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SECTOR IN-DEPTH
27 September 2017

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Corporate Defaults and Recoveries - US

Lessons Learned: 2016's E&P Bankruptcies, What a Difference a Year Makes

17 From '16: Oil Rebound and Investor Optimism Boost E&P Recoveries

» **Exploration & production (E&P) companies suffered in 2015 and early 2016 when oil prices tumbled, but the subsequent commodity-price rebound lifted recoveries for investors on those that defaulted in 2016.** Slumping crude oil and natural gas prices fueled a spike in defaults among oil & gas companies in 2015 and recoveries for creditors were less than half the historical average. However, the subsequent uptick in energy prices and relative stabilization in the industry has led to better firm-wide and instrument-level recovery rates since the second half of 2016.

» **US E&P firm-wide recoveries more than doubled from the severe lows of 2015.** Firm-wide recovery rates averaged 49.5% for the 17 E&P bankruptcies from 2016 that we reviewed, versus the catastrophic 21.4% firm-wide recovery rate of the 15 we reviewed from 2015. The 2016 figure is much closer to the historical average of 58.6% for all recorded E&P bankruptcies filed prior to 2015.

» **This turnaround in recovery rates may be attributable to investor optimism and a decrease in the default rate for US E&P companies.** After bottoming in the first quarter of 2016 at less than $30/barrel, oil prices rebounded leading to improved investor sentiment. As the market became more optimistic, investors started bidding up asset prices, leading to higher valuations for defaulted securities and for assets of companies in bankruptcy. In addition to this market trend, a significant decrease in the E&P default rate helped improve firm-wide recovery rates.

» **Distressed exchanges completed by US E&Ps in 2015 did not work out.** More than half of the E&P companies that consummated distressed exchanges (DEs) — often swapping unsecured bonds for new secured debt at a significant discount, in an attempt to mend unsustainable capital structures — filed Chapter 11 bankruptcy within a year of the out-of-court restructuring. A review of three potential scenarios shows unsecured creditors that did the best followed the 70s-era advice to *"take the money and run,"* by accepting the new securities in the DE and then immediately selling them.

Oil & Gas E&P Sector Recovery Rates Are Rebounding Nicely

Given the dismal recovery rates for the “15 from 2015” bankruptcies we analyzed last year, we were somewhat surprised by both the speed at which recovery rates have turned around and by the overall level of recoveries from this “17 from 2016” group. Firm-wide recovery rates for the 17 E&P companies analyzed that declared bankruptcy in 2016 and emerged subsequently averaged 49.5%, up substantially from the catastrophic 21.4% firm-wide recovery rate of the 15 from 2015 (See Exhibit 3).

Exhibit 1 is a list of 2016 E&P bankruptcies we analyzed for this report:

