

ICDEP Income and Small Cap Weekly

Analysis of Oil & Gas Stocks January 11, 2013

PDC Energy, Inc. (PDCE) Mancos (Niobrara) Winner

Symbol	PDCE	Ebitda Next Twelve Months ending 12/31/13 (US\$mn	163
Rating		North American Natural Gas/Ebitda (%)	27
Price (\$/sh)	35.80	Natural Gas and Oil Production/Ebitda (%)	100
Pricing Date	1/10/13	Adjusted Reserves/Production NTM	15.0
Shares (mm)	30	EV/Ebitda	11.4
Market Capitalization (\$mm)	1,080	PV/Ebitda	12.2
Debt (\$mm)	790	Undeveloped Reserves (%)	51
Enterprise Value (EV) (\$mm)	1,870	Natural Gas and Oil Ebitda (\$/boe)	17.50
Present Value (PV) (\$mm)	1,990	Present Value Proven Reserves(\$/boe)	10.60
Net Present Value (\$/share)	40	Oil and Gas Ebitda Margin (%)	49
Debt/Present Value	0.39	Earnings Next Twelve Months (US\$/sh)	0.53
McDep Ratio - EV/PV	0.94	Price/Earnings Next Twelve Months	68
Dividend Yield (%/year)	0.0	Indicated Annual Dividend (US\$/sh)	0.00
Note: Estimated cash flow and e	arnings tied to on	e-year futures prices for natural gas and oil.	
Reported results may vary	widely from estir	nates. Estimated present value per share revised only infred	quently.
Estimated present value pr	esumes a long-ter	rm price for oil of US\$100 a barrel and natural gas, \$6 a mil	lion btu.

Summary and Recommendation

PDC Energy (PDCE) looks like an attractive "spec" among Small Cap Independent Producers (SCIPs) on the basis of rapidly developing oil production in the Wattenberg field in Colorado from the Mancos Shale, more commonly known as the Niobrara Shale in that area. Illustrating the upside, PDCE may have more than 1800 well locations in Wattenberg worth more than \$5 billion potentially. Only a fraction of that is in our current estimate of \$2 billion of present value incorporated in Net Present Value (NPV) of \$40 a share and McDep Ratio of 0.94 (see tables Operating and Financial Estimates and Present Value on page 3). On the speculative side, value depends on oil and gas price buffeted by the pace of global demand and the temporary discounts that arise when transporter and processors can't handle new volume as fast as producers can complete their wells. After price uncertainty, there is volume uncertainty as the new wells have had little time to prove that future production will meet expectations. While all SCIPs in our coverage face those risks, PDCE has the most financial risk because it has the highest ratio of debt to present value at 0.39 and is the smallest in market cap at little more than a billion dollars. In any case, PDCE is a fascinating story of the promise and suspense in the shale oil revolution.

Twenty-First Century Winning of the West

A seaway that once covered New Mexico, Colorado, Utah, Wyoming and adjacent states left behind a limestone (chalk) and shale formation known by the names of Mancos, Niobrara, Cody, Steele and Baxter (see <u>Mancos-Niobrara</u>, *AAPG Explorer*, August 2012). Wattenberg producers Anadarko (APC), Noble Energy (NBL) and PDCE appear to be leading the way with commercial horizontal fracks in the formation. We discussed early drilling in the related formation in the San Juan Basin by **Encana (ECA)**, WPX Energy (WPX) and **ConocoPhillips (COP)**, the working



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interest owner for the **San Juan Basin Royalty Trust (SJT)** (see *Income and Small Cap Weekly*, November 30, 2012).

Multiple Target Zones and Downspacing

In the northeast Colorado Mancos, PDCE's first horizontal wells were drilled into the Niobrara B "Bench". In the past few months, successful horizontal fracks have been completed in the Codell formation, below the Niobrara (see slide Stratigraphic Column on page 4).

At the same time, PDCE has been demonstrating that drilling more wells in the same area, referred to as downspacing, can be commercial. Doubling or tripling the well count with downspacing and then adding the Codell to the Niobrara B gives PDCE the confidence to boost resource potential to 1800 locations (see slide Wattenberg Resource Potential on page 4). With no results disclosed yet, PDCE has drilled the A Bench and the C bench of the Niobrara with expectations those benches will also be productive and may add further to location count.

