OILFIELD SERVICES — WHAT IS THE NEW NORMAL?

drillinginfo
better, faster decisions

The last two years have seen Oilfield Services (OFS) companies quite literally rise from the ashes after the oil & gas downturn by learning from the past and utilizing the latest data analytics to guide future strategic and investment decisions.

What is the state of the market and where are the next growth areas based on rigs, permit activity, and completion trends? What is my company's value, and should I consider acquisitions? How do I choose the right long-term partnerships and mitigate counter-party risk, such as bankruptcies, non-payments, etc.? In short, what is the new normal and what can my business do to thrive in this environment?

In this paper Drillinginfo analysts answer some of the key questions OFS companies have today.

1. What are OFS companies doing in capital markets and are these companies undervalued?

When it comes to raising equity, debt servicing, and energy bond issuances, activities among OFS companies during Q1 2019 are significantly down compared to 2018 — by as much as 60 percent when it comes to issuing bonds and 88 percent in raising equity. With the rigorous investor focus on returns, taking out further debt and equity is not acceptable to investors.

This trend is the direct opposite on the upstream side, where — after a year of using cash flow to pay down debt and bring down multiples (principally price-to-earnings (P/E) ratios) — the brakes seem to have been taken off in Q1 2019 with a 600 percent increase in equity being issued. OFS companies, despite not taking out as much debt in relation to equity, continue to be performing well on the stock market (see figure 1) although it's our belief that they continue to remain undervalued, lagging behind their upstream counterparts.

1Q19 Stock Performance

There were winners and losers during the first quarter of 2019

Top 10

Company	Sector	Region	Market Cap ($MM)	Ticker	Exchange	$/Share 03/29/19	$/Share 01/01/19	% Change QOQ	% Change YOY
ION Geophysical	Services	Global	$ 227.6	IO	NYSE	$ 14.44	$ 5.18	179%	-47%
Smart Sand	Services	United States	$ 187.4	SND	NasdaqGS	$ 4.45	$ 2.22	100%	-24%
Key Energy Services	Services	United States	$ 83.3	KEG	NYSE	$ 4.06	$ 2.07	96%	-65%
Select Energy Services	Services	US & Canada	$ 969.8	WTTR	NYSE	$ 12.02	$ 6.32	90%	-5%
ProPetro Holding Corp	Services	Permian	$ 2,300.9	PUMP	NYSE	$ 22.54	$ 12.32	83%	42%
SAExploration Holdings	Services	Global	$ 14.6	SAEX	NasdaqGS	$ 3.39	$ 1.87	81%	-87%
Clean Energy Fuels Corp	Downstream	United States	$ 648.6	CLNE	NasdaqGS	$ 3.09	$ 1.72	80%	87%
Mexco Energy	Upstream	Permian	$ 12.5	MXC	AMEX	$ 4.95	$ 2.77	79%	62%
American Midstream Partners	Midstream	United States	$ 280.0	AMID	NYSE	$ 5.17	$ 3.03	71%	-52%
U.S. Silica Holdings	Services	United States	$ 1,267.3	SLCA	NYSE	$ 17.36	$ 10.18	71%	-32%

Figure 1 – Top 10 stock performers during Q1 2019

2. Are there new acquisition or financing opportunities for OFS companies?

Drillinginfo analysts believe that the answer is yes. If you look at the top private equity (PE) fund closures per sector during Q1 2019 (see figure 2), the majority are in the OFS sector. What is also interesting to note, is that many PE firms may be looking towards exit strategies from earlier investments. Figure 3 shows the number of PE-backed energy companies by year with a significant number in 2014 and 2015. With PE companies looking for an exit in 2019, after five-to-seven-year cycles, and with a number of OFS companies still undervalued, this could represent a good acquisition opportunity for PE companies with strong cashflow positions. In terms of PE fund closures for Q1 2019, OFS companies are one-to-one with upstream.

