

MINERALS—AN INVESTMENT OUTLOOK



INTRODUCTION

The last few years has seen a significant shift in focus in the way E&P companies acquire and own minerals, with an increased understanding of the value of minerals and a renewed focus from investors. In this report, Enverus analysts look at the minerals and royalty space, and how it is attracting a broad range of participants—from private individuals who have inherited minerals through to private equity companies, institutional investors looking to increase cash flow, or E&P companies wishing to add assets within their portfolios and either to monetize these assets or increase well Net Revenue Interest (NRI).

Who is driving investment in the minerals sector and what are the dollar per acre numbers? What plays are being targeted? Where have the most significant deals taken place over the last few years and what are the different publicly traded royalty companies' business models and valuations? What mineral packages are for sale and how can one track ongoing leases and permits? In this paper, Enverus experts answer these questions and more.

A MINERALS INVESTMENT OVERVIEW—A MARKET HIGH

Although still small compared to other elements of the E&P market, minerals have reached a market high with US\$1.8 billion in new deals in Q3 2019, the highest total since Enverus started tracking the mineral market in 2010.¹

Producing minerals are selling at up to 10 to 12 times cash flow, far above Working Interest (WI). One-hundred percent royalty interest acres in the Permian are selling for upwards of \$95,000 per acre (in some cases \$100,000), although the Eagle Ford play boasts the highest individual dollar per acre number.

1. Enverus uses flowing multiples to split value between existing production and acreage. For royalty deals, we use multiples that are 1.5x higher than WI prices reflecting a historical premium for non-cost bearing production.

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Much of this growth and high prices is due to the rise in consolidators who are now exiting their positions and being rolled up into larger funds. Private equity firms are becoming more involved in minerals. Enverus research shows, since 2014, \$5.5 billion has been committed to mineral teams by private equity firms. “Blocking and tackling” remains prevalent among small interest owners disinclined to sell, and while most buyers are looking to get ahead of the drill bit, some companies, such as Kimbell Royalty Partners, are focused on a Proved Developed Producing (PDP) plus Proved Undeveloped Reserves (PUD) strategy. If you examine the mineral and royalty share of the M&A market, royalties averaged 3% of deal values between 2016 and 2018, but have averaged 7% in 2019.

