

Cash, Fracking and Inflation CRT, DMLP, PBT, SBR, SJT

		Price (US\$/sh)	Market Cap (US\$m)	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	22-Sep 2017									
San Juan Basin Royalty Trust	SJT	8.15	380	380	1.00	15.8	15.5	-	6.3	1.02
Permian Basin RT	PBT	8.43	390	390	1.00	14.0	18.2	78	6.6	0.77
Sabine Royalty Trust	SBR	39.90	580	580	1.00	17.3	26.0	59	5.8	0.67
Dorchester Minerals, L.P.	DMLP B	14.75	480	480	1.00	10.5	17.1	72	9.2	0.61
Cross Timbers Royalty Trust	CRT B	14.76	90	90	1.00	10.3	20.1	28	7.5	0.51
<i>Total or Median</i>			<i>1,900</i>	<i>1,900</i>	<i>1.00</i>	<i>14.0</i>	<i>18.2</i>	<i>59</i>	<i>6.6</i>	<i>0.67</i>

Summary and Recommendation

High cash distributions, upside volume in fracking and inflation protection of natural resources are top attractions of McDep Income Payers including Buy recommendations **Dorchester Minerals, L.P. (DMLP)** and **Cross Timbers Royalty Trust (CRT)**. The five issues in our coverage would pay a median 6.6% in tax advantaged cash distributions over the next twelve months, we estimate. Top Line distributions would range from 73% to 82% of oil and gas revenue while Bottom Line distributions would range from 0 to 37% (see table Distribution % of Revenue on page 2). Top Line royalty arrangements are the most valuable for four of the five payers (see table Royalty Structure on page 2). Quarterly models detail distribution estimates (see tables Operating and Financial Estimates for five stocks on pages 3-7). Additional models capitalize cash flow presuming a moderately higher oil and gas price (see tables Present Value on pages 8-9). Recent developments call attention to fracking upside in **San Juan Basin Royalty Trust (SJT)**. SJT's new partner, private company Hilcorp, has ambitious plans for speeding development. BP is completing new wells that are more productive and economical than traditional San Juan drilling. Also boosting SJT stock was the announcement on September 19 of a one-time boost of \$0.16 a unit to the monthly distribution as a result of the settlement of a legal dispute. Coincidentally, most of the Top Line value in CRT is San Juan Basin natural gas. While SJT has been advancing, CRT stock has been lagging. **Sabine Royalty Trust (SBR)** is exposed to fracking upside in oil in West Texas in the Permian Basin and in natural gas in East Texas in the Cotton Valley formation. DMLP has the fastest growth in Permian fracking. Drilling has slowed on **Permian Basin Royalty Trust (PBT)** properties while a low McDep Ratio signals valuable resources. Meanwhile, there are signs that the inflation protection offered by pure play oil and gas investment may become more important again. The U.S. dollar is down sharply. Government deficits may accelerate with increased spending for health care and defense. Central banks are printing money. Inflation tends to build late in the economic cycle. In any case, a diversified portfolio should include inflation protection, we believe. Income payers and other oil and gas stocks can furnish some of that protection along with growing investment value and, in many cases, low financial risk (see Tables 1-4 on pages 10-13).

Kurt H. Wulff, CFA

McDep Income Payers						
Distribution % of Revenue, Twelve Months Ended September 30, 2018						
		CRT	DMLP	PBT	SBR	SJT
Top Line						
	Revenue	9.1	43.8	15.0	40.8	
	Tax			1.8	4.8	
	Royalty Interest Owner			0.7		
	Administration			0.6	2.4	
	Distribution	6.6	38.7	12.0	33.7	
	Distribution % of Revenue	73%	88%	79%	82%	
Bottom Line						
	Revenue	6.5	20.5	41.3		64.4
	Operating and tax			18.7		30.6
	Capital			3.0		0.4
	Working Interest Owner			4.9		8.3
	Administration			0.8		1.2
	Distribution	0.0	5.1	14.0		23.8
	Distribution % of Revenue	0%	25%	34%		37%

Income Payer Royalty Structure					
Percent of Net Present Value					
		<i>Top Line</i>		<i>Bottom Line</i>	
		<i>Nat Gas</i>	<i>Oil</i>	<i>Nat Gas</i>	<i>Oil</i>
Sabine Royalty Trust	SBR	41%	59%		
Dorchester Minerals, L.P.	DMLP	24%	67%	4%	5%
Cross Timbers RT	CRT	72%	17%		10%
Permian Basin RT	PBT	6%	41%	16%	37%
San Juan Basin RT	SJT			100%	