Top 10 Private Equity Fund Closures – North America

1Q19 Snapshot – Top 10 Reported

Fund Close Date	Sponsor	Fund	Size ($MM)	Sector
03/12/19	EQT Partners	EQT Infrastructure IV*	$10,100	Midstream
03/20/19	ARDIAN	Ardian Infrastructure Fund V*	$6,900	Midstream
01/17/19	Macquarie Infrastructure	Macquarie Infrastructure Partners IV	$5,000	Services
03/05/19	Summit Partners	Summit Partners Growth Equity Fund X*	$4,900	Services
03/06/19	Quinbrook Infrastructure	Quinbrook Low Carbon Power*	$1,600	Renewables
02/12/19	The Carlyle Group	Carlyle Europe Technology Partners IV*	$1,528	Services
02/01/19	White Deer Energy	White Deer Energy III	$557	Services
01/28/19	New Energy Capital	New Energy Capital Infrastructure Credit Fund II	$500	Renewables
01/15/19	Warren Equity Partners	Warren Equity Partners Fund II	$310	Services
01/15/19	Capital Dynamics	Capital Dynamics Future Essentials*	$237	Renewables

Figure 2 – Top private equity fund closures – North America, Q1 2019

PE-Backed Energy Companies by Vintage Year

Upstream on pace for fewest new firms, Midstream/OFS to grow

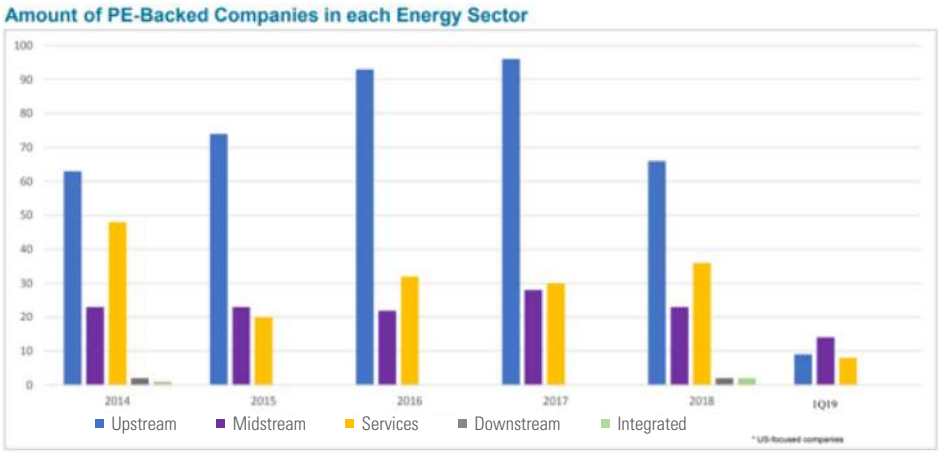

Figure 3 – PE-backed energy companies by year and sector

3. What are the major trends that might favor OFS companies?

To downspace or upspace?

One major trend in 2018, which was highlighted in a recent Wall Street Journal[1] article, is the issue of 'downspacing' where — as a means of meeting increasing investor demands, claiming higher reserves, and boosting production volumes — shale operators sought to drill more wells closer to existing, older wells.

According to Wall Street Journal research of drilling data, however, these new wells — often known as 'child' wells — are producing less volumes than forecasted to investors, and are interfering with output from older wells due to lower pressures. A January 2018 study, published by the Society of Petroleum Engineers, found there is a 70 percent to 80 percent chance that a child well will produce less per-foot-drilled than a parent well (referenced in the Wall Street Journal article).

As a result of this greater connectivity between wells, many operators have reluctantly changed direction again with a growth in upspacing — spacing out wells — and reserves being de-booked and rewritten, with a major impact on lending and capital programs. OFS companies are playing a crucial role in helping solve the downspace/upspace dilemma — securing the tighter, more profitable spacing of wells, but also ensuring that there is no impact on well integrity and future production and reserves estimates.

