



Independent Stock Idea

September 18, 2017

Range Resources (RRC) Natural Gas at Lowest McDep Ratio

<i>Symbol</i>	RRC	<i>Ebitda Next Twelve Months ending 9/30/18 (US\$mm)</i>	1,106
<i>Rating</i>	Buy	<i>North American Natural Gas/Ebitda (%)</i>	67
<i>Price (\$/sh)</i>	18.54	<i>Natural Gas and Oil Production/Ebitda (%)</i>	100
<i>Pricing Date</i>	9/15/17	<i>Adjusted Reserves/Production NTM</i>	11.8
<i>Shares (mm)</i>	245	<i>EV/Ebitda</i>	8.1
<i>Market Capitalization (\$mm)</i>	4,500	<i>PV/Ebitda</i>	16.4
<i>Debt (\$mm)</i>	4,400	<i>Undeveloped Reserves (%)</i>	44
<i>Enterprise Value (EV) (\$mm)</i>	8,900	<i>Natural Gas and Oil Ebitda (\$/boe)</i>	8.30
<i>Present Value (PV) (\$mm)</i>	18,100	<i>Present Value Proven Reserves(\$/boe)</i>	9.00
<i>Net Present Value (\$/share)</i>	56	<i>Oil and Gas Ebitda Margin (%)</i>	48
<i>Debt/Present Value</i>	0.24	<i>Earnings Next Twelve Months (US\$/sh)</i>	0.54
<i>McDep Ratio - EV/PV</i>	0.49	<i>Price/Earnings Next Twelve Months</i>	34
<i>Dividend Yield (%/year)</i>	0.4	<i>Indicated Annual Dividend (US\$/sh)</i>	0.08
Note: Estimated cash flow and earnings tied to one-year futures prices for oil and natural gas.			
Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.			
Estimated present value presumes a long-term price for oil of US\$70 a barrel and natural gas, \$4.00 a million btu.			
For historical analysis of Range since 2010 see www.mcdep.com/4rrc.htm			

Summary and Recommendation

The enormous low-cost natural gas resources of buy-recommended **Range Resources (RRC)** are available to investors at a McDep Ratio of 0.49, the lowest in our coverage of 25 stocks. The upside represented in estimated Net Present Value (NPV) of \$56 a share accompanies the reinforcing combination of high operating leverage and high financial leverage. Those same characteristics have contributed to today's surprisingly low stock price as energy stocks have fallen from favor. Having discovered Marcellus, one of the largest gas fields in the world, RRC is one of only three McDep stocks more concentrated on natural gas than oil. Seasonality may favor natural gas in the near-term as price is usually higher in the winter months that will soon be here. Longer-term the changing energy mix favors natural gas with increasing share of global energy consumption. Improving economic growth also favors energy growth. Government monetary and fiscal policy may lead to more inflation that could boost energy pricing and energy stocks. Meanwhile, the near-term outlook for RRC may also depend on whether the company can achieve a pickup in production in the fourth quarter implied by management guidance (see table Operating and Financial Estimates on page 2). At the same time, better pricing relative to industry benchmarks is helping cash flow (see slide Differential Improvements Drive Margin Expansion on page 3). Better cash flow improves investment efficiency (see slide Margin Expansion Drives Unhedged Recycle Ratio on page 4). Cash flow, long reserve life and expected future natural gas price drive NPV (see table Present Value on page 4). Finally, valuation rankings highlight RRC's low McDep Ratio, concentration on natural gas, long reserve life and sharp underperformance in unlevered return in 2017 (Tables 1-4 on pages 5-8).

