



Independent Stock Idea

August 21, 2016

Birchcliff Energy Ltd. (BIREF) Canadian Independent Producer Transformed

<i>Symbol</i>	BIREF	<i>Ebitda Next Twelve Months ending 6/30/17 (US\$mm)</i>	199
<i>Rating</i>	Buy	<i>North American Natural Gas/Ebitda (%)</i>	53
<i>Price (US\$/sh)</i>	6.79	<i>Natural Gas and Oil Production/Ebitda (%)</i>	100
<i>Pricing Date</i>	8/19/16	<i>Adjusted Reserves/Production NTM</i>	13.6
<i>Shares (mm)</i>	263	<i>EV/Ebitda</i>	12.2
<i>Market Capitalization (US\$mm)</i>	1,790	<i>PV/Ebitda</i>	16.4
<i>Debt (US\$mm)</i>	640	<i>Undeveloped Reserves (%)</i>	64
<i>Enterprise Value (EV) (US\$mm)</i>	2,430	<i>Natural Gas and Oil Ebitda (\$/boe)</i>	10.90
<i>Present Value (PV) (US\$mm)</i>	3,270	<i>Present Value Proven Reserves(\$/boe)</i>	8.90
<i>Net Present Value (US\$/share)</i>	10	<i>Oil and Gas Ebitda Margin (%)</i>	51
<i>Debt/Present Value</i>	0.20	<i>Earnings Next Twelve Months (US\$/sh)</i>	-0.07
<i>McDep Ratio - EV/PV</i>	0.74	<i>Price/Earnings Next Twelve Months</i>	
<i>Dividend Yield (%/year)</i>	0.0	<i>Indicated Annual Dividend (US\$/sh)</i>	0.00
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 Birchcliff since 2008 see www.mcdep.com/5bir.htm			

Summary and Recommendation

Well-timed and well-executed, the recently completed Gordondale acquisition transforms buy-recommended Canadian independent producer **Birchcliff Energy (BIREF)** to a larger and more investable market cap, lower debt ratio, more balanced oil/gas exposure growth company. Despite, a surprisingly low market cap near US\$300 million for Birchcliff stock early in 2016, management had the confidence to visit the data room, tour the property and analyze the information for a potential US\$500 million acquisition. Then, as oil and gas prices strengthened, investor confidence built to the point where Birchcliff could raise the full amount of the purchase price in a new equity financing. More shares outstanding and a higher stock price raised the company's market cap almost six-fold to US\$1.8 billion. No change in debt reduced the stock's financial risk to normal for McDep companies. Commodity price risk is more diversified with oil concentration increased from a third to a half on a revenue basis and to 37% on a value basis (see tables [Operating and Financial Estimates](#) and [Present Value](#) on page 2). The acquired properties are an excellent fit adjacent to and surrounded by Birchcliff's efficient operations in the Peace River Arch area of Alberta (see slide on page 3). Illustrating the upside, the "hexastack" spots the idealized potential of 27 horizontal wells for each square mile of prime combined properties (see slide on page 3). On original Birchcliff lands, Montney production comes largely from 1 well a section of Montney D1 formation. Low risk, low cost Montney D1 infill lies ahead. Gordondale has a liquids-rich discovery in the Montney D2 that Birchcliff hopes to confirm with more D2 wells. Like the successful frackers in the U.S., Birchcliff applies ever improving technology to multi-layer formations for economic and financial reward. At a McDep Ratio of 0.74, the stock still looks attractive after steep gains from a depressed level (see [Tables 1-4](#) on pages 4-7).

