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12 September 2016

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Corporate Defaults and Recoveries - US

Lessons Learned from the 2015 Oil Bust

15 from '15 E&P Bankruptcies Provide Insights Into the Current Oil Slump

» **The 2015 oil & gas bust was even worse than you thought**. Slumping crude oil and depressed natural gas prices took a severe toll on oil & gas companies, fueling a spike in the corporate default rate beginning in 2015. When all the data is in, including 2016 bankruptcies, it may turn out that this oil & gas industry bust may be on par with, and possibly worse than the telecom industry collapse in the early 2000s, in terms of both number of recorded bankruptcies and very poor firm-wide recoveries for creditors.

» **US E&P recoveries took a severe beating**. Firm-wide recovery rates of the 15 exploration & production (E&P) bankruptcies from 2015 that we reviewed averaged 21.0%, catastrophic compared with the historical average of 58.6% for all recorded E&P bankruptcies filed prior to 2015.

» **Loans backed by oil & gas reserves were hit, but not nearly as hard**. Reserve-backed loans (RBLs) performed relatively well, compared with other debt. However, the average recovery of 81.1% significantly underperformed the average for RBLs in prior E&P bankruptcies of 98.1%, and came in spite of the presence of substantial debt cushions for the loans.

» **Distressed exchanges in 2015 did little to stave off bankruptcies.** More than half of the E&P companies that completed distressed exchanges (DE) — often exchanging 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. It remains to be seen if the 2015 DEs that didn't stave off bankruptcies will help creditors realize better recoveries on their debt holdings, since historically DEs followed by bankruptcy have done worse.

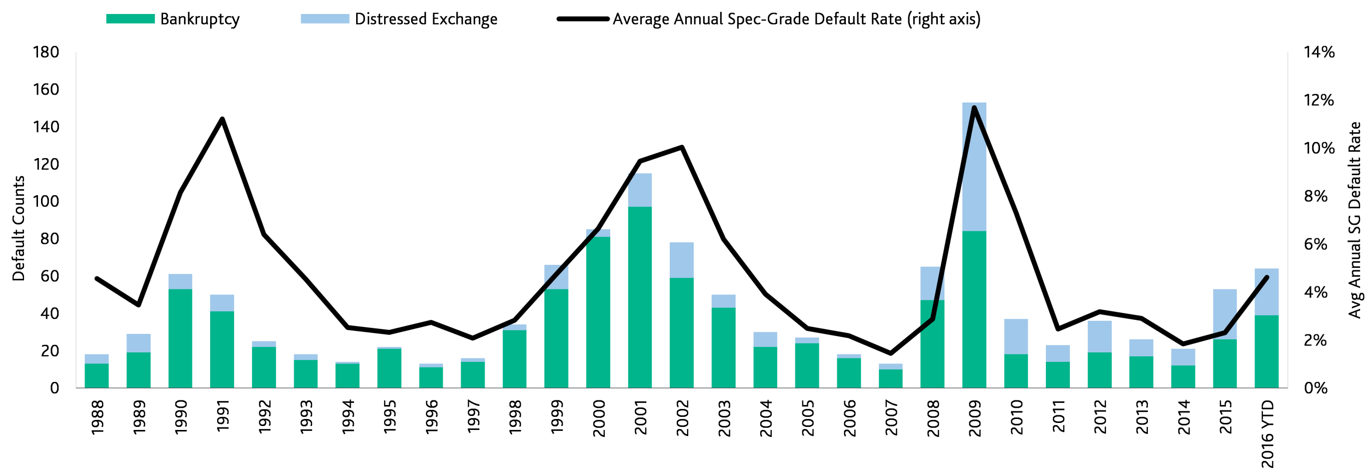
» **We believe that we will see more of the same for E&Ps in 2016.** Bankruptcies in early 2015 typically involved less debt, since larger companies were able to survive the initial oil price shock. However, as the downturn accelerated, larger E&Ps such as Samson Resources were pushed into bankruptcy. E&P bankruptcies have only accelerated in 2016, with the 2016 year-to-date figure within our rated universe about twice 2015's total.