Kurt H. Wulff, CFA



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Range Resources Corporation										
Next Twelve Months Operating and Financial Estimates										
	Q3	Year	Q2	Q3E	Q4E	Year	Q1E	Q2E	Q3E	Next Twelve Months
	9/30/16	2016	6/30/17	9/30/17	12/13/17	2017	3/31/18	6/30/18	9/30/18	9/30/18
Volume										
Natural Gas (bcf)	93.5	376	120.8	125.0	137.5	501	136.0	137.5	137.5	549
Natural Gas (mmcf)	1,016	1,027	1,313	1,359	1,495	1,365	1,495	1,495	1,495	1,495
Days	92	366	92	92	92	367	91	92	92	367
Oil (mmb)	7.6	31	9.7	9.4	10.3	39	10.2	10.3	10.3	41
Oil (mbd)	82.1	85.9	105.3	101.8	112.0	106.4	112.0	112.0	112.0	112.0
Total (mmb)	23.1	94	29.8	30.2	33.2	123	32.9	33.2	33.2	133
Total (mmcf)	1,509	1,542	1,945	1,970	2,167	2,004	2,167	2,167	2,167	2,167
Price										
Henry Hub (\$/mmbtu)	2.81	2.46	3.18	2.99	3.12	3.15	3.33	2.95	2.97	3.09
Differential (\$/mmbtu)	0.70	0.45	0.36	0.50	0.20	0.30	0.13	0.34	0.50	0.29
Company (\$/mcf)	2.11	2.01	2.82	2.49	2.92	2.85	3.20	2.61	2.47	2.80
WTI Cushing (\$/bbl)	44.91	43.31	48.26	48.00	50.38	49.64	51.28	51.53	51.52	51.18
Differential	30.74	29.21	30.54	30.38	31.89	31.28	32.45	32.62	32.61	32.39
Company (\$/bbl)	14.17	14.10	17.71	17.62	18.49	18.36	18.82	18.92	18.91	18.79
Total (\$/bbl)	13.15	12.73	17.18	15.79	17.80	17.51	19.08	16.67	16.10	17.41
Revenue (\$mm)										
Natural Gas	197	754	341	312	401	1,428	435	359	340	1,535
Oil	107	443	172	165	191	717	192	195	195	772
Total	304	1,197	512	477	591	2,146	627	554	535	2,307
Expense										
Transportation	139	565	192	192	211	773	209	211	211	396
Production	29	121	41	42	46	165	45	46	46	167
General and administrative	29	131	37	40	44	157	43	44	44	136
Total	197	817	270	274	301	1,095	298	301	301	1,201
Ebitda	107	380	242	203	290	1,051	329	253	234	1,106
Exploration	7	48	19	19	15	65	15	15	15	60
Deprec., Deplet., & Amort.	131	524	153	159	175	638	174	175	175	700
Other	(60)	(369)	(0)	(11)	23	24	34	(50)	(56)	(48)
Ebit	29	177	71	36	77	324	107	112	99	395
Interest	46	169	48	48	48	191	48	48	48	192
Ebt	(17)	8	23	(12)	29	133	59	64	51	203
Income Tax	(6)	3	8	(4)	10	47	21	23	18	71
Net Income (\$mm)	(11)	5	15	(8)	19	87	38	42	33	132
Per Share (\$)	(0.06)	0.03	0.06	(0.03)	0.08	0.35	0.16	0.17	0.14	0.54
Shares (millions)	181	190	245	245	245	245	245	245	245	245
Ebitda Margin	35%	32%	47%	43%	49%	49%	53%	46%	44%	48%
Tax rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%

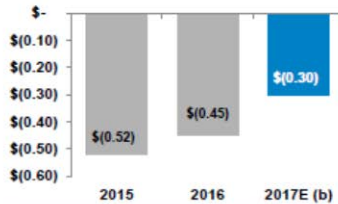


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Differential Improvements Driving Margin Expansion

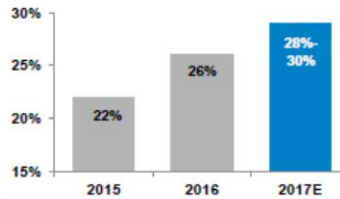
Natural Gas Differential^(a)



Expecting Continued Improvements Into 2018

- Gulf Expansion Phase 1 came on line in October 2016 which moves ~150 Mmcf/d from local Appalachian markets to the Gulf Coast
- Expect a significant 2017 corporate improvement given North Louisiana gas is expected to receive near NYMEX pricing
- Further improvements expected in 2018 as additional projects come on line

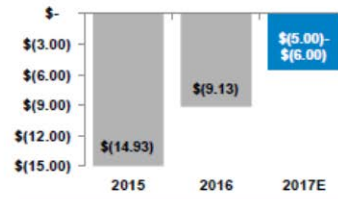
NGL as a % of WTI



Expecting Continued Improvements Into 2018

- Only producer with capacity on the Mariner East 1 project to Marcus Hook
- North Louisiana NGL's sold FOB processing plant and receive Mont Belvieu related pricing
- Higher ethane and propane demand anticipated in 2018 from petrochemical sector and exports