Kurt H. Wulff, CFA



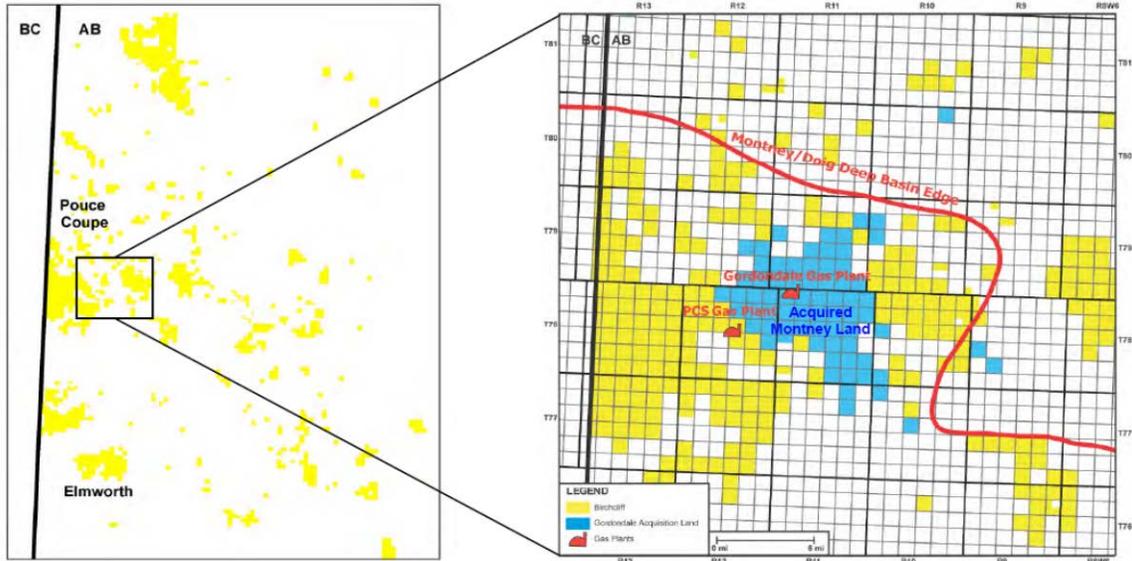
Independent Stock Idea

August 21, 2016

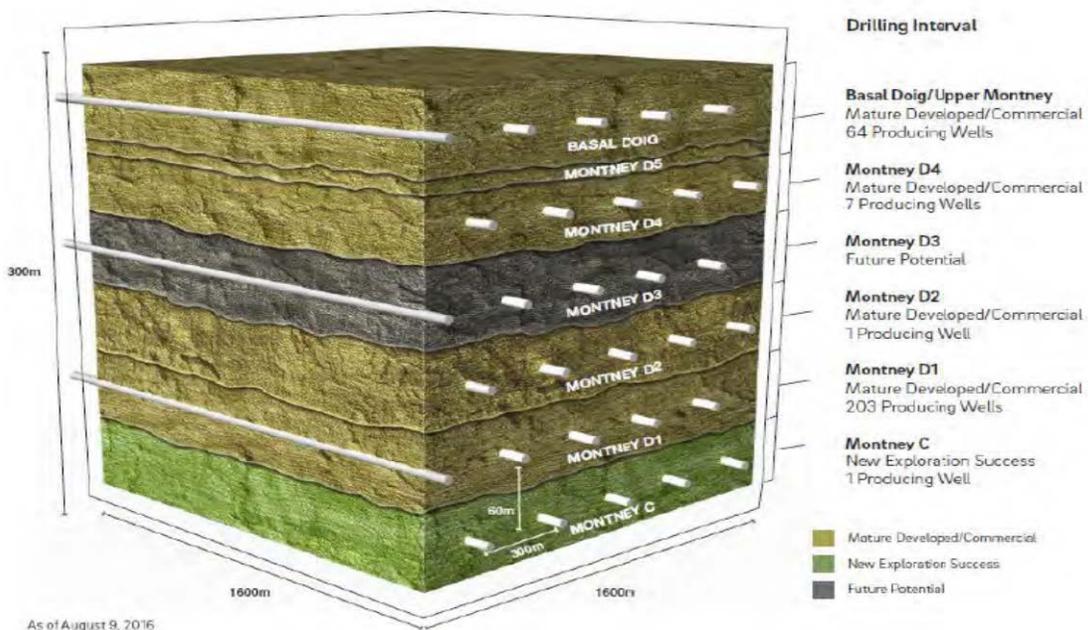
Birchcliff Energy Ltd.										
Next Twelve Months Operating and Financial Estimates										
(Canadian Dollars)										
	Q2	Year	Q1	Q2	Q3E	Q4E	Year	Q1E	Q2E	Next Twelve Months
	6/30/15	2015	3/31/16	6/30/16	9/30/16	12/31/16	2016	3/31/17	6/30/17	6/30/17
Volume (before royalty)										
Natural Gas (bcf)	18.1	73.5	20.0	19.4	24.5	27.2	91.1	27.0	27.6	106.3
Natural Gas (mmcf)	199	201	223	213	266	296	250	300	303	291
Days	91	365	90	91	92	92	365	90	91	365
Oil (mmb)	0.49	1.96	0.44	0.36	1.03	1.21	3.05	1.39	1.58	5.21
Oil (mmbd)	5.4	5.4	4.9	4.0	11.2	13.2	8.3	15.4	17.3	14.3
Total (mmboe)	3.50	14.2	3.78	3.60	5.11	5.75	18.2	5.89	6.17	22.9
Total (mboed)	38.5	38.9	42.0	39.5	55.5	62.5	50.0	65.4	67.8	62.8
Price										
Henry Hub (US\$/mmbtu)	2.66	2.67	2.09	1.95	2.72	2.81	2.39	3.14	2.90	2.89
Currency (US\$/C\$)	0.81	0.79	0.73	0.78	0.78	0.78	0.77	0.78	0.78	0.78
Henry Hub (C\$/mmbtu)	3.28	3.40	2.86	2.50	3.50	3.61	3.12	4.05	3.73	3.72
Differential (C\$/mmbtu)	0.42	0.50	0.87	1.02	1.43	0.90	1.00	0.90	0.90	1.02
Company (C\$/mcf)	2.86	2.90	1.99	1.48	2.07	2.71	2.12	3.15	2.83	2.71
WTI Cushing (US\$/bbl)	57.94	48.79	33.47	45.66	46.23	49.72	43.77	51.34	52.32	49.90
WTI Cushing (C\$/bbl)	71.53	62.09	45.84	58.53	59.47	63.96	57.06	66.04	67.31	64.19
Differential (C\$/bbl)	8.23	9.32	7.18	7.49	11.89	15.99	10.20	16.51	16.83	15.13