Oil & Gas Industry Is on Fire

A glut of crude oil, coupled with slowing economic growth around the globe, has resulted in a prolonged price drop. This oil price collapse has propelled US corporate defaults to the highest tally since 2009 (see Exhibit 1).

Exhibit 1

Defaults Rate on the Rise Thanks to Oil & Gas Industry

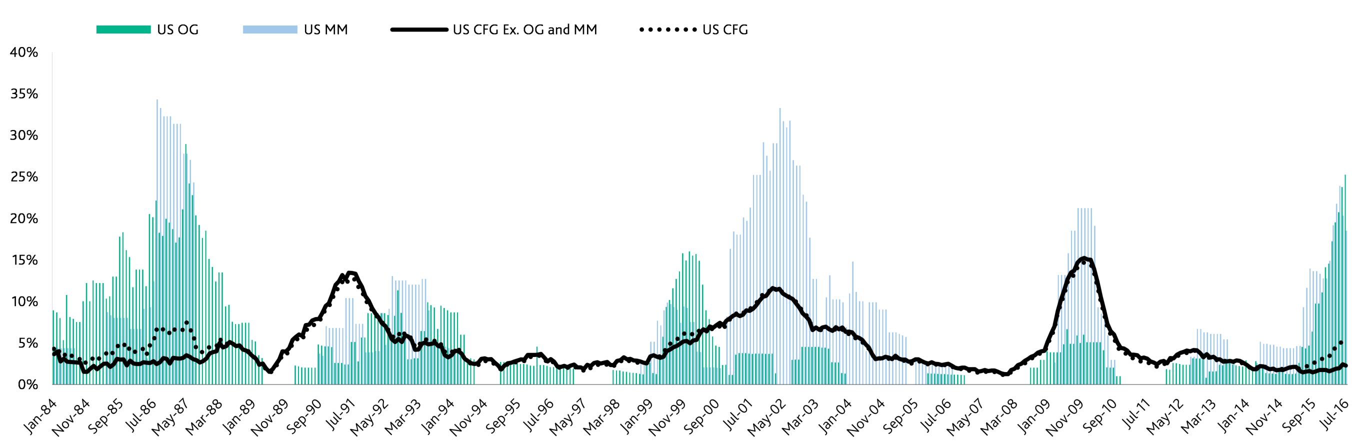


2016 YTD data is through the end of July
Source: Moody's Investors Service

The jump in oil & gas defaults, as well as other commodity-related sector defaults, was primarily responsible for the increase in the overall US spec-grade default rate in 2015 and continues to fuel it in 2016. A further review shows that, excluding oil & gas and metals & mining, the overall 12-month trailing spec-grade default rate in the US actually dipped to 1.7% as of January 1, 2016, from 1.9% at the start of 2015. In contrast, the default rates for oil & gas and metals & mining had soared to 14.1% and 12.8%, respectively, at the beginning of this year. The default rate in these battered commodity-related sectors kept climbing through the first half of 2016 to 25.3% for oil & gas and 18.5% for metals and mining, and the overall default rate excluding them rose to 2.3% (see Exhibit 2.)

Exhibit 2

Excluding Commodity-Related Sectors, Increase in US Spec-Grade Default Rate Was Marginal



"OG"- Oil&Gas companies; "MM"- Metals & Mining companies; "US CFG"- 12-month trailing spec-grade corporate default rate in US; "US CFG Ex. OG and MM"-12-month trailing spec-grade corporate default rate in US, excluding OG and MM.
Source: Moody's Investors Service

Until these defaults in 2015-16, there were no significant oil & gas defaults since 2009. In mid-2014, crude oil prices were more than $100 per barrel, but by the first quarter of 2015, they had dropped to less than $50 per barrel, and continued to fall, approaching $25 per barrel in the first quarter of 2016. This squeezed the cash flows of E&P companies. In order to preserve liquidity, they resorted to severe cuts in capital expenditures and operating costs, directly affecting oilfield service (OFS) providers and drillers, and eventually hurting most of the oil & gas industry.

When all the data is in, including 2016 bankruptcies, it may very well turn out that this oil & gas industry crisis has created a segment-wide bust of historic proportions in terms of the number of defaults in the same industry segment, coupled with poor firm-wide recovery rates compared with historical averages. In 2015, we recorded and analyzed bankruptcy resolutions of 17 oil & gas bankruptcies, with 15 hailing from the E&P sector, one from oilfield services, and one from drilling (see Exhibit 3.)