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

Cross Timbers Royalty Trust										
Next Twelve Months Operating and Financial Performance										
	Q3	Year	Q2	Q3E	Q4E	Year	Q1E	Q2E	Q3E	Next Twelve Months
	9/30/16	2016	6/30/17	9/30/17	12/31/17	2017	3/31/18	6/30/18	9/30/18	9/30/18
Volume										
Natural Gas (bcf)	0.40	2.05	0.38	0.39	0.40	1.59	0.40	0.39	0.39	1.57
Natural Gas (mmcf/d)	4.3	5.6	4.2	4.3	4.3	4.4	4.3	4.3	4.3	4.3
Days	91	366	90	91	92	365	92	90	91	365
Oil (mb)	55	225	51	50	50	204	49	47	48	193
Oil (mbd)	0.60	0.61	0.57	0.54	0.54	0.56	0.53	0.53	0.52	0.53
Days	92	366	89	92	92	365	92	89	92	365
Total (bcf)	0.73	3.40	0.69	0.69	0.69	2.81	0.69	0.67	0.68	2.73
Price										
Natural Gas (HH lagged three months)										
Henry Hub (\$/mmbtu)	1.95	2.28	3.32	3.18	2.99	3.12	3.05	3.28	2.94	3.07
Differential (%)	(72)	(55)	(30)	(31)	(30)	(31)	(30)	(30)	(30)	(30)
CRT (\$/mcf)	3.37	3.54	4.33	4.16	3.89	4.08	3.97	4.26	3.82	3.98
Oil (\$/bbl) (WTI lagged two months)										
WTI Cushing	46.80	41.85	51.41	46.78	49.44	49.44	51.00	51.54	51.57	50.89
CRT	42.02	38.12	47.81	43.75	46.96	45.92	48.45	48.97	48.99	48.33
Total (\$/mcf)	5.02	4.66	5.95	5.52	5.58	5.63	5.72	5.91	5.66	5.72
Revenue (\$mm)										
Natural Gas	1.33	7.25	1.65	1.62	1.54	6.49	1.57	1.65	1.49	6.25
Oil	2.31	8.58	2.44	2.19	2.32	9.35	2.37	2.30	2.35	9.35
Total	3.64	15.83	4.09	3.81	3.86	15.83	3.94	3.95	3.84	15.60
Cost (\$mm)										
Tax, transport & other	0.51	2.33	0.62	0.46	0.46	2.18	0.47	0.47	0.46	1.87
Production	0.97	4.46	1.04	0.83	0.83	3.77	0.83	0.80	0.82	3.27
Total	1.48	6.79	1.66	1.29	1.29	5.95	1.30	1.28	1.28	5.15
Cash flow (\$mm)										
Development	0.20	1.00	0.44	0.20	0.20	1.14	0.20	0.20	0.20	0.80
Excess or other	0.29	(0.38)	0.19	0.50	0.40	1.35	0.40	0.50	0.40	1.70
Net proceeds (\$mm)										
Royalty income (\$mm)	1.68	8.42	1.80	1.83	1.97	7.39	2.04	1.97	1.97	7.95
Royalty/Net proceeds	91%	90%	91%	91%	89%	90%	89%	89%	89%	89%
Administration & reserve	0.13	1.19	0.11	0.11	0.11	0.57	0.11	0.11	0.11	0.44
Distributable income (\$mm)										
Units (millions)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Royalty income (\$/unit)										
Natural Gas										
TL TX	0.02	0.10	0.02							
TL OK	0.02	0.10	0.03							
TL NM	0.10	0.63	0.13							
BL TX	-	-	-							
BL OK	-	-	-							
Oil										
TL TX	0.07	0.28	0.06							
TL OK	0.03	0.12	0.03							
TL NM	0.01	0.03	0.01							
BL TX	-	-	-							
BL OK	-	-	-							
Administration	0.01	0.06	0.02							
Reserve and other	0.02	0.12	(0.00)							
Distribution (\$/unit)	0.22	1.06	0.25	0.25	0.27	1.01	0.28	0.27	0.27	1.11



