

October Opportunity

Summary and Recommendation

We expect the sharp stock price declines of October 2018 to be reversed as election uncertainty passes in November and as we enter the favorable seasonal cycle from November to May. Appearing attractively priced for new investment, McDep oil and gas stocks trade at a median McDep Ratio of 0.78.

- Oil price seems to be holding near our long-term expectation of \$70 a barrel despite a short-lived steep decline in stock markets (see chart U.S. Crude Oil and Natural Gas Price on page 2). Upward momentum for oil price may resume after the U.S. elections in November.
- Natural gas price appears to be strengthening toward our long-term expectation of \$4 a mmbtu. Low natural gas inventories and the approach of winter may bring higher natural gas price.
- The recent upsurge in interest rates translates to a higher real yield while inflation looks to be holding steady (see chart U.S. Ten-Year Interest and Inflation on page 2). A higher real yield often accompanies higher real economic growth and stronger demand for energy. In that case, energy price may be driven more by volume growth than inflation.
- A favorable fundamental outlook makes us optimistic about oil stocks like **Suncor (SU)**, 78% oil; **Pioneer Natural Resources (PXD)**, 94% oil; and **Marathon Oil (MRO)**, 94% oil.
- Similarly, we are optimistic on the outlook for natural gas stocks like **Birchcliff Energy (BIREF)**, 52% natural gas; **Range Resources (RRC)**, 55%; and **San Juan Basin Royalty Trust (SJT)**, 100%. The stock price charts for RRC and BIREF look like a long base has formed at a low level and a recovery toward old highs may have begun. SJT is a special case where exaggerated fluctuations in monthly income paid by a new operator have unnecessarily depressed the price of the stock.