Exhibit 3

Sector Bust Heatmap

Bankruptcy totals by year as recorded in Moody's Ultimate Recovery Database

Moody's Industry / Default Year	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
AIRCRAFT & AEROSPACE																										4			
AUTOMOTIVE				1				1		1					4	2		3	6	3	1	4	9				1		
CHEMICALS							1							1	6	2	4	1				2	3					1	
CONSTRUCTION			1	2		1	1		2						2	1	1					2	2		1				
CONSUMER PRODUCTS		2		1	7	3	1	3	1	4	4	3	5	4	9	7	3	6	3	3	1	7	10	4	2	2			
DEFENSE																													1
DISTRIBUTION	1	1	1	6	8	6	4	4	9	7	4	5	6	16	12	5	8	7	4	1	2		4	1	1				1
ENERGY:OIL & GAS		2	1	1	2	2	1			3		1	11	3	1	5	3	1		1		3	7		1		2	1	17
ENERGY:OTHER		1				1		1			1				2	1	6		2	1				2	1	1			
ENVIRONMENT							1				1		1	1	1	1						1		1					
GAMING:CASINOS																						1			1				
HEALTHCARE	1		2			2					1	3	2	8	3	3	4		1	1	1	1	3	2	1		1		
HOLDING COMPANY				1	2																								
LEISURE & ENTERTAINMENT			4		9	2	1	3	5	2	2	1	5	8	7	1		3		1		1	1	2	1	1			
MANUFACTURING			2	2	4	5	6	2	3		1		4	7	4	11	6	6	3	3	1	1	9	5					
MEDIA		1		1	1	1	3	1	2	1		1	3	1	3	5	2	1		1		4	15	8		1	6		
METALS & MINING	1					1	2					2	1	2	2	8	6	3	1				2						
NATURAL PRODUCTS					1	1				1		1			1		2	1		1	2	1	3	2	1				
PACKAGING										1						1		1	1			3			1				
RESTAURANTS														1								1			2			1	
SERVICES			2	2	6	4	7	1	1	1			1	5	11	6	8	2	1	1	1	5	1		1		2	3	2
TECHNOLOGY			1	4	1	1		1	1	1	1	1	2	3	5	5	5			1		1	3			1			
TELECOMMUNICATIONS											2	2	5	4	13	25	5	3	2		1	1	2			1		1	
TRANSPORTATION				2	2	3			3				3	1	1	3	1	2	3			2	1		3	1		1	

"Energy: Oil & Gas" sector includes E&Ps, OFS, midstream companies; "Energy: Other"sector includes utilities, coal companies; "Distribution" sector includes various types of stores (retail, groceries, distribution centers, dealers)

Source: Moody's Ultimate Recovery Database

The 2015 E&P Bankruptcies

E&P companies within the oil & gas industry are typically characterized by hard assets, and the capital-intensive nature of such assets requires significant financing. Fixed-income investors have provided a large swath of such financing requirements, leading to increasing leverage within the sector since 2010. The collapse in oil prices since the second half of 2014 has led to a surge in E&P bankruptcies beginning in 2015. We reviewed and analyzed 15 US E&P companies that filed for bankruptcy during 2015, with at least $100 million of debt (see Exhibit 4.) The early bankruptcies in 2015 typically involved smaller debt amounts, since larger companies generally had sufficient financial flexibility to survive the initial price shock. As the downturn continued, and even accelerated, towards the end of 2015, larger E&Ps such as Samson Resources Corp. were pushed into bankruptcy.