Condensate Differential



Expecting Continued Improvements Into 2018

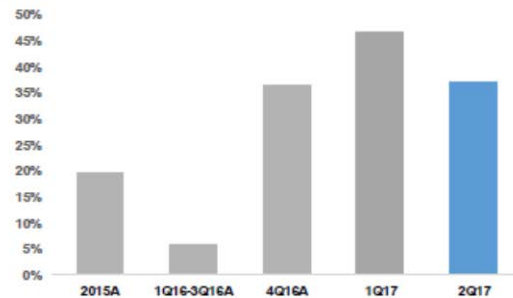
- Initiated new marketing agreements in 2H16 which improves Marcellus condensate realizations
- Expect a significant 2017 corporate improvement given a full year of new Marcellus agreements and North Louisiana condensate that receives near NYMEX pricing

* All differential estimates based on 4/17/17 strip pricing. (a) NG estimate includes basis hedges. (b) Assumes no uplift from Rover pipeline in 2017

Margin Expansion Drives Strong Unhedged Recycle Ratio

- Margins have improved due to low unit costs and better pricing differentials
- Unhedged recycle ratio of ~2.5x allows for natural deleveraging while spending at or near cash flow
- Track record of driving down finding and development costs

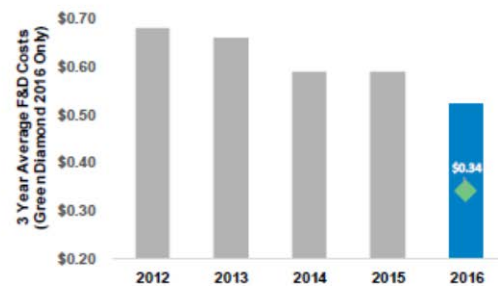
Unhedged Cash Margin Expanding



Strong Unhedged Recycle Ratio^(b)

Recycle Ratio per Mcfe: (Margin Divided by F&D)	
Pre-Hedge Price (Assuming 2017 strip as of 7/24/2017)	\$ 2.84
All-In Cash Costs (2017 Expected)	1.80
Adjusted Margin	~\$1.04
Expected Future Development Cost for PUD Reserves	0.42
Unhedged Recycle Ratio	~2.5x

Peer Leading Finding Costs Drive Returns^(a)



(a) Drill bit without acreage and with performance revisions (b) Based on midpoint of cost and differentials guidance and 2017 strip pricing as of 7/24/2017

Range Resources Corporation Functional Cash Flow and Present Value

	NTM Ebitda (US\$mm)	Adjusted R/P	PV/ Ebitda	Present Value (US\$mm)	
North American Natural Gas	736	11.1	17.0	12,500	69%
Oil	370	13.4	15.1	5,600	31%
	1,106	11.8	16.4	18,100	100%
Debt (US\$mm)				4,400	
Net Present Value (US\$mm)				13,700	
Shares (mm)				245	
Net Present Value - Standard Estimate (US\$/sh)				56	
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)				45	