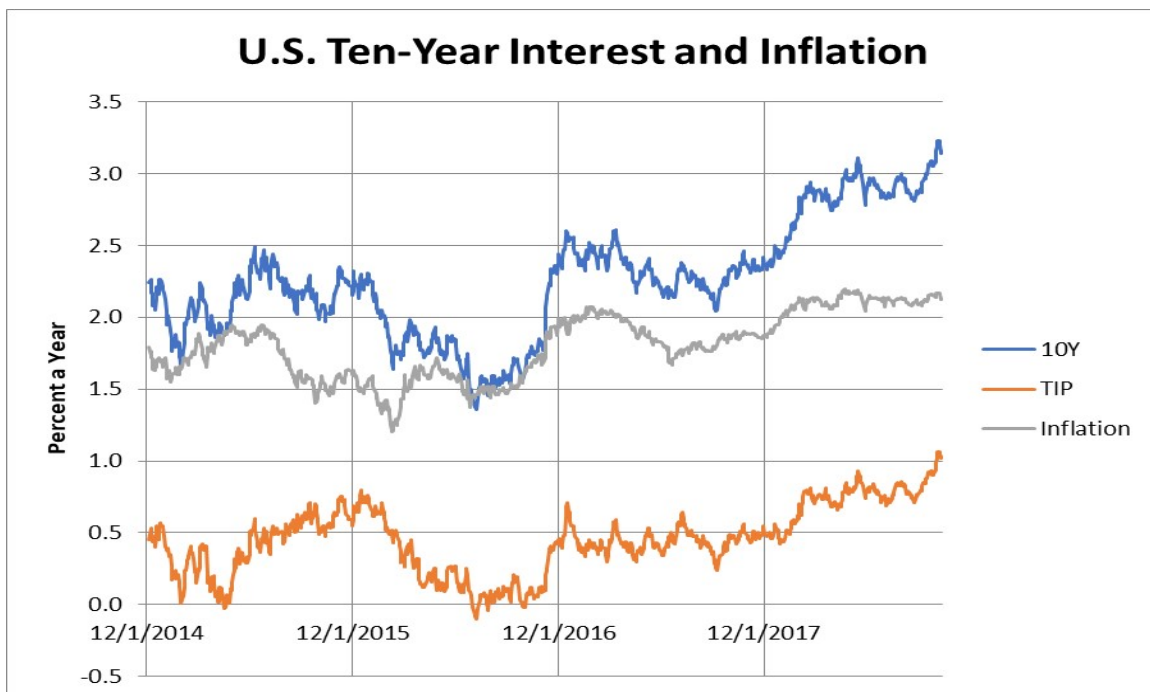
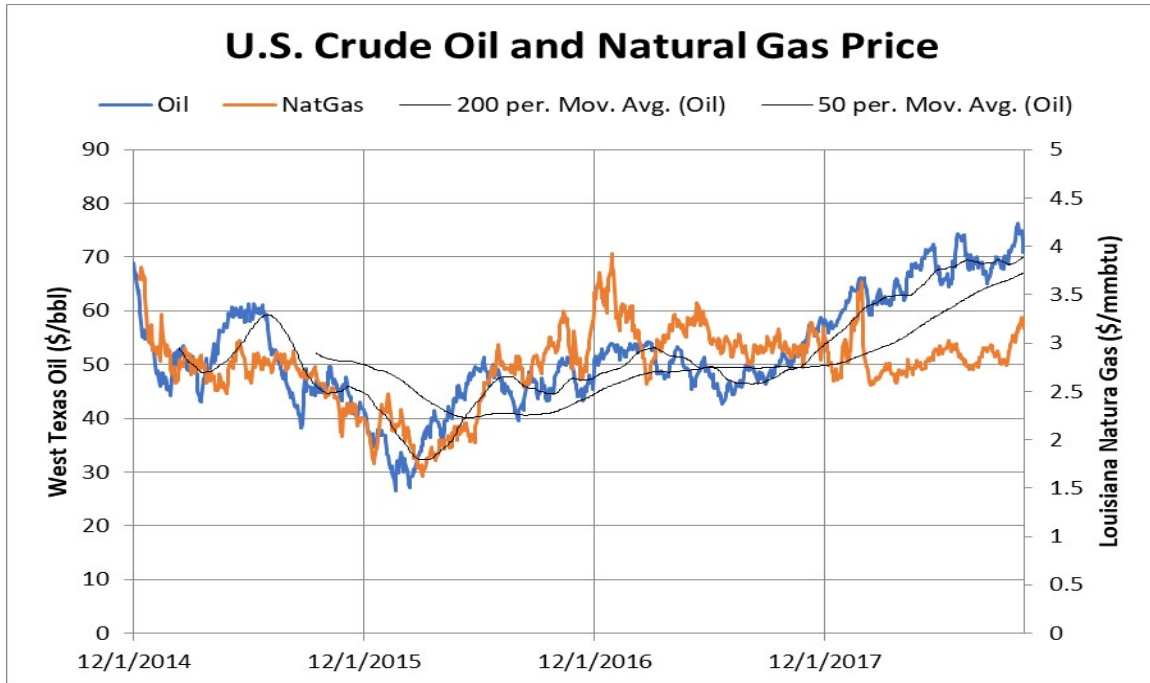
We believe that positioning several of our stocks in a diversified portfolio can contribute positively to long-term performance results (see Tables 1-4 on pages 3-6). Past analyses provide more detail (see Index of Recent Research on page 7).