Exhibit 4

The "2015 Cohort"

E&P Company	Date of Obligor Default	Date of Emergence	Default Type	Outcome	Family Recovery	RBL present at Petition Date	RBL present within 1-1.5 years of Petition date	Notes
American Eagle Energy Corporation	05/08/2015	11/23/2015	Bankruptcy	Liquidated	18.7%		x	On December 31, 2014 the borrowing capacity redetermination was performed and RBL was reduced to zero. The Senior Credit Facility was terminated on March 31, 2015 at SunTrust's request
Black Elk Energy Offshore	08/11/2015	07/26/2016	Bankruptcy	Liquidated	1.3%		x	The borrowing base revolving credit facility was paid off and terminated on March 17, 2014 with asset sale proceeds
BPZ Resources Inc	03/09/2015	12/31/2015	Bankruptcy	Liquidated	10.8%			no RBL within 1.5 years of default
Dune Energy, Inc	03/08/2015	09/30/2015	Bankruptcy	Emerged	8.8%	X		
Energy & Exploration Partners	12/07/2015	05/13/2016	Bankruptcy	Emerged	6.2%			no RBL within 1.5 years of default
Magnum Hunter Resources Corporation	12/05/2015	05/09/2016	Bankruptcy	Emerged	37.1%		x	RBL was paid off and replaced with a bridge term loan on November 3, 2015
Milagro Oil & Gas, Inc	07/15/2015	10/30/2015	Bankruptcy	Emerged	43.8%	X		
Miller Energy Resources Inc	10/01/2015	03/29/2016	Bankruptcy	Emerged	30.7%		x	In September 2015, Miller paid off the final amounts owed under the First Lien RBL Agreement and terminated the commitment.
New Gulf Resources	12/17/2015	05/13/2016	Bankruptcy	Emerged	26.2%	X		
Quicksilver Resources Inc.	03/17/2015	04/06/2016	Bankruptcy	Liquidated	25.1%	X		
RAAM Global Energy Company	10/26/2015	02/02/2016	Bankruptcy	Liquidated	22.5%		x	As of June 30, 2014, the company's borrowing base revolving credit facility was unavailable due to failure to comply with the interest coverage ratio/ and reduced to $0 , when the company entered entered into a forbearance agreement with its senior secured lenders on July 31, 2014
Sabine Oil & Gas Corporation	07/15/2015	08/11/2016	Bankruptcy	Emerged	22.0%	X		
Samson Resources Co.	09/16/2015		Bankruptcy	Pending	17.5%	X		
Saratoga Resources, Inc	06/18/2015		Bankruptcy	Pending	5.1%			no RBL within 1.5 years of default (previously filed for bankruptcy protection in 2009, emerged in 2010)
Swift Energy Company	12/31/2015	04/22/2016	Bankruptcy	Emerged	31.3%	X		

Parts of our recovery analyses of Samson Resources and Saratoga Resources Inc. (both still in bankruptcy protection) are based on trading prices of their debt facilities through September 6, 2016.

Source: Moody's Investors Service

Focusing on industries with greater than 10 bankruptcies in a given year between 1987-2015, it is evident that the ongoing oil & gas bust may very well rank alongside the 2001-2002 telecom bust, both in terms of number of recorded bankruptcies and the really poor firm-wide recoveries for creditors (see Exhibit 5.) Based on the data from Moody' Ultimate Recovery Database (URD), the top part of this exhibit shows the number of recorded bankruptcies in the industry segment by year, while the bottom features corresponding average firm-wide recovery rates. Although outside the scope of this report, it is worth noting that E&P bankruptcies have accelerated in 2016, with the number year-to-date about twice the figure for the all of 2015.

Exhibit 5
Industries with greater than 10 bankruptcies (in any year between 1987-2015)
As recorded in Moody's Ultimate Recovery Database

Moody's Industry/ Default year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CONSUMER PRODUCTS	5	4	9	7	3	6	3	3	1	7	10	4	2	2			
DISTRIBUTION	6	16	12	5	8	7	4	1	2		4	1	1				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		
ENERGY:OIL & GAS	11	3	1	5	3	1		1		3	7		1		2	1	17
ENERGY: E&P	7	3		4	1			1		1	5		1		1		15
SERVICES	1	5	11	6	8	2	1	1	1	5	1		1		2	3	2
TELECOMMUNICATIONS	5	4	13	25	5	3	2		1	1	2			1		1	