Company (C\$/bbl)	63.30	52.77	38.66	51.04	47.58	47.97	46.86	49.53	50.48	49.07
Total (\$/bbl)	23.60	22.30	15.05	13.14	19.52	22.96	18.42	26.09	25.54	23.69
Revenue (\$mm)										
Natural Gas	52	213	40	29	51	74	193	85	78	288
Oil	31	104	17	19	49	58	143	69	80	255
Royalties	(2)	(11)	(3)	(1)	(8)	(11)	(23)	(10)	(11)	(40)
Total	81	306	54	46	92	121	313	143	147	503
Expense										
	30	122	27	25	51	63	167	65	68	247
Ebitda (\$mm)										
	51	184	27	21	41	58	147	78	79	256
Deprec., Deplet., & Amort.	38	146	34	31	60	60	185	60	60	240
Other non-cash	2	6	4	14	2	2	21	2	2	8
Interest	6	25	7	9	9	9	34	9	9	36
Ebt										
	5	6	(18)	(33)	(30)	(13)	(94)	7	8	(28)
Income tax	10	23	(4)	(8)	(9)	(4)	(25)	2	2	(8)
Net Income (\$mm)										
	(5)	(17)	(14)	(25)	(21)	(9)	(69)	5	6	(19)
Per share (\$)	(0.03)	(0.11)	(0.09)	(0.16)	(0.09)	(0.03)	(0.38)	0.02	0.02	(0.08)
Shares (millions)										
	155	154	153	154	233	263		263	263	263
Ebitda margin (after royalty)	63%	60%	50%	45%	44%	48%	47%	55%	54%	51%
Tax rate	187%		23%	25%	30%	30%	27%	30%	30%	30%

Birchcliff Energy Ltd.					
Functional Cash Flow and Present Value					
	NTM	Adjusted	PV/	Present	
	<u>Ebitda</u>	<u>R/P</u>	<u>Ebitda</u>	<u>Value</u>	
North American Natural Gas	105	14.4	19.7	2,070	63%
Oil	94	10.8	12.8	1,200	37%
	199	13.6	16.4	3,270	100%
Debt					640
Net Present Value (US\$mm)					2,630
Shares					263
Net Present Value - Standard Estimate (US\$/sh)					10
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					12