1. 'Shale Companies, Adding Ever More Wells, Threaten Future of US Oil Boom,' The Wall Street Journal, March 4, 2019

More focus on producing assets and more work for OFS companies

The criteria behind market valuations are changing with a greater focus on producing assets. In figure 4, the red lines represent total transaction values and the bars represent the amount of the transactions which are cash flow. When there is a large gap between the red line and the bar (in the second half of 2016, for example, during the downturn where PE companies were buying a lot of acreage), this means that companies are buying more undrilled acreage than they are producing properties. For Q1 2019, more value is being placed on producing properties.

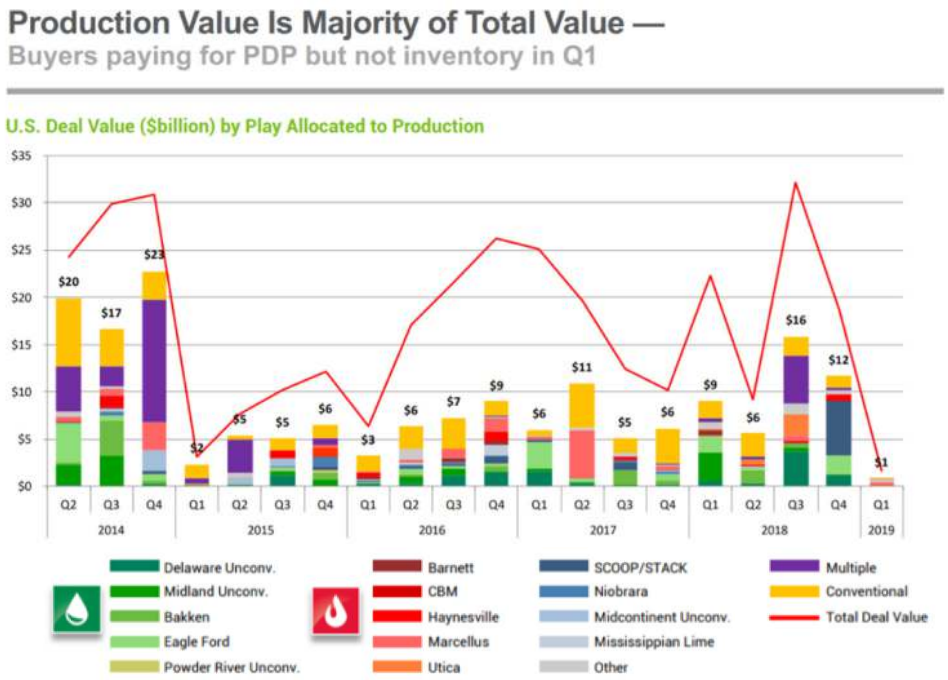

Figure 4 – U.S. deal value ($billion) by play allocation to production

This is good news for OFS companies. The greater the focus on producing assets and the trend towards reducing undrilled acreage (from the 2016 high), means more work for OFS companies in terms of workovers, drilling, and completions. There's a lot of inventory out there to be completed.

The focus on tier 1 and tier 2 acreage and the impact on IRR of basin differentials

Drillinginfo's research also shows that most operators are sticking to tier 1 acreage (which tends to have an internal rate of return (IRR) of up to 30 percent) when it comes to rig use, rather than tier 2 acreage (where the IRR is often close to 15 percent). Figure 5 shows the different tiers in the Williston Basin and how operators are focusing on drilling top-tier positions to expedite the rush to free cash flow. There's a move towards tier 2 acreage in areas, such as Williams, McKenzie, and Dunn counties — a trend Drillinginfo experts see continuing as new technologies and cost containment strategies are adopted.

It's also important to note the sensitivity of basin differentials on IRR — particularly relevant in the Permian. The vast majority of the Midland Basin, for example, can withstand a $15 diff at $60 WTI with the average IRR around 20 percent at a $45 pricing realization. In the case of the Williston Basin, differentials have greatly improved after the Dakota Access Pipeline (DAPL) came online and oil transportation by rail decreased. Due to improvements in completion optimization, well performance in 2018 has allowed most of the basin to withstand higher differential (or a lower oil pricing realization).