Average Family Recovery Rates

Moody's Industry/ Default year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CONSUMER PRODUCTS	69%	32%	44%	66%	48%	66%	36%	71%	100%	54%	66%	39%	52%	73%			
DISTRIBUTION	56%	58%	52%	48%	77%	83%	82%	24%	89%		64%	16%	28%				37%
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%		
ENERGY:OIL & GAS	47%	77%	29%	61%	56%	84%		100%		58%	65%		62%		55%	26%	21%
ENERGY: E&P	60%	77%		58%	7%			100%		26%	67%		62%		57%		21%
SERVICES	26%	37%	34%	37%	56%	50%	91%	114%	92%	33%	34%		100%		83%	75%	57%
TELECOMMUNICATIONS	41%	19%	15%	24%	66%	41%	63%		31%	42%	53%			67%		49%	

Our study includes 15 E&Ps, while there are 17 oil & gas defaults, including oilfield service company Hercules Offshore and driller Offshore Group Investment Ltd.; The 2003 sample included only one E&P bankruptcy; "Energy: Oil & Gas" sector includes E&Ps, OFS, midstream companies.
Source: Moody's Ultimate Recovery Database

US E&P Recoveries Have Taken a Significant Hit

Firm-wide recovery rates of the 15 E&P bankruptcies from 2015 that we reviewed averaged 21%, significantly lower than the historical average of 58.6% for all E&P bankruptcies filed prior to 2015, and the overall average of 50.8% for all types of corporates that filed for bankruptcy protection between 1987-2015.

According to our research (Oil & Gas: The Bad, Ugly, and Good), the E&P sector within the oil & gas industry has historically had an above average recovery rate. During the previous default cycles prior to 2015, unsecured E&P creditors, on average, reported recoveries of around 34%. This contrasts to our sample of 2015 E&P bankruptcies, where senior unsecured bond creditors barely recovered 6 cents on the dollar.

The E&P companies we reviewed that filed for bankruptcy in 2015, especially those that filed in the second half of 2015, faced the prospect of both shut capital markets and weak M&A market conditions, as a lack of confidence in commodity prices led to low asset valuations and poor recoveries. So while asset-development opportunities and commodity-price leverage of production and reserves are important, considerations of collateral value, cash flow and liquidity concerns now dominate. Many weakly-positioned E&P companies have cut capital expenditures to preserve liquidity. In this environment, companies with oil & gas reserves that have steep production-decline characteristics or relatively high operating costs are significantly affected by reduced capital expenditures, especially in less capital-efficient basins. Some of these companies that also struggle with high debt leverage, were forced to execute distressed exchanges (DEs) or enter bankruptcy. As their reserve values are being cut disproportionately, due to uneconomic reserves at low commodity prices, recovery prospects have dimmed considerably.

Secured Loans Backed by Oil & Gas Reserves Held Up the Best

E&P companies typically have readily marketable assets, with a market-based price discovery mechanism that allows for borrowing-base facilities. Consequently, reserve-based lending (RBL) is very important to the E&P sector to fund its high capital expenditures. To mitigate the risks of commodity-price volatility and depleting asset bases, lenders typically remain prudent on the amount they lend to such spec-grade companies through secured borrowing bases. Occasionally, spec-grade companies are able to negotiate an unsecured revolving credit facility. But with a few exceptions, such as Newfield Exploration Co. (Ba3 negative) and QEP Resources Inc. (B1 stable), most non-investment grade E&P companies' debt structures are comprised of a secured borrowing base revolving credit facility and unsecured bonds.

At the instrument level, recovery rates for RBLs held up comparatively well to other debt, but were way below the historical average recovery rates seen in prior energy busts. Our analysis of seven defaulted RBLs yielded an average recovery rate of 81.1%, compared with the E&P historical RBL average of 98.1% (see Exhibit 6.) All other instruments recorded recoveries that were significantly lower than those seen previously, and the overall average firm-wide recovery rate of 21.0% can only be described as catastrophic.