GORDONDALE ACQUISITION



BIRCHCLIFF MONTNEY/DOIG NATURAL GAS RESOURCE PLAY FULL DEVELOPMENT PLAN: HEXASTACK





Independent Stock Idea

August 21, 2016

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	87.80	1.26	462,000	6	16	55	23	3.4	0.90
Chevron Corporation	CVX	102.32	1.35	258,000	2	13	66	19	4.2	0.81
Royal Dutch Shell	RDS-A B	50.61	1.67	339,000	2	21	54	24	7.4	0.74
Total S.A.	TOT B	49.02	1.51	176,000		20	58	22	5.6	0.64
<i>Total or Median</i>			<i>1.43</i>	<i>1,235,000</i>			<i>56</i>	<i>23</i>	<i>4.9</i>	<i>0.78</i>
Large Independent										
Devon Energy Corporation	DVN	44.33	1.48	33,800	28		62	10	0.5	1.21
EOG Resources, Inc.	EOG	91.76	1.15	57,500	11	1	87		0.7	1.19
Occidental Petroleum Corp.	OXY	76.54	1.17	68,500	4	2	86	7	3.9	1.02
Marathon Oil Corporation	MRO B	16.80	1.53	21,900	10	2	88		1.2	0.89
ConocoPhillips	COP B	43.32	1.73	93,000	13	13	75		2.3	0.74
<i>Total or Median</i>			<i>1.48</i>	<i>275,000</i>	<i>11</i>		<i>86</i>		<i>1.2</i>	<i>1.02</i>
Small Independent										
Cimarex Energy Company	XEC	131.36	1.11	13,500	34		66		0.2	1.08
Range Resources	RRC	40.40	1.45	9,800	70		30		0.2	0.97
Continental Resources (32%)	CLR B	48.72	1.39	8,000	22		78		-	0.90
Whiting Petroleum Corporation	WLL	8.04	3.09	7,100	10		90		-	0.86
California Resources	CRC	12.84	14.33	7,300	13		88		-	0.83
<i>Total or Median</i>			<i>1.45</i>	<i>46,000</i>	<i>22</i>		<i>78</i>		<i>-</i>	<i>0.90</i>
Income										
San Juan Basin Royalty Trust	SJT	6.36	1.00	300	100		-		7.5	0.79
Cross Timbers Royalty Trust	CRT	19.11	1.00	120	57		43		7.2	0.66
Dorchester Minerals, L.P.	DMLP B	15.82	1.00	490	28		72		7.8	0.66
Permian Basin RT	PBT	7.17	1.00	330	23		77		9.1	0.65
Sabine Royalty Trust	SBR B	37.52	1.00	550	38		62		6.7	0.63
<i>Total or Median</i>			<i>1.00</i>	<i>1,800</i>	<i>38</i>		<i>62</i>		<i>7.5</i>	<i>0.66</i>
Canada										
EnCana Corporation	ECA	10.14	1.99	17,100	43		57		0.6	1.26
Imperial Oil Limited (30%)	IMO	31.51	1.35	10,900	0		64	36	1.5	0.87
Suncor Energy	SU	28.43	1.34	63,500	-		84	16	3.2	0.85
Cenovus Energy Inc.	CVE	15.44	1.32	17,000	7		76	16	1.0	0.82
Birchcliff Energy Ltd.	BIREF B	6.79	1.36	2,400	74		26		-	0.74
<i>Total or Median</i>			<i>1.35</i>	<i>111,000</i>			<i>64</i>		<i>1.0</i>	<i>0.85</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										



