East Daley Midstream Navigator

Medford Outage Shakes Up NGL Markets

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Questions?
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- The explosion at ONEOK's Medford fractionator has disrupted NGL supply chains and will hasten the onset of frac constraints East Daley has been monitoring in our *NGL Network Model*.
- Our inaugural 1Q22 *NGL Network Model* forecasted frac capacity to tighten by late 2022 due to supply growth, but the 210 Mb/d Medford outage accelerates those constraints in our latest model update.
- The "NGL Network Hacked" report in February identified limited Mont Belvieu fractionation capacity as a roadblock for the U.S. oil and gas industry's ongoing recovery. Since then, Enterprise Products (EPD), Energy Transfer (ET), and Targa Resources (TRGP) announced new fracs that would add a combined 420 Mb/d of capacity.
- While the new fractionator projects will buy some time, near-term utilization rates with the Medford plant outage will be unsustainably high at 95%+. These constraints may lead to additional ethane rejection or outright flaring unless more fracs are built.
- The latest 2Q22 *NGL Network Model* update considers new fractionation projects, the Medford outage, as well as supply curve updates to create a basin-level supply and demand balance for NGL markets through 2026. Contact abakshani@eastdaley.com for more information on the *NGL Network Model*.

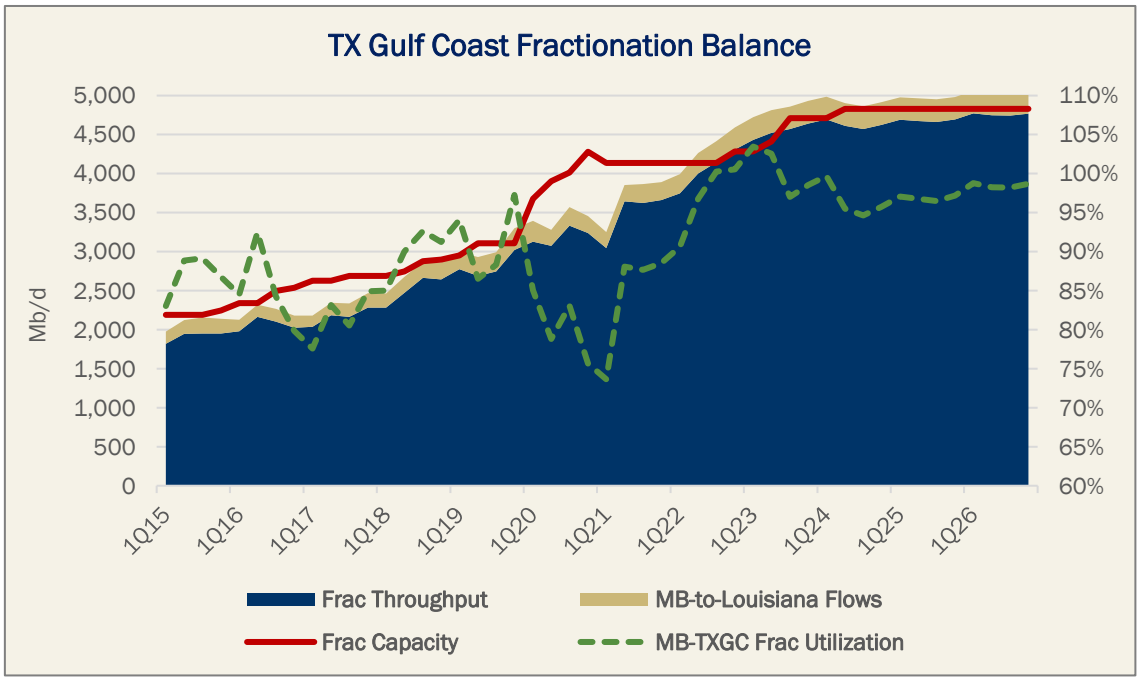
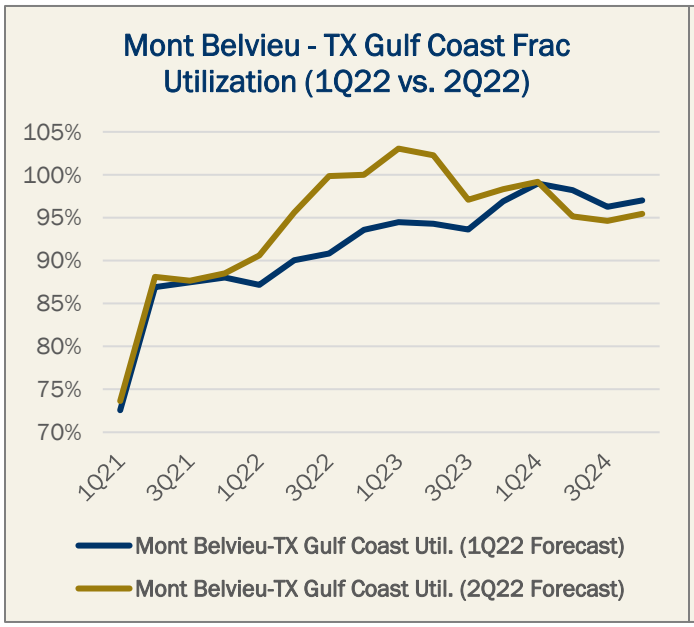


