



Income and Small Cap Weekly

Analysis of Oil & Gas Stocks

December 9, 2011

PDC Energy (PETD)

Raise NPV to \$36 from \$32 on Wattenberg Drilling

<i>Symbol</i>	PETD	<i>Ebitda Next Twelve Months ending 12/31/12 (US\$m)</i>	172
<i>Rating</i>		<i>North American Natural Gas/Ebitda (%)</i>	27
<i>Price (\$/sh)</i>	34.69	<i>Natural Gas and Oil Production/Ebitda (%)</i>	100
<i>Pricing Date</i>	12/8/11	<i>Adjusted Reserves/Production NTM</i>	8.1
<i>Shares (mm)</i>	24	<i>EV/Ebitda</i>	8.0
<i>Market Capitalization (\$mm)</i>	830	<i>PV/Ebitda</i>	8.2
<i>Debt (\$mm)</i>	540	<i>Undeveloped Reserves (%)</i>	57
<i>Enterprise Value (EV) (\$mm)</i>	1,370	<i>Natural Gas and Oil Ebitda (\$/boe)</i>	21.00
<i>Present Value (PV) (\$mm)</i>	1,400	<i>Present Value Proven Reserves(\$/boe)</i>	9.40
<i>Net Present Value (\$/share)</i>	36	<i>Oil and Gas Ebitda Margin (%)</i>	50
<i>Debt/Present Value</i>	0.39	<i>Earnings Next Twelve Months (US\$/sh)</i>	0.31
<i>McDep Ratio - EV/PV</i>	0.98	<i>Price/Earnings Next Twelve Months</i>	112
<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 natural gas and oil.			
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\$100 a barrel and natural gas, \$8 a million btu.			

Summary and Recommendation

Raising estimated Net Present Value (NPV) for small cap independent producer **PDC Energy (PETD)** to \$36 a share from \$32, we see the potential for further increases at the same time we await resolution on the company's efforts to reduce debt with divestitures and a partnership arrangement. On the new estimate, PDC stock is priced at a McDep Ratio near 1.0 in line with NPV. Debt is high for volatile times by either EV/Market Cap at 1.66 (Table ISC -1) or Debt/Present Value at 0.39 (Table ISC-2). Though unlevered cash flow multiple (EV/Ebitda) at 8.0 times is not fully covered by life index of 8.1 years, we anticipate a boost to reserves at year end (see Tables ISC-3 on page 4). PDC stock has recovered sharply from the industry low at the beginning of the fourth quarter to a ratio of enterprise value to 200-day average of 1.04 (see Table ISC-4 on page 5). Apparently the third largest lease holder in Colorado's Wattenberg field where large cap Anadarko Petroleum (APC) has the leading position, PDC, like Anadarko, is developing rapidly expanding new volume from the Niobrara shale (see slide [HZ Niobrara Production Results](#) on page 6). The favorable results and the potential for hundreds more wells encourages us to add a nominal \$100 million to estimated present value of oil (see table [Functional Cash Flow and Present Value](#) on page 6). If all goes well, production in 2012 may meet management's early expectation of 25 thousand barrels equivalent daily (mbd) compared to our cautious projection of 22 mbd (see table [Next Twelve Months Operating and Financial Estimates](#) on page 7). Finally, on the exploration front, PDC has drilled its first well in the Utica Shale in Ohio to gain information on its 40,000 acres in a promising new trend where most industry information is held tightly in a competitive atmosphere.