Independent Stock Idea

August 21, 2016

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		19-Aug 2016	(mm)				
	B = Buy							
Global Integrated								
Exxon Mobil Corporation	XOM		87.80	4,178	367,000	100.00	0.18	0.90
Chevron Corporation	CVX		102.32	1,872	192,000	135.00	0.21	0.81
Royal Dutch Shell	RDS-A	B	50.61	4,007	203,000	80.00	0.30	0.74
Total S.A.	TOT	B	49.02	2,379	117,000	90.00	0.22	0.64
	<i>Total or Median</i>				879,000		0.21	0.78
Large Independent								
Devon Energy Corporation	DVN		44.33	516	22,900	33.00	0.39	1.21
EOG Resources, Inc.	EOG		91.76	547	50,200	75.00	0.15	1.19
Occidental Petroleum Corp.	OXY		76.54	764	58,500	75.00	0.15	1.02
Marathon Oil Corporation	MRO	B	16.80	848	14,240	20.00	0.31	0.89
ConocoPhillips	COP	B	43.32	1,245	54,000	70.00	0.31	0.74
	<i>Total or Median</i>				199,800		0.31	1.02
Small Independent								
Cimarex Energy Company	XEC		131.36	93	12,200	120.00	0.10	1.08
Range Resources	RRC		40.40	167	6,800	42.00	0.30	0.97
Continental Resources (32%)	CLR	B	48.72	118	5,800	56.00	0.26	0.90
Whiting Petroleum Corporation	WLL		8.04	285	2,300	12.00	0.58	0.86
California Resources	CRC		12.84	40	500	50.00	0.77	0.83
	<i>Total or Median</i>				28,000		0.30	0.90
Income								
San Juan Basin Royalty Trust	SJT		6.36	47	300	8.00	-	0.79
Cross Timbers Royalty Trust	CRT		19.11	6	120	29.00	-	0.66
Dorchester Minerals, L.P.	DMLP	B	15.82	31	490	24.00	-	0.66
Permian Basin RT	PBT		7.17	47	330	11.00	-	0.65
Sabine Royalty Trust	SBR	B	37.52	15	550	60.00	-	0.63
	<i>Total or Median</i>				1,800		-	0.66
Canada								
EnCana Corporation	ECA		10.14	850	8,600	6.00	0.63	1.26
Imperial Oil Limited (30%)	IMO		31.51	255	8,000	38.00	0.23	0.87
Suncor Energy	SU		28.43	1,665	47,300	35.00	0.22	0.85
Cenovus Energy Inc.	CVE		15.44	833	12,900	20.00	0.20	0.82
Birchcliff Energy Ltd.	BIREF	B	6.79	263	1,800	10.00	0.20	0.74
	<i>Total or Median</i>				79,000		0.22	0.85
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								



Independent Stock Idea

August 21, 2016

Table 3								
McDep Energy Stocks								
Value Multiples and Dividend								
Ranked by EV/Ebitda								
			Price	Adjustd				
	Symbol/Rating		(US\$/sh)	Resrvs/	PV/	EV/		Dividend
	B = Buy		19-Aug	Prod	Ebitda	Ebitda	P/E	NTM
			2016	NTM	NTM	NTM	NTM	(\$/sh)
Global Integrated								
Exxon Mobil Corporation	XOM		87.80	14.5	13.1	11.8	32	3.00
Chevron Corporation	CVX		102.32	9.2	12.6	10.2	40	4.28
Royal Dutch Shell	RDS-A	B	50.61	9.8	11.5	8.5	30	3.76
Total S.A.	TOT	B	49.02	9.9	10.3	6.6	14	2.75
	<i>Median</i>			9.8	12.0	9.4	31	
Large Independent								
EOG Resources, Inc.	EOG		91.76	8.2	14.6	17.3		0.67
Devon Energy Corporation	DVN		44.33	9.0	14.0	16.9		0.24
Occidental Petroleum Corp.	OXY		76.54	8.3	14.4	14.7		3.00
Marathon Oil Corporation	MRO	B	16.80	12.7	14.7	13.1		0.20
ConocoPhillips	COP	B	43.32	11.2	15.7	11.6		1.00
	<i>Median</i>			9.0	14.6	14.7		
Small Independent								
Range Resources	RRC		40.40	14.4	21.3	20.8		0.08
Cimarex Energy Company	XEC		131.36	7.0	15.0	16.3		0.32
Continental Resources (32%)	CLR	B	48.72	11.4	17.3	15.6		-
California Resources	CRC		12.84	11.7	13.7	11.4		-
Whiting Petroleum Corporation	WLL		8.04	9.4	11.3	9.8		-
	<i>Median</i>			11.4	15.0	15.6		
Income								
Sabine Royalty Trust	SBR	B	37.52	9.6	23.8	14.9	15	2.52
San Juan Basin Royalty Trust	SJT		6.36	9.9	16.2	12.9	13	0.48
Dorchester Minerals, L.P.	DMLP	B	15.82	6.7	18.5	12.2	16	1.24
Cross Timbers Royalty Trust	CRT		19.11	6.6	18.1	12.0	14	1.38
Permian Basin RT	PBT		7.17	8.6	16.9	11.0	11	0.65
	<i>Median</i>			8.6	18.1	12.2	14	
Canada								
EnCana Corporation	ECA		10.14	5.4	11.7	14.7		0.06
Birchcliff Energy Ltd.	BIREF	B	6.79	13.6	16.4	12.2		-
Imperial Oil Limited (30%)	IMO		31.51	35.8	13.8	11.9		0.47
Cenovus Energy Inc.	CVE		15.44	16.7	12.4	10.2		0.16
Suncor Energy	SU		28.43	21.6	11.5	9.8		0.90
	<i>Median</i>			16.7	12.4	11.9		
	<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 June 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