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

Dorchester Minerals, L.P.										
Operating and Financial Performance										
										<i>Next</i>
	<i>Q3</i>	<i>Year</i>	<i>Q2</i>	<i>Q3E</i>	<i>Q4E</i>	<i>Year</i>	<i>Q1E</i>	<i>Q2E</i>	<i>Q3E</i>	<i>Twelve</i>
	<i>9/30/16</i>	<i>2016</i>	<i>6/30/17</i>	<i>9/30/17</i>	<i>12/13/17</i>	<i>2017</i>	<i>3/31/18</i>	<i>6/30/18</i>	<i>9/30/18</i>	<i>Months</i>
										<i>9/30/18</i>
TOP LINE										
Volume										
Natural Gas (mmcf)	8.4	8.9	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Oil (mbd)	1.77	1.69	2.05	2.09	2.12	2.05	2.15	2.18	2.21	2.17
Price										
Henry Hub (\$/mmbtu)	2.81	2.46	3.18	2.99	3.05	3.14	3.28	2.94	2.96	3.06
WTI Cushing (\$/bbl)	44.91	43.31	48.26	48.10	50.78	49.77	51.45	51.59	51.49	51.33
Natural Gas (\$/mcf)	2.42	2.05	2.91	2.74	2.79	2.94	3.00	2.68	2.71	2.80
Oil (\$/bbl)	38.72	37.18	42.70	42.56	44.94	43.65	46.30	46.43	46.34	46.00
Revenue (\$mm)										
Natural Gas	1.9	6.7	2.5	2.4	2.4	10.1	2.6	2.3	2.4	9.7
Oil	6.3	23.1	8.0	8.2	8.8	32.7	9.0	9.2	9.4	36.4
Total Revenue	8.2	29.8	10.5	10.5	11.2	42.8	11.5	11.5	11.8	46.0
Expense (allocated)	1.4	5.3	2.1	2.1	2.1	8.2	2.1	2.2	2.2	8.6
Ebitda	6.8	24.4	8.4	8.4	9.1	34.6	9.4	9.4	9.6	37.4
BOTTOM LINE										
Volume										
Natural Gas (mmcf)	6.5	7.7	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Oil (mbd)	0.91	1.04	0.80	0.84	0.88	0.82	0.92	0.96	1.00	0.94
Price										
Natural Gas (\$/mcf)	2.33	2.08	2.81	2.64	2.70	2.71	2.90	2.59	2.61	2.70
Oil (\$/bbl)	36.10	34.64	39.06	38.94	41.11	39.92	41.16	41.27	41.19	41.18
Revenue (\$mm)										
Natural Gas	1.4	5.8	1.7	1.6	1.6	6.4	1.7	1.5	1.6	6.5
Oil	3.0	13.2	2.9	3.0	3.3	11.9	3.4	3.6	3.8	14.1
Total Revenue	4.4	19.0	4.5	4.6	4.9	18.3	5.1	5.1	5.4	20.5
Expense (allocated)										
Partnership	0.8	3.5	0.5	0.5	0.5	2.3	0.6	0.6	0.6	2.3
Net Profits Interests	2.2	9.5	2.3	2.3	2.5	9.2	2.5	2.6	2.7	10.3
Total Expense	3.0	12.9	2.7	2.8	3.0	11.4	3.1	3.2	3.3	12.6
Ebitda	1.4	6.1	1.8	1.8	2.0	6.9	2.0	2.0	2.1	8.0
Development (estimated)	0.6	4.8	0.7	0.7	0.7	2.6	0.8	0.8	0.8	3.1
NET INCOME										
Top Line	6.8	24.4	8.4	8.4	9.1	34.6	9.4	9.4	9.6	37.4
Bottom Line	0.8	1.4	1.1	1.1	1.2	4.3	1.2	1.2	1.3	4.9
Lease Bonus and residual	(0.9)	(3.0)	(0.3)			(0.9)				-
Deprec., Deplet., & Amort.	2.1	8.5	1.9	1.9	2.0	7.5	2.0	2.0	2.0	8.0
Total Net Income	6.4	20.2	8.0	7.6	8.3	32.2	8.6	8.6	8.8	34.3
Units (mm)	30.7	30.7	30.7	32.3	32.3	31.5	32.3	32.3	32.3	32.3
Net Income Per Unit (\$)	0.21	0.66	0.26	0.24	0.26	1.02	0.27	0.27	0.27	1.06
DISTRIBUTION										
Top Line Revenue	6.5	26.2	10.0	10.1	10.7	41.1	11.1	11.1	11.3	44.2
Bottom Line Net Revenue	1.9	5.6	0.8	1.6	1.7	4.9	1.8	1.8	1.9	7.2
Lease Bonus and Other	0.9	2.8	1.8	0.1	0.1	2.2	0.1	0.1	0.1	0.4
Cash Expense	(1.6)	(7.1)	(2.2)	(2.0)	(2.0)	(8.0)	(2.0)	(2.0)	(2.0)	(8.0)
Distribution	7.7	27.5	10.4	9.8	10.6	40.2	11.0	11.0	11.3	43.8
Distribution Per Unit (\$)	0.25	0.90	0.32	0.30	0.33	1.26	0.34	0.34	0.35	1.36