Exhibit 1
The “17 from 2016”
E&P Bankruptcies

E&P Company	Default Amount (in USD millions)*	Date of Obligor Default	Date of Emergence	Family Recovery	DE in 2015	DE Notes
Venoco, Inc.	$1,050	03/18/2016	07/25/2016	17.1%	Apr-15	DE of approximately $194 million senior unsecured notes for $150 million second lien notes
Emerald Oil, Inc.	$263	03/22/2016	04/10/2017	31.2%	--	
Energy XXI Gulf Coast, Inc.	$2,859	04/14/2016	12/30/2016	32.4%	Sep-15	DE of over $891 million of unsecured debt for $196 repurchases in cash , periodically
Goodrich Petroleum Corporation	$439	04/15/2016	10/12/2016	13.7%	Sep-15	DE of $158 million senior notes for $75 million new second lien notes as well as $55 million convertible notes for $28 million new convertible notes
Ultra Petroleum Corp.	$3,759	04/29/2016	04/12/2017	99.3%	--	
Midstates Petroleum Company Inc	$2,047	04/30/2016	10/21/2016	38.7%	May-15	DE of approximately $630 million senior unsecured notes for approximately $504 million third lien notes
Chaparral Energy, Inc.	$1,652	05/09/2016	03/21/2017	93.8%	--	
Linn Energy, LLC	$7,701	05/11/2016	02/28/2017	67.3%	Nov-15	DE of $2 billion of senior unsecured notes for $1 billion of second lien secured notes
Penn Virginia Corporation	$1,188	05/12/2016	09/12/2016	46.2%	--	
SandRidge Energy, Inc	$4,100	05/16/2016	10/04/2016	27.8%	Aug-15	DE of approximately $250 million senior unsecured notes for approximately $94.5 million in cash
Linc USA GP	$409	05/29/2016	04/03/2017	28.5%	--	
Warren Resources, Inc.	$459	06/02/2016	10/05/2016	28.1%	May -Oct 2015	May -2015: DE of approximately $70 million senior unsecured notes for approximately $47 million first lien term loan; Oct-2015: DE of $63.1 million senior unsecured notes for $11 million of new senior notes and $40.1 million of second lien term loans
Triangle USA Petroleum Corporation	$689	06/29/2016	03/24/2017	59.5%	--	
Atlas Resource Partners, L.P.	$1,591	07/27/2016	09/01/2016	67.1%	--	
Halcon Resources Corporation	$2,890	07/27/2016	09/09/2016	65.5%	Apr, Sep-Dec 2015	Apr- 2015: DE of approximately $227 million senior unsecured notes for Halcon common equity; Sep-Dec 2015: DE of $1.57 billion of its existing senior unsecured notes for $1.02 billion senior secured third lien notes due 2022; exchange of additional $289.6 million senior unsecured notes for $112.8 million of new 12.0% second lien secured notes due 2022
Shoreline Energy, LLC	$319	11/02/2016	03/08/2017	45.4%	--	
Stone Energy Corporation	$1,429	12/14/2016	02/28/2017	80.6%	--	

* default amount includes only defaulted revolver/ loans and bonds/notes
Source: Moody's Investors Service

Exhibit 2

Recoveries of 2016 E&P Bankruptcies Reverting to the Mean

E&P Bankruptcies in 2016		
Debt Instrument	**Average Discounted Recovery Rate**	**Number of Debt Instruments**
RBL/ Borrowing Base Revolver	97.0%	15
First-Lien Bank Debt	84.5%	3
First-Lien Bonds	71.0%	2
Second-lien bank debt	34.3%	3
Second-Lien Bonds	45.3%	10
Senior Unsecured Bonds	31.3%	48
Subordinated Bonds	0.5%	1
Avg. Firm-Wide Recovery Rate	**49.5%**	**17**

Source: Moody's Ultimate Recovery Database

How robust was this rebound versus the cataclysmic numbers recorded in 2015? We can answer this in several ways: better E&P asset values after mid-2016 and early 2017 helped to boost firm-wide recoveries, which trickled down to all levels of creditors (see Exhibits 2 and 3).

Exhibit 3

What a Difference a Year Makes: E&P Firm-Wide Recoveries Rise Sharply

E&P Bankruptcies				
Debt Instrument	**Average Discounted Recovery Rate**		**Number of Debt Instruments**	
	2015	**2016**	**2015**	**2016**
RBL/ Borrowing Base Revolver	82.4%	97.0%	7	15
First-Lien Bank Debt	60.0%	84.5%	4	3
First-Lien Bonds	12.2%	71.0%	3	2
Second-lien bank debt	25.6%	34.3%	4	3
Second-Lien Bonds	13.7%	45.3%	6	10
Senior Unsecured Bonds	6.0%	31.3%	12	48
Subordinated Bonds	0.6%	0.5%	3	1
Avg. Firm-Wide Recovery Rate	21.4%	49.5%	**15**	**17**

Source: Moody's Ultimate Recovery Database

The 2016 cohort's 49.5% average firm-wide recovery is now much closer to the historical average of 58.6% for all recorded E&P bankruptcies prior to 2015 (see Exhibit 4), and also nearly on par with the long-term average of 50.6% for the broader all-industry population in our Ultimate Recovery Database. Recoveries at the instrument level are also heading back toward historical averages for E&P bankruptcies filed prior to 2015 (also see Exhibit 4). Lower tranches in the liability structure, such as senior unsecured bonds, were more robust compared with their counterparts in the 2015 cohort, recovering 31% on average. This number is slightly less than the 34% average for E&P bankruptcies filed prior to 2015, but more than 5 times the dismal 6% that senior unsecured bondholders received from E&P companies that filed bankruptcy in 2015.

