



Meter Reader

A Monthly Analysis of Oil and Gas Stocks

September 13, 2016

Permian Surprises

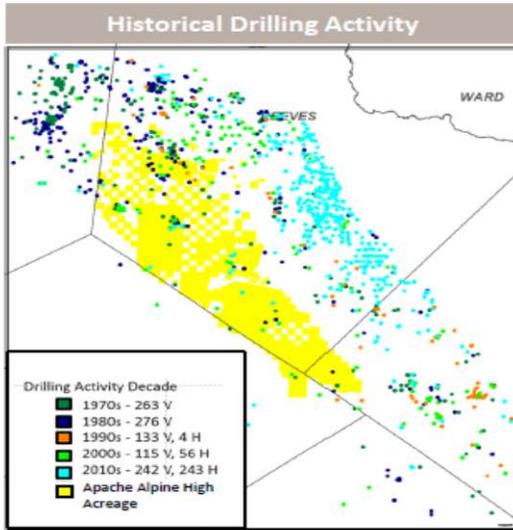
			Price (US\$/sh)	EV/ Market	Enterprise Value (\$mm)	Present Value by Segment (%)				Dist. Yield	McDep Ratio				
						Symbol/Rating	12-Sep 2016	Market Cap	Natural Gas			Natural Gas	Oil Prod'n	Down- stream	NTM (%)
Royal Dutch Shell	RDS-A	B	49.75	1.69	334,000	2	21	53	24	7.6	0.74				
Total S.A.	TOT	B	48.98	1.51	176,000		20	58	22	5.6	0.64				
Marathon Oil Corporation	MRO	B	15.47	1.58	20,700	10	2	88		1.3	0.84				
ConocoPhillips	COP	B	42.67	1.74	93,000	13	13	75		2.3	0.73				
Continental Resources (32%)	CLR	B	49.66	1.39	8,200	22		78		-	0.92				
Dorchester Minerals, L.P.	DMLP	B	15.24	1.00	470	28		72		7.4	0.63				
Sabine Royalty Trust	SBR	B	36.93	1.00	540	48		52		7.2	0.61				
Birchcliff Energy Ltd.	BIREF	B	6.97	1.35	2,500	74		26		-	0.75				

Summary and Recommendation

A giant new shale play by Apache Corporation (APA) and the acquisition of a near 100-year old, respected private company by **EOG Resources (EOG)** point to rising resource value in APA and EOG as well as other Permian producers, including buy recommendations MRO, COP, DMLP and SBR. Other McDep stocks with exposure in the Permian Basin of West Texas and Southeast New Mexico include XOM, CVX, OXY, DVN, XEC, CRT, PBT and ECA. Announced on September 7, Apache has built a land position of 300,000 acres in southern Reeves County away from other producers like Cimarex and EOG (see slides on page 2-3). Apache estimates 15 billion barrels oil equivalent (2/3 dry gas) in place in two of five prospective formations. Perhaps a quarter of the volumes are recoverable during and after a twenty-year drilling program. In other words, definitely positive for Apache stock, but it will take a long time to realize the value. Also announced on September 7, EOG expands its long-term potential by the \$2.5 billion Yates Petroleum acquisition, nearly doubling its land in the Delaware Basin portion of the Permian Basin. At the same time, chief executive John Christman of Apache highlights the company's position in the Midland Basin part of the Permian where adjacent lands are changing hands for \$20,000 to \$40,000 an acre (see slide on page 3). Microcap **Dorchester Minerals (DMLP)** has 10,000 royalty and mineral acres in the Midland Core that may be worth \$400 million on that basis. DMLP's market cap is less than \$500 million and it is distributing an estimated 7.3% a year in cash. As a result, the impressive achievements of Apache and EOG are good for other companies in our coverage as well and for the global economy, too (see [Tables 1-4](#) on pages 4-7).

Kurt H. Wulff, CFA

APACHE'S DIFFERENTIATED VIEW Southern Delaware Basin



Key Alpine High Technical Parameters

	Perception	Reality
Structural History	Uplifted & Complex	Relatively Stable Paleo High
Thermal Maturity	Dry Gas	Wet Gas & Oil
Reservoir Quality	High Clay Content	Very Low Clay Content

- Alpine High received minimal focus from industry
- 118 wells penetrated the Barnett / Woodford

Source: Texas Railroad Commission.