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

Permian Basin Royalty Trust										
Next Twelve Months Operating and Financial Estimates										
	Q3	Year	Q2	Q3	Q4E	Year	Q1E	Q2E	Q3E	Next Twelve Months
	9/30/16	2016	6/30/17	9/30/17	12/31/17	2017	3/31/18	6/30/18	9/30/18	9/30/18
TOP LINE										
Volume										
Natural Gas (mmcf)	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Oil (mbd)	0.80	0.82	0.80	0.79	0.78	0.78	0.77	0.76	0.76	0.77
Price (cash lagged two months)										
Natural Gas (\$/mcf)	3.95	3.66	4.89	4.95	4.66	4.95	4.98	4.99	4.63	4.82
Oil (\$/bbl)	41.97	37.86	46.70	44.30	46.81	46.02	48.29	48.80	48.83	47.85
Revenue (\$mm)										
Natural Gas	0.3	1.3	0.4	0.4	0.4	1.6	0.4	0.4	0.4	1.5
Oil	3.1	11.4	3.3	3.2	3.4	13.1	3.4	3.3	3.4	13.5
Total Revenue	3.4	12.7	3.7	3.6	3.7	14.7	3.8	3.7	3.8	15.0
Expense										
Operating		-				-				
Production & Property taxes	0.6	1.9	0.5	0.5	0.5	1.2	0.5	0.4	0.4	1.8
Total Expense	0.6	1.9	0.5	0.5	0.5	1.2	0.5	0.4	0.4	1.8
Ebitda	2.8	10.9	3.2	3.1	3.2	13.5	3.3	3.3	3.4	13.2
Ebitda times 95%	2.7	10.3	3.1	2.9	3.1	12.8	3.2	3.1	3.2	12.6
BOTTOM LINE										
Volume										
Natural Gas (mmcf)	15.3	14.1	10.9	10.9	10.8	10.9	10.7	10.6	10.5	12.0
Oil (mbd)	2.27	2.37	1.88	1.78	1.76	1.84	1.74	1.73	1.71	1.92
Price (cash lagged two months)										
Natural Gas (\$/mcf)	2.37	2.19	3.03	3.02	2.84	2.97	3.03	3.04	2.82	2.61
Oil (\$/bbl)	43.28	37.92	47.32	43.46	45.92	45.75	47.38	47.88	47.91	42.67
Revenue (\$mm)										
Natural Gas	3.3	11.3	2.9	3.0	2.8	11.9	3.0	2.9	2.7	11.4
Oil	9.0	32.9	7.9	7.1	7.4	30.6	7.6	7.4	7.5	29.9
Total Revenue	12.3	44.2	10.8	10.1	10.3	42.5	10.6	10.2	10.3	41.3
Expense										
Operating	4.6	19.8	3.7	4.8	4.1	16.2	4.1	4.1	4.1	16.4
Production taxes	1.1	4.2	0.7	0.6	0.6	1.6	0.6	0.6	0.6	2.3
Total Expense	5.7	24.0	4.4	5.3	4.7	17.8	4.7	4.7	4.7	18.7
Ebitda	6.7	20.2	6.4	4.8	5.6	24.7	5.9	5.5	5.6	22.6
Development	0.9	4.0	0.5	0.6	0.6	1.8	0.8	0.8	0.8	3.0
(Ebitda-Dvlpmnt) times 75%	4.4	12.1	4.4	3.2	3.8	17.2	3.8	3.6	3.6	14.8
Excess Costs	-	0.9				-				-
CASH DISTRIBUTION										
Royalty Income (\$mm)										
Top Line	2.7	10.3	3.1	2.9	3.1	12.8	3.2	3.1	3.2	12.6
Bottom Line	4.4	11.3	4.4	3.2	3.8	17.2	3.8	3.6	3.6	14.8
Administration	0.8	2.3	0.5	0.2	0.2	1.3	0.4	0.4	0.4	1.4
Distributable Income (\$mm)	6.2	19.3	7.0	5.9	6.6	28.7	6.6	6.3	6.4	25.9
Units (millions)	47	47	47	47	47	47	47	47	47	47
Distribution (\$/unit)	0.13	0.42	0.15	0.13	0.14	0.62	0.14	0.14	0.14	0.56