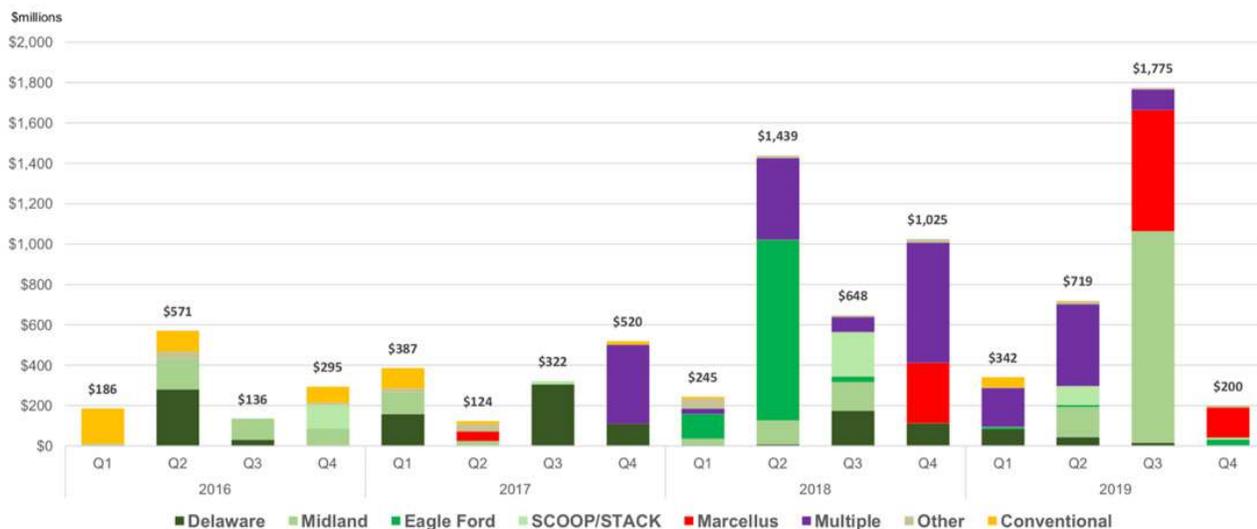
Mineral and Royalty Definitions

- **Net Mineral Acre**—Full ownership of the minerals of one acre.
- **Non-Participating Royalty Interest (NPRI)**—Right to receive a royalty on production but not a share of the bonus money. Can be set (1/16 royalty or variable based on lease royalty rate).
- **Overriding Royalty Interest (ORRI)**—Right to receive a royalty on production but carved out of the working interest.
- **Net Royalty Acre**—Created when an oil & gas lease is signed. Can be normalized to 1/8 royalty (each net mineral acre is equivalent to eight net royalty acres) or expressed as 100% royalty interest (actual royalty interest on a lease times net mineral acres). The numbers in this report are based on 100% royalty interest acres.

THE PLAYS

Examining royalty M&A value by play, one can see that whereas in 2016 there was significant royalty buying in conventional fields, all recent activity has focused on unconventional basins (figure 1). There is a lot of interest in getting ahead of the drill bit in developing these plays, as well as multiple buying with first level consolidators deciding to exit the market.

In terms of the value allocation split, Enverus analysts estimate \$5.2 billion M&A value allocated to acreage since 2016 versus \$2 billion to production. In terms of total play value, the Delaware and Midland have a combined value since 2016 of \$3.3 billion—40% of the total deal value with the Eagle Ford (\$1.1 billion approx.) and Marcellus (\$1.1 billion approx.) also key areas.



Source: Enverus M&A Database

Figure 1

THE DEALS

Looking at specific royalty deals (figure 2) based on dollar per acre, a number of Permian deals are trading at levels of more than \$100,000 on a 100% net royalty acre basis, with the highest deal being the Osprey acquisition of Royal Resources' Eagle Ford Assets in June 2018 (the deal that created Falcon) at \$240,000 per acre.