18

Biggest Opportunity - Delaware Basin Wolfcamp

- ~230,000 net acres in the fairway
- Multiple Wolfcamp Targets
 - Culberson/White City Area
 - 100,000+ net acres
 - Upper & Lower Wolfcamp
 - JDA with Chevron
 - Reeves County
 - 80,000 net acres
 - Upper Wolfcamp

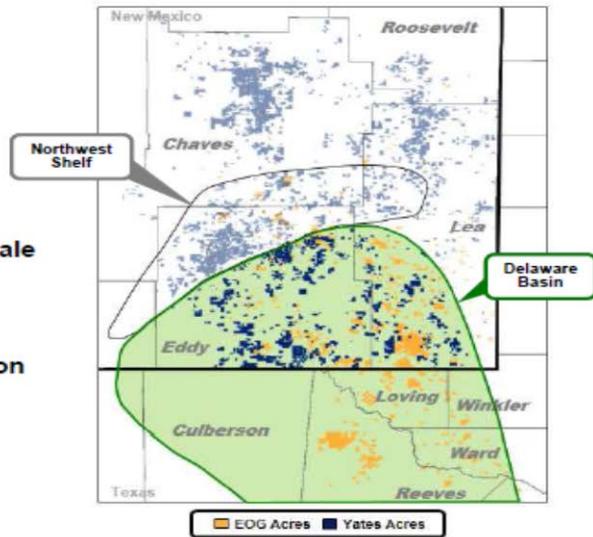
NYSE: XEC

9



EOG Resources and Yates Delaware Basin

- Creates a Leading Delaware Basin Position of 424,000 Net Acres
 - Yates Adds 186,000 Net Acres to EOG's Existing 238,000 Net Acres
- Enables Larger Drilling Units
 - Longer Laterals
 - Concentrated Development with Scale
- Utilizes Existing Infrastructure
- Yates Acreage 74% Held by Production
- Commence Drilling Late 2016

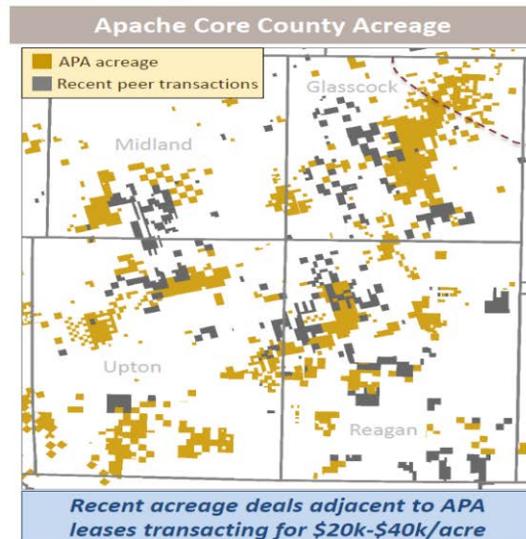


PERMIAN BASIN SPOTLIGHT

Midland Basin: 193,000 Net Acres in the Core

Base Case Inventory @ \$50/bbl		
	Wolfcamp	Spraberry Shale
Zones	3	1
Spacing	6x	8x
Locations	500	200

Upside Case Inventory @ \$60/bbl		
	Wolfcamp	Spraberry Shale
Zones	4-5	2
Spacing	8x-10x	10x-12x
Locations	1,650-2,300	800-900