A year of production history supports the estimate that Niobrara wells may have a present value of \$3 million each (see slide <u>Horizontal Production</u> on page 5). Four months of production history for the Codell suggests present value approaching \$7 million a well under the illustrative assumptions. While many factors have to fall in place to achieve estimated present value, 1800 locations at \$3 million each multiplies to \$5.4 billion. In any case, the exercise demonstrates why oil and gas producers are excited about what can be achieved with new horizontal fracking technology.

Utica Well May be Company's Best Ever

Meanwhile, back east in Ohio, PDCE announced late last year its first horizontal well in the Utica Shale. The Onega Commissioners well tested 1800 barrels daily, apparently 2-3 times a Wattenberg well. Encouraging as that may be, management still wants to know how production holds up as the months go by. A second well, the Detweiler, has been completed and is expected to be tested next month. The company thinks it has about 200 drilling locations on its 45,000 acres of leases (see slide Utica on page 5). The news trend is good so far for PDCE's Utica.

Small Caps Bounce in 2013

McDep Ratios are low and most of the producers are in sound financial condition (see Tables <u>ISC-1</u> through <u>ISC-3</u> on pages 6 to 8). In the early days of 2013, median year-to-date returns by group are 6% for Small Cap Independent Producers, 5% for Leveraged Cash Payers and 8% for RTF Cash Payers (see Table ISC-4 on page 9).

Kurt H. Wulff, CFA



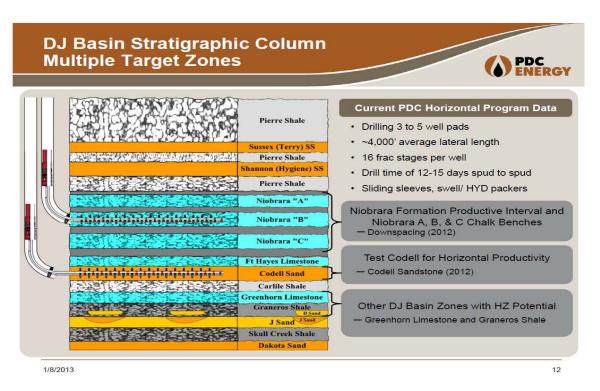
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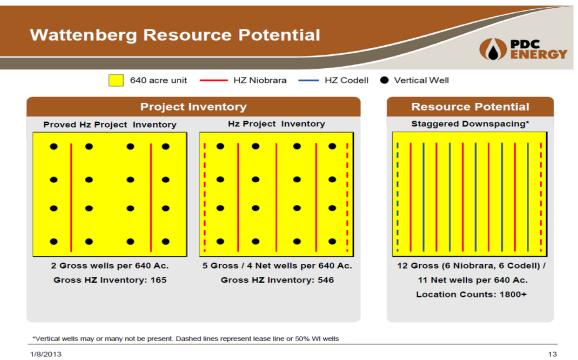
			PDC Ene	ergy, Inc.					
	Next T	welve Mo	nths Operat	ing and F	inancial E	Estimates			
									Next
									Twelve
	Q4	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	Months
	12/31/11	9/30/12	12/31/12	2012E	3/31/13	6/30/13	9/30/13	12/31/13	12/31/13
Volume									
Natural Gas (mmcfd)	87	88	90	88	91	93	95	97	94
Oil (mbd)	8.6	7.1	8.5	7.8	9.0	9.6	10.1	10.7	9.9
Total (bcfe)	12.8	12.0	12.9	49.5	13.1	13.7	14.3	14.8	56.0
Total (mbd)	23.1	21.7	23.4	22.6	24.2	25.1	26.0	26.9	25.6
Price									
Henry Hub (\$/mmbtu)	3.55	2.80	3.40	2.79	3.30	3.38	3.52	3.72	3.48
Differential	0.58	0.67	0.82	0.69	0.79	0.81	0.84	0.89	0.83
Company (\$/mcf)	2.97	2.13	2.59	2.10	2.51	2.57	2.67	2.83	2.65
WTI Cushing (\$/bbl)	94.06	92.22	88.18	94.16	93.34	94.30	94.62	94.17	94.11
Differential	22.67	26.55	25.39	26.15	26.87	27.15	27.24	27.11	27.08
Company	71.39	65.67	62.79	68.01	66.47	67.15	67.38	67.06	67.03
Total (\$/bbl)	37.64	30.02	32.67	31.80	34.17	35.10	36.05	36.95	35.62
Revenue (\$mm)									
Natural Gas	24	17	21	68	21	22	23	25	91
Oil	56	43	49	195	54	58	63	66	241
Total	80	60	70	263	75	80	86	91	332
Expense									
Lease operating	20	21							-
General and administrative	14	14							-
Total	34	35	36	138	38	41	44	47	169
Ebitda	46	25	35	125	37	39	42	45	163
Exploration	2	2	2	9	2	2	2	2	8
Deprec., Deplet., & Amort.	36	33	33	139	33	33	33	33	130
Other, incl hedge	8	(13)	(10)	(78)	(10)	(10)	(10)	(10)	(40)
Ebit	0	4	10	55	12	15	18	20	65
Interest	9	11	10	42	10	10	10	10	40
Ebt	(9)	(7)	0	13	2	5	8	10	25
Income Tax	(3)	(3)	0	5	1	2	3	4	9
Net Income (\$mm)	(6)	(5)	0	8	1	3	5	7	16
Per Share (\$)	(0.25)	(0.16)	0.00	0.40	0.04	0.10	0.16	0.22	0.53
Shares (millions)	23.6	30.2	30.2	21.0	30.2	30.2	31.0	31.0	30.2
Ebitda Margin	57%	42%	49%	48%	49%	49%	49%	49%	49%
Tax rate	35%	35%	35%	35%	35%	35%	35%	35%	35%