Date	Buyers	Buyer Type	Sellers	US Play	Hydrocarbon	Value (\$MM)	\$/Daily BOE	\$/Acre	EBITDA Multiple	Oil Strip	Gas Strip
11/12/19	Kimbell	Public	Buckhorn	Eagle Ford	Oil	\$32	\$59,220	\$39,510		\$55.52	\$2.49
10/21/19	Heritage Resources	Private	Range Resources	Marcellus	Gas	\$150	\$18,000	\$68,931	12.5x	\$52.82	\$2.42
09/30/19	Viper Energy	Public	Undisclosed	Midland	Oil	\$168	\$57,105	\$96,994		\$52.54	\$2.39
09/13/19	Viper Energy	Public	Santa Elena Minerals	Midland	Oil+Gas	\$153	\$48,992	\$62,272	6.7x	\$53.77	\$2.55
07/30/19	Viper Energy	Public	Diamondback	Midland	Oil+Gas	\$700	\$52,380	\$96,361	-	\$57.48	\$2.37
07/19/19	Franco-Nevada; et al.	Public	Range Resources	Marcellus	Gas	\$300	\$20,250	\$67,393	12.5x	\$55.53	\$2.41
04/17/19	Alliance	Public	Wing Resources	Midland	Oil	\$145	\$54,690	\$106,524	-	\$56.50	\$2.37
04/17/19	Public	Public	Brigham Minerals	Multiple	Oil	\$300	\$47,893	\$70,510	15.5x	\$63.73	\$2.77
04/02/19	Dorchester	Public	H. Huffman; Buffalo	Multiple	Oil	\$44	\$56,512	\$4,342	-	\$61.41	\$2.85
02/07/19	Kimbell	Public	Phillips Cos. (EnCap)	Multiple	Oil+Gas	\$151	\$39,570	\$7,212	-	\$60.24	\$2.86
12/17/18	Alliance	Public	Dale Operating	Multiple	Oil+Gas	\$483	\$32,111	\$69,604	14.2x	\$53.13	\$3.04
11/21/18	Kimbell	Public	Rivercrest; Kimbell Art	Multiple	Oil+Gas	\$108	\$42,908	\$3,398	-	\$53.76	\$3.29
10/15/18	OTTP	Private	Range Resources	Marcellus	Oil+Gas	\$300	\$25,931	\$75,552	12x	\$70.84	\$2.92
09/07/18	Undisclosed	-	Viking Minerals	Eagle Ford	Oil	\$28	-	\$11,965	-	\$66.58	\$2.73
07/31/18	Viper Energy	Public	Undisclosed	Midland	Oil	\$61	-	\$109,336	-	\$67.22	\$2.80
07/31/18	Viper Energy	Public	Diamondback	Delaware	Oil	\$175	-	\$103,184	-	\$67.22	\$2.80
06/30/18	Viper Energy	Public	Undisclosed	Midland	Oil	\$103	-	\$111,472	-	\$68.89	\$2.88
06/04/18	Osprey Energy	Public	Royal Resources	Eagle Ford	Oil	\$894	\$60,825	\$240,430	10.2x	\$64.56	\$2.94
05/29/18	Kimbell	Public	Haymaker	Multiple	Oil+Gas	\$404	\$57,675	\$2,095	9.9x	\$65.68	\$2.96
02/06/18	Viper Energy	Public	Undisclosed	Multiple	Oil	\$26	-	\$118,721	-	\$61.06	\$2.86
12/31/17	Viper Energy	Public	Undisclosed	Multiple	Oil	\$39	-	\$98,237	-	\$59.13	\$2.84
11/27/17	Black Stone Minerals	Public	Noble Energy Inc	Multiple	Oil+Gas	\$340	\$49,680	\$108,800	10x	\$57.53	\$2.88
11/06/17	Franco-Nevada	Public	Undisclosed	Delaware	Oil	\$110	-	\$156,857	-	\$55.35	\$2.98
09/30/17	Viper Energy	Public	White Star et al.	Delaware	Oil	\$23	-	\$72,100	-	\$51.98	\$3.05
08/08/17	EK Energy	Private	Undisclosed	SCOOP/STACK	Oil+Gas	\$17	-	\$19,091	-	\$49.58	\$2.95
08/01/17	Viper Energy	Public	Undisclosed	Delaware	Oil	\$282	\$48,600	\$85,487	-	\$50.49	\$2.93
06/30/17	Rice Energy	Public	Undisclosed	Marcellus	Gas	\$49	-	\$65,333	-	\$46.15	\$3.06

Royalty deals with acreage value since June 2017 with >\$10MM deal value. \$ Per Acre based on 100% royalty interest (NOT normalized to 1/8th royalty).
Source: Enverus M&A Database

Figure 2

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Viper Energy, which has been built around acquisitions ahead of the drill bit, is paying whatever they need to in order to acquire acreage. This compares to Kimbell Royalty Partners, which has a more PDP plus PUD focus, buying minerals in areas which are more developed.

Figure 3 shows publicly traded royalty companies' implied values, with Viper Energy and Falcon having the highest \$ per acre figures (\$129,000 and \$149,000 per acre respectively), reflecting their business models of building concentrated positions in key resource plays and focusing on acreage and individual play strategies. This compares to companies such as Dorchester who concentrate more value on production. Kimbell and Black Stone have a strategy that reflects a 'PDP plus PUD' target and moderate acreage evaluations, with their recent deals having included substantial cash flow.