Exhibit 6

Recoveries for 2015 E&P Bankruptcies Were Vastly Lower Than Average

E&P Bankruptcies in 2015			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	81.1%	7	RBL/ Borrowing Base Revolver	98.1%	20
First-Lien Bank Debt	60.0%	4	First-Lien Bank Debt	96.4%	13
First-Lien Bonds	12.2%	3	First-Lien Bonds	54.4%	13
Second-lien bank debt	24.3%	4	Second-lien bank debt	58.6%	3
Second-Lien Bonds	13.7%	6	Second-Lien Bonds	25.8%	4
Senior Unsecured Bonds	5.8%	12	Senior Unsecured Bonds	33.8%	25
Subordinated Bonds	0.6%	3	Subordinated Bonds	26.9%	30
Avg. Firm-Wide Recovery Rate	**21.0%**	**15**	**Avg. Firm-Wide Recovery Rate**	**58.6%**	**33**

Source: Moody's Ultimate Recovery Database

Despite the presence of substantial debt cushions supporting RBLs in the 2015 E&P bankruptcies, recoveries on them turned out to be below the historical average. The extremely low firm-wide recovery rates for some E&P companies that liquidated assets at low prices weighed down the overall average recovery of RBLs that defaulted in 2015.

We compared the recovery rates for instruments from the 2015 cohort with those from the overall Moody's Ultimate Recovery Database (see Exhibit 7.) Other debt in the capital structure of the 15 bankrupted E&P issuers in 2015 also received extremely low recoveries, in comparison with historical averages. Senior unsecured debt recoveries were only 5.8% and subordinated bonds recovery rates were 0.6%, compared with historical averages of 40.9% and 19.9% for similar debt types from the overall database.

Exhibit 7

2015 E&P Bankruptcy Recoveries Were Also Poor Compared With a Broader Sample

E&P Bankruptcies in 2015			URD (1987-2015)		
Debt Instrument	**Average Discounted Recovery Rate**	**Number of Debt Instruments**	**Debt Instrument**	**Average Discounted Recovery Rate**	**Number of Debt Instruments**
RBL/ Borrowing Base Revolver	81.1%	7	RBL/ Borrowing Base Revolver	96.9%	239
First-Lien Bank Debt	60.0%	4	First-Lien Bank Debt	79.2%	1303
First-Lien Bonds	12.2%	3	First-Lien Bonds	71.8%	297
Second-lien bank debt	24.3%	4	Second-lien bank debt	43.6%	99
Second-Lien Bonds	13.7%	6	Second-Lien Bonds	51.8%	111
Senior Unsecured Bonds	5.8%	12	Senior Unsecured Bonds	40.9%	1138
Subordinated Bonds	0.6%	3	Senior Subordinated Bonds	19.9%	818
Avg. Firm-Wide Recovery Rate	**21.0%**	**15**	**Avg. Firm-Wide Recovery Rate**	**50.8%**	**919**

Source: Moody's Ultimate Recovery Database

Did E&P Distressed Exchanges Work? Not So Much.

While oil prices stayed robust for many years, investors chased yield and funded speculative-grade E&P companies' capital-intensive shale development. Even companies with weak credit metrics were able to negotiate flexible covenant packages within their unsecured bond indentures. For example, many such indentures include a permitted lien that allowed a company to grant liens on any of its assets to secure any credit-facility debt permitted under the indenture, including loans, bonds and capital-market debt, providing the ability to raise secured debt higher in priority than the unsecured bonds. As capital-market access for highly leveraged E&P companies became severely constrained, due to the collapse in oil prices and continued weakness in natural gas prices, it led to secured-bond issuance at relatively lower yields. That was especially true for companies with significant amounts of existing unsecured bonds, which also provided a debt cushion in case of default to the new secured-bond investors, given their priority position in the capital structure.