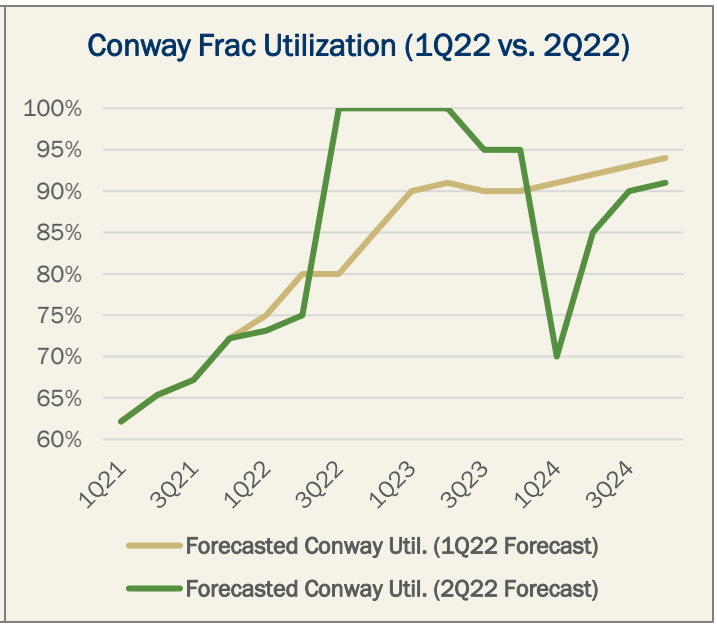
Figure 1: Texas Gulf Coast Frac Capacity, Throughput, Mont Belvieu-LA Flows, MB -TX Gulf Coast Frac Utilization through 2026 (East Daley 2Q22 NGL Network Model)

Medford Plant Explosion Jolts NGL Outlook

The explosion in early July at ONEOK's (OKE) Medford, OK fractionator is sending ripples through NGL supply chains that have led to notable revisions in our updated market outlook. The February launch of East Daley's *NGL Network Model* and "NGL Network Hacked" report called out tightening fractionation capacity at the Mont Belvieu and Conway hubs. This inaugural *NGL Network Model* forecasted tightness in fractionation capacity by late 2022, but the Medford outage has accelerated full-on frac constraints in our latest update. We updated our *NGL Network Model* August 10, incorporating recent market developments including the Medford frac outage, new project announcements, and updated NGL supply curves in major basins.

In February 2022, we predicted NGL supply growth would accelerate in 2022. We forecasted most growth to come from the Permian, and we modeled that industry plans for NGL infrastructure were "on the cusp of falling precariously behind the pace of supply growth." As oil and gas prices hit seven-year highs earlier this year, the midstream sector fell behind on its NGL infrastructure plans. As of February 2022, no new large-scale greenfield NGL midstream infrastructure projects were set to come online within the year. East Daley's 1Q22 model identified a need by early 2023.





