



FRAC SAND

CURRENT TRENDS

- Given decreased demand, prices are expected to continue to decline after a significant drop in 2019; Frac sand pricing from the mines is expected to range in the \$20- to 25-per-ton mark in 2020.
- It is possible that Northern White sand mining could decline by as much as 10 to 15 million tons in 2020 in response to increased market penetration from in-basin brown sand and decreased demand due to declining oil and gas prices.
- Crude oil prices have seen a rapid decline since early March 2020.
- Current valuations are critical in this volatile market.

PROJECTED VALUES (12-MONTH OUTLOOK)



GORDON BROTHERS BY THE NUMBERS

\$27B+

energy assets appraised & disposed

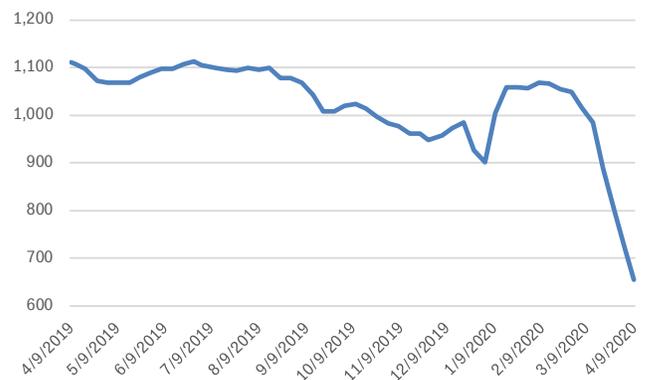
1,800+

energy engagements

2 of 5

served 2 of the 5 largest oil companies in the world

ROTARY RIG COUNT - NORTH AMERICA



NOTE: THIS PUBLICATION IS PROVIDED FOR INFORMATIONAL MARKETING PURPOSES ONLY. THE MATERIAL CONTAINED HEREIN SHOULD NOT BE REGARDED AS ADVICE, NOR RELIED UPON TO MAKE FINANCIAL, OPERATIONAL OR OTHER DECISIONS; NOR SHOULD IT BE USED AS A SUBSTITUTE FOR AN ASSET APPRAISAL. ACTUAL RECOVERY VALUES MAY VARY FROM TRANSACTION TO TRANSACTION AND THE RECOVERY VALUES REFERENCED HEREIN ARE FOR REPRESENTATIVE TRANSACTIONS WITHOUT REGARD TO SPECIFIC KEY FACTORS. THIS MATERIAL MAY BE REDISTRIBUTED ONLY IN ITS ENTIRETY, INCLUDING NOTICE OF COPYRIGHT. ALL RIGHTS RESERVED. ©2020 GORDON BROTHERS, LLC. REFERENCE SOURCES: FRED ECONOMIC DATA, BLACKMOUNTAIN SAND, BAKER HUGHES, OIL PRICE, POWDER & BULK SOLIDS, WISCONSIN PUBLIC RADIO



Gordon Brothers

GORDONBROTHERS.COM
+1.617.426.3233

VOLATILE INDUSTRY FORECAST FOR 2020: Crude oil pricing at the end of March 2020 has rendered almost every oil play unprofitable in North America with the exception of a minimal number of conventional plays. West Texas Intermediate crude oil was at \$22 to \$24 per barrel and at single digits in Alberta, Canada (WCS at \$4.18 per barrel on March 30, 2020). Assuming no governmental intervention, this will materially reduce new drilling activity to nearly zero within three to six months, potentially reducing existing production in western Canada and delaying completion on many already drilled wells. The latest downturn, though materially affected by the coronavirus pandemic, may be long lasting with the Saudi-Russia price war seemingly settling in for the long haul, especially considering that prior OPEC price wars have lasted from 12 to 24 months. As frac sand prices as of February 2020 had dropped approximately 50 percent from 2018 levels, the industry was already weak prior to this latest crisis. Discussions with market participants in March 2020 indicated a pullback of 20 percent on volumes, with discussion of further adjustment to contract pricing for the balance of 2020 having not yet been raised.

The outlook for the frac sand industry was dim prior to the pandemic, and while expectations exist for an ongoing market for frac sand in the future, under current conditions it is expected that there will be considerable consolidation and contraction in the industry. It is important to note that only dry sand on firm orders with recently confirmed pricing and with near-term delivery would have a value in a liquidation. Equipment values will be negatively impacted and will depend on the equipment, site, and logistic-specific considerations as to what the values will be in this new market environment.