Kurt H. Wulff, CFA



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Table ISC-1											
McDep Income and Small Cap Energy Portfolio											
Debt, Segments, Cash Flow, Income and McDep Ratio											
			Price								
Symbol/Rating	(US\$/sh)	EV/	Enterprise	PV(%)	EV/	Dist.	Dist.				
B = Buy	8-Dec	Market	Value	Nat	Ebitda	NTM	Yield	McDep			
CB (see below)	2011	Cap	(\$mm)	Gas	Oil	NTM	(\$/un)	(%)	Ratio		
Small Cap Independent Producers											
Peyto Exploration and Development	PEYUF		24.50	1.16	3,800	75	25	11.1	0.71	2.9	1.02
PDC Energy	PETD		34.69	1.66	1,370	57	43	8.0	-	-	0.98
Range Resources	RRC	B	67.95	1.20	13,000	66	34	15.5	0.16	0.2	0.98
Birchcliff Energy Ltd.	BIREF	B	13.59	1.23	2,190	56	44	12.2	-	-	0.87
Berry Petroleum Company	BRY		39.37	1.67	3,590	21	79	5.5	0.32	0.8	0.68
Denbury Resources Inc.	DNR		16.04	1.39	8,950	4	96	5.5	-	-	0.65
Cimarex Energy Company	XEC	CB	67.20	1.13	6,550	46	54	4.9	0.40	0.6	0.59
Whiting Petroleum Corporation	WLL	CB	46.73	1.29	7,170	11	89	4.1	-	-	0.58
<i>Total or Median</i>					46,600			6.8			0.78
Top Line Cash Payers											
Cross Timbers Royalty Trust	CRT		47.70	1.00	290	87	13		2.97	6.2	1.06
Sabine Royalty Trust	SBR		64.91	1.00	950	51	49		4.29	6.6	0.93
Permian Basin RT	PBT		19.98	1.00	930	42	58		1.45	7.3	0.91
Freehold Royalties Ltd.	FRHLF		18.92	1.06	1,180	18	82		1.65	8.7	0.87
Dorchester Minerals, L.P.	DMLP	CB	22.09	1.00	680	61	39		1.94	8.8	0.74
<i>Total or Median</i>					4,000					7.3	0.91
Bottom Line Cash Payers											
Linn Energy, LLC	LINE		36.73	1.46	9,430	31	69	13.0	2.76	7.5	1.05
Vanguard Natural Resources, LLC	VNR		26.39	1.57	2,020	27	73	9.5	2.31	8.8	0.99
San Juan Basin Royalty Trust	SJT	CB	23.92	1.00	1,120	100	-	16.6	1.08	4.5	0.96
Hugoton Royalty Trust	HGT		20.58	1.00	820	88	13	17.1	1.06	5.1	0.94
Legacy Reserves L.P.	LGCY		26.56	1.44	1,670	22	78	7.8	2.18	8.2	0.92
Enduro Royalty Trust (40%)	NDRO		19.44	1.00	260	47	53	8.1	1.67	8.6	0.88
Mesa Royalty Trust	MTR		42.72	1.00	80	75	25	11.0	3.47	8.1	0.81
Enerplus Corporation	ERF	CB	25.10	1.29	5,800	29	71	7.3	2.12	8.5	0.73
<i>Total or Median</i>					21,200			10.3		8.2	0.93
Composite											
<i>Enterprise Value Weighting</i>					71,900	38	62				0.79
<i>Equal Weighting</i>						48	52				0.86
<i>Equal Weighted Buys</i>						45	55				0.77

CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.

McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses.

Present Value (PV) presumes long-term prices of \$100 a barrel for oil and \$8 a million btu for natural gas.

Dist. = Income distribution. NTM = Next Twelve Months Ended December 31, 2012. Enterprise Value = Market Cap and Debt.