Kurt H. Wulff, CFA



Meter Reader

Monthly Analysis of Oil and Gas Stocks
Intraday October 15, 2018





Meter Reader

Monthly Analysis of Oil and Gas Stocks

Intraday October 15, 2018

Table 1

McDep Energy Stocks Ranked by McDep Ratio

		Price (US\$/sh)	Market Cap (US\$mm)	Enterprise Value (\$mm)	EV/ Market Cap	EV/ Ebitda NTM	PV/ Ebitda NTM	Oil Prod'n/ Ebitda (%)	Dist. Yield NTM (%)	McDep Ratio (EV/PV)
	Symbol/Rating	15-Oct 2018								
Integrated										
	XOM	81.08	346,000	436,000	1.26	7.6	8.3	51	4.0	0.92
	CVX	117.72	226,000	286,000	1.27	6.6	8.0	64	3.8	0.82
	SU	36.98	61,000	80,000	1.32	6.3	8.0	78	3.0	0.79
	RDS-B	67.81	284,000	401,000	1.41	6.9	9.2	49	5.5	0.75
	<i>Total or Median</i>		<i>917,000</i>	<i>1,203,000</i>	<i>1.29</i>	<i>6.7</i>	<i>8.2</i>	<i>57</i>	<i>3.9</i>	<i>0.81</i>
Large Independent										
	OXY	72.22	55,400	69,100	1.25	7.2	7.5	71	4.3	0.97
	EOG	122.63	71,100	78,200	1.10	7.6	8.0	90	0.7	0.95
	COP	73.47	87,000	109,000	1.25	6.9	7.4	78	1.7	0.93
	PXD	173.58	29,700	32,300	1.09	7.2	8.2	94	0.2	0.88
	<i>Total or Median</i>		<i>243,200</i>	<i>288,600</i>	<i>1.17</i>	<i>7.2</i>	<i>7.8</i>	<i>84</i>	<i>1.2</i>	<i>0.94</i>
Mid-Size Independent										
	HES	66.14	19,700	27,100	1.38	10.3	9.0	89	1.5	1.14
	CLR	61.67	23,100	29,500	1.27	7.1	7.8	83	-	0.90
	XEC	92.60	8,800	10,400	1.18	6.3	9.1	85	0.8	0.70
	DVN	36.56	19,200	23,900	1.25	6.2	9.4	88	0.9	0.66
	MRO	20.83	17,710	24,400	1.38	5.8	9.6	89	1.0	0.60
	<i>Total or Median</i>		<i>88,500</i>	<i>115,300</i>	<i>1.27</i>	<i>6.3</i>	<i>9.1</i>	<i>88</i>	<i>0.9</i>	<i>0.70</i>
Small Independent										
	CRC	38.34	1,600	8,400	5.2	5.9	7.7	93	-	0.76
	RRC	17.49	4,300	9,000	2.08	5.4	8.7	45	0.5	0.62
	WLL	43.09	4,000	7,100	1.80	4.6	7.9	97	-	0.58
	BIREF	3.71	1,000	1,600	1.65	4.8	9.1	48	2.1	0.53
	<i>Total or Median</i>		<i>10,900</i>	<i>26,100</i>	<i>1.94</i>	<i>5.1</i>	<i>8.3</i>	<i>70</i>	<i>0.2</i>	<i>0.60</i>
Income										
	SBR	40.18	590	590	1.00	12.4	15.4	66	8.1	0.80
	DMLP	19.60	630	630	1.00	8.8	10.8	86	9.9	0.82
	PBT	7.67	360	360	1.00	11.9	15.5	80	8.3	0.77
	SJT	5.53	260	260	1.00	11.9	17.2	-	5.1	0.69
	CRT	14.59	90	90	1.00	8.0	13.6	38	10.3	0.59
	<i>Total or Median</i>		<i>1,900</i>	<i>1,900</i>	<i>1.00</i>	<i>11.9</i>	<i>15.4</i>	<i>66</i>	<i>8.3</i>	<i>0.77</i>

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation, amort.

Estimated Ebitda (cash flow) tied to one-year prices of US\$70 a barrel and \$3 a million btu. NTM = Next Twelve Months ending 9/30/19.

Estimated Present Value (PV) presumes a long-term price for oil of US\$70 a barrel and natural gas, \$4.00 a million btu.

McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses. For historical research see www.mcdep.com



Meter Reader

Monthly Analysis of Oil and Gas Stocks
Intraday October 15, 2018

Table 2										
McDep Energy Stocks										
Unlevered Cash Flow (Ebitda)										
Ranked by Total Ebitda										
		Price (US\$/sh)		Upstream NTM			Down- stream	Total Ebitda	Distrib./ Ebitda	Distrib. NTM
	Symbol/Rating	15-Oct 2018	Volume (mmboe)	Equiv. Price (\$/boe)	Margin (%)	Ebitda (\$/boe)	Uplift (\$/boe)	NTM (\$mm)	Ebitda (%)	NTM (\$/sh)
Integrated										
	RDS-B	67.81	1355	48.22	65	31.20	11.81	42,264	27	3.76
	XOM	81.08	1426	53.66	52	27.70	12.34	39,497	25	3.28
	CVX	117.72	1081	52.83	62	32.80	7.40	35,468	20	4.48
	SU	36.98	288	61.58	56	34.27	9.47	9,881	14	1.09
	Total or Median		4150	53.24	59	32.00	10.64	127,109	22	
Large Independent										
	COP	73.47	490	52.09	62	32.10	0.00	15,738	9	1.22
	EOG	122.63	288	48.13	74	35.63	0.00	10,271	5	0.88
	OXY	72.22	258	47.60	58	27.60	9.29	7,131	25	3.12
	PXD	173.58	134	45.99	72	33.30	0.00	4,475	1	0.32
	Total or Median		1171	47.87	67	32.70	0.00	37,616	7	
Mid-Size Independent										
	MRO	20.83	148	41.65	69	28.60	0.00	4,236	4	0.20
	CLR	61.67	117	43.98	81	35.70	0.00	4,160	-	-
	DVN	36.56	199	34.04	57	19.40	0.00	3,863	4	0.32
	HES	66.14	101	46.17	57	26.20	0.00	2,639	11	1.00
	XEC	92.60	85	29.37	66	19.40	0.00	1,643	4	0.72
	Total or Median		649	41.65	66	26.20	0.00	16,542	4	
Small Independent										
	RRC	17.49	144	20.67	56	11.60	0.00	1,666	1	0.08
	WLL	43.09	49	47.86	67	32.10	0.00	1,566	-	-
	CRC	38.34	49	55.73	52	29.20	0.00	1,429	-	-
	BIREF	3.71	23	19.94	75	14.90	0.00	337	6	0.08
	Total or Median		264	34.27	62	22.05	0.00	4,997	1	
Income										
	DMLP	19.60	2.38	40.41	75	30.15	0.00	72	88	1.94
	SBR	40.18	1.73	32.93	83	27.41	0.00	47	100	3.25
	PBT	7.67	1.16	43.23	60	25.90	0.00	30	99	0.64
	SJT	5.53	3.94	12.33	44	5.48	0.00	22	61	0.28
	CRT	14.59	0.39	43.64	64	27.84	0.00	11	82	1.50
	Total or Median		10	40.41	64	27.41	0.00	182	88	
For historical research see www.mcdep.com										