Exhibit 4

Recoveries of 2016 E&P Bankruptcies Were Almost on Par with Historical Averages for the Industry

E&P Bankruptcies in 2016			E&P Bankruptcies (1987-2014)		
Debt Instrument	**Average Discounted Recovery Rate**	**Number of Debt Instruments**	**Debt Instrument**	**Average Discounted Recovery Rate**	**Number of Debt Instruments**
RBL/ Borrowing Base Revolver	97.0%	15	RBL/ Borrowing Base Revolver	98.1%	20
First-Lien Bank Debt	84.5%	3	First-Lien Bank Debt	96.4%	13
First-Lien Bonds	71.0%	2	First-Lien Bonds	54.4%	13
Second-lien bank debt	34.3%	3	Second-lien bank debt	58.6%	3
Second-Lien Bonds	45.3%	10	Second-Lien Bonds	25.8%	4
Senior Unsecured Bonds	31.3%	48	Senior Unsecured Bonds	33.8%	25
Subordinated Bonds	0.5%	1	Subordinated Bonds	26.9%	30
Avg. Firm-Wide Recovery Rate	**49.5%**	**17**	**Avg. Firm-Wide Recovery Rate**	**58.6%**	**33**

Source: Moody's Ultimate Recovery Database

Lessons learned from the 2015 and 2016 bankruptcies are that, although relative position of the debt instrument on the balance sheet matters, extremely low firm-wide recoveries can produce abnormal losses for even the most secured creditors, such as RBL holders, despite their substantial debt cushions. Meanwhile, all creditor classes from secured to unsecured debt holders realize higher recoveries when the enterprise value is higher, relative to defaulted debt at default resolution — as occurred with E&P companies restructuring after mid-2016 in a more favorable commodity-price environment and with relatively open capital markets.

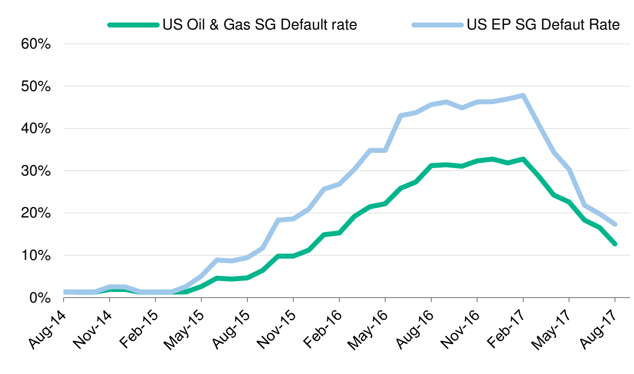
So, to what should we attribute this relatively quick and robust turnaround in recovery rates? A couple of reasons stand out: 1) market optimism leading to higher asset values and 2) a rapid decline in default rates for E&P, led to a corresponding increase in overall recovery rates. Thirty years of US recovery history in our database show firm-wide recovery rates of defaulted debt issuers have historically shown a negative correlation with US spec-grade default rate. Losses are exacerbated during default peaks and less pronounced during benign credit cycles.

Rebounding Commodity Prices Lifted Investor Confidence and 2016 E&P Recoveries

Rising commodity prices and improved market sentiment last year led to higher cash flows and access to much-needed capital. For companies that emerged from bankruptcy in mid- 2016 or later, it meant better recoveries due to higher asset valuations and security prices. As liquidity concerns eased because of supportive market conditions, the pace of defaults and bankruptcy filings also began slowing down after peaking towards the end of 2016. As a result, recoveries for companies that sought bankruptcy in 2016 are reverting to the mean as overall market conditions improve (see Exhibits 5 & 6).