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Symbol/Rating	Price (US\$/sh)	EV/ Market Cap	Enterprise Value (\$mm)	Present Value by Segment (%)				Dist. Yield NTM (%)	McDep Ratio		
				North Amer.	Rest of World	Oil Prod'n	Down- stream				
				Natural Gas	Natural Gas						
Global Integrated											
Exxon Mobil Corporation	XOM	87.29	1.26	459,000	6	16	55	23	3.4	0.90	
Chevron Corporation	CVX	102.25	1.35	258,000	2	13	66	19	4.2	0.81	
Royal Dutch Shell	RDS-A B	49.75	1.69	334,000	2	21	53	24	7.6	0.74	
Total S.A.	TOT B	48.98	1.51	176,000			20	58	22	5.6	0.64
<i>Total or Median</i>			<i>1.43</i>	<i>1,227,000</i>				<i>56</i>	<i>23</i>	<i>4.9</i>	<i>0.77</i>
Large Independent											
EOG Resources, Inc.	EOG	92.98	1.14	58,200	11	1	87		0.7	1.20	
Occidental Petroleum Corp.	OXY	75.85	1.17	68,000	4	2	86	7	4.0	1.01	
Devon Energy Corporation	DVN	43.19	1.48	33,500	25		66	10	0.6	0.97	
Marathon Oil Corporation	MRO B	15.47	1.58	20,700	10	2	88		1.3	0.84	
ConocoPhillips	COP B	42.67	1.74	93,000	13	13	75		2.3	0.73	
<i>Total or Median</i>			<i>1.48</i>	<i>273,000</i>	<i>11</i>		<i>86</i>		<i>1.3</i>	<i>0.97</i>	
Small Independent											
Cimarex Energy Company	XEC	132.43	1.11	13,600	34		66		0.2	1.09	
Range Resources	RRC	42.92	1.40	14,600	77		23		0.2	1.02	
Continental Resources (32%)	CLR B	49.66	1.39	8,200	22		78		-	0.92	
Whiting Petroleum Corporation	WLL	7.61	3.21	7,000	10		90		-	0.85	
California Resources	CRC	11.48	15.78	7,300	13		88		-	0.83	
<i>Total or Median</i>			<i>1.40</i>	<i>51,000</i>	<i>22</i>		<i>78</i>		<i>-</i>	<i>0.92</i>	
Income											
San Juan Basin Royalty Trust	SJT	5.81	1.00	270	100		-		9.1	0.73	
Permian Basin RT	PBT	7.18	1.00	340	23		77		9.2	0.65	
Cross Timbers Royalty Trust	CRT	18.62	1.00	110	57		43		7.5	0.64	
Dorchester Minerals, L.P.	DMLP B	15.24	1.00	470	28		72		7.4	0.63	
Sabine Royalty Trust	SBR B	36.93	1.00	540	48		52		7.2	0.61	
<i>Total or Median</i>			<i>1.00</i>	<i>1,700</i>	<i>48</i>		<i>52</i>		<i>7.5</i>	<i>0.64</i>	
Canada											
EnCana Corporation	ECA	10.27	1.98	17,200	43		57		0.6	1.26	
Imperial Oil Limited (30%)	IMO	30.42	1.36	10,600	0		64	36	1.5	0.85	
Suncor Energy	SU	26.78	1.40	62,600	-		84	16	3.3	0.82	
Cenovus Energy Inc.	CVE	14.44	1.34	16,100	7		76	16	1.1	0.78	
Birchcliff Energy Ltd.	BIREF B	6.97	1.35	2,500	74		26		-	0.75	
<i>Total or Median</i>			<i>1.36</i>	<i>109,000</i>			<i>64</i>		<i>1.1</i>	<i>0.82</i>	
Estimated present value presumes a long-term price for oil of US\$70 a barrel and natural gas, \$4.00 a million btu.											
Estimated present value capped by unlevered cash flow multiple (EV/Ebitda)											
McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses											
For historical research see www.mcdep.com											