Industry Idea

Analysis of Oil and Gas Stocks

September 25, 2017

Sabine Royalty Trust										
Next Twelve Months Operating and Financial Performance										
	Q3	Year	Q2	Q3E	Q4E	Year	Q1E	Q2E	Q3E	Next Twelve Months
	9/30/16	2016	6/30/17	9/30/17	12/31/17	2017	3/31/18	6/30/18	9/30/18	9/30/18
Volume										
Natural Gas (bcf)	1.70	6.37	1.36	1.37	1.37	5.63	1.35	1.31	1.31	5.34
Natural Gas (mmcf)	18.7	17.4	15.1	15.0	14.9	15.4	14.7	14.6	14.4	14.6
Days	91	366	90	91	92	365	92	90	91	365
Oil (mmb)	0.156	0.512	0.114	0.127	0.129	0.521	0.129	0.126	0.127	0.511
Oil (mbd)	1.70	1.40	1.28	1.40	1.40	1.43	1.40	1.40	1.40	1.40
Days	92	365	89	92	92	365	92	89	92	365
Total (bcfe)	2.64	9.44	2.04	2.13	2.14	8.76	2.13	2.07	2.08	8.41
Total (mmcf)	28.9	25.8	22.8	23.4	23.3	24.0	23.1	23.0	22.8	23.0
Price (Henry Hub natural gas lagged three months; WTI Cushing oil, two months)										
Henry Hub (\$/mmbtu)	1.95	2.28	3.32	3.18	2.99	3.12	3.05	3.28	2.94	3.07
Differential (%)	(5)	(2)	11	-	-	5	-	-	-	0
Trust (\$/mcf)	2.05	2.33	2.95	3.18	2.99	2.98	3.05	3.28	2.94	3.06
WTI Cushing (\$/bbl)	46.80	41.85	51.41	46.78	49.44	49.44	51.00	51.54	51.57	50.89
Differential	4.32	2.27	3.05	2.77	2.93	2.92	3.02	3.05	3.06	3.02
Trust (\$/bbl)	42.48	39.58	48.36	44.01	46.51	46.52	47.98	48.49	48.51	47.87
Total (\$/bcfe)	3.84	3.72	4.66	4.67	4.71	4.68	4.85	5.04	4.83	4.86
Revenue (\$mm)										
Natural Gas	3.5	14.8	4.0	4.3	4.1	16.8	4.1	4.3	3.8	16.4
Oil	6.6	20.3	5.5	5.6	6.0	24.2	6.2	6.1	6.2	24.5
Total	10.1	35.1	9.5	10.0	10.1	41.0	10.3	10.4	10.0	40.8
Expense										
Tax and other	1.1	5.3	0.9	0.9	2.0	4.8	0.9	0.9	0.9	4.8
General and administrative	0.5	2.6	0.7	0.6	0.6	2.6	0.6	0.6	0.6	2.4
Total	1.6	7.8	1.6	1.5	2.6	7.4	1.5	1.5	1.5	7.2
Ebitda	8.5	27.3	7.9	8.5	7.5	33.6	8.8	8.9	8.5	33.7
Ebit	8.5	27.3	7.9	8.5	7.5	33.6	8.8	8.9	8.5	33.7
Ebt	8.5	27.3	7.9	8.5	7.5	33.6	8.8	8.9	8.5	33.7
Distributable Income (\$mm)	8.5	27.3	7.9	8.5	7.5	33.6	8.8	8.9	8.5	33.7
Units (millions)	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Distributable Income/Unit (\$)	0.58	1.87	0.54	0.58	0.51	2.31	0.60	0.61	0.58	2.31