Exhibit 5

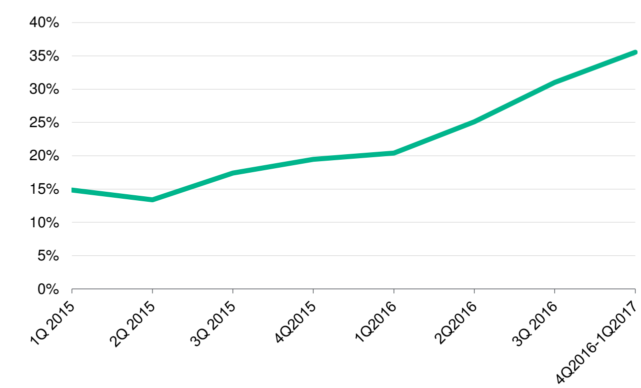
Default Rates for E&P and Energy Overall Plummeted from the 2016 Peak…



Source: Moody's Investors Service

Exhibit 6

… And Corresponding Cumulative Firm-Wide Recovery Rates for Bankrupt E&Ps Continue to Improve



Source: Moody's Ultimate Recovery Database

A spate of distressed exchanges and bankruptcy filings curbed equity and debt issuance in late 2015 and early 2016. Oil prices finally bounced back from particularly low levels in the first quarter of 2016 and drilling activity picked up considerably in response. With rising investor optimism, capital markets also opened up about that time, after being largely shut since the second half of 2015, and company financing costs came down significantly along with rising securities prices. Capital markets access is critical for E&P companies, which must spend to replace reserves and stem production declines. Greater funding availability in the second half of 2016 eased the E&P sector's liquidity concerns. Increased confidence in E&P prospects also spurred M&A activity while asset valuations improved. An active M&A market bodes well for the sector, alleviating liquidity stress or reducing debt for sellers with high leverage, while giving other companies opportunities to buy high-quality assets.

As liquidity concerns eased in the second half of 2016, the pace of defaults slowed, although from very high levels. This slowing default cycle and accompanying improvement in firm-wide recovery rates answered one of our key questions: how would the current 2015-2016 oil & gas downturn rank when compared to the 2001-2002 telecom bust, both in terms of number of recorded bankruptcies and in really poor firm-wide recoveries for creditors (see Exhibit 7.)

As our heat map shows, among industries with greater than 10 bankruptcy resolutions in a given year between 1987-1Q 2017, the E&P sector got pretty close to the telecommunications industry bust of 2001-02 in terms of the absolute number of recorded and resolved bankruptcies. However, the catastrophic firm-wide recoveries of 21% for 2015 E&P bankruptcies didn't persist for the 2016 defaulters that emerged later in 2016 and the first quarter of 2017. The overall firm-wide recovery of the 32 E&P bankruptcy resolutions averaged 36%. Telecom, on the other hand, suffered two years of double-digit bankruptcy filings and firm-wide recoveries averaging 21 cents on the dollar.

Exhibit 7

Telecom Bust Remains the Standard for Industry Melt-Downs
(for any year between 1987-2017 YTD)

Industries With Greater Than 10 Bankruptcies in a Given Year

Moody's Industry / Default Year	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
ENERGY: E&P	7	3		4	1			1		1	5		1		1		15	17	2
TELECOMMUNICATIONS	5	4	13	25	5	3	2		1	1	2			1		1			
CONSUMER PRODUCTS	5	4	9	7	3	6	3	3	1	7	10	4	2	2			1		
DISTRIBUTION	6	16	12	5	8	7	4	1	2		4	1	1				2	1	
MANUFACTURING	4	7	4	11	6	6	3	3	1	1	9	5							
MEDIA	3	1	3	5	2	1		1		4	15	8		1	6				
SERVICES	1	5	11	6	8	2	1	1	1	5	1		1		2	3	2		