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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/ PV (%)	Dist. Yield NTM (%)	McDep Ratio (EV/PV)
	Symbol/Rating	15-Sep 2017								
Global Integrated										
Chevron Corporation	CVX	114.63	217,000	284,000	1.31	8.9	10.1	60	3.8	0.88
Exxon Mobil Corporation	XOM	80.07	342,000	433,000	1.27	9.8	11.7	49	3.8	0.84
Royal Dutch Shell	RDS-A	57.62	239,000	366,000	1.53	7.2	9.0	51	6.5	0.80
Total S.A.	TOT B	53.86	139,000	196,000	1.41	6.3	9.3	55	5.5	0.68
<i>Total or Median</i>			937,000	1,279,000	1.36	8.0	9.7	53	4.7	0.82
Large Independent										
EOG Resources, Inc.	EOG	93.22	54,000	61,200	1.13	11.3	10.4	86	0.7	1.08
Pioneer Natural Resources	PXD	136.93	23,300	25,000	1.07	9.5	10.3	87	0.1	0.92
Occidental Petroleum Corp.	OXY	61.35	47,000	59,800	1.27	10.2	11.9	80	5.0	0.85
Devon Energy Corporation	DVN	33.65	17,800	25,800	1.45	8.0	9.9	62	0.7	0.81
ConocoPhillips	COP B	46.51	58,000	82,000	1.42	8.7	11.6	69	2.3	0.75
Marathon Oil Corporation	MRO B	12.00	10,200	17,300	1.70	8.8	11.9	79	1.7	0.74
<i>Total or Median</i>			210,300	271,000	1.35	9.2	11.0	80	1.2	0.83
Small Independent										
Cimarex Energy Company	XEC	106.72	10,200	11,600	1.14	10.2	11.3	63	0.3	0.90
California Resources	CRC	8.51	400	6,400	17.7	10.2	13.1	89	-	0.78
Continental Resources (32%)	CLR B	36.15	4,300	6,400	1.50	8.2	11.3	74	-	0.73
Whiting Petroleum Corporation	WLL	4.86	1,800	5,300	3.04	6.1	11.5	92	-	0.53
Range Resources	RRC B	18.54	4,500	8,900	1.97	8.1	16.4	31	0.4	0.49
<i>Total or Median</i>			21,000	39,000	1.97	8.2	11.5	74	-	0.73
Income										
San Juan Basin Royalty Trust	SJT	7.56	350	350	1.00	14.3	15.1	-	6.9	0.94
Permian Basin RT	PBT	8.95	420	420	1.00	14.7	18.1	78	6.3	0.81
Sabine Royalty Trust	SBR	39.15	570	570	1.00	18.1	27.7	59	5.5	0.65
Dorchester Minerals, L.P.	DMLP B	14.65	470	470	1.00	10.7	17.5	72	9.0	0.61
Cross Timbers Royalty Trust	CRT B	14.74	90	90	1.00	9.6	19.0	28	8.1	0.51
<i>Total or Median</i>			1,900	1,900	1.00	14.3	18.1	59	6.9	0.65
Canada										
EnCana Corporation	ECA	10.44	10,200	16,700	1.63	8.9	9.7	56	0.6	0.92
Imperial Oil Limited (30%)	IMO	31.08	7,900	10,000	1.26	8.4	9.9	67	1.7	0.85
Suncor Energy	SU B	34.13	56,800	75,700	1.33	8.8	10.7	84	3.1	0.82
Birchcliff Energy Ltd.	BIREF B	4.94	1,300	1,900	1.47	6.9	11.7	30	1.7	0.59
Cenovus Energy Inc.	CVE	9.04	11,100	21,600	1.94	6.6	11.5	83	1.8	0.58
<i>Total or Median</i>			87,000	126,000	1.47	8.4	10.7	67	1.7	0.82

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation, amort.
 Estimated Ebitda (cash flow) tied to NTM futures prices for oil and natural gas. NTM = Next Twelve Months ending 9/30/18.
 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