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

San Juan Basin Royalty Trust										
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	12/31/17	2017	3/31/18	6/30/18	9/30/18	9/30/18
Volume										
Natural gas (mmbtu)	7.6	31.1	7.0	7.2	7.2	28.8	7.1	6.8	7.0	28.0
Heat Content(btu/cf)	1,114	1,109	1,122	1,120	1,120	1,120	1,120	1,120	1,120	1,120
Natural gas (bcf)	6.8	28.0	6.2	6.5	6.4	25.7	6.3	6.1	6.2	25.0
Natural Gas (mmcf)	74.1	76.5	70.1	70.3	69.6	70.4	68.9	68.2	67.5	68.5
Days	92	366	89	92	92	365	92	89	92	365
Oil (mb)	0.02	0.07	0.02	0.02	0.02	0.06	0.02	0.02	0.02	0.07
Oil (mbd)	0.21	0.20	0.19	0.18	0.18	0.17	0.18	0.18	0.18	0.18
Total gas & oil (bcf)	6.9	28.4	6.3	6.6	6.5	26.1	6.4	6.2	6.3	25.4
Price										
Natural gas (\$/mmbtu) (Henry Hub lagged two months)										
Henry Hub (\$/mmbtu)	2.29	2.32	3.06	3.15	2.96	3.12	3.16	3.17	2.94	3.06
Differential (%)	26	26	23	28	28	25	28	28	28	28
Net to SJT (\$/mmbtu)	1.70	1.71	2.34	2.27	2.14	2.35	2.29	2.29	2.13	2.21
Natural gas (\$/mcf)	1.89	1.89	2.63	2.55	2.39	2.63	2.56	2.56	2.38	2.47
Oil (\$/bbl) (WTI Cushing lagged two months)										
WTI Cushing	46.80	41.85	51.41	46.78	49.44	49.44	51.00	51.54	51.57	50.89
SJT	33.94	30.01	38.56	35.09	37.08	36.66	37.82	38.23	38.24	37.84
Total gas & oil (\$/mcf)	1.96	1.94	2.69	2.60	2.45	2.68	2.62	2.62	2.44	2.53
Revenue (\$mm)										
Natural Gas	12.9	53.0	16.4	16.5	15.3	67.5	16.2	15.5	14.8	61.9
Oil	0.7	2.2	0.6	0.6	0.6	2.3	0.6	0.6	0.6	2.5
Total	13.6	55.3	17.0	17.1	15.9	69.8	16.8	16.2	15.4	64.4
Cost (\$mm)										
Severance tax	1.5	6.4	1.9	1.9	1.8	7.6	1.9	1.8	1.7	7.1
Operating	6.1	26.1	6.5	5.9	5.9	24.3	5.9	5.9	5.9	23.5
Total	7.6	32.5	8.4	7.8	7.6	31.9	7.7	7.7	7.6	30.6
Cash flow (\$mm)										
Development	0.1	1.4	0.1	(0.6)	0.1	(0.3)	0.1	0.1	0.1	0.4
Net proceeds (\$mm)										
	5.9	21.4	8.6	9.9	8.2	38.2	9.0	8.4	7.7	33.3
Royalty income (\$mm)										
Royalty/Net proceeds	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Administration	0.4	2.2	0.5	0.1	0.3	1.4	0.3	0.3	0.3	1.2
One-time		-		(7.5)		(7.5)				-
Distributable income (\$mm)										
	4.0	13.9	6.0	14.8	5.9	34.8	6.4	6.0	5.5	23.8
Units (millions)										
	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
Per unit										
	0.09	0.30	0.13	0.32	0.13	0.75	0.14	0.13	0.12	0.51



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

Cross Timbers Royalty Trust					
Functional Cash Flow and Present Value					
				<i>Present</i>	
	<i>NTM Ebitda</i>	<i>Adjusted</i>	<i>PV/</i>	<i>Value</i>	
	<i>(US\$mm)</i>	<i>R/P</i>	<i>Ebitda</i>	<i>(US\$mm)</i>	
Top Line Natural Gas	5	11.0	25.0	126	72%
Top Line Oil	2	6.8	18.8	30	17%
Bottom Line Oil	2	5.0	9.0	18	10%
	9	9.1	20.1	174	100%
Debt (US\$mm)					-
Net Present Value (US\$mm)					174
Shares (mm)					6
Net Present Value (US\$/sh)					29
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					26
Top Line Approximation at 1.5 times Cash Flow Multiple Depending on Reserve Life					