Average Family Recovery Rates

Moody's Industry/ Default year	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
ENERGY: E&P	60%	77%		58%	7%			100%		26%	67%		62%		57%		21%	50%	78%
TELECOMMUNICATIONS	41%	19%	15%	24%	66%	41%	63%		31%	42%	53%			67%		49%			
CONSUMER PRODUCTS	69%	32%	44%	66%	48%	66%	36%	71%	100%	54%	66%	39%	52%	73%			47%		
DISTRIBUTION	56%	58%	52%	48%	77%	83%	82%	24%	89%		64%	16%	28%				38%	55%	
MANUFACTURING	47%	46%	64%	43%	56%	46%	94%	83%	52%	45%	57%	50%							
MEDIA	29%	31%	38%	50%	47%	61%		92%		51%	45%	56%		65%	62%				
SERVICES	26%	37%	34%	37%	56%	50%	91%	114%	92%	33%	34%		100%		83%	75%	57%		

Source: Moody's Ultimate Recovery Database

Distressed Exchanges Completed in 2015 Did Not Stave Off Bankruptcies

More than half of the E&P companies that completed distressed exchanges in 2015 — often swapping senior unsecured bonds for new secured debt at a significant discount, in an attempt to mend unsustainable capital structures — filed Chapter 11 bankruptcy within a year. We analyzed data from the DEs to determine which of three scenarios would have yielded the highest recoveries for the senior unsecured (SU) bond creditors. Our review indicates it would be best to "take the money and run" by cashing out on the new exchange securities after the DE (see Exhibit 8).

Exhibit 8

Scenarios for Bond Investors in E&P Companies That Did 2015 DEs And Still Wound Up in Bankruptcy

DEs where senior unsecured bondholders received cash/ senior secured facilities

				Before Bankruptcy	After Bankruptcy	
				Scenario 1	Scenario 2	Scenario 3
Date	Company	Amount exchanged (in USD millions)	Offer at DE (in USD millions)	If accepted DE offer & cashed out	If kept SU bond stubs	If exchanged SU bonds during DE and stayed with new exchange facilities through BK *
Apr-15	Venoco, Inc.	$194	$150	25%	3%	5%
May-15	Midstates Petroleum Company Inc.	$630	$504	68%	1%	5%
May-15	Warren Resources, Inc.	$70	$47	68%	1%	40%
Oct-15	Warren Resources, Inc.	$63	$42	67%		2%
Aug-15	Sandridge Energy, Inc.	$250	$95	38%	7%	38%
Sep-15	Energy XXI Gulf Coast, Inc.	$892	$196	22%	15%	22%
Sep-15	Goodrich Petroleum Corporation	$213	$81	35%	1%	5%
Nov-15	Linn Energy, LLC	$1,999	$1,000	50%	48%	30%
Sep-15	Halcon Resources Corporation	$1,566	$1,020	65%	29%	50%
Dec-15	Halcon Resources Corporation	$290	$113	39%		39%
Average				**48%**	**13%**	**24%**
Median				**44%**	**5%**	**26%**

*For those investors who exchanged their SU bond holdings for cash, recovery after BK exit = recovery estimated at the time of accepting cash during DE

Source: Moody's Investors Service

So what about the companies that did not re-default so far (as of the date of this publication)? If we compare recovery performance of senior unsecured bondholders in "one-time" DEs from 2015, consummated by companies that managed to stave off bankruptcy filings for now, the best-case scenario, on average, would have been not to accept a DE offer, or to stay away from a DE and liquidate their bond holdings now (see Exhibit 9). However, we do need to point out that, due to a small sample size of only four companies, the overall average is skewed by the high current trading price of Chesapeake Energy Corp.'s (Caa1 positive) senior unsecured bonds, in our scenario 3B. It also assumes that investors can accurately predict a successful DE without a subsequent re-default to achieve this best-case recovery scenario.