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Table ISC-2

McDep Income and Small Cap Energy Portfolio Net Present Value and McDep Ratio

			Price (\$/sh)	Market	Net		
	Symbol/ Rating	8-Dec 2011	Shares (mm)	Cap (\$mm)	Present Value (\$/un)	Debt/ Present Value	McDep Ratio
Small Cap Independent Producers							
Peyto Exploration and Development Cor	PEYUF		24.50	133.1	3,260	24.00	1.02
PDC Energy	PETD		34.69	23.8	830	36.00	0.98
Range Resources	RRC	B	67.95	159.0	10,800	70.00	0.98
Birchcliff Energy Ltd.	BIREF	B	13.59	131.0	1,780	16.00	0.87
Berry Petroleum Company	BRY		39.37	54.7	2,150	70.00	0.68
Denbury Resources Inc.	DNR		16.04	403.0	6,460	28.00	0.65
Cimarex Energy Company	XEC	CB	67.20	86.2	5,790	120.00	0.59
Whiting Petroleum Corporation	WLL	CB	46.73	119.0	5,560	90.00	0.58
<i>Total or Median</i>					36,630	0.16	0.78
Top Line Cash Payers							
Cross Timbers Royalty Trust	CRT		47.70	6.0	290	45.00	1.06
Sabine Royalty Trust	SBR		64.91	14.6	950	70.00	0.93
Permian Basin RT	PBT		19.98	46.6	930	22.00	0.91
Freehold Royalties Ltd.	FRHLF		18.92	58.8	1,110	22.00	0.87
Dorchester Minerals, L.P.	DMLP	CB	22.09	30.7	680	30.00	0.74
<i>Total or Median</i>					3,960		0.91
Bottom Line Cash Payers							
Linn Energy, LLC	LINE		36.73	176.0	6,460	34.00	1.05
Vanguard Natural Resources, LLC	VNR		26.39	48.8	1,290	27.00	0.99
San Juan Basin Royalty Trust	SJT	CB	23.92	46.6	1,120	25.00	0.96
Hugoton Royalty Trust	HGT		20.58	40.0	820	22.00	0.94
Legacy Reserves L.P.	LGCY		26.56	43.6	1,160	30.00	0.92
Enduro Royalty Trust (40%)	NDRO		19.44	13.2	260	22.00	0.88
Mesa Royalty Trust	MTR		42.72	1.9	80	53.00	0.81
Enerplus Corporation	ERF	CB	25.10	180.6	4,530	37.00	0.73
<i>Total or Median</i>					15,720		0.93
B=Buy; CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.							
McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses							
Present Value presumes long-term prices of \$100 a barrel for oil and \$8 a million btu for natural gas.							



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Table ISC-3								