PI	C Energy, In	c.			
Functional Ca	sh Flow and l	Present Val	ue		
				Present	
	NTM Ebitda	Adjusted	PV/	Value	
	(US\$mm)	<u>R/P</u>	<u>Ebitda</u>	(US\$mm)	
North American Natural Gas	45	16.0	19.6	880	44%
Oil	118	13.3	9.5	1,120	56%
	163	15.0	12.3	2,000	100%
Debt (US\$mm)					790
Net Present Value (US\$mm)					1,210
Shares (mm)					30
Net Present Value - Standard Estimate (US\$/sh)					40
NPV Approximation by Cash Flow Multiple Depe	nding on Rese	rve Life (US	S\$/sh)		37



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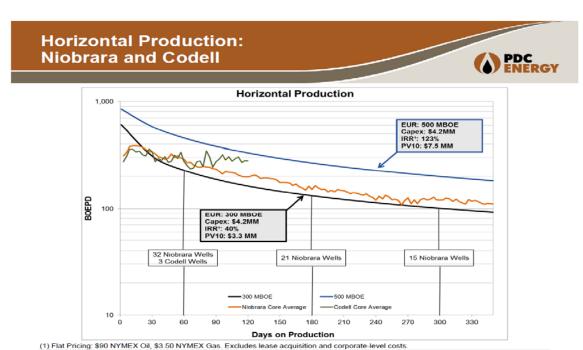






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1/8/2013

Utica Leasehold and Asset Summary



Activity update

- PDC and other operators' recent reported drilling results have exceeded expectations
- Wells drilled by PDC and other operators in and around PDC's leasehold have helped to accelerate de-risking of the play
- Projected to spend \$95 million in 2012 to acquire majority of Company's Utica leasehold and to drill 3 wells
- Plan to spend \$50 million in 2013
 - Drill, complete and connect 4 to 5 horizontal wells across acreage position
 - The 2012 and 2013 drilling programs should test a substantial portion of PDC's leasehold

Leasehold and asset summary

- ~45,000 contiguous net acres, primarily located in the gascondensate window
- Average 95% WI, 16% royalty, ~50% HBP
- Inventory of ~200 gross horizontal drilling locations
- Large resource potential with high liquids content

- Plan to finalize midstream strategy and marketing arrangements by 1/31/13
- First sales from PDC horizontal wells expected in Q2 2013

