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# ICIS EXPLORES IMPACT OF RISING US NGL PRODUCTION



By Steven McGinn

# INSIGHT

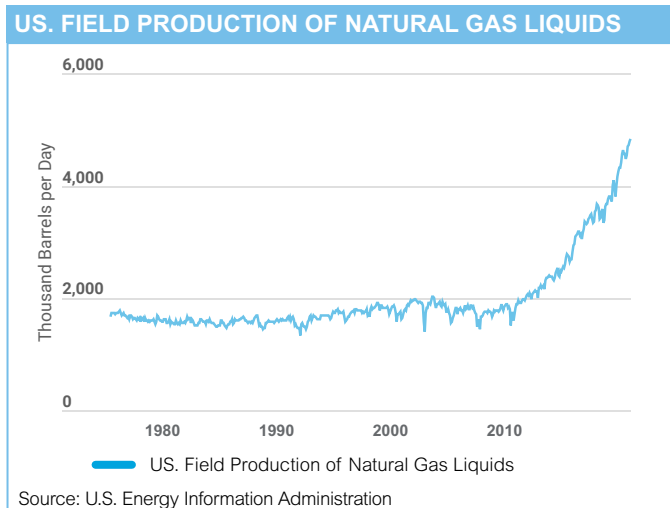
## ICIS EXPLORES IMPACT OF RISING US NGL PRODUCTION

BY STEVEN MCGINN AUGUST 2019

The amount of US natural gas liquids (NGL) moving into the primary market hub in Mont Belvieu, Texas, is outpacing the ability to purify the raw mix into basic chemical feedstocks, and storage capacity is also reaching acute levels.

According to the latest data from the US Energy Information Administration (EIA), field production of natural gas liquids hit 4.838m bbl/day in May, an all-time record high.

Rising crude oil and NGL production across the US, but mostly from the Permian Basin, has brought a flood of raw liquids to Mont Belvieu.



Raw mix NGL, also called Y-grade, is the crude form of light-end gas liquids, which are processed by fractionation units that separate them out into purity components: ethane, propane, butane and natural gasoline. The purified components are then used as the building blocks for ethylene, propylene and most other petrochemicals.

Operators of NGL fractionators in Mont Belvieu include Enterprise Products Partners, ONEOK, Targa, Lone Star NGL and Gulf Coast Fractionators.

With all that raw NGL has come a wave of fractionation projects aimed at processing those liquids. Starting in 2020, midstream companies will also start up at least 945,000 bbl/day of new fractionation capacity in Mont Belvieu and nearby in Brazoria County, as shown in the following table.

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Company	County	State	Capacity	Start-up
Phillips 66	Brazoria	Texas	150,000	late 2020
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Enterprise	Chambers	Texas	150,000	Q1 2020
ONEOK	Chambers	Texas	125,000	Q1 2021
Targa	Chambers	Texas	110,000	Q1 2020
Targa	Chambers	Texas	110,000	Q2 2020
Energy Transfer	Chambers	Texas	150,000	Q1 2020

Note: Capacity is listed in bbl/day.

Even more fractionation projects are likely coming, as Enterprise Products has filed permits to add a 12th and 13th fractionator at Mont Belvieu. ONEOK has also filed permits for a sixth fractionator at the hub.

Despite the start-up of steam cracking units around the region, the Y-grades and purity products continue to come in, at escalating rates, which means they must be stored if they cannot be exported or cracked.

In the US, most of the NGLs are stored at the hub in Mont Belvieu, a vast array of underground salt dome storage caverns located between Houston and Beaumont Texas. It is home to approximately 240m bbl of storage capacity, according to the US Department of Energy.

Enterprise Products Partners operates just over half of that storage capacity. Energy Transfer, through its subsidiary Lone Star NGL, has about 46m bbl of storage capacity. Targa Resources and ONEOK are the other primary storage operators.

The rush of NGLs is pushing storage capacity limits, according to market observers. New storage is not being added at the same pace, causing a bottleneck, and the issue is expected to worsen in the fourth quarter and into 2020 when new fractionation and pipeline capacity is added.

"I think we are reaching the upper limit of storage capacity ... whether it's Y-grade or purity, we're reaching capacity to store," said Peter Fasullo, principal at En\*Vantage, Inc.

That supply length continues to pressure ethane, propane and butane spot prices significantly lower. Ethane fell to a

record low under 12 cents/gal last week, ICIS data showed, and spot ethane even traded as low as 8 cents/gal this week, according to market sources.

Normal butane was assessed at 41.75 cents/gal last week, its lowest value since 2002, while propane continues to trade at its lowest levels since early 2016.

While physical, front-month prices of ethane, propane and heavier liquids continue to drop to multi-year lows, steep contangos are also building down the curve.

“We are awash in NGLs, be they purity or Y-grade, and that is why everyone is building more fractionators, but there is no corresponding growth in outlets for it all,” a former trader said.

ICIS does not assess outer-month NGLs, but data from New Stone USA showed that ethane at the Enterprise Products Cavern (EPC) for July delivery carried a 7 cent/gal discount to August. Propane at the Lone Star Terminal (LST) carried an 8 cent/gal contango for the July-August spread, and EPC normal butane was assessed a 10 cent/gal spread.