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Table 2								
McDep Energy Stocks								
Net Present Value and McDep Ratio								
			Price (US\$/sh)	Shares	Market Cap (US\$mm)	Net Present Value (US\$/sh)	Debt/ Present Value	McDep Ratio
	Symbol/Rating		12-Sep 2016	(mm)				
	B = Buy							
Global Integrated								
Exxon Mobil Corporation	XOM		87.29	4,178	365,000	100.00	0.18	0.90
Chevron Corporation	CVX		102.25	1,872	191,000	135.00	0.21	0.81
Royal Dutch Shell	RDS-A	B	49.75	3,980	198,000	80.00	0.30	0.74
Total S.A.	TOT	B	48.98	2,379	117,000	90.00	0.22	0.64
	<i>Total or Median</i>				871,000		0.21	0.77
Large Independent								
EOG Resources, Inc.	EOG		92.98	547	50,900	75.00	0.15	1.20
Occidental Petroleum Corp.	OXY		75.85	764	58,000	75.00	0.15	1.01
Devon Energy Corporation	DVN		43.19	524	22,600	45.00	0.32	0.97
Marathon Oil Corporation	MRO	B	15.47	848	13,120	20.00	0.31	0.84
ConocoPhillips	COP	B	42.67	1,245	53,000	70.00	0.31	0.73
	<i>Total or Median</i>				197,600		0.31	0.97
Small Independent								
Cimarex Energy Company	XEC		132.43	93	12,300	120.00	0.10	1.09
Range Resources	RRC		42.92	244	10,500	42.00	0.29	1.02
Continental Resources (32%)	CLR	B	49.66	118	5,900	56.00	0.26	0.92
Whiting Petroleum Corporation	WLL		7.61	285	2,200	12.00	0.58	0.85
California Resources	CRC		11.48	40	500	50.00	0.77	0.83
	<i>Total or Median</i>				31,000		0.29	0.92
Income								
San Juan Basin Royalty Trust	SJT		5.81	47	270	8.00	-	0.73
Permian Basin RT	PBT		7.18	47	340	11.00	-	0.65
Cross Timbers Royalty Trust	CRT		18.62	6	110	29.00	-	0.64
Dorchester Minerals, L.P.	DMLP	B	15.24	31	470	24.00	-	0.63
Sabine Royalty Trust	SBR	B	36.93	15	540	60.00	-	0.61
	<i>Total or Median</i>				1,700		-	0.64
Canada								
EnCana Corporation	ECA		10.27	850	8,700	6.00	0.63	1.26
Imperial Oil Limited (30%)	IMO		30.42	255	7,800	38.00	0.22	0.85
Suncor Energy	SU		26.78	1,665	44,600	35.00	0.24	0.82
Cenovus Energy Inc.	CVE		14.44	833	12,000	20.00	0.20	0.78
Birchcliff Energy Ltd.	BIREF	B	6.97	263	1,800	10.00	0.19	0.75
	<i>Total or Median</i>				75,000		0.22	0.82
Estimated present value presumes a long-term price for oil of US\$70 a barrel and natural gas, \$4.00 a million btu.								
Estimated present value capped by unlevered cash flow multiple (EV/Ebitda)								
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

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September 13, 2016

Table 3							
McDep Energy Stocks							
Value Multiples and Dividend							
Ranked by EV/Ebitda							
			Price (US\$/sh)	Adjustd Resrvs/ Prod	PV/ Ebitda	EV/ Ebitda	Dividend NTM
	Symbol/Rating		12-Sep 2016	NTM	NTM	NTM	NTM
	B = Buy						(\$/sh)
Global Integrated							
	Exxon Mobil Corporation	XOM	87.29	14.5	12.4	11.1	3.00
	Chevron Corporation	CVX	102.25	9.2	12.7	10.3	4.28
	Royal Dutch Shell	RDS-A	49.75	9.8	11.1	8.2	3.76
	Total S.A.	TOT	48.98	9.9	10.5	6.7	2.74
	<i>Median</i>			9.8	11.8	9.2	28
Large Independent							
	EOG Resources, Inc.	EOG	92.98	8.2	14.1	17.0	0.67
	Devon Energy Corporation	DVN	43.19	8.4	16.0	15.6	0.24
	Occidental Petroleum Corp.	OXY	75.85	8.3	14.9	15.0	3.00
	Marathon Oil Corporation	MRO	15.47	12.7	15.3	12.9	0.20
	ConocoPhillips	COP	42.67	11.3	16.1	11.8	1.00
	<i>Median</i>			8.4	15.3	15.0	
Small Independent							
	Range Resources	RRC	42.92	12.6	17.9	18.2	0.08
	Continental Resources (32%)	CLR	49.66	11.4	17.8	16.3	-
	Cimarex Energy Company	XEC	132.43	6.9	14.8	16.2	0.32
	California Resources	CRC	11.48	12.0	14.7	12.1	-
	Whiting Petroleum Corporation	WLL	7.61	9.5	12.0	10.2	-
	<i>Median</i>			11.4	14.8	16.2	
Income							
	Sabine Royalty Trust	SBR	36.93	9.5	22.7	14.0	2.64
	Dorchester Minerals, L.P.	DMLP	15.24	7.0	19.0	12.1	1.13
	Cross Timbers Royalty Trust	CRT	18.62	7.5	18.1	11.6	1.40
	San Juan Basin Royalty Trust	SJT	5.81	10.1	14.4	10.5	0.53
	Permian Basin RT	PBT	7.18	8.7	15.6	10.2	0.66
	<i>Median</i>			8.7	18.1	11.6	13
Canada							
	EnCana Corporation	ECA	10.27	5.6	11.8	15.0	0.06
	Imperial Oil Limited (30%)	IMO	30.42	33.2	13.0	11.0	0.46
	Cenovus Energy Inc.	CVE	14.44	16.6	13.3	10.3	0.15
	Birchcliff Energy Ltd.	BIREF	6.97	12.9	13.6	10.3	-
	Suncor Energy	SU	26.78	21.6	12.4	10.2	0.89
	<i>Median</i>			16.6	13.0	10.3	
	<i>Grand Median</i>			10	15	12	