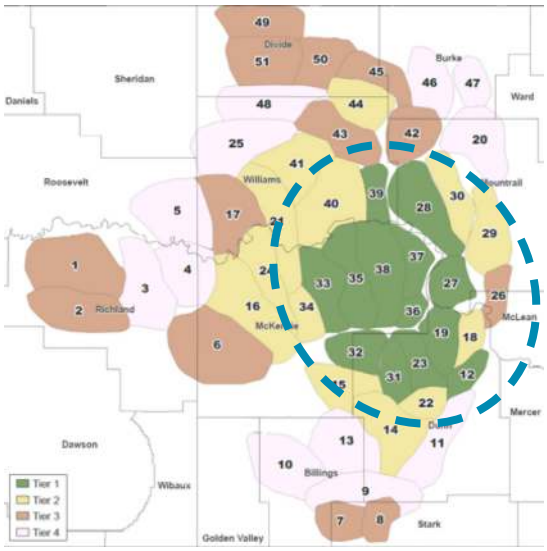

Figure 5 – Tier 1 acreage in the Williston

4. Looking forward, where's the money? Where are the new opportunities for OFS companies?

A good indicator of future trends is to look at both permitting and leasing activity. Permits and producing wells (see figure 6), represent where the physical drill bit is going to next, and there is a broad spread with areas of expansion outside the Permian including Oklahoma, Wyoming, Appalachia, Kentucky, and along the Gulf Coast. Active producing horizontal wells over the last 12 months also show a number of target areas outside traditional areas, such as Kansas where conventional fields are becoming more prominent.

Leasing activity (see figure 7), provides a strong indication as to where operators are moving long-term — outside of where the bit is moving to next. As leasing is more expensive than drilling, if we see companies spending money in parts of the basin where there are not as many permits or rigs running, it's a strong indicator that a company is making a play for a certain area. Currently, leading targets include Eagle Ford, Chesapeake, the Haynesville, part of Ohio, the Permian, and others.

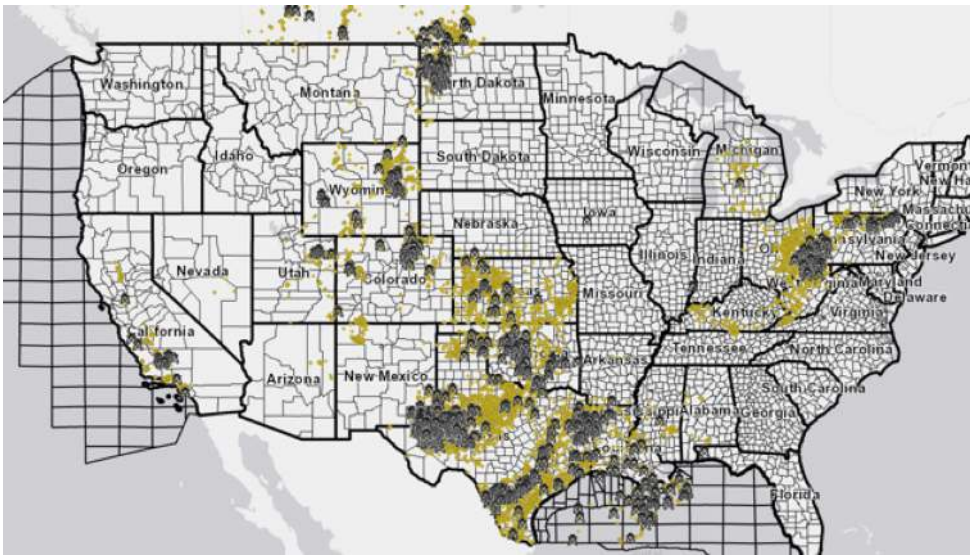

Figure 6 – Active permits over the last 12 months

In terms of other drivers where OFS companies can develop a strong value proposition for potential customers, it's clear that almost every basin is in play in terms of breakeven numbers and that the sourcing, treating, and transporting of water and other fluids — exacerbated by the growth of disposal wells — is one of the largest costs and impacts on operator returns today. This brings new opportunities for OFS companies.