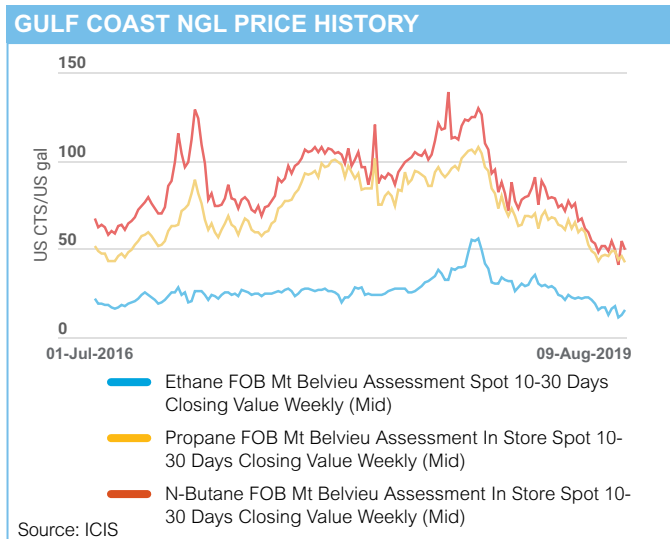
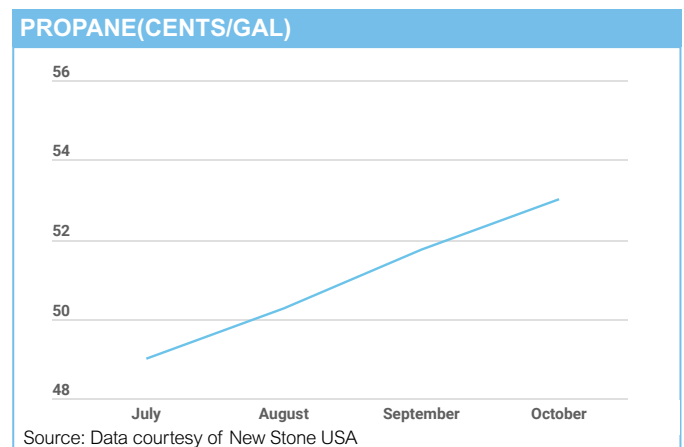
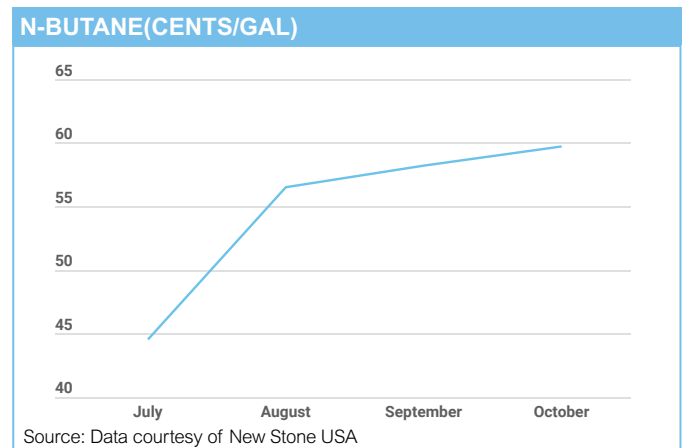
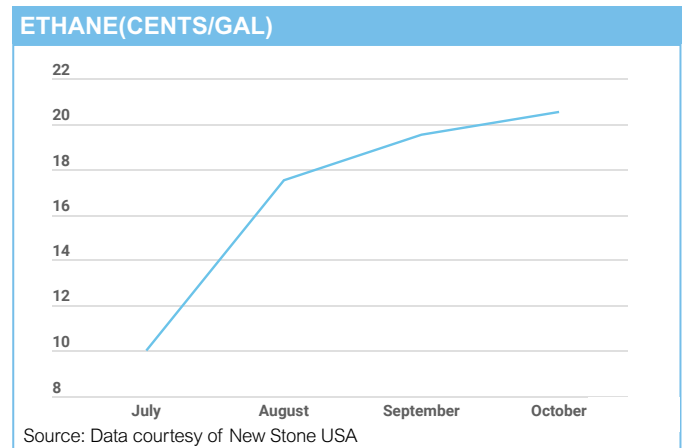
These spreads imply there are storage issues. With ethane, the price of the molecule itself is nearly cheaper than the cost to carry and store it.

While the month-to-month spread is significant, there are also cavern-to-cavern storage spreads. In late July, EPC propane was trading at a steep discount to LST.

“[These wild swings in the caverns] must be storage related as there are no other headlines,” a Gulf Coast NGL merchant said. Storage operators are likely telling their customers to make room, knowing there are more — way more — liquids on the way, the broker said.

The capacity to hold and store liquids hasn’t expanded at same rate as NGL supply growth, which likely indicates rampant storage issues. Mont Belvieu is a mature trading hub with a high level of liquidity and transparency, but salt cavern storage is the least transparent value in the supply chain, according to Fasullo.

“There are still a lot of liquids hitting [the Gulf Coast] area, and if storage is constrained now, what will it look like next year?” Fasullo said.



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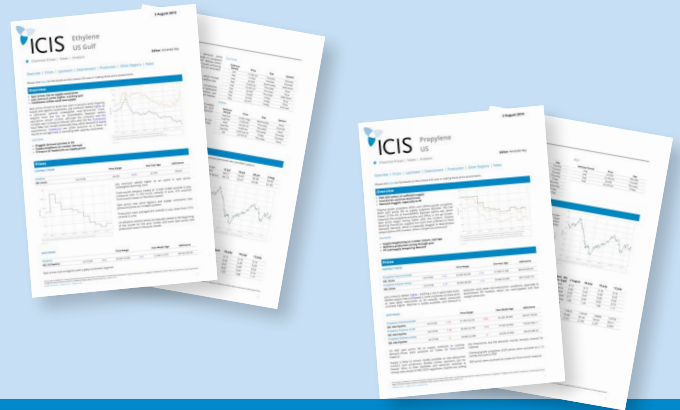
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