Institute for Energy Economics and Financial Analysis
IEEFA.org

Sightline INSTITUTE

Energy Market Update: Red Flags on U.S. Fracking

Disappointing Financial Performance Continues

Clark Williams-Derry, Sightline Director of Energy Finance;
Kathy Hipple, IEEFA Financial Analyst and Tom Sanzillo, IEEFA Director of Finance

October 2018

Executive Summary

Despite two and a half years of rising oil prices and growing expectations for improved financial results, the U.S. fracking sector continued to spill alarming amounts of red ink during the first half of 2018.

Key findings of this briefing note (the first in a series on the financial metrics driving the industry):

- Even after two and a half years of oil price increases, U.S. fracking-focused oil and gas companies continued their eight-year losing streak in the first half of 2018.
- These small and mid-sized U.S. exploration and production companies (E&Ps) reported $3.9 billion in negative cash flows through June.
- E&Ps dipped into cash reserves in the first half of the year to fund capital expenditures and shareholder payouts.

A cross section of 33 publicly traded oil and gas companies at the center of the U.S. fracking boom continued to post negative free cash flows through June. Collectively, these companies spent $3.9 billion more on new capital projects in the first six months of the year than they realized from selling oil and gas.

These disappointing results come on the heels of a decade of bleak financial performance as the fracking sector has failed consistently to produce enough cash to satisfy its thirst for capital. Time and again, as frackers have returned to capital markets for new infusions of cash, these companies have racked up enormous long-term debts.

The ranks of frustrated investors are growing.

The first-half cash flow results, though disappointing, represented an improvement over early 2016 and 2017, when the companies in question racked up negative free cash flows of $11 billion and $7.2 billion, respectively. The run-up in oil prices during the third quarter of this year may help oil and gas companies improve cash flows.

Yet as oil and gas companies prepare to release third quarter results, a key question remains:

Will fracking companies produce enough cash—and for long enough—to cover both capital outlays and payouts to investors?

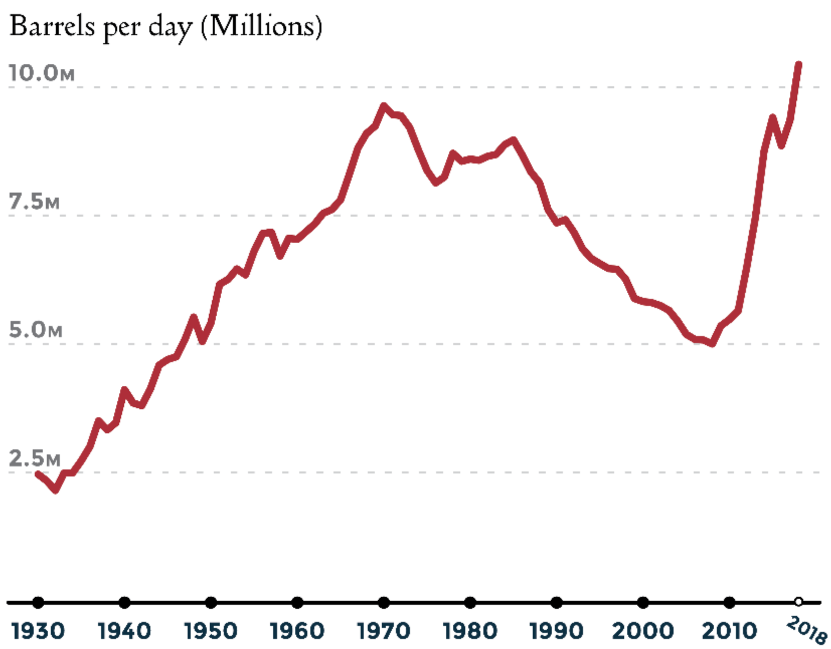
By definition, a healthy, mature industry consists of companies that generate enough cash to pay for new capital spending, while also paying down old debts and rewarding equity investors. With the fracking sector producing weak cash flow, however, investors will struggle to identify individual firms that can produce blue-chip results.

Until oil and gas companies prove that they can sustain abundant free cash flows, investors have ample reason to remain wary of the sector as a whole.