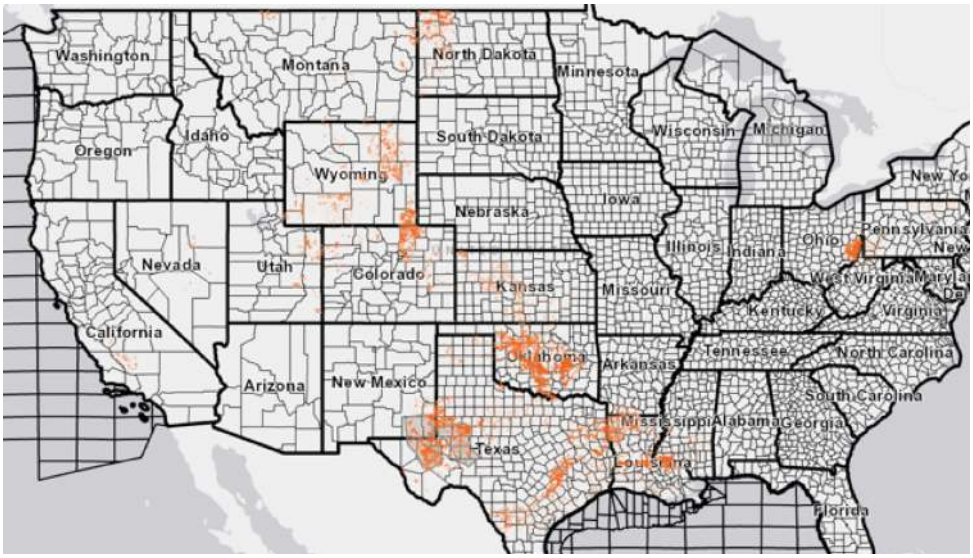

Figure 7 – Leasing trends over the last 6 months

5. How can we compare next-generation graded acreage for opportunities in order to calculate partnership risk?

A natural extension of this analysis is to assess next-generation grade acreage as a means of deciding who to partner with, how to calculate counter-party risk, and regions to target.

Drillinginfo provides crucial input data to make these decisions. In this example, we look at independent operator Concho's acreage position and how it compares to Diamondback Energy. Figure 8 shows Concho's acreage position across the Permian — covering almost a million acres, including tiers 1 to 5, and delivering an IRR of 27.2 percent. Concho is drilling in regions with higher tier acreage, thus focusing on a premium inventory of around 22 to 28 rigs. Drillinginfo's Type Curve analysis bring similar geological regions together and calculates estimated ultimate recovery (EUR) and other economic indicators.