Figures 2 & 3: Forecasted Frac Utilization in Texas Gulf Coast and Conway Markets, 1Q22 vs. 2Q22 Model (East Daley 2Q22 NGL Network Model)

Since releasing our 1Q22 NGL model, Enterprise (EPD), Energy Transfer (ET) and Targa Resources (TRGP) announced new projects that would add a combined 420 Mb/d of fractionation capacity. Including other projects previously announced by Phillips 66 (PSX) and OKE, 695 Mb/d of frac capacity is being added between 4Q22 and 2Q24. However, the Medford fractionator explosion immediately removed 210 Mb/d of capacity from the market, forcing OKE to reroute Y-grade volumes south to Mont Belvieu or to other fracs in the Conway market. OKE has not provided a timeline for the Medford plant's return, or even determined if the frac is salvageable. While the new fractionator projects will buy some time, we forecast utilization rates will be unsustainably high at 95%+. These constraints may lead to a massive build of Y-grade stocks, additional ethane rejection, and/or outright flaring unless more fracs are built. The current situation is in line with, if not more severe, than the scenario our *NGL Network Hacked* forecasts suggested in February 2022. As shown in Figures 2 and 3, we anticipate much higher near-term frac utilization in both the Mont Belvieu – Texas Gulf Coast and Conway regional markets as a result of the Medford plant outage compared to our 1Q22 NGL model.

How Much New Fractionation Capacity is Needed?

We estimate there was 181 Mb/d of spare capacity at Mont Belvieu in 2Q22, but that capacity likely filled up after the Medford frac explosion. Utilization at both Conway and Mont Belvieu will be maxed out for 3Q22 and 4Q22, even with the PSX's Sweeny Frac 4 adding 150 Mb/d of capacity in October. To avoid constraints in 1H23, 100~120 Mb/d of frac capacity will need to come online in addition to the completion of PSX's and OKE's fracs.

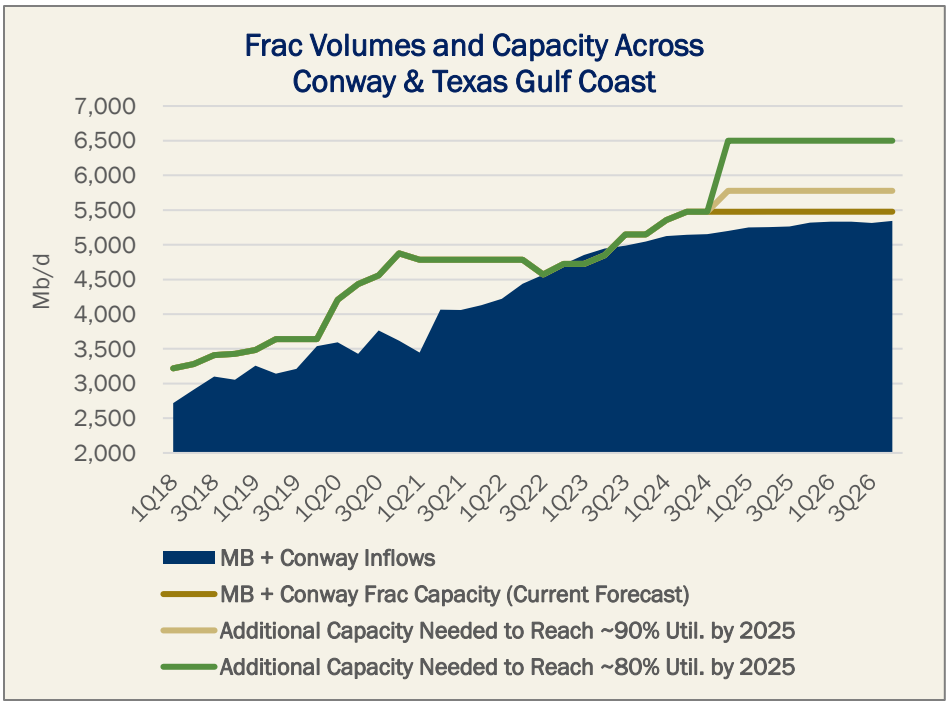


Figure 4: Fractionation Volumes and Required Capacity to Reach 80% or 90% Utilization by 2025 (East Daley 2Q22 NGL Network Model)