A Financial Bust Within a Production Boom

To outward appearances, the U.S. oil and gas industry is in the midst of a decade-long boom. Hydraulic fracturing, or "fracking," has unleashed a torrent of oil and gas production, lifting U.S. output to all-time highs and fueling dreams of American energy dominance on the global stage. (See Figure 1.)

Figure 1: U.S. Oil Production



Source: Energy Information Administration and Sightline research.

Yet in financial terms, America's fracking boom has been a world-class bust.

Despite significant technological advances—and, more important, an influx of hundreds of billions of dollars of capital—fracking has yet to produce positive cash flows. To the contrary, frackers have consistently spent more on drilling than they have generated from selling oil and gas.

For an immature industry, negative cash flows are par for the course, as early investors in internet startups are well aware. As a sector matures, however, investors expect companies to realize enough cash from operations to fund capital outlays and avoid diluting investments with new infusions of cash, consolidations, write-offs, and bankruptcies.

The Wall Street Journal has chronicled investors' growing frustration that fracking hasn't produced positive cash flows. A December 2017 Journal article, "Wall Street Tells Frackers Stop Counting Barrels and Start Making Profits," highlighted investor impatience with the sector. At the beginning of 2018, when many analysts asserted that U.S. fracking companies could soon turn the corner, the Journal captured the prevailing mix of optimism and caution in "Frackers Could Make More Money Than Ever in 2018, If They Don't Blow It." The sector reported disappointing results in the first quarter, however, as the Journal reported in an article headlined "Oil is Above $70, but Frackers Still Struggle to Make Money."

Those struggles continued. A review of financial results for 33 independent, publicly traded oil and gas companies that represent a cross-section of the companies at the center of the U.S. fracking boom—reveals that frackers continued to generate red ink during the second quarter. All told, these mid-size oil and gas production companies spent $3.9 billion more on new capital projects in the first two quarters of 2018 than they realized from selling oil and gas. (See Table 1).

Table 1: Free Cash Flow, Selected E&P Companies, Last 10 Quarters

	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2
Operating Cash Flow	2,834	6,735	8,713	8,273	9,711	9,089	10,114	12,393	13,635	16,565
Capital Expenditure	(11,488)	(9,125)	(9,802)	(14,453)	(13,327)	(12,714)	(15,226)	(15,276)	(14,596)	(19,484)
Free Cash Flow (FCF)	**(8,655)**	**(2,388)**	**(1,091)**	**(6,182)**	**(3,615)**	**(3,624)**	**(5,111)**	**(2,885)**	**(957)**	**(2,920)**

Only nine of these 33 companies had positive free cash flows for the first half of the year. Poor performance spanned the sector: sub-groupings of oil-focused, gas-focused, and diversified companies all failed to cover their capital expenditures within operational cash flows. All told, these companies also depleted $5 billion in cash reserves to keep capital projects on track while sustaining distributions to investors. (See Data Appendix.)

Negative cash flows in the first half of 2018 continued a long-standing trend. Despite rapid growth in oil and gas output, the fracking industry as a whole has never achieved positive free cash flows. (See Table 2.)

Table 2: Free Cash Flow, Selected E&P Companies, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
Operating Cash Flow	55,786	63,663	65,035	77,002	80,716	36,449	26,551	41,469
Capital Expenditure	(69,796)	(85,543)	(102,871)	(93,794)	(113,762)	(70,899)	(44,868)	(56,926)
Free Cash Flow (FCF)	**(14,012)**	**(21,880)**	**(37,835)**	**(16,792)**	**(33,043)**	**(34,449)**	**(18,318)**	**(15,453)**

From January 2010 to June 2018, these oil and gas companies collectively spent $196 billion more on capital projects than they made selling oil and gas. To sustain their operations, they racked up $46 billion in long-term debt, while raising an additional $41 billion from equity markets. (See Data Appendix.)

The larger universe of fracking companies logged even worse results as a wave of corporate bankruptcies (not captured in this sample) wiped away billions of additional dollars in debt and equity.