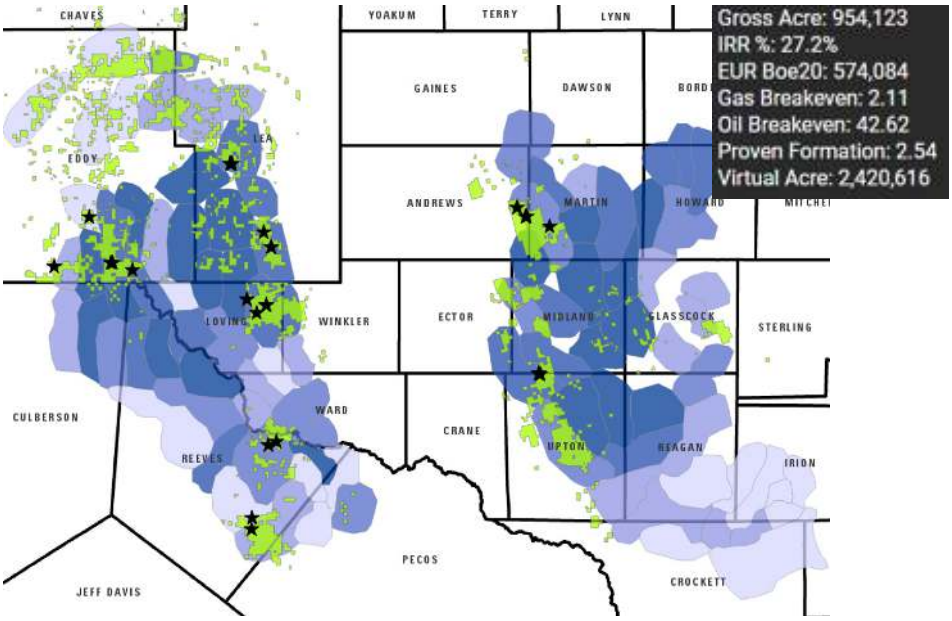

Figure 8 – Concho Permian acreage position (all)

Using Drillinginfo's data analytics and from this economic baseline, we go further, dropping non-core acreage. Figure 9 illustrates how Drillinginfo has dropped almost half of the original acreage bringing the IRR up to 40 percent and lowering the breakeven more than $7, illustrating how Concho's premium acreage (half their portfolio which is good) delivers high returns. This is crucial information as a large counter-party concern is running out of tier 1 acreage (sometimes a small portion of a company's acreage) and the inability to move into tier 2 and 3 acreage quickly enough.

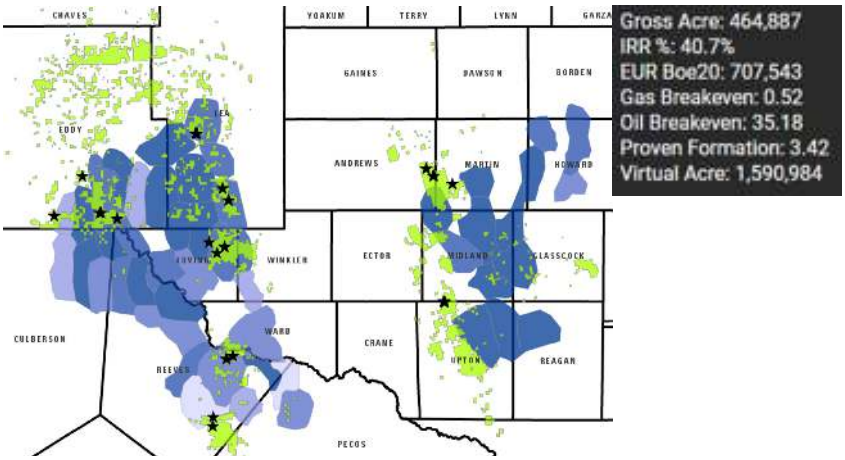

Figure 9 - Concho Permian acreage position focusing on top assets

In figure 10, Concho and Diamondback are the top two pure play Permian operators in terms of rigs, production, and acreage, with Diamondback covering substantially more premium, tier 1 acreage (it's for this reason that Diamondback trades at $7,000 more per acre than Concho does (see figure 11)). While figure 9 shows that only half of Concho's acreage is in the money today, it's interesting to note that Concho has a number of unproven, tier 5 sites in the north eastern part of the Permian. Of course, such variables will continue to change over time.