Meter Reader

Monthly Analysis of Oil and Gas Stocks
Intraday October 15, 2018

Table 3
McDep Energy Stocks
Net Present Value Per Share

		<i>Price</i>				<i>Devel.</i>	<i>Undev/</i>	<i>Nat</i>	<i>Top</i>	<i>Net</i>
		<i>(US\$/sh)</i>				<i>Resrvs/</i>	<i>Devel.</i>	<i>Gas/</i>	<i>Line/</i>	<i>Present</i>
	<i>Symbol/Rating</i>	<i>15-Oct</i>	<i>Shares</i>	<i>Debt</i>	<i>P/E</i>	<i>Prod</i>	<i>Resrvs</i>	<i>Ebitda</i>	<i>Ebitda</i>	<i>Value</i>
		<i>2018</i>	<i>(mm)</i>	<i>(\$mm)</i>	<i>NTM</i>	<i>NTM</i>	<i>(%)</i>	<i>(%)</i>	<i>(%)</i>	<i>(US\$/sh)</i>
Integrated										
	Chevron Corporation	CVX	117.72	1,919	60,359	14	7.0	57	22	150.00
	Royal Dutch Shell	RDS-B	67.81	4,188	116,710	12	7.3	22	32	100.00
	Exxon Mobil Corporation	XOM	81.08	4,271	90,130	13	9.8	52	27	90.00
	Suncor Energy	SU	36.98	1,641	19,254	10	8.8	87		50.00
	<i>Median</i>					<i>8.1</i>	<i>55</i>			
Large Independent										
	Pioneer Natural Resources	PXD	173.58	171	2,600	21	6.7	9	6	200.00
	EOG Resources, Inc.	EOG	122.63	580	7,071	17	4.7	43	10	130.00
	ConocoPhillips	COP	73.47	1,181	22,036	13	7.1	31	22	80.00
	Occidental Petroleum Corp.	OXY	72.22	767	13,700	13	7.5	35	4	75.00
	<i>Median</i>					<i>6.9</i>	<i>33</i>			
Mid-Size Independent										
	Cimarex Energy Company	XEC	92.60	95	1,579	12	4.9	35	15	140.00
	Continental Resources	CLR	61.67	375	6,333	18	5.2	121	17	70.00
	Devon Energy Corporation	DVN	36.56	525	4,720	13	8.8	24	12	60.00
	Hess Corporation	HES	66.14	298	7,397		7.2	59	11	55.00
	Marathon Oil Corporation	MRO	20.83	850	6,712	17	6.1	60	11	40.00
	<i>Median</i>					<i>6.1</i>	<i>59</i>			
Small Independent										
	Whiting Petroleum Corporation	WLL	43.09	92	3,170	24	6.9	84	3	100.00
	California Resources	CRC	38.34	43	6,800		9.0	41	7	100.00
	Range Resources	RRC	17.49	246	4,657	9	9.7	83	55	40.00
	Birchcliff Energy Ltd.	BIREF	3.71	268	641	13	7.2	228	52	9.00
	<i>Median</i>					<i>8.1</i>	<i>83</i>			
Income										
	Sabine Royalty Trust	SBR	40.18	15	-	12	10.4	3	33	50.00
	Cross Timbers Royalty Trust	CRT	14.59	6	-	10	12.6	-	69	25.00
	Dorchester Minerals, L.P.	DMLP	19.60	32	-	13	6.8	-	17	24.00
	Permian Basin RT	PBT	7.67	47	-	12	6.8	-	17	10.00
	San Juan Basin Royalty Trust	SJT	5.53	47	-	20	10.5	-	100	8.00
	<i>Median</i>					<i>10.4</i>				
P/E = Stock Price to Earnings. For historical research see www.mcdep.com .										