DOWNTURN IN DRILLING AFFECTS DEMAND: The demand for frac sand depends on drilling activity. From mid-2016 through mid-2017 North American rig counts were largely up-trending, which supported strong volume growth for frac sand. Crude oil rig counts for the second half of 2017 were flat to marginally down. There were positive and negative swings in rig activity throughout 2018 ranging from a high of 1,300 in early February to a low of 1,106 in late April. However, because of the decline in the price of crude oil, among other factors, drill counts retreated somewhat in 2019.

After a significant decline from 1,078 rigs in June 2019 to 903 in early January 2020, the number of rigs was on a sharp incline into February. However, after peaking at 1,070 on February 7, 2020, the number had decreased steadily to 655 as of April 9, 2020. These numbers take into account rigs in the United States, Canada, and the Gulf of Mexico. Taken together, rigs drilling for oil are down 41.5 percent with 451 fewer rigs drilling in North America in early April 2020 over the same period in 2019.

PREFERENCE SHIFTS TO TEXAS SAND: Because transportation costs are so high for Northern White sand, industry operators in the Permian Basin have increased their demand for in-basin sand, known as brown sand or "Texas sand." Industry experts estimate that about 85 percent of the Permian Basin frac sand has been filled by brown sand, and the

practice is expected to continue. It is possible that Northern White sand mining could decline by as much as 10 to 15 million tons in 2020 in response to increased market penetration from in-basin brown sand and decreased demand due to declining oil and gas prices. This is a significant market change considering that as recently as 2018 approximately 75 percent of Permian sand demand was for Northern White sand.

While brown sand often varies in quality, it typically meets American Petroleum Institute specifications for roundness, sphericity, clusters, and turbidity. However, brown sand has lower crush resistance than Northern White sand—meaning that it does not stand up well under increased pressure during mining and can clog wells. However, to date, oil companies have been willing to overlook its shortcomings due to the significant price savings.

Industry experts have predicted that by 2022, it is likely that Northern White sand will be entirely replaced by in-basin brown sand in the Permian, Eagle Ford, Haynesville, and Oklahoma shale plays. It should be noted however that the demand for Northern White sand in the Bakken, Marcellus, and Canadian oil and gas plays should not be disrupted, as there have been no substantial discoveries of suitable brown sand deposits in these locations.

WET SAND WARRANTS SPECIAL APPRAISAL CONSIDERATIONS:

To produce frac sand, raw sand is removed from the ground and then run through a wet plant that separates it into different grades (typical mesh sizes include: 20/40, 30/50, 40/70, and 100). Once sorted, the wet sand is run through a dry plant to reduce moisture prior to transport. Wet sand, therefore, is considered "in-process."

Lenders considering lending against wet sand inventories should request a conversion be conducted in an appraisal that would assume a portion of the wet sand would be dried so it can be sold through to customers. In the current marketplace, depending on the proximate distance to other dry plant operations, wet sand may have little to no value.

LIQUIDATION PERIOD: The liquidation period for frac sand inventories is primarily dependent on three factors: the volume customers are taking, how much wet sand is on hand, and how long it will take to convert the wet sand to dry sand. Often, bottlenecks in the production process constrain companies' ability to convert and ship product.

Because of these considerations, Gordon Brothers' appraisers typically assume a four- to six-month liquidation period for the inventory.

SEASONALITY IMPACTS INVENTORY LEVELS: In Northern White sand producing regions, such as those around the Great Lakes, long, cold winters impact the ways frac sand mines operate. Wet sand can only be processed when the weather is warm enough, typically April through November, with the exception of companies that have moved their wet plant operations into temperature-controlled buildings and can process wet sand during the winter months. To keep dry mills running throughout the winter, processors build inventories of wet sand throughout the summer, typically peaking in November. As Texan processors encroach on market share, this will become less of an issue.

However, lenders should be aware of these fluctuations when analyzing collateral. Lenders should further note that dry sand inventory does not fluctuate in the same manner as wet sand. Most plants store dry sand in silos or covered rail cars and maintain capacity near or at the maximum for those containers.

The Expert: Erick Beaudoin



Erick Beaudoin is a director in Gordon Brothers' Industrial Inventory Valuation practice. His industry specialties include building products, fabricated metal products, fabricated plastics products, automotive, paper, agricultural food products, dairy, sporting goods, fracking sand, and RVs. Read his full bio [here](#)



**Gordon
Brothers**

GORDONBROTHERS.COM
+1.617.426.3233