It is unlikely a new frac can be built by year-end, but if PSX, TRGP, and EnLink (ENLC) can restart the idle Gulf Coast Fractionators, it could provide 145 Mb/d of additional capacity and be the bridge solution the market needs. Another solution is to limit NGL production growth by rejecting ethane, but that is unlikely (at least in the Permian) given gas egress constraints are likely to occur at the same time. Lastly, producers could turn to flaring, though that would go against any emissions targets set by companies.

Otherwise, assuming NGL production growth is not hampered by flaring or reduced drilling, we expect frac capacity at both hubs to be at 100%+ utilization until ET and EPD's fracs come online in 3Q23. If the Medford frac can return online by 1Q24, utilization can at least step down to ~95% at Mont Belvieu and ~90% at Conway. However, those utilization rates are still high, and existing fracs eventually will need to go offline for maintenance, especially after a period of high usage.

To bring total Conway and Mont Belvieu utilization down to historical 90%, 300 Mb/d of capacity will need to be added in addition to the 695 Mb/d already underway *plus* Medford's 210 Mb/d of capacity returning online (see Figure 4). To create even more breathing room and bring utilization levels to 80%, we would need an additional 1 MMb/d of new fractionation capacity.

How much Ethane Rejection or Flaring will a Balanced Market Require?

Producers may opt to reject ethane to limit fractionation constraints, but fractionators typically have set capacities for each purity product, so limiting ethane flows might not actually be of much help. Even if rejecting ethane did help with downstream processing, Permian gas egress capacity looks tight for most of 2023, according to our Permian *Supply & Demand Forecast & Report*. This creates a different set of constraints along the NGL supply chain that hamper a supply response.

Until the Matterhorn Pipeline comes online in 3Q24, there will be limited capacity to reject ethane back into the gas stream. We estimate producers can currently reject ~130 Mb/d more ethane into the gas stream (ignoring any potential heat content restraints to rejecting additional ethane), but that space will quickly fill as Permian gas production grows (see Figure 5 on page 4). We expect the amount of space left for additional ethane rejection would decrease to ~20 Mb/d in 1H23. Ethane rejection could increase in other basins, but given the Permian makes up the majority of the inbound NGLs, rejection elsewhere would have a limited impact on alleviating frac constraints.

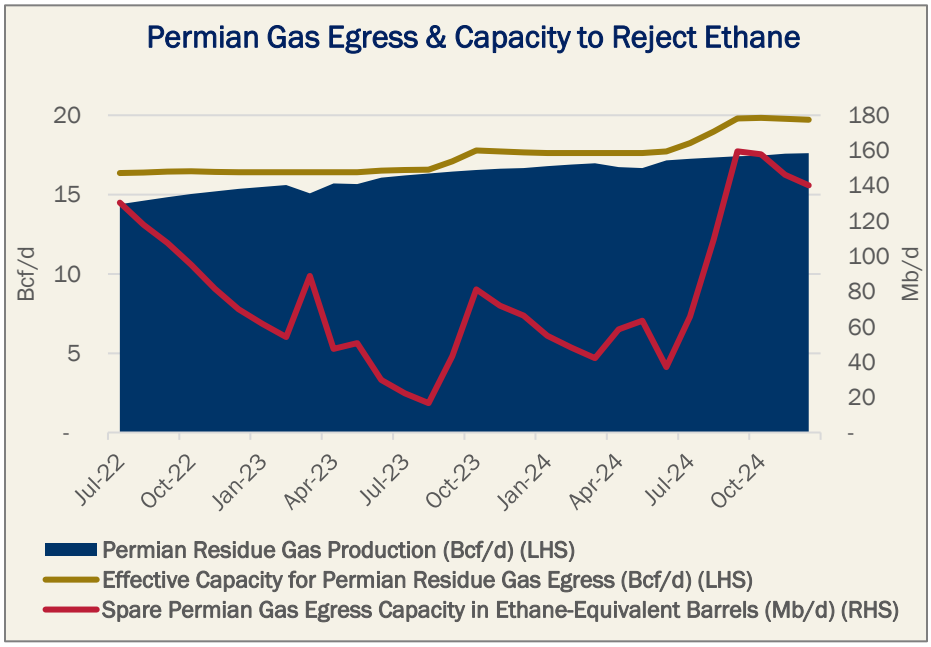


Figure 5: Permian Gas Egress Forecast and Spare Capacity for Additional Ethane Rejection (East Daley Permian Supply & Demand Report)

How Would Diverted Y-Grade Flows Impact Northeast Markets?