Dorchester Minerals, L.P.					
Functional Cash Flow and Present Value					
				<i>Present</i>	
	<i>NTM Ebitda</i>	<i>Adjusted</i>	<i>PV/</i>	<i>Value</i>	
	<i>(US\$mm)</i>	<i>R/P</i>	<i>Ebitda</i>	<i>(US\$mm)</i>	
<u>Top Line - Royalty Interests</u>					
North American Natural Gas	8	6.6	24.2	190	24%
Oil	30	7.1	17.6	520	67%
<u>Bottom Line - Net Profits Interests</u>					
North American Natural Gas	3	7.6	12.0	30	4%
Oil	5	4.2	7.3	40	5%
<u>Total Top and Bottom</u>					
North American Natural Gas	10	7.0	21.2	220	28%
Oil	35	6.2	16.0	560	72%
	45	6.6	17.2	780	100%
Debt (US\$mm)					-
Net Present Value (US\$mm)					780
Shares (mm)					32
Net Present Value - Standard Estimate (US\$/sh)					24
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					25
Top Line Approximation at 1.8 times Cash Flow Multiple Depending on Reserve Life					

Permian Basin Royalty Trust					
Functional Cash Flow and Present Value					
	<i>NTM Ebitda</i> <i>(US\$mm)</i>	<i>Adjusted</i> <i>R/P</i>	<i>PV/</i> <i>Ebitda</i>	<i>Present</i> <i>Value</i> <i>(US\$mm)</i>	
Top Line - Royalty Interests (95% Underlying)					
North American Natural Gas	1	7.2	24.3	30	6%
Oil	11	12.3	19.4	210	41%
	12	11.5	19.9	240	47%
Bottom Line - Working Interests (75% Underlying)					
North American Natural Gas	4	7.8	18.1	80	16%
Oil	12	9.8	16.3	190	37%
	16	8.8	16.8	270	53%
Total Top and Bottom					
North American Natural Gas	6	7.7	19.4	110	22%
Oil	22	10.7	17.8	400	78%
	28	9.4	18.1	510	100%
Debt (US\$mm)					-
Net Present Value (US\$mm)					510
Shares (mm)					46.6
Net Present Value (US\$/sh)					11
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					9
Top Line Approximation at 1.5 times Cash Flow Multiple Depending on Reserve Life					

Sabine Royalty Trust					
Net Present Value					
	<i>NTM Ebitda</i> <i>(US\$mm)</i>	<i>Adjusted</i> <i>R/P</i>	<i>PV/</i> <i>Ebitda</i>	<i>Present</i> <i>Value</i> <i>(US\$mm)</i>	
North American Natural Gas	13	9.6	26.7	360	41%
Oil	20	15.4	25.3	510	59%
	34	11.9	25.8	870	100%
Debt (US\$mm)					-
Net Present Value (US\$mm)					870
Shares (mm)					14.6
Net Present Value (US\$/sh)					60
Top Line Approximation at 1.5 times Cash Flow Multiple Depending on Reserve Life					48

San Juan Basin Royalty Trust					
Functional Cash Flow and Present Value					
	<i>NTM Ebitda</i> <i>(US\$mm)</i>	<i>Adjusted</i> <i>R/P</i>	<i>PV/</i> <i>Ebitda</i>	<i>Present</i> <i>Value</i> <i>(US\$mm)</i>	
North American Natural Gas	24	10.2	15.4	370	100%
	24	10.2	15.4	370	100%
Debt (US\$mm)					-
Net Present Value (US\$mm)					370
Shares (mm)					47
Net Present Value - Standard Estimate (US\$/sh)					8
NPV Approximation by Cash Flow Multiple Depending on Reserve Life (US\$/sh)					7