Independent Stock Idea

August 21, 2016

Table 4										
McDep Energy Stocks										
Total Return Year-to-Date 2016										
Ranked by Unlevered Total Return										
			Price	Price			Equity	Unlevered		
			(\$/sh)	(\$/sh)	Price	Cash	Total	Debt	Return	McDep
	Symbol/Rat.		19-Aug	31-Dec	Change	Distrib.	Return	(\$/sh)	(%)	Ratio
			2016	2015	(%)	(%)	(%)			
Global Integrated										
	Chevron Corporation	CVX	102.32	89.96	14	4	17	36	12	0.81
	Exxon Mobil Corporation	XOM	87.80	77.95	13	3	15	23	12	0.90
	Royal Dutch Shell	RDS-A B	50.61	45.79	11	6	17	34	10	0.74
	Total S.A.	TOT B	49.02	44.95	9	3	12	25	8	0.64
	<i>Median</i>				12		16		11	0.78
Large Independent										
	EOG Resources, Inc.	EOG	91.76	70.79	30	1	30	13	25	1.19
	Devon Energy Corporation	DVN	44.33	32.00	39	1	39	21	24	1.21
	Marathon Oil Corporation	MRO B	16.80	12.58	34	1	35	9	20	0.89
	Occidental Petroleum Corp.	OXY	76.54	67.61	13	2	15	13	13	1.02
	ConocoPhillips	COP B	43.32	46.69	(7)	2	(6)	32	(3)	0.74
	<i>Median</i>				30		30		20	1.02
Small Independent										
	Continental Resources (32%)	CLR B	48.72	22.98	112	-	112	19	61	0.90
	Cimarex Energy Company	XEC	131.36	89.38	47	0	47	14	41	1.08
	Range Resources	RRC	40.40	24.62	64	0	64	18	37	0.97
	Whiting Petroleum Corporation	WLL	8.04	9.44	(15)	-	(15)	17	(5)	0.86
	California Resources	CRC	12.84	23.30	(45)	-	(45)	170	(5)	0.83
	<i>Median</i>				47		47		37	0.90
Income										
	Dorchester Minerals, L.P.	DMLP B	15.82	9.89	60	6	66	-	66	0.66
	San Juan Basin Royalty Trust	SJT	6.36	4.14	54	3	57	-	57	0.79
	Cross Timbers Royalty Trust	CRT	19.11	13.01	47	6	53	-	53	0.66
	Sabine Royalty Trust	SBR B	37.52	26.26	43	5	48	-	48	0.63
	Permian Basin RT	PBT	7.17	5.06	42	5	46	-	46	0.65
	<i>Median</i>				47		53		53	0.66
Canada										
	Birchcliff Energy Ltd.	BIREF B	6.79	2.93	132	-	132	2	72	0.74
	EnCana Corporation	ECA	10.14	5.09	99	1	100	10	34	1.26
	Cenovus Energy Inc.	CVE	15.44	12.62	22	1	23	5	16	0.82
	Suncor Energy	SU	28.43	25.80	10	2	12	10	9	0.85
	Imperial Oil Limited (30%)	IMO	31.51	32.52	(3)	1	(2)	11	(2)	0.87
	<i>Median</i>				22		23		16	0.85
	<i>Grand Median</i>				32		33		22	0.84
	Natural Gas (\$/mmbtu)		2.57	2.33	10					
	Oil - West Texas Intermediate (\$/bbl)		48.57	37.06	31					
	S&P 500		2,184	2,044	7					
Source: McDep LLC, Yahoo, CME Group, Bloomberg					For historical research see www.mcdep.com					



Independent Stock Idea

August 21, 2016

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. An officer of Birchcliff is a research client of McDep.

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