Meter Reader

Monthly Analysis of Oil and Gas Stocks
Intraday October 15, 2018

Table 4									
McDep Energy Stocks									
Total Return Year-to-Date 2018									
Ranked by Unlevered Total Return									
		Price (\$/sh)	Price (\$/sh)	Price Change (%)	Cash Distrib. (%)	Equity Total Return (%)	Unlevered Debt Return (\$/sh) (%)		
	Symbol/Rati	15-Oct 2018	29-Dec 2017						McDep Ratio
Integrated									
Royal Dutch Shell	RDS-B	67.81	68.29	(1)	4	3	28	2	0.75
Suncor Energy	SU	36.98	36.72	1	2	3	12	2	0.79
Exxon Mobil Corporation	XOM	81.08	83.64	(3)	3	(0)	21	(0)	0.92
Chevron Corporation	CVX	117.72	125.19	(6)	3	(3)	31	(3)	0.82
	<i>Median</i>			(2)		1		1	0.81
Large Independent									
ConocoPhillips	COP	73.47	54.89	34	2	35	19	26	0.93
EOG Resources, Inc.	EOG	122.63	107.91	14	0	14	12	13	0.95
Occidental Petroleum Corp.	OXY	72.22	73.66	(2)	3	1	18	1	0.97
Pioneer Natural Resources	PXD	173.58	172.85	0	0	1	15	0	0.88
	<i>Median</i>			7		8		7	0.94
Mid-Size Independent									
Hess Corporation	HES	66.14	47.47	39	2	41	25	27	1.14
Marathon Oil Corporation	MRO	20.83	16.93	23	1	24	8	16	0.60
Continental Resources	CLR	61.67	52.97	16	-	16	17	12	0.90
Devon Energy Corporation	DVN	36.56	41.40	(12)	1	(11)	9	(9)	0.66
Cimarex Energy Company	XEC	92.60	122.01	(24)	0	(24)	17	(21)	0.70
	<i>Median</i>			16		16		12	0.70
Small Independent									
Whiting Petroleum Corporation	WLL	43.09	26.48	63	-	63	34	27	0.58
California Resources	CRC	38.34	19.44	97	-	97	160	11	0.76
Birchcliff Energy Ltd.	BIREF	3.71	3.50	6	2	8	2	5	0.53
Range Resources	RRC	17.49	17.06	2	0	3	19	1	0.62
	<i>Median</i>			34		35		8	0.60
Income									
Dorchester Minerals, L.P.	DMLP	19.60	15.20	29	9	38	-	38	0.82
Cross Timbers Royalty Trust	CRT	14.59	14.69	(1)	7	6	-	6	0.59
Sabine Royalty Trust	SBR	40.18	44.60	(10)	5	(5)	-	(5)	0.80
Permian Basin RT	PBT	7.67	8.87	(13)	5	(9)	-	(9)	0.77
San Juan Basin Royalty Trust	SJT	5.53	8.24	(33)	3	(30)	-	(30)	0.69
	<i>Median</i>			(10)		(5)		(5)	0.77
	<i>Grand Median</i>			1		3		2	0.78
Natural Gas (\$/mmbtu)									
		3.23	2.95	9					
Oil -West Texas Intermediate (\$/bbl)									
		71.38	60.09	19					
Total Stock Market - U.S.	VTI	141.63	137.25	3	1	5			
Developed Markets - ex US	VEA	40.60	44.86	(9)	2	(7)			
Emerging Markets	VWO	38.51	45.91	(16)	2	(14)			
Total Stock Market - World	VT	71.54	74.26	(4)	2	(2)			
Source: McDep LLC, Yahoo, CME Group, Bloomberg									
For historical research see www.mcdep.com									