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended September 30, 2017; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses For historical research see www.mcdep.com



Meter Reader

A Monthly Analysis of Oil and Gas Stocks

September 13, 2016

Table 4										
McDep Energy Stocks										
Total Return Year-to-Date 2016										
Ranked by Unlevered Total Return										
			Price (\$/sh)	Price (\$/sh)	Price Change (%)	Cash Distrib. (%)	Equity Total Return (%)	Unlevered Debt Return (\$/sh) (%)		McDep Ratio
	Symbol/Rat		12-Sep 2016	31-Dec 2015						
Global Integrated										
	Chevron Corporation	CVX	102.25	89.96	14	4	17	36	12	0.81
	Exxon Mobil Corporation	XOM	87.29	77.95	12	3	15	23	11	0.90
	Royal Dutch Shell	RDS-A B	49.75	45.79	9	6	15	34	8	0.74
	Total S.A.	TOT B	48.98	44.95	9	3	12	25	8	0.64
	<i>Median</i>				10		15		10	0.77
Large Independent										
	EOG Resources, Inc.	EOG	92.98	70.79	31	1	32	13	27	1.20
	Devon Energy Corporation	DVN	43.19	32.00	35	1	36	21	22	0.97
	Marathon Oil Corporation	MRO B	15.47	12.58	23	1	24	9	14	0.84
	Occidental Petroleum Corp.	OXY	75.85	67.61	12	2	14	13	12	1.01
	ConocoPhillips	COP B	42.67	46.69	(9)	2	(7)	32	(4)	0.73
	<i>Median</i>				23		24		14	0.97
Small Independent										
	Continental Resources (32%)	CLR B	49.66	22.98	116	-	116	19	63	0.92
	Range Resources	RRC	42.92	24.62	74	0	74	17	44	1.02
	Cimarex Energy Company	XEC	132.43	89.38	48	0	48	14	42	1.09
	California Resources	CRC	11.48	23.30	(51)	-	(51)	170	(6)	0.83
	Whiting Petroleum Corporation	WLL	7.61	9.44	(19)	-	(19)	17	(7)	0.85
	<i>Median</i>				48		48		42	0.92
Income										
	Dorchester Minerals, L.P.	DMLP B	15.24	9.89	54	6	60	-	60	0.63
	Cross Timbers Royalty Trust	CRT	18.62	13.01	43	6	49	-	49	0.64
	Permian Basin RT	PBT	7.18	5.06	42	5	47	-	47	0.65
	Sabine Royalty Trust	SBR B	36.93	26.26	41	5	45	-	45	0.61
	San Juan Basin Royalty Trust	SJT	5.81	4.14	40	3	43	-	43	0.73
	<i>Median</i>				42		47		47	0.64
Canada										
	Birchcliff Energy Ltd.	BIREF B	6.97	2.93	138	-	138	2	76	0.75
	EnCana Corporation	ECA	10.27	5.09	102	1	102	10	34	1.26
	Cenovus Energy Inc.	CVE	14.44	12.62	14	1	15	5	11	0.78
	Suncor Energy	SU	26.78	25.80	4	2	6	11	4	0.82
	Imperial Oil Limited (30%)	IMO	30.42	32.52	(6)	1	(6)	11	(4)	0.85
	<i>Median</i>				14		15		11	0.82
	<i>Grand Median</i>				27		28		18	0.82
	Natural Gas (\$/mmbtu)		2.90	2.33	24					
	Oil - West Texas Intermediate (\$/bbl)		46.06	37.06	24					
	S&P 500		2,159	2,044	6					