Also, note the strong yields over the past 12 months, indicating strong returns to shareholders for all companies and a key reason why such companies have garnered attention in the market. Unlike WI E&Ps, implied market value still lines up with past A&D activity.

Company	EV (\$MM)	Production Value (\$MM)	Acreage Value (\$MM)	Acreage	\$/Acre	LTM DCF Yield	EV/2020E EBITDA
Viper Energy	\$4,432	\$1,344	\$3,089	23,999	\$128,702	7.4%	12.0x
Black Stone	\$3,129	\$1,532	\$1,598	77,000	\$20,749	12.5%	8.2x
Brigham Minerals	\$1,000	\$352	\$648	9,900	\$65,420	6.9%	10.7x
Kimbell Royalty	\$965	\$395	\$570	107,186	\$5,320	9.7%	11.5x
Falcon Minerals	\$604	\$208	\$397	2,670	\$148,526	9.7%	9.7x
Dorchester	\$576	\$334	\$242	-	-	11.7%	-

Source: S&P Capital IQ and Company Filings with adjustments by Enverus.
 Production value uses 4Q19 royalty multiples of \$67,500/flowing bbl for oil, \$20,250/flowing bbl for NGLs and \$3,000/flowing Mcf for gas.
 Acreage is disclosed net royalty acres in listed key unconventional plays (excluding areas with no active development).
 Net royalty acres are normalized to 100% net royalty interests.

Figure 3

Viper's \$700 Million Diamondback Deal and Parsley— Questions for E&P Companies

A particular deal worth noting is Viper's July 2019, \$700 million acquisition of 5,090 net royalty acres in the Midland and Delaware basins as a drop down from Diamondback Energy. This enabled Diamondback to drop its minerals into a subsidiary to trade at higher multiples and realize market value that way.

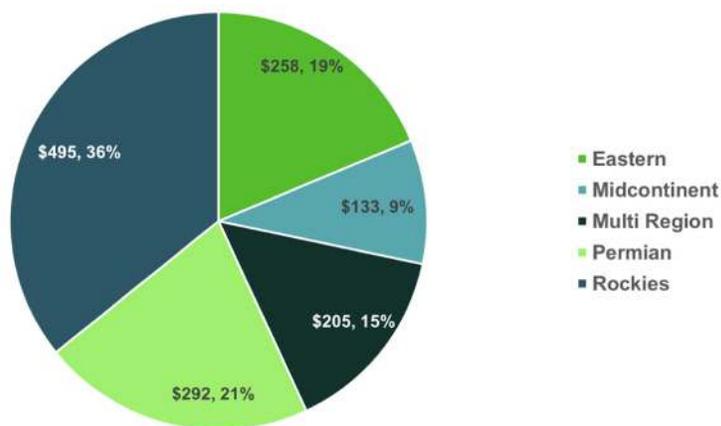
What Viper received in the deal was 3.2% average NRI on 150,000 gross acres with 4,000 boe/d of existing production in a core area of the Permian. Using royalty multiples (1.5x working interest multiples) of \$67,500/daily bbl for oil and \$3,375/ daily Mcf for gas, Enverus analysts calculated a total of \$210 million allocated to production (\$52,380/daily boe), with the remaining \$491 million allocated to royalty acreage, implying an average price of \$96,361/ net royalty acre for 5,090 net royalty acres (100% royalty interest). If normalized to an 1/8, this would price at \$12,045 per net royalty acre.

An examination of another company, Parsley Energy, shows that Parsley's mineral position could represent upwards of \$1 billion in value within their portfolio if given a full market valuation. This is based on Parsley's 7,900 net royalty acres trading at an average of ~\$95,000/acre (~\$12,000/acre normalized to 1/8).

Parsley is another example of the strength of the mineral market and highlights the challenge for E&P companies—do they sit on the minerals and take the uplift on NRI and well economics, create a subsidiary drop down (as was the case with Viper and Diamondback), or opt for a full divestment?