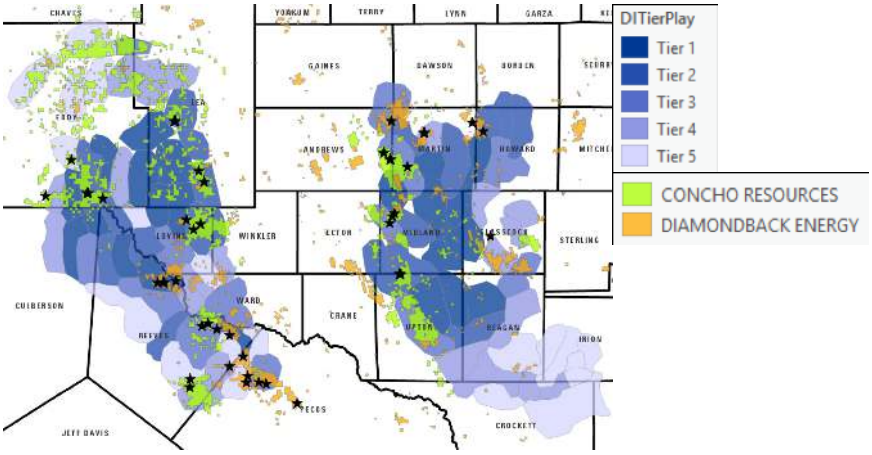

Figure 10 – Concho and Diamondback – A comparison

Why do some of the companies, shown on the right side of figure 11, trade so poorly? Much of this is due to their acreage position and the acreage's running room — vital information when deciding on a partnership.

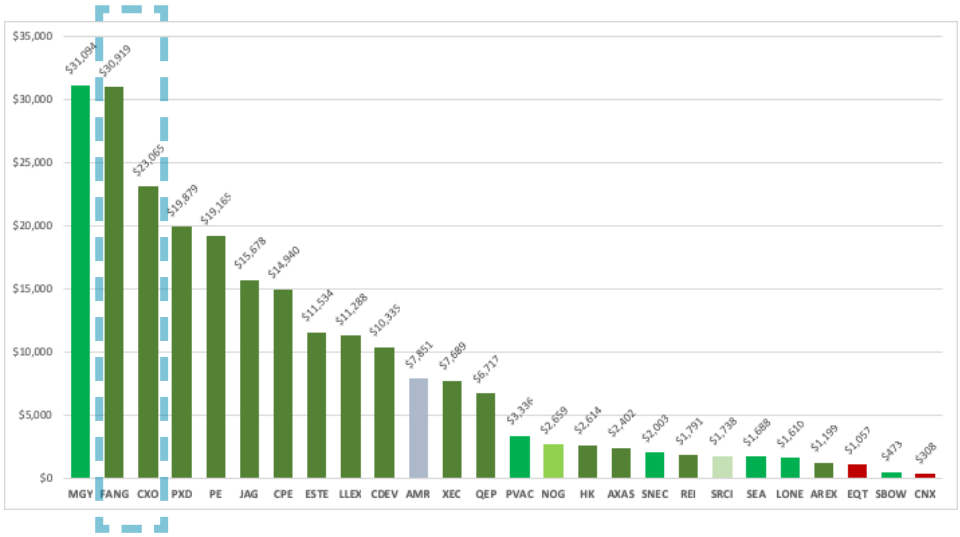

Figure 11 – Concho and Diamondback comparison – value across plays for E&Ps with some acreage value

The New Normal

The new normal is a fast-paced environment where financing, drilling, and completion trends can change from quarter to quarter as can valuations, permitting, leasing activity, and much more. It's only through the latest data and next-generation business intelligence from Drillinginfo, that OFS companies can stay ahead of the game – choosing the right partners, and creating and maximizing value for themselves, their partners, shareholders, and customers.

For more information on Drillinginfo's Oilfield Services Solutions, visit https://info.drillinginfo.com/industry/oilfield-services/.

Drillinginfo delivers business-critical insights to the energy, power, and commodities markets. Its state-of-the-art SaaS platform offers sophisticated technology, powerful analytics, and industry-leading data. Drillinginfo's solutions deliver value across upstream, midstream and downstream markets, empowering exploration and production (E&P), oilfield services, midstream, utilities, trading and risk, and capital markets companies to be more collaborative, efficient, and competitive. Drillinginfo delivers actionable intelligence over mobile, web, and desktop to analyze and reduce risk, conduct competitive benchmarking, and uncover market insights. Drillinginfo serves over 5,000 companies globally from its Austin, Texas, headquarters and has more than 1,000 employees. For more information visit drillinginfo.com.