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			Price (US\$/sh)	Oil Equiv. Price (\$/boe)	Operating Expense Fixed Var. (\$/boe) (%)	Ebitda NTM (\$/boe)	Ebitda NTM (\$mm)	Oper Lev Ebitda chg/ Price chg	McDep Ratio	
Symbol/Rating	15-Sep 2017	Volume (mmboe)								
B = Buy										
Global Integrated (excl. Downstream)										
Chevron Corporation	CVX		114.63	876	38.17	11 14	21.80	19,087	1.50	0.88
Exxon Mobil Corporation	XOM		80.07	1,468	38.48	4 43	18.00	26,424	1.22	0.84
Royal Dutch Shell	RDS-A	B	57.62	1,288	37.16	6 13	26.20	33,756	1.23	0.80
Total S.A.	TOT	B	53.86	962	37.26	0 40	22.30	21,463	1.00	0.68
<i>Total or Median</i>									<i>1.23</i>	<i>0.82</i>
Large Independent (excl. Downstream)										
EOG Resources, Inc.	EOG		93.22	231	35.29	11 3	23.40	5,406	1.47	1.08
Pioneer Natural Resources	PXD		136.93	117	34.47	11 3	22.50	2,633	1.49	0.92
Occidental Petroleum Corp.	OXY		61.35	231	36.10	12 11	20.30	4,689	1.59	0.85
Devon Energy Corporation	DVN		33.65	184	26.61	10 5	15.20	2,793	1.66	0.81
ConocoPhillips	COP	B	46.51	440	35.12	8 17	21.30	9,368	1.38	0.75
Marathon Oil Corporation	MRO	B	12.00	131	28.13	11 8	15.00	1,960	1.73	0.74
<i>Total or Median</i>									<i>1.54</i>	<i>0.83</i>
Small Independent										
Cimarex Energy Company	XEC		106.72	71	25.96	6 15	16.00	1,142	1.38	0.90
California Resources	CRC		8.51	47	39.27	15 28	13.10	621	2.15	0.78
Continental Resources (32%)	CLR	B	36.15	33	31.31	3 14	23.90	778	1.13	0.73
Whiting Petroleum Corporation	WLL		4.86	47	32.98	9 16	18.60	880	1.48	0.53
Range Resources	RRC	B	18.54	133	17.41	8 6	8.30	1,106	1.96	0.49
<i>Total or Median</i>									<i>1.48</i>	<i>0.73</i>
Income										
San Juan Basin Royalty Trust	SJT		7.56	3	16.25	5 18	8.26	25	1.61	0.94
Permian Basin RT	PBT		8.95	1	32.02	10 6	19.99	28	1.50	0.81
Sabine Royalty Trust	SBR		39.15	1	28.53	2 11	23.34	32	1.09	0.65
Dorchester Minerals, L.P.	DMLP	B	14.65	2	32.30	7 10	22.12	44	1.32	0.61
Cross Timbers Royalty Trust	CRT	B	14.74	0	34.61	8 10	23.26	9	1.34	0.51
<i>Total or Median</i>									<i>1.34</i>	<i>0.65</i>
Canada (excl. Downstream)										
EnCana Corporation	ECA		10.44	113	29.49	12 3	16.49	1,863	1.73	0.92
Imperial Oil Limited (30%)	IMO		31.08	69	37.04	17 7	17.30	1,195	1.98	0.85
Suncor Energy	SU	B	34.13	283	47.00	22 6	22.39	6,334	1.98	0.82
Birchcliff Energy Ltd.	BIREF	B	4.94	23	17.79	4 9	12.10	281	1.33	0.59
Cenovus Energy Inc.	CVE		9.04	212	26.26	11 4	14.22	3,013	1.77	0.58
<i>Total or Median</i>									<i>1.77</i>	<i>0.82</i>
For historical research see www.mcdep.com										



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Table 3											
McDep Energy Stocks											
Net Present Value Per Share											
Ranked by Reserve Life (Adjustd Resrvs/Prod NTM)											
			Price					Down-	Proven	Adjustd	Net
			(US\$/sh)					stream/	Undev.	Resrvs/	Present
	Symbol/Rating		15-Sep	Shares	Debt	NTM	P/E	PV	Resrvs	Prod	Value
	B = Buy		2017	(mm)	(\$mm)	(\$/sh)	NTM	(%)	(%)	NTM	(US\$/sh)
Global Integrated											
	Exxon Mobil Corporation	XOM		4,271	91,152	3.08	23	27	31	11.5	100.00
	Total S.A.	TOT	B	2,583	57,015	2.96	12	22	42	8.9	90.00
	Chevron Corporation	CVX		1,893	66,793	4.32	28	20	32	8.9	135.00
	Royal Dutch Shell	RDS-A	B	4,146	126,975	3.76	17	24	25	8.8	80.00
	<i>Median</i>									8.9	
Large Independent											
	ConocoPhillips	COP	B	1,237	24,405	1.06		-	20	10.3	68.00
	Occidental Petroleum Corp.	OXY		766	12,800	3.04	49	14	23	9.2	75.00
	Devon Energy Corporation	DVN		529	8,019	0.24	63	9	20	8.8	45.00
	Marathon Oil Corporation	MRO	B	850	7,129	0.20		-	39	8.6	19.00
	EOG Resources, Inc.	EOG		579	7,250	0.67		-	30	7.0	85.00
	Pioneer Natural Resources	PXD		170	1,700	0.08	57	-	7	6.0	150.00
	<i>Median</i>									8.7	
Small Independent											
	Range Resources	RRC	B	245	4,392	0.08	34	-	44	11.8	56.00
	Whiting Petroleum Corporation	WLL		363	3,589	-		-	53	11.7	18.00
	Continental Resources (32%)	CLR	B	119	2,124	-		-	59	11.4	56.00
	California Resources	CRC		42	6,000	-		-	29	10.3	50.00
	Cimarex Energy Company	XEC		95	1,442	0.32	26	-	21	6.1	120.00
	<i>Median</i>									11.4	
Income											
	Sabine Royalty Trust	SBR		15	-	2.17	18	-	4	12.4	60.00
	San Juan Basin Royalty Trust	SJT		47	-	0.52	14	-	-	10.3	8.00
	Permian Basin RT	PBT		47	-	0.56	16	-	12	9.4	11.00
	Cross Timbers Royalty Trust	CRT	B	6	-	1.19	12	-	-	8.7	29.00
	Dorchester Minerals, L.P.	DMLP	B	32	-	1.31	14	-	-	6.9	24.00
	<i>Median</i>									9.4	
Canada											
	Suncor Energy	SU	B	1,665	18,859	1.05	21	16	44	13.6	44.00
	Cenovus Energy Inc.	CVE		1,229	10,465	0.16		4	55	12.8	22.00
	Birchcliff Energy Ltd.	BIREF	B	268	615	0.08	27	-	69	12.4	10.00
	Imperial Oil Limited (30%)	IMO		255	2,090	0.53	13	32	23	9.2	38.00
	EnCana Corporation	ECA		973	6,457	0.06		-	43	5.5	12.00
	<i>Median</i>									12.4	
P/E = Stock Price to Earnings. For historical research see www.mcdep.com .											