TRACKING MINERAL AND ROYALTY PACKAGES FOR SALE AND CURRENT LEASING ACTIVITIES WITH ENVERUS

Given the growth in the mineral market, what current mineral and royalty packages are for sale? Enverus' M&A database has tracked nearly \$1.4 billion in marketed royalty packages over the last 12 months, spread evenly across a number of plays (see figure 4).



Source: Enverus Market Research M&A Database

Figure 4

Occidental, for example, has engaged RBC Richardson Barr to market on average 200,000 net mineral acres in the Wyoming Denver-Julesburg Basin, and Delaware Basin Resources has retained TenOaks Energy Advisors to offer 1,268 net royalty acres for sale (normalized to 1/8), or 159 net 100% royalty acres in Reeves and Pecos counties on the Permian.

Furthermore, when it comes to leasing activity, Enverus' data analytics tracks current leases and mineral portfolios.

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Figure 5, for example, examines leases on the Pecos/Reeves County line in the Permian with the background color covering the last 90 days' permitting activity and leases recorded in the past six months added and then colored by the company that purchased them. Figure 5 shows the DBR mineral package on the Pecos/Reeves line, as well as the Parsley mineral position, and new Concho leases. With our solutions, users can get in ahead of the drill bit, see where people are permitting and where activity is moving, and have a good understanding of the geology and where minerals are undervalued.