Meter Reader

Monthly Analysis of Oil and Gas Stocks

Intraday October 15, 2018

Index of Recent Research				
<i>Date</i>	<i>Series</i>	<i>Symbol</i>	<i>Subject</i>	<i>Theme</i>
9-Oct	ISI	XOM	ExxonMobil	Efficient Energy Producer
3-Oct	ISI	BIREF	Birchcliff Energy	Canada Energy Game Changer
19-Sep	ISI	SJT, CRT	San Juan Basin Royalty Trust	McDep Opportunity
18-Sep	Meter Reader	XOM, CVX, RDS, PXD, RRC, DMLP		Low McDep Ratio for Energy Profit
4-Sep	ISI	SU	Suncor	Oil Value Upside
28-Aug	II	CRT, DMLP, PBT, SBR, SJT		Roll Forward and Simplify
20-Aug	II	BIREF, CRC, RRC, WLL		Strategic Value, Uncertain Price
13-Aug	Meter Reader	COP,EOG,OXY,PXD		Large Cap Producers Advancing
9-Aug	II	CLR, XEC, HES, DVN, MRO		
7-Aug	ISI	DMLP	Dorchester Minerals, L.P.	Q2 on Trend
30-Jul	II	CVX, RDS, SU, XOM		Durable Cash Generators
23-Jul	II	CRT, DMLP, PBT, SBR, SJT		Energy Price Participation
18-Jul	ISI	COP	ConocoPhillips	Large Cap Cash Producer
10-Jul	Meter Reader			Terms of Trade
6-Jul	ISI	CVX	Chevron	Oil Value Upside
2-Jul	Meter Reader	Special	Outperformance in First Half 2018	Attractive Value, Auspicious Momentum
21-Jun	II	CRT, DMLP, PBT, SBR, SJT		8% Cash in Uncertain Times
12-Jun	Meter Reader			Positive Charts
6-Jun	ISI	RDS	Royal Dutch Shell	Bright Future in Integrated Gas
30-May	ISI	BIREF	Birchcliff Energy	A Play on Narrowing the Gap
24-May	ISI	DMLP	Dorchester Minerals, L.P.	Riding the Shale Trend
15-May	Meter Reader			\$70 Oil Here
9-May	ISI	XEC	Cimarex Energy	Quality Company, Lagging Stock
4-May	ISI	MRO	Marathon Oil	Raise NPV to \$40 a Share from \$30
30-Apr	ISI	XOM	ExxonMobil	Reduce NPV to \$90 from \$100 a Share
24-Apr	II	CRT, DMLP, PBT, SBR, SJT		8% Median Distribution Yield
19-Apr	ISI	DMLP	Dorchester Minerals, L.P.	11% Distribution Reinforced
17-Apr	II	COP,EOG,OXY,PXD		Positive Trends for Large Cap Independent Producers
10-Apr	Meter Reader			Transition to Moderate Growth and Inflation
3-Apr	II	SJT, CRT	San Juan Basin	Regional Natural Gas Price Softness
21-Mar	II	BIREF, CRC, RRC, WLL		Small Cap High Reward, High Risk
15-Mar	Meter Reader		ExxonMobil	Out-of-Favor Industry Leader
12-Mar	ISI	DMLP	Dorchester Minerals, L.P.	Raise Distribution Yield to 11%
1-Mar	ISI	EOG	EOG Resources	Raise NPV to \$130 on Production
28-Feb	II	CLR, XEC, HES, DVN, MRO		Oil Price Upside for Mid-Size Independent Producers
20-Feb	II	CRT, DMLP, PBT, SBR, SJT		7% Distributions Inflation Protected
13-Feb	Meter Reader			Insulate Inflation
5-Feb	ISI	HES	Hess Corporation	Repositioning for Reward
2-Feb	ISI	COP	ConocoPhillips	Raise NPV to \$80 on Higher Cash Flow
25-Jan	II	CVX, RDS, SU, XOM		Integrated Oil Value Creators
19-Jan	ISI	DMLP	Dorchester Minerals, L.P.	Highest Distribution in Three Years
16-Jan	Meter Reader			Growth is Good
2-Jan	Meter Reader	Special		New Look at Beginning of Year 2018
29-Dec	Meter Reader	Special		Trending Up at End of Year 2017
20-Dec	II	CRT, DMLP, PBT, SBR, SJT		Top Line Premium and Bottom Line Upside
12-Dec	Meter Reader			Oil and Gas Gains in 2018
5-Dec	ISI	RDS	Royal Dutch Shell	Share Buyback Ahead
MR = Meter Reader (published monthly on or about second or third Tuesday)				
ISI = Independent Stock Idea				
II = Industry Idea				
For historical research by stock, go to mcdep.com , click on Stock Ideas , click on stock by name.				

Please see disclosures on the final page.

Page 7



Monthly Analysis of Oil and Gas Stocks
Intraday October 15, 2018

Disclaimer: This analysis was prepared by Kurt Wulff, Manager of McDep LLC. The firm used sources and data believed to be reliable but makes no representation as to their accuracy or completeness. This analysis is intended for informational purposes and is not a solicitation to buy or sell a security. Past performance is no guarantee of future results.

McDep or its employees may take positions in stocks the firm covers for research purposes. No trades in a subject stock shall be made within a week before or after a change in recommendation.

Certification: I, Kurt H. Wulff, certify that the views expressed in this research analysis accurately reflect my personal views about the subject securities and issuers. No part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this research analysis.

Research Methodology/Ratings Description: McDep LLC is an independent research originator focused on oil and gas stocks exclusively. The firm applies the forty years of experience of its analyst to estimate a present value of the oil and gas resources and other businesses of covered companies. That value is compared with a company's stock market capitalization and debt. Stocks with low market cap and debt relative to present value tend to outperform stocks with high market cap and debt relative to present value.