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Table 4										
McDep Energy Stocks										
Total Return Year-to-Date 2017										
Ranked by Unlevered Total Return										
			Price (\$/sh)	Price (\$/sh)	Price Change (%)	Cash Distrib. (%)	Equity Total Return (%)	Unlevered Total Return (%)		McDep Ratio
	Symbol/Rati		15-Sep 2017	30-Dec 2016				Debt Return (\$/sh)		
Global Integrated										
	RDS-A	B	57.62	54.38	6	5	11	31	7	0.80
	TOT	B	53.86	50.97	6	3	8	22	6	0.68
	CVX		114.63	117.70	(3)	3	0	35	0	0.88
	XOM		80.07	90.26	(11)	2	(9)	21	(7)	0.84
	<i>Median</i>				2		4		3	0.82
Large Independent										
	COP	B	46.51	50.14	(7)	2	(6)	20	(4)	0.75
	EOG		93.22	101.10	(8)	0	(7)	13	(6)	1.08
	OXY		61.35	71.23	(14)	2	(12)	17	(10)	0.85
	DVN		33.65	45.67	(26)	0	(26)	15	(20)	0.81
	MRO	B	12.00	17.31	(31)	1	(30)	8	(20)	0.74
	PXD		136.93	180.00	(24)	0	(24)	10	(23)	0.92
	<i>Median</i>				(19)		(18)		(15)	0.83
Small Independent										
	CRC		8.51	21.29	(60)	-	(60)	142	(8)	0.78
	XEC		106.72	135.90	(21)	0	(21)	15	(19)	0.90
	CLR	B	36.15	51.54	(30)	-	(30)	18	(22)	0.73
	RRC	B	18.54	34.36	(46)	0	(46)	18	(30)	0.49
	WLL		4.86	12.02	(60)	-	(60)	10	(33)	0.53
	<i>Median</i>				(46)		(46)		(22)	0.73
Income										
	PBT		8.95	7.71	16	6	22	-	22	0.81
	SJT		7.56	6.62	14	6	21	-	21	0.94
	SBR		39.15	35.15	11	4	16	-	16	0.65
	DMLP	B	14.65	17.55	(17)	5	(12)	-	(12)	0.61
	CRT	B	14.74	17.97	(18)	4	(14)	-	(14)	0.51
	<i>Median</i>				11		16		16	0.65
Canada										
	SU	B	34.13	32.69	4	1	6	11	4	0.82
	ECA		10.44	11.74	(11)	0	(11)	7	(7)	0.92
	IMO		31.08	34.76	(11)	1	(10)	8	(8)	0.85
	BIREF	B	4.94	7.01	(30)	1	(29)	2	(22)	0.59
	CVE		9.04	15.13	(40)	1	(40)	9	(25)	0.58
	<i>Median</i>				(11)		(11)		(8)	0.82
	<i>Grand Median</i>				(14)		(12)		(8)	0.80
	Natural Gas (\$/mmbtu)		3.02	3.74	(19)					
	Oil - West Texas Intermediate (\$/bbl)		49.89	53.72	(7)					
	VTI		128.59	115.32	12					
	VEA		43.29	36.54	18					
	VVO		45.06	35.78	26					

Source: McDep LLC, Yahoo, CME Group, Bloomberg

For historical research see www.mcdep.com



Independent Stock Idea

September 18, 2017

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