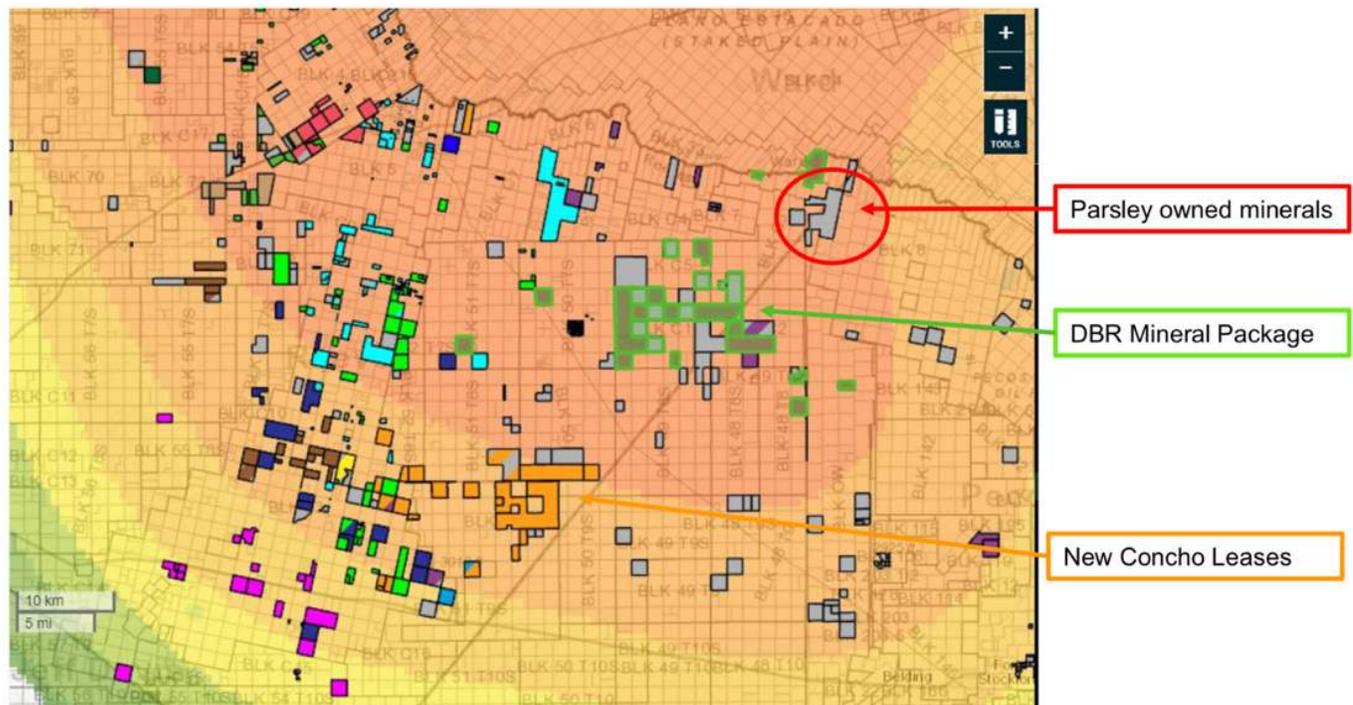


Figure 5

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Other illustrations that can be generated within Enverus' data tools include details on who owns royalties in the Delaware basin (figure 6), with a lot of ownership in the Reeves/Pecos area (as well as other leasing activity maps), and the tracking of activity levels—in this case across Permian royalty acreage positions (figure 7).

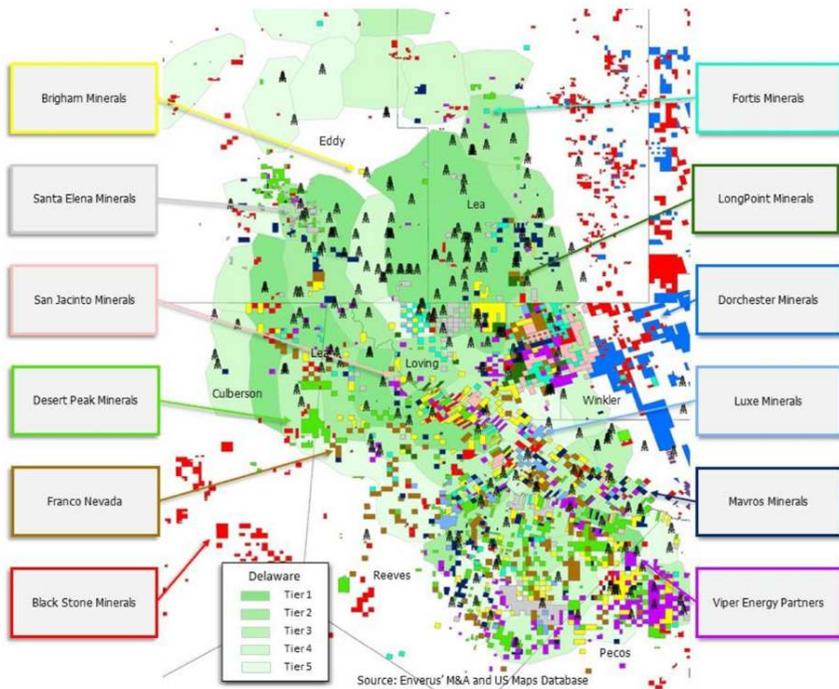


Figure 6

Relative Activity Levels Across Permian Royalty Acreage Positions



Source: Enverus WebApp. Numbers are based on rigs, permits and DUCs on gross acreage held and do not reflect varying ownership interests.

Figure 7

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As shown in figure 7, Brigham has two more rigs than Viper and similar permits, but only two-thirds of the DUCs and 42% of the active wells (1,769 versus 4,178). Black Stone's wide Permian ownership leads to the highest rig and permit totals, although they may have smaller interests in more wells spread across the Permian. It is crucial information, such as this, that can determine future strategies.

In addition, Enverus' full cycle mineral management platform adds clarity to diversified interests across basins and states, making sure that mineral companies are getting paid and have the necessary information at their fingertips.

The mineral market is 'on the up' and of increasing interest to investors of all sizes and strategies. Find out more on how Enverus can help you maximize your investment opportunities, provide you with more mineral intelligence, and help determine your mineral management strategy.

<https://www.enverus.com/industry/minerals/>