McDep Income and Small Cap Energy Portfolio								
Value Multiples - Rank by EV/Ebitda								
			Price (\$/sh)	Revenue	Dist/ Equity	Adjstd Resrvs/ Prod	PV/ Ebitda	EV/ Ebitda
	Symbol/ Rating		8-Dec 2011	Royalty (%)	Ebitda	NTM	NTM	NTM
Small Cap Independent Producers								
Range Resources	RRC	B	67.95		-	14.0	15.9	15.5
Birchcliff Energy Ltd.	BIREF	B	13.59		-	19.3	14.0	12.2
Peyto Exploration and Development Corp	PEYUF		24.50		0.32	12.9	10.9	11.1
PDC Energy	PETD		34.69		-	8.1	8.2	8.0
Denbury Resources Inc.	DNR		16.04		-	12.6	8.5	5.5
Berry Petroleum Company	BRY		39.37		-	11.4	8.0	5.5
Cimarex Energy Company	XEC	CB	67.20		-	6.9	8.4	4.9
Whiting Petroleum Corporation	WLL	CB	46.73		-	8.5	7.0	4.1
	<i>Median</i>					12.0	8.4	6.8
Top Line Cash Payers								
Cross Timbers Royalty Trust	CRT		47.70	80	0.97	14.0	14.7	15.6
Sabine Royalty Trust	SBR		64.91	100	1.00	7.3	16.3	15.1
Permian Basin RT	PBT		19.98	32	0.98	17.2	14.9	13.5
Freehold Royalties Ltd.	FRHLF		18.92	71	0.81	6.7	10.9	9.4
Dorchester Minerals, L.P.	DMLP	CB	22.09	77	0.83	6.1	12.8	9.4
	<i>Median</i>					7.3	14.7	13.5
Bottom Line Cash Payers								
Hugoton Royalty Trust	HGT		20.58		0.88	14.3	18.3	17.1
San Juan Basin Royalty Trust	SJT	CB	23.92		0.75	8.7	17.3	16.6
Linn Energy, LLC	LINE		36.73		1.00	16.2	12.3	13.0
Mesa Royalty Trust	MTR		42.72		0.89	13.9	13.6	11.0
Vanguard Natural Resources, LLC	VNR		26.39		0.83	8.7	9.7	9.5
Enduro Royalty Trust (40%)	NDRO		19.44		0.70	7.4	9.2	8.1
Legacy Reserves L.P.	LGCY		26.56		0.62	9.9	8.5	7.8
Enerplus Corporation	ERF	CB	25.10		0.57	8.4	10.0	7.3
	<i>Median</i>					9.3	11.1	10.3
B=Buy; CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.								
EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation								
and amortization; NTM = Next Twelve Months Ended December 31, 2012; P/E = Stock Price to								
Earnings; PV = Present Value of oil and gas and other businesses								
Top Line Cash Payers defined as those having Revenue Royalty (see fifth column from right).								