Market participants in the Northeast shipped NGLs (propane in particular) into Conway during the 2018-2019 frac crunch, exacerbating an already constrained market. Now could be a time for regional operators to return the favor by accepting railed NGLs from Conway. As shown in Figure 6, East Daley estimates that there is ~200 Mb/d of excess C3+ fractionation capacity in the Northeast.

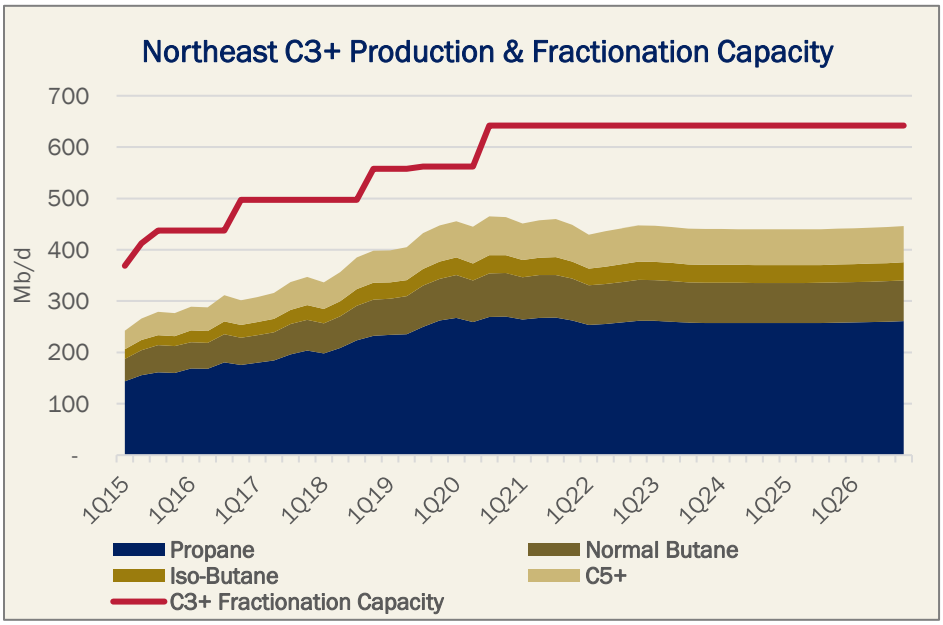


Figure 6: Northeast C3+ Production and C3+ Fractionation Capacity (East Daley 2Q22 NGL Network Model)

Conclusion

In our 1Q22 launch of the *NGL Network Model*, we argued that "if the market does not adjust by lowering NGL supply through higher ethane rejection or restoring idled fractionation capacity, then overall NGL supply growth will be hampered." With the current Medford frac outage sending shockwaves through the U.S. Gulf Coast NGL market, the constraints we modeled in February 2022 are now set to arrive sooner than expected.

Producers without fractionation contracts in place are now facing higher frac spot rates. In a worst-case scenario, these producers would need to lower oil and gas production levels or flare off associated gas to continue growing their oil production. These constraints present an opportunity for midstreamers to enter or significantly expand NGL fractionation operations, and will provide an uplift to those that can currently market spare frac capacity. Even with 695 Mb/d of capacity currently under construction, the market will need significantly more if it wants to maintain the current production growth trajectory.

For a free trial of our *NGL Purity Product* dashboard or to inquire about the *NGL Network Model* or accompanying Feb. 2022 report ("NGL Network Hacked"), please **fill out the form.**

Highest Regards,

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