Oil APC Brookfield #C1H

1/8/2013



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			Price								
Sym	bol/Rati	ng	(US\$/sh)	EV/	Enterprise	PV(<u>%)</u>	EV/	Dist.	Dist.	
	B = I	Buy	10-Jan	Market	Value	Nat		Ebitda	NTM	Yield	McDe
СВ	(see belo	ow)	2013	Cap	(\$mm)	Gas	Oil	NTM	(\$/un)	(%)	Rati
Small Cap Independent Produce	•e										
Range Resources	RRC	В	63.83	1.34	13,640	75	25	16.9	0.16	0.3	0.93
PDC Energy	PDCE	D	35.80	1.73	1,870	44	56	11.4	-	0.5	0.94
Peyto Exploration and Developmen			22.85	1.73	4,010	76	24	10.6	0.73	3.2	0.92
Continental Resources (32%)	CLR	В	81.90	1.20	5,760	24	76	7.5	-	3.2	0.85
Halcón Resources	HK		7.72	1.56	4,090	15	85	5.9	_	_	0.84
Denbury Resources Inc.	DNR		16.80	1.49	9,790	4	96	6.0	_	_	0.69
Birchcliff Energy Ltd.	BIREF	В	7.13	1.49	1,580	63	37	9.2	_	_	0.68
Berry Petroleum Company	BRY		35.87	1.89	3,740	12	88	5.2	-	-	0.66
Whiting Petroleum Corporation	WLL	В	47.49	1.38	7,780	9	91	4.8	-	-	0.62
Cimarex Energy Company	XEC	В	61.00	1.26	6,690	41	59	5.2	0.48	0.8	0.61
Total or Median			52.50	1.43	59,000	33	67	6.8			0.77
Leveraged Cash Payers											
Linn Energy, LLC	LINE		37.34	1.67	14,490	43	57	12.6	2.90	7.8	1.13
Vanguard Natural Resources, LLC	VNR		27.84	1.62	2,390	33	67	11.7	2.40	8.6	1.07
Legacy Reserves L.P.	LGCY		25.07	1.49	1,770	25	75	9.0	2.26	9.0	0.88
Enerplus Corporation	ERF	CB	13.19	1.69	4,400	31	69	6.1	1.09	8.3	0.74
Total or Median				1.64	23,100	32	68	10.3		8.5	0.98
RTF Cash Payers											
Freehold Royalties Ltd.	FRHLF		23.04	TL	1,580	16	84	11.1	1.70	7.4	1.09
Dorchester Minerals, L.P.	DMLP			TL	670	57	43	10.8	1.81	8.3	0.81
Enduro Royalty Trust (40%)	NDRO		16.59	BL	220	43	57	9.0	1.84	11.1	0.79
San Juan Basin Royalty Trust	SJT	СВ		BL	670	100	-	9.7	1.13	7.8	0.69
Sabine Royalty Trust	SBR		44.20	TL	640	51	49	11.2	3.94	8.9	0.68
Permian Basin RT	PBT		13.15	TL	610	33	67	8.6	1.09	8.3	0.60
Cross Timbers Royalty Trust	CRT		28.51	TL	170	70	30	9.2	3.01	10.6	0.63
Hugoton RoyaltyTrust	HGT		8.07	BL	320	88	13	7.1	0.54	6.7	0.5
Mesa RoyaltyTrust	MTR		21.52	BL	40	75	25	8.5	2.00	9.3	0.54
Total or Median					4,900	57	43	9.2		8.3	0.6
CB=Contrarian Buy, Stock Price ap											
McDep Ratio = Market cap and De											
Present Value (PV) presumes long-	term pri	ces	of \$100 a l	barrel for	oil and \$6 a r	nillion	btu for	r natural g	gas.		



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		Tab	le ISC-2					
McDep Inc	ome an	d Sı	nall Ca	p Ener	gy Port	folio		
Net P	resent `	Valu	e and l	McDep	Ratio			
			Price			Net		
			(\$/sh)		Market	Present	Debt/	
	Symbol/		10-Jan	Shares	Cap	Value	Present	McDep
	Ra	ting	2013	(mm)	(\$mm)	(\$/un)	Value	Ratio
Small Cap Independent Producers								
PDC Energy	PDCE		35.80	30.2	1,080	40.00	0.39	0.94
Range Resources	RRC	В	63.83	160.0	10,210	70.00	0.23	0.93
Peyto Exploration and Development Con			22.85	143.2	3,270	27.00	0.16	0.87
Continental Resources (32%)	CLR	В	81.90	58.6	4,800	100.00	0.14	0.85
Halcón Resources	HK		7.72	339.0	2,620	10.00	0.30	0.84
Denbury Resources Inc.	DNR		16.80	391.0	6,570	28.00	0.23	0.69
Birchcliff Energy Ltd.	BIREF	В	7.13	149.0	1,060	12.00	0.23	0.68
Berry Petroleum Company	BRY		35.87	55.3	1,980	70.00	0.31	0.66
Whiting Petroleum Corporation	WLL	В	47.49	119.0	5,650	88.00	0.17	0.62
Cimarex Energy Company	XEC	В	61.00	86.9	5,300	110.00	0.13	0.61
Total or Median					42,540		0.23	0.77
Leveraged Cash Payers								
Linn Energy, LLC	LINE		37.34	233.0	8,700	30.00	0.45	1.13
Vanguard Natural Resources, LLC	VNR		27.84	53.1	1,480	25.00	0.43	1.13
Legacy Reserves L.P.	LGCY		25.07	47.5	1,190	30.00	0.41	0.88
Enerplus Corporation	ERF	СВ	13.19	196.0	2,590	21.00	0.30	0.74
Total or Median	Litt	CD	13.17	170.0	13,960	21.00	0.36	0.98
					,			
RTF Cash Payers								
Freehold Royalties Ltd.	FRHLF		23.04	65.7	1,510	21.00	0.05	1.09
Dorchester Minerals, L.P.	DMLP	CB	21.78	30.7	670	27.00	-	0.81
Enduro Royalty Trust (40%)	NDRO		16.59	13.2	220	21.00	-	0.79
San Juan Basin Royalty Trust	SJT	CB	14.46	46.6	670	21.00	-	0.69
Sabine Royalty Trust	SBR		44.20	14.6	640	65.00	-	0.68
Permian Basin RT	PBT		13.15	46.6	610	20.00	-	0.66
Cross Timbers Royalty Trust	CRT		28.51	6.0	170	44.00	-	0.65
Hugoton RoyaltyTrust	HGT		8.07	40.0	320	14.00	-	0.58
Mesa RoyaltyTrust	MTR		21.52	1.9	40	40.00	-	0.54
Total or Median					4,850			0.68
B=Buy; CB=Contrarian Buy, Stock Price	 e annarent]	ly in d	owntrend	compared	to 200-day	/ average		
McDep Ratio = \mathbf{M} arket \mathbf{c} ap and $\mathbf{D}\mathbf{e}$ bt to								
Present Value presumes long-term price							ase	