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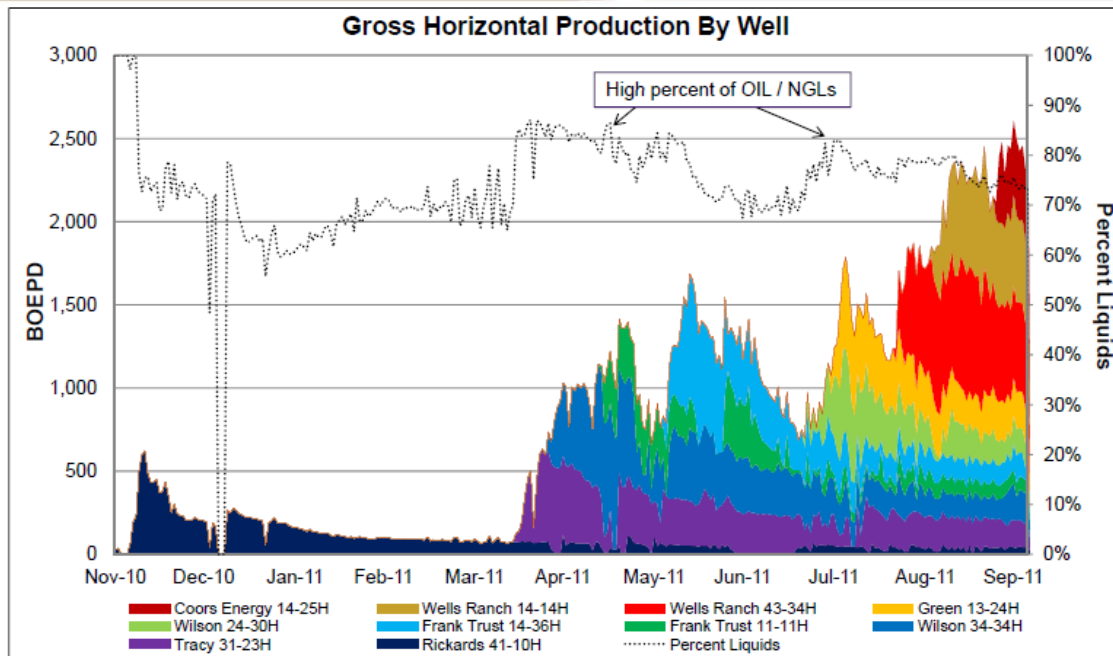
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Table ISC-4								
Oil and Gas Income and Small Cap Stocks								
Rank by Enterprise Value to 200 Day Average								
			Price (\$/sh)	Enterprise Value/				
	Symbol/ Rating		8-Dec 2011	52Wk High	52Wk Low	50 Day Avg.	200 Day Avg.	McDep Ratio
Small Cap Independent Producers								
Peyto Exploration and Development C	PEYUF		24.50	0.96	1.33	1.11	1.12	1.02
Range Resources	RRC	B	67.95	0.90	1.48	1.00	1.12	0.98
PDC Energy	PETD		34.69	0.80	1.52	1.16	1.04	0.98
Birchcliff Energy Ltd.	BIREF	B	13.59	0.90	1.34	1.01	1.03	0.87
Denbury Resources Inc.	DNR		16.04	0.69	1.36	1.04	0.90	0.65
Berry Petroleum Company	BRY		39.37	0.75	1.15	0.99	0.89	0.68
Whiting Petroleum Corporation	WLL	CB	46.73	0.67	1.42	1.05	0.88	0.58
Cimarex Energy Company	XEC	CB	67.20	0.60	1.27	1.06	0.82	0.59
	<i>Median</i>			<i>0.77</i>	<i>1.35</i>	<i>1.05</i>	<i>0.96</i>	<i>0.78</i>
Top Line Cash Payers								
Cross Timbers Royalty Trust	CRT		47.70	0.98	1.26	1.02	1.06	1.06
Sabine Royalty Trust	SBR		64.91	0.92	1.37	1.00	1.01	0.93
Permian Basin RT	PBT		19.98	0.85	1.11	1.00	0.95	0.91
Freehold Royalties Ltd.	FRHLF		18.92	0.79	1.36	1.08	0.94	0.87
Dorchester Minerals, L.P.	DMLP	CB	22.09	0.73	1.06	0.92	0.85	0.74
	<i>Median</i>			<i>0.85</i>	<i>1.26</i>	<i>1.00</i>	<i>0.95</i>	<i>0.91</i>
Bottom Line Cash Payers								
San Juan Basin Royalty Trust	SJT	CB	23.92	0.85	1.17	1.00	0.98	0.96
Linn Energy, LLC	LINE		36.73	0.92	1.12	1.00	0.98	1.05
Mesa RoyaltyTrust	MTR		42.72	0.85	1.10	0.99	0.95	0.81
Vanguard Natural Resources, LLC	VNR		26.39	0.85	1.12	0.99	0.94	0.99
Legacy Reserves L.P.	LGCY		26.56	0.84	1.14	0.98	0.94	0.92
Hugoton RoyaltyTrust	HGT		20.58	0.83	1.07	0.96	0.92	0.94
Enerplus Corporation	ERF	CB	25.10	0.80	1.12	0.96	0.88	0.73
	<i>Median</i>			<i>0.85</i>	<i>1.12</i>	<i>0.99</i>	<i>0.94</i>	<i>0.94</i>