Exhibit 8

Distressed Exchanges Failed to Stave Off Bankruptcy for Many Companies

Month	Company	Default Amount (in USD millions)	Reason	Subsequent Bankruptcy	Default Date
Apr-Sep 2015	Halcon Resources Corporation	$1,797	Distress exchange of approximately $227 million senior unsecured notes for Halcon common equity; exchange of $1.57 billion of its existing senior unsecured notes for $1.02 billion senior secured third lien notes due 2022	Chapter 11	7/27/2016
Apr-15	Venoco, Inc.	$194	Distressed exchange of approximately $194 million senior unsecured notes for $150 million second lien notes	Chapter 11 (jointly with Denver Parent Corp)	3/18/2016
May-15	Midstates Petroleum Company Inc.	$659	Distressed exchange of approximately $659 million senior unsecured notes for approximately $524 million third lien notes	Chapter 11	4/30/2016
May -Oct 2015	Warren Resources, Inc.	$133	Distressed exchange of approximately $70 million senior unsecured notes for approximately $47 million first lien term loan; distressed exchange of $63.1 million senior unsecured notes for $11 million of new senior notes and $40.1 million of second lien term loans	Chapter 11	6/2/2016
Jun-15	White Star Petroleum, LLC (f.k.a. American Energy-Woodford, LLC)	$340	Distressed exchange of approximately $340 million senior unsecured notes for approximately $238 million second lien notes	-	
Aug-15	Sandridge Energy, Inc.	$250	Distressed exchange of approximately $250 million senior unsecured notes for approximately $94.5 million in cash	Chapter 11	5/16/2016
Sep-15	Energy XXI Gulf Coast, Inc.	$425	Distressed exchanges of over $425 million of unsecured debt, periodically	Chapter 11	4/14/2016
Sep-15	Goodrich Petroleum Corporation	$55	Distressed exchanges 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	Chapter 11	4/15/2016
Oct-15	EXCO Resources, Inc.	$828	Distressed exchange of $828 million senior unsecured notes for $400 million second lien debt	-	
Nov-15	Comstock Resources, Inc.	$101	Distressed exchange of $101 million senior unsecured notes by purchasing them using cash at an average price of 37% of par	-	
Nov-15	Linn Energy, LLC	$1,999	Distressed exchange of $2 billion of senior unsecured notes for $1 billion of second lien secured notes	Chapter 11	5/11/2016
Nov-15	Sheridan Investment Partners II, LP	$70	Distressed exchange of $70 million of senior secured term loans by purchasing them using cash at an average price of 66.875% of par	-	
Dec-15	California Resources Corp.	$2,813	Distressed exchange of $2.8 billion of senior unsecured notes for $2.25 billion of second lien secured notes	-	
Dec-15	Chesapeake Energy Corporation	$3,800	Distressed exchange of $3.8 billion of senior unsecured notes for $2.35 billion of second lien secured notes	-	

Source: Moody's Investors Service

Those E&Ps that managed to initially escape bankruptcy took an alternative path to debt restructuring and consummated DEs, swapping unsecured bonds for new secured bonds at a significant discount, in an attempt to mend unsustainable capital structures. Investors involved in DEs assumed that sharing in collateral value alongside banks, albeit through junior liens, would lead to good recoveries in the event of bankruptcy. The issuance of second-lien debt — and other secured debt variants such as third-lien debt or even 1.5-lien debt — led to significant leverage creep in the already highly levered capital structures, while funding capital expenditures and extending the financial viability of distressed companies. It arguably sustained the US oil and gas supply, while prices remained uneconomic for a significant swath of such oil and gas drilling. For those investors agreeing to these debt swaps and hoping to decrease companies' probability of bankruptcy filing, this expectation did not materialize. In fact, more than half of the DEs consummated by E&Ps in 2015 didn't prevent the companies from filing for bankruptcy protection in 2016 and it remains to be seen if these DEs will help creditors to realize better than average recoveries on its debt (see Exhibit 8.)

As our report, First-Tier Risk for Second-Lien Debt showed, of 173 corporate defaults in which there was defaulted second-lien debt in the capital structure, the average second-lien recovery was only 4.8 percentage points better than the average recovery of similarly positioned senior unsecured debt. And historically, when a company started off fixing its problems with a DE and subsequently filed for bankruptcy protection, its senior unsecured and subordinated bonds, on average, realized much worse recoveries than its counterparts on the balance sheets of first-time bankruptcy filers.

What about the 2016 E&P Cohort?

Commodity prices continued to deteriorate in the first quarter of 2016, and it was the overwhelming sentiment that global oversupply would result in low oil prices for the foreseeable future. In addition, some E&P companies that executed DEs in 2015 realized they needed further relief, as prices continued to weaken. The 2016 Cohort includes several bankruptcies of E&Ps that had executed DEs in 2015, such as Midstates Petroleum, SandRidge Energy and Energy XXI. Our research has shown that when a company started off fixing its problems with a DE and subsequently filed for a bankruptcy protection, its senior unsecured and subordinated bonds, on average, realized much worse recoveries. This indicates that the debt of such companies within the 2016 cohort will likely have very weak recoveries.