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		Tab	le ISC-3	3				
McDep Inco	ome an	d S	mall C	ap Enei	rgy Por	tfolio		
Value	Multip	les ·	- Rank	by EV/	Ebitda			
	_							
			Price			Adjstd		
				Revenue	Dist/	Resrvs/	PV/	EV
	Symbol/		10-Jan	Royalty	Equity	Prod	Ebitda	Ebitda
	Ra	ting	2013	(%)	Ebitda	NTM	NTM	NTM
Small Cap Independent Producers								
Range Resources	RRC	В	63.83		_	13.5	18.2	16.9
PDC Energy	PDCE	B	35.80		_	15.0	12.2	11.4
Peyto Exploration and Development Corp			22.85		0.33	9.2	12.1	10.6
Birchcliff Energy Ltd.	BIREF	В	7.13		-	19.4	13.5	9.2
Continental Resources (32%)	CLR	В	81.90		_	9.0	8.9	7.5
Denbury Resources Inc.	DNR		16.80		-	13.0	8.7	6.0
Halcón Resources	HK		7.72		_	5.5	7.1	5.9
Berry Petroleum Company	BRY		35.87		-	11.3	7.8	5.2
Cimarex Energy Company	XEC	В	61.00		-	7.3	8.4	5.2
Whiting Petroleum Corporation	WLL	В	47.49		_	9.1	7.7	4.8
Median						10.2	8.8	6.8
Leveraged Cash Payers								
Linn Energy, LLC	LINE		37.34		1.07	14.0	11.1	12.6
Vanguard Natural Resources, LLC	VNR		27.84		1.07	13.2	10.9	11.7
Legacy Reserves L.P.	LGCY		25.07		0.77	11.0	10.9	9.0
Enerplus Corporation	ERF	CD			0.77	6.3	8.2	6.1
Median	EKF	CB	13.19		0.43	12.1	10.6	10.3
meutun						12.1	10.0	10.3
RTF Cash Payers								
Sabine Royalty Trust	SBR		44.20	100	1.00	8.1	16.5	11.2
Freehold Royalties Ltd.	FRHLF		23.04	80	0.82	5.1	10.1	11.1
Dorchester Minerals, L.P.	DMLP	CB	21.78	77	0.90	6.8	13.4	10.8
San Juan Basin Royalty Trust	SJT	CB	14.46		0.76	9.1	14.1	9.7
Cross Timbers Royalty Trust	CRT		28.51	78	0.97	14.2	14.2	9.2
Enduro Royalty Trust (40%)	NDRO		16.59		1.00	6.4	11.4	9.0
Permian Basin RT	PBT		13.15	52	0.71	9.9	13.0	8.6
Mesa RoyaltyTrust	MTR		21.52		0.80	7.7	15.9	8.5
Hugoton RoyaltyTrust	HGT		8.07		0.47	12.9	12.4	7.1
Median						8.1	13.4	9.2
B=Buy; CB=Contrarian Buy, Stock Price	apparentl	v in d	lowntrend	l compared	to 200-da	v average.		
EV = Enterprise Value = Market Cap and							n	
and amortization; NTM = Next Twelve M								
Earnings; PV = Present Value of oil and g				,, _ 510,1				
Top Line Cash Payers defined as those ha				ee fifth co	lumn from	right)		