The $3.9 billion in negative cash flows in the first two quarters of 2018 represented an improvement over the first halves of 2016 and 2017, when red ink totaled $11 billion and $7.2 billion, respectively. But even if such improvement continues, capturing investment gains from the sector will require diligent, company-by-company evaluation of each firm's financial and geological fundamentals.

Careful investors would be wise to view fracking companies as speculative investments until the industry as a whole improves, producing both sustained profits and consistently positive cash flows.

Data and Methods

This report tracks the financial performance of 33 U.S.-focused oil and gas exploration and production companies. The analysis started with the list of stocks held as components of the SPDR S&P Oil & Gas Exploration & Production ETF (ticker symbol XOP), and then excluded companies that:

- Lacked comprehensive income or cash flow data for 2010 through 2017;
- declared bankruptcy at some point between 2010 and the second quarter of 2018;
- derived significant revenues from midstream (transportation) or downstream (refining and petrochemicals) operations; or
- had significant revenues from exploration and production operations outside the U.S.

The final list includes the following 33 U.S.-focused oil and gas exploration and production companies. All financial data are taken from Morningstar Research.

Data Appendix

Free Cash Flow by Company, by Quarter

Company	Symbol	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2
Anadarko Petroleum Corporation	APC	(71)	(245)	(603)	(103)	(117)	(505)
Antero Resources Corporation	AR	(122)	(426)	524	(186)	(4)	(266)
Apache Corporation	APA	(58)	40	(219)	(95)	(262)	96
Cabot Oil & Gas Corporation	COG	61	76	(4)	1	117	43
Callon Petroleum Company	CPE	(13)	(37)	(67)	(72)	(19)	(79)
Carrizo Oil & Gas Inc.	CRZO	(54)	(74)	(717)	(83)	(96)	(59)
Chesapeake Energy Corporation	CHK	(432)	(826)	(304)	(185)	148	(232)
Cimarex Energy Co.	XEC	(70)	(25)	(82)	(4)	41	(43)
Concho Resources Inc.	CXO	(52)	(36)	(719)	(31)	(5)	124
Continental Resources, Inc.	CLR	75	(46)	(140)	237	258	11
Denbury Resources Inc.	DNR	(44)	(98)	(4)	57	35	69
Devon Energy Corporation	DVN	73	290	35	(74)	(34)	(107)
Diamondback	FANG	(1,770)	(180)	(302)	(162)	(147)	(192)
Energen	EGN	(128)	(141)	(68)	(3)	56	(58)
EOG Resources, Inc.	EOG	(49)	51	(133)	271	111	258
EQT Corporation	EQT	(466)	(217)	(78)	(360)	172	(328)
Hess Corporation	HES	(41)	(315)	(425)	(211)	(190)	(68)
Laredo Petroleum	LPI	(50)	(34)	(40)	(58)	(56)	(50)
Marathon Oil Corporation	MRO	313	(22)	81	(153)	(13)	129
Matador Resources Company	MTDR	(164)	(85)	(126)	(146)	(85)	(162)
Murphy Oil	MUR	94	66	(35)	6	5	5
Newfield Exploration Company	NFX	(76)	29	(166)	(124)	(118)	77
Noble Energy, Inc.	NBL	(51)	(287)	(200)	(160)	(204)	(499)
Oasis Petroleum	OAS	12	(54)	(102)	5	(26)	22
PDC Energy Inc	PDCE	15	(74)	(77)	(34)	(174)	(62)
Pioneer Natural Resources Company	PXD	(155)	(248)	(254)	46	-	(456)
QEP Resources, Inc.	QEP	(96)	(163)	(134)	(984)	(246)	(186)
Range Resources Corporation	RRC	39	(97)	(112)	(162)	62	(101)
SM Energy Company	SM	(95)	(118)	(129)	(121)	(161)	(275)
Southwestern Energy Company	SWN	(28)	(13)	(113)	(17)	62	(82)
W&T Offshore Inc.	WTI	57	(36)	29	(22)	54	13
Whiting Petroleum Corporation	WLL	(54)	(94)	(200)	69	55	99
WPX Energy, Inc.	WPX	(215)	(185)	(227)	(27)	(176)	(56)