Oil prices did recover, hitting their 2016 peak in June above $50 per barrel and have since declined somewhat. Moody's also raised its price estimates for oil in June 2016, to $40 per WTI barrel for 2016, $45 for 2017 and $50 for 2018. Although these price estimates are still lower than the full-cycle costs of many E&P companies, likely continuing to force some of these companies into default, prices appear to have somewhat stabilized after the extreme volatility of the first quarter of 2016. More importantly, E&P companies have been forced to achieve efficiencies through selective drilling in prolific core areas, shutting down expensive marginal production, negotiating costs down with oilfield service (OFS) providers and by cutting G&A expenses. Achieving such cost reductions and efficiencies has led to a leaner E&P sector.

Given our view that prices have somewhat stabilized, and will likely gradually increase, it appears that the E&P sector is unlikely to deteriorate further. Although the worst is likely behind us, the E&P sector still remains stressed. Several asset acquisitions & divestitures were announced since the second quarter of 2016, and an active M&A market, along with some stability in the capital markets, will lead to better asset valuations at higher commodity prices. The 2016 cohort that is forced to file for bankruptcy in the second half of 2016 should have better debt recoveries than the 2015 cohort, although continued weak recoveries in the first half of 2016 will keep the average recovery for the 2016 cohort low. While the 2015 cohort was at least initially comprised of relatively smaller companies, the 2016 cohort has several relatively larger bankruptcies.

Even during this downturn in oil prices, E&P companies were reluctant to drop rigs in prolific areas such as the Permian Basin, while they were pretty quick to drop rigs in some other regions. Permian-focused E&P companies are also being rewarded by the capital markets, and other E&P companies are chasing such assets through M&A in the hopes of improving their own valuations. The STACK region in Oklahoma, which may or may not be as prolific as the Permian Basin, is also receiving a good amount of interest and there have been some M&A transactions in the STACK as well. Companies focused in such regions are less likely to endure liquidity stress and ultimately file for bankruptcy, while recoveries will be stronger if they do.

While we have focused on E&P bankruptcies in this report, other sectors within the oil & gas industry have also been impacted. As E&P companies focused on cutting operating costs and capital expenditures, it directly impacted the revenue line of OFS companies. While the cash flow of OFS companies has deteriorated during this downturn, with many such companies generating negative operating cash flow, future prospects are dim due to significant over-capacity of OFS equipment dampening their pricing power. We initially did not see many OFS companies filing for bankruptcy within our rated universe, but the pace of OFS company bankruptcies has picked up. Recovery expectations for such companies are low, since the continued equipment over-supply keeps asset prices low.

Some E&P companies that filed for bankruptcy in 2016 also appeared to have adequate liquidity to survive for a bit longer. However, the expectation of low commodity prices meant that there was no clear pathway to financial health, without filing for bankruptcy and wiping out large amounts of debt. The number of E&P bankruptcies year-to-date in 2016 is already about twice the number of 2015 bankruptcies among our rated debt issuers, and this tally is rapidly approaching the telecommunications cohort of 2002. Stand by.

Moody's Related Research

Sector In-Depth:

- US Corporate Defaults and Recoveries: Oil and Gas: The Bad, Ugly, and Good (May 2015)
- US Corporate Defaults and Recoveries: First-Tier Risk for Second-Lien Debt (May 2016)
- Moody's B3 Negative and Lower Corporate Ratings List: Oil & Gas Sends List to Six-Year High, Fueling Forecast for More Defaults (January 2016)
- US Corporate Defaults and Recoveries: Distressed Exchanges Remain Frequent Thanks to Oil and Gas, PE Firms (November 2015)
- Oil and Gas Industry – Global: Frequently Asked Investor Questions, (July 2016)
- Energy Industry and Oil-Exporting Sovereigns – Global: Energy-Related Stress Continues Even as Oil Prices Rebound, (June 2016)

Outlooks:

- Integrated Oil and Exploration & Production Sectors – Global: Steadier Oil Prices Help Stabilize EBITDA for Energy-Producing Sectors, (August 2016)
- Independent Exploration and Production - Global: Producers in Darwinian Survival Mode Struggle to Manage Low Commodity Prices, (June 2016)

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REPORT NUMBER 1034213

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