planned, is pivoting focus onto the less crowded Louisiana market today. The Venezuelan crisis highlights how valuable these increased market options have become. ■■

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