Exhibit 9

2015 E&P DEs That Haven't Re-Defaulted

			Scenario 1	Scenario 2	Scenario 3 (A)	Scenario 3 (B)
Company	**Amount exchanged (in USD millions)**	**Offer at DE (in USD millions)**	**If accepted DE offer & cashed out**	**Took a DE offer and held its investment ***	**If didn't participate in DE, kept SU bond stubs**	**Didn't take a DE offer, held its investment until now****
EXCO Resources, Inc. (Ca)	$577	$291	39%	51%	100%	23%
Comstock Resources, Inc. (Caa2)	$101	$38	36%	37%	100%	80%
California Resources Corp. (Caa2)	$3,653	$2,250	39%	62%	100%	50%
Chesapeake Energy Corporation (Caa1)	$3,855	$2,500	30%	61%	100%	98%
			36%	**53%**	**100%**	**63%**
			38%	**56%**	**100%**	**65%**

* doesn't take into account market value of new exchange facilities; ** held until now= reflects market value, bond prices as of Sep 25; Moody's ratings are as of Sep 25

Source: Moody's Investors Service

If we combine both E&P DEs that re-defaulted and those that staved off bankruptcy until now, and looked at the average nominal recoveries for SU bond holders from all three scenarios, the best bet would have been to accept a DE offer, liquidate the new exchanged securities for cash at the time of DE, and walk away (see Exhibit 10). The worst case scenario was to ignore a DE offer altogether and hold on to the SU bonds, since the majority of these SU bonds ended up in bankruptcy, where the recovery averaged only 13% (or a median of 5%).

Exhibit 10

Blended Recovery Outcomes for SU Bondholders

includes DEs that did and didn't default subsequently, as described in Exhibits 8 and 9

	Scenario 1	Scenario 2	Scenario 3 (A)	Scenario 3 (B)
	If accepted DE offer & cashed out	**Took a DE offer and held its investment**	**If didn't participate in DE, kept SU bond stubs**	**If didn't participate in DE, kept SU bond stubs***
Average	**44%**	32%	41%	30%
Median	**39%**	38%	29%	23%

Scenario 3A assumes 100% recovery for SU bond stubs, which were not part of DE. Scenario 3B takes into account current market (fair) value of Sr. Unsecured Bonds as of Sep 25.

Source: Moody's Investors Service

What to Expect Next

While the E&P sector shake-up of 2015-16 bankrupted many weakly-positioned companies, the health of the sector has improved since then with higher oil prices and operating efficiencies. At the same time, OPEC's traditional control over oil supply has weakened considerably with the rise of US shale production, and hence oil prices. We expect crude oil prices to remain within a band of $40-$60/bbl, and anticipate surviving companies will largely remain focused on operating efficiencies and costs. While the industry settles in for a slow recovery, it also faces new challenges, including the risk of transition towards low-carbon energy and potentially peaking oil demand.

Carbon-transition risk is of less concern for oil & gas companies over the near term, but the dangers of ignoring the transition could become more acute over several years. Meanwhile, natural gas produced by E&Ps will likely serve as a “transitional” fuel in power generation, producing far lower levels of CO_2 than coal and displacing it until renewables become widely available and cost-competitive.

Moreover, the historical fear of peak oil supply as conventional sources of oil are depleted has been turned on its head, with a peak in *demand* now a bigger cause for concern. Companies will probably have to adjust, move toward increasingly producing fuel for electricity, such as natural gas, and even renewables, and focus on keeping costs low.

Oil & gas busts have historically led to industry upswings, once commodity prices stabilize at higher levels. Efficiencies, cost reductions, M&A opportunities, the shutdown of expensive marginal production, and even restructurings often help reset break-even costs for a leaner E&P sector. However, until commodity prices stabilize significantly above break-even levels, the E&P sector will need to pursue capital and cost efficiencies while growth moderates. Highly leveraged companies with mediocre assets still face a bumpy road ahead.

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- » Global Oil & Gas Roundup, July 2017 (July 2017)
- » Oil and Gas Industry – Global: Frequently Asked Investor Questions, April 2017, (April 2017)
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REPORT NUMBER 1088331

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