Source: McDep LLC, Yahoo, CME Group, Bloomberg

For historical research see www.mcdep.com



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September 13, 2016

Index of 2015-2016 Research				
<u>Date</u>	<u>Series</u>	<u>Symbol</u>	<u>Subject</u>	<u>Theme</u>
6-Sep	ISI	DVN	Devon Energy	Raise NPV to \$45 from \$33 on Stress Test Success
30-Aug	ISI	SBR	Sabine Royalty Trust	Long-Life Top Line Cash Payer
21-Aug	ISI	BIREF	Birchcliff Energy	Canadian Independent Producer Transformed
17-Aug	ISI	SJT	San Juan Basin Royalty Trust	Preliminary Filing to Replace Trustee
16-Aug	Meter Reader			The Money Glut
11-Aug	ISI	XEC	Cimarex Energy	Raise NPV to \$120 from \$90
1-Aug	II	XOM, RDS, CVX, TOT		Real Return Standouts
1-Aug	ISI	WLL	Whiting Petroleum	Remove Buy Designation
22-Jul	II	CRT, DMLP, PBT, SBR, SJT		Income Payers in Uptrend
12-Jul	Meter Reader			Mid-Year Strategy
7-Jul	ISI	XOM	Exxon Mobil	Durable Real Return
22-Jun	ISI	BIREF	Birchcliff Energy	Half Billion Dollar Deal with Encana
21-Jun	ISI	SJT	San Juan Basin Royalty Trust	Record Administrative Costs
21-Jun	ISI	PBT	Permian Basin Royalty Trust	Raise Distribution to 9%
14-Jun	Meter Reader			Good Year for Oil and Gas
10-Jun	ISI	SU	Suncor Energy Inc.	Revitalized after Wildfire
7-Jun	ISI	WLL	Whiting Petroleum	Looking Up Again
23-May	ISI	DMLP	Dorchester Minerals, L.P.	Raise Distribution to 9%
17-May	ISI	COP	ConocoPhillips	Strategy Reset to Low Risk Value
12-May	ISI	BIREF	Birchcliff Energy	Record Low Operating Cost
10-May	Meter Reader			Value, Growth, Income and Momentum
9-May	ISI	RRC	Range Resources	Restore Net Present Value to \$42 a Share
26-Apr	ISI	CLR	Continental Resources	Disciplined Visionary
13-Apr	Meter Reader			Road to Profits
5-Apr	ISI	TOT	Total S.A.	Globally Diversified Income
22-Mar	II	CRT, DMLP, PBT, SBR, SJT		Income Payer Appreciation Potential 55%-110%
15-Mar	Meter Reader			Best Oil Outlook in Seven Years
7-Mar	II	COP, MRO, CLR, WLL		Buy Low
29-Feb	ISI	DMLP	Dorchester Minerals, L.P.	Oil Income for All Seasons
19-Feb	ISI	DVN	Devon Energy	Flexibility to Adapt
19-Feb	ISI	MRO	Marathon Oil	Flexibility to Adapt
9-Feb	Meter Reader			Outperforming in 2016
3-Feb	ISI	XOM	Exxon Mobil	For Nervous Investors Seeking Reliable Income
28-Jan	ISI	BIREF	Birchcliff Energy	Protection and Growth
22-Jan	II	CRT, PBT, SBR, SJT, DMLP		Income Payer Surprises
21-Jan	ISI	SU	Suncor Energy Inc.	Likely Acquirer of Canadian Oil Sands
19-Jan	ISI	COSWF	Canadian Oil Sands Ltd.	Farewell
13-Jan	II	MRO, DVN, COP, OXY, EOG		Wild Markets in Oil and Securities
1-Jan	Meter Reader			Lower Natural Gas to \$4.00 from \$4.50
21-Dec	II	DMLP, SBR, CRT, SJT, PBT		Income Payers at Low Price
15-Dec	Meter Reader			Buys for 2016 and Beyond
8-Dec	ISI	RDS	Royal Dutch Shell plc	Buy on Acquisition Pro Forma
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.				



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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. Buy recommendations are expected to deliver a total return better than 7% per year above inflation.