Composite Snapshot of Selected E&P Companies, 2016-2018q2

	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2
Basic Information										
Total Revenues	16,298	18,914	21,542	22,781	26,500	23,417	25,198	30,132	32,880	32,069
Total Costs excluding tax provision	34,030	32,900	26,484	27,552	22,217	24,155	30,368	32,438	28,357	30,460
Net Income	(13,803)	(10,898)	(4,220)	(7,698)	(2,355)	109	(2,595)	6,170	3,046	721
Long Term Debt	138,422	133,944	132,484	130,728	128,844	130,474	130,263	131,627	131,535	125,764
Share Distributions										
Dividends	617	515	499	510	620	545	553	572	683	721
Net Stock Buybacks (Issuance)	(10,163)	(3,892)	(4,890)	(3,667)	(984)	78	(904)	(2,596)	2,848	1,380
Net Distributions	(9,546)	(3,377)	(4,391)	(3,157)	(364)	623	(351)	(2,024)	3,531	2,101
Cash at End of Period	21,933	22,152	28,569	25,871	25,662	24,588	22,185	22,056	18,952	17,070
Free Cash Flow										
Operating Cash Flow	2,834	6,735	8,713	8,273	9,711	9,089	10,114	12,393	13,635	16,565
Capital Expenditure	(11,488)	(9,125)	(9,802)	(14,453)	(13,327)	(12,714)	(15,226)	(15,276)	(14,596)	(19,484)
Free Cash Flow (FCF)	**(8,655)**	**(2,388)**	**(1,091)**	**(6,182)**	**(3,615)**	**(3,624)**	**(5,111)**	**(2,885)**	**(957)**	**(2,920)**

Composite Snapshot of Selected E&P Companies, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
Basic Information								
Total Revenues	141,783	136,215	124,954	144,261	165,616	97,580	79,537	106,647
Total Costs excluding tax provision	112,206	104,947	103,886	117,929	138,711	211,810	120,963	109,876
Net Income	19,838	22,027	10,649	17,850	14,773	(85,728)	(36,620)	1,917
Long Term Debt	79,872	88,930	112,203	115,777	129,938	137,416	130,728	131,627
Share Distributions								
Dividends	2,622	2,732	3,315	3,016	3,597	3,598	2,153	2,306
Net Stock Buybacks (Issuance)	(3,002)	(150)	(270)	(1,267)	1,088	(11,908)	(25,290)	(4,567)
Net Distributions	(380)	2,582	3,045	1,749	4,685	(8,310)	(23,137)	(2,261)
Cash at End of Period	16,298	15,167	13,458	21,310	27,205	15,821	25,937	22,069
Free Cash Flow								
Operating Cash Flow	55,786	63,663	65,035	77,002	80,716	36,449	26,551	41,469
Capital Expenditure	(69,796)	(85,543)	(102,871)	(93,794)	(113,762)	(70,899)	(44,868)	(56,926)
Free Cash Flow (FCF)	**(14,012)**	**(21,880)**	**(37,835)**	**(16,792)**	**(33,043)**	**(34,449)**	**(18,318)**	**(15,453)**

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) conducts research and analyses on financial and economic issues related to energy and the environment. IEEFA's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. More can be found at www.ieefa.org.

About Sightline

Sightline Institute is an independent, nonprofit research and communications center. More can be found at www.sightline.org.

Important Information

This report is for information and educational purposes only. The Institute for Energy Economics and Financial Analysis ("IEEFA") does not provide tax, legal, investment or accounting advice. This report is not intended to provide, and should not be relied on for, tax, legal, investment or accounting advice. Nothing in this report is intended as investment advice, as an offer or solicitation of an offer to buy or sell, or as a recommendation, endorsement, or sponsorship of any security, company, or fund. IEEFA is not responsible for any investment decision made by you. You are responsible for your own investment research and investment decisions. This report is not meant as a general guide to investing, nor as a source of any specific investment recommendation. Unless attributed to others, any opinions expressed are our current opinions only. Certain information presented may have been provided by third parties. IEEFA believes that such third-party information is reliable and has checked public records to verify it wherever possible, but does not guarantee its accuracy, timeliness or completeness; and it is subject to change without notice.