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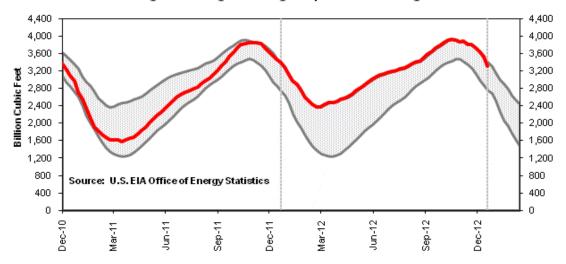
			Table I	SC-4					
McDep	Incom	e ar	ıd Sma	Il Cap I	Energy	Portfol	io		
						omentur			
			Price	Equity					
			(\$/sh)	Total		Enterpris	e Value/		
	Symbol/		10-Jan	Return	52Wk	52Wk		200 Day	McDep
		ting	2013	YTD (%)	High	Low	Avg.	Avg.	Ratio
Small Cap Independent Producers									
PDC Energy	PDCE		35.80	8	0.93	1.36	1.06	1.11	0.94
Continental Resources (32%)	CLR	В	81.90	11	0.93	1.27	1.10	1.08	0.94
Peyto Exploration and Development C		ь	22.85	(1)	0.88	1.42	0.96	1.08	0.83
Denbury Resources Inc.	DNR		16.80	4	0.85	1.17	1.05	1.03	0.69
Whiting Petroleum Corporation	WLL	В	47.49	9	0.80	1.22	1.07	1.03	0.62
Cimarex Energy Company	XEC	В	61.00	6	0.74	1.24	1.02	1.02	0.61
Birchcliff Energy Ltd.	BIREF	В	7.13	(5)	0.60	1.26	0.94	1.00	0.61
Range Resources	RRC	В	63.83	2	0.89	1.16	0.98	1.00	0.93
Halcón Resources	HK		7.72	12	0.68	1110	1.11	0.97	0.84
Berry Petroleum Company	BRY		35.87	7	0.76	1.09	1.04	0.96	0.66
Median				6	0.82	1.24	1.04	1.03	0.77
Leveraged Cash Payers									
Vanguard Natural Resources, LLC	VNR		27.84	7	0.95	1.13	1.01	1.01	1.07
Linn Energy, LLC	LINE		37.34	6	0.92	1.05	0.98	0.98	1.13
Legacy Reserves L.P.	LGCY		25.07	5	0.88	1.08	1.01	0.96	0.88
Enerplus Corporation	ERF	CB	13.19	2	0.64	1.09	0.99	0.92	0.74
Enduro Royalty Trust (40%)	NDRO		16.59	(1)	0.75	1.11	0.96	0.91	0.79
Median				5	0.88	1.09	0.99	0.96	0.88
RTF Cash Payers									
Freehold Royalties Ltd.	FRHLF		23.04	4	0.99	1.36	1.07	1.16	1.09
Dorchester Minerals, L.P.	DMLP	CB	21.78	7	0.82	1.10	1.03	0.98	0.81
San Juan Basin Royalty Trust	SJT	CB	14.46	8	0.65	1.20	1.08	0.97	0.69
Hugoton RoyaltyTrust	HGT		8.07	10	0.46	1.41	1.09	0.96	0.58
Sabine Royalty Trust	SBR		44.20	11	0.66	1.14	0.98	0.86	0.68
Cross Timbers Royalty Trust	CRT		28.51	6	0.57	1.21	1.07	0.84	0.65
Permian Basin RT	PBT		13.15	7	0.57	1.10	1.00	0.78	0.66
Mesa RoyaltyTrust	MTR		21.52	11	0.49	1.14	0.98	0.77	0.54
Median				8	0.61	1.17	1.05	0.91	0.67
CB=Contrarian Buy, Stock Price appar	ently in d	owntr	end comp	ared to 200	0-day aver	age.			



CDEP Income and Small Cap Weekly

Analysis of Oil & Gas Stocks January 11, 2013

Working Gas in Underground Storage Compared with 5-Year Range



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