CB=Contrarian Buy, Stock Price apparently in downtrend compared to 200-day average.

HZ Niobrara Production Results



12/6/2011

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Petroleum Development Corporation (Doing Business as PDC Energy)

Functional Cash Flow and Present Value

	<i>NTM Ebitda</i>	<i>Adjusted</i>	<i>PV/</i>	<i>Present</i>	
	<i>(US\$mm)</i>	<i>R/P</i>	<i>Ebitda</i>	<i>Value</i>	
				<i>(US\$mm)</i>	
North American Natural Gas	46	15.9	17.4	800	57%
Oil	126	3.4	4.8	600	43%
	172	8.1	8.1	1,400	100%
Debt (US\$mm)					540
Net Present Value (US\$mm)					860
Shares (mm)					24
Net Present Value - Standard Estimate (US\$/sh)					36
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					40



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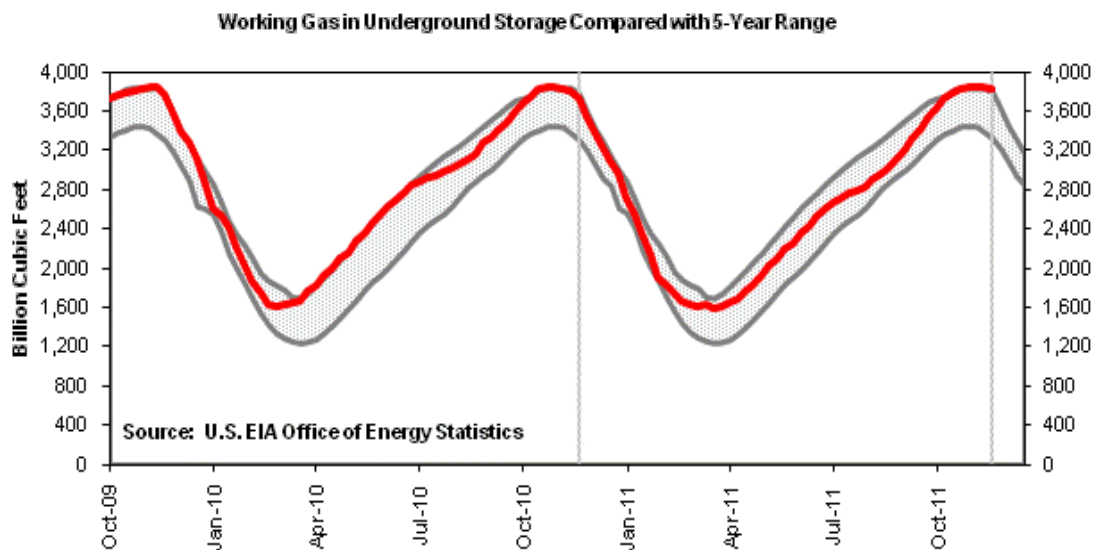
Petroleum Development Corporation (Doing Business as PDC Energy)									
Next Twelve Months Operating and Financial Estimates									
	Q2	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	Next Twelve Months
	6/30/11	9/30/11	12/31/11	2011E	3/31/12	6/30/12	9/30/12	12/31/12	12/31/12
Volume									
Natural Gas (mmcf)	83	81	81	83	81	81	81	81	81
Days	91	92	92	365	91	91	92	92	366
Oil (mbd)	6.3	8.3	8.5	7.3	8.7	8.8	9.0	9.2	8.9
Total (mb)	1,829	2,006	2,021	7,680	2,015	2,031	2,069	2,086	8,200
Total (mbd)	20.1	21.8	22.0	21.0	22.1	22.3	22.5	22.7	22.4
Price									
Henry Hub (\$/mmbtu)	4.32	4.19	3.55	4.04	3.49	3.59	3.71	3.96	3.69
Differential (\$/mmbtu)	0.79	0.66	0.56	0.76	0.55	0.57	0.59	0.63	0.58
Company (\$/mcf)	3.53	3.53	2.99	3.28	2.93	3.02	3.12	3.33	3.10
WTI Cushing (\$/bbl)	102.55	89.76	94.86	95.32	101.14	101.23	100.48	99.61	100.62
Differential	23.27	20.34	21.49	21.61	22.92	22.94	22.77	22.57	22.81
Company	79.28	69.42	73.37	73.71	78.22	78.30	77.71	77.04	77.81
Total (\$/bbl)	39.51	39.58	39.33	38.36	41.29	41.92	42.34	43.11	42.17
Revenue (\$mm)									
Natural Gas	27	26	22	99	22	22	23	25	92
Oil	46	53	57	196	62	63	64	65	254
Total	72	79	80	295	83	85	88	90	346
Expense									
Lease operating	20	16							-
General and administrative	20	14							-
Total	39	30	40	144	42	43	44	45	174
Ebitda									
Exploration	2	2	2	7	2	2	2	2	7
Deprec., Deplet., & Amort.	33	34	34	134	34	34	34	34	137
Other, incl hedge	(23)	(6)	(6)	(16)	(6)	(6)	(6)	(6)	(23)
Ebit									
Interest	9	10	10	38	10	10	10	10	40
Ebt									
Income Tax	3	4	(0)	(7)	0	1	1	2	4
Net Income (\$mm)									
Per Share (\$)	0.39	0.28	(0.02)	(0.20)	0.03	0.06	0.09	0.12	0.31
Shares (millions)									
Ebitda Margin	46%	63%	50%	51%	50%	50%	50%	50%	50%
Tax rate	27%	35%	35%	62%	35%	35%	35%	35%	35%



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