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

			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	22-Sep 2017									
Global Integrated											
	Chevron Corporation	CVX	117.29	222,000	289,000	1.30	9.0	10.1	60	3.7	0.90
	Exxon Mobil Corporation	XOM	79.92	341,000	432,000	1.27	9.7	11.7	49	3.9	0.83
	Royal Dutch Shell	RDS-A B	59.48	247,000	374,000	1.51	7.3	9.0	51	6.3	0.81
	Total S.A.	TOT B	54.02	140,000	197,000	1.41	6.3	9.3	55	5.5	0.68
	<i>Total or Median</i>			950,000	1,292,000	1.35	8.2	9.7	53	4.7	0.82
Large Independent											
	EOG Resources, Inc.	EOG	94.55	54,700	62,000	1.13	11.4	10.4	86	0.7	1.10
	Pioneer Natural Resources	PXD	144.01	24,500	26,200	1.07	9.9	10.3	87	0.1	0.96
	Occidental Petroleum Corp.	OXY	62.94	48,200	61,000	1.27	10.3	11.9	80	4.8	0.87
	Devon Energy Corporation	DVN	35.78	18,900	26,900	1.42	8.4	9.9	62	0.7	0.85
	ConocoPhillips	COP B	49.08	61,000	85,000	1.40	9.1	11.6	69	2.2	0.78
	Marathon Oil Corporation	MRO B	12.79	10,870	18,000	1.66	9.2	11.8	79	1.6	0.77
	<i>Total or Median</i>			218,200	279,000	1.33	9.5	11.0	80	1.1	0.86
Small Independent											
	Cimarex Energy Company	XEC	110.85	10,600	12,000	1.14	10.5	11.3	63	0.3	0.93
	California Resources	CRC	10.18	400	6,400	15.0	10.3	13.0	89	-	0.79
	Continental Resources (32%)	CLR B	37.82	4,500	6,600	1.47	8.5	11.3	74	-	0.75
	Whiting Petroleum Corporation	WLL	5.10	1,900	5,400	2.94	6.2	11.4	92	-	0.54
	Range Resources	RRC B	18.92	4,600	9,000	1.95	8.3	16.6	31	0.4	0.50
	<i>Total or Median</i>			22,000	39,000	1.95	8.5	11.4	74	-	0.75
Income											
	San Juan Basin Royalty Trust	SJT	8.15	380	380	1.00	15.8	15.5	-	6.3	1.02
	Permian Basin RT	PBT	8.43	390	390	1.00	14.0	18.2	78	6.6	0.77
	Sabine Royalty Trust	SBR	39.90	580	580	1.00	17.3	26.0	59	5.8	0.67
	Dorchester Minerals, L.P.	DMLP B	14.75	480	480	1.00	10.5	17.1	72	9.2	0.61
	Cross Timbers Royalty Trust	CRT B	14.76	90	90	1.00	10.3	20.1	28	7.5	0.51
	<i>Total or Median</i>			1,900	1,900	1.00	14.0	18.2	59	6.6	0.67
Canada											
	EnCana Corporation	ECA	11.25	10,900	17,400	1.59	9.3	9.7	56	0.5	0.96
	Imperial Oil Limited (30%)	IMO	31.63	8,100	10,100	1.26	8.4	9.8	67	1.6	0.86
	Suncor Energy	SU B	34.12	56,800	75,400	1.33	8.6	10.5	84	3.0	0.82
	Cenovus Energy Inc.	CVE	10.28	12,600	23,000	1.82	6.9	11.3	83	1.6	0.61
	Birchcliff Energy Ltd.	BIREF B	4.85	1,300	1,900	1.47	6.8	11.7	30	1.7	0.58
	<i>Total or Median</i>			90,000	128,000	1.47	8.4	10.5	67	1.6	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

Table 2										
McDep Energy Stocks										
Production Operating Leverage										
Ranked by McDep Ratio										
			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		22-Sep 2017	Volume (mmboe)							
B = Buy										
Global Integrated (excl. Downstream)										
Chevron Corporation	CVX		117.29	877	38.25	11 14	21.80	19,124	1.50	0.90
Exxon Mobil Corporation	XOM		79.92	1,463	38.54	4 43	18.10	26,477	1.22	0.83
Royal Dutch Shell	RDS-A	B	59.48	1,292	37.22	6 13	26.20	33,838	1.23	0.81
Total S.A.	TOT	B	54.02	966	37.34	0 40	22.30	21,535	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		94.55	232	35.36	11 3	23.40	5,421	1.47	1.10
Pioneer Natural Resources	PXD		144.01	117	34.52	11 3	22.50	2,639	1.49	0.96
Occidental Petroleum Corp.	OXY		62.94	231	36.19	12 10	20.40	4,710	1.59	0.87
Devon Energy Corporation	DVN		35.78	184	26.62	10 5	15.20	2,795	1.66	0.85
ConocoPhillips	COP	B	49.08	439	35.17	8 16	21.40	9,389	1.37	0.78
Marathon Oil Corporation	MRO	B	12.79	130	28.17	11 7	15.10	1,966	1.73	0.77
<i>Total or Median</i>									<i>1.54</i>	<i>0.86</i>
Small Independent										
Cimarex Energy Company	XEC		110.85	72	25.94	6 16	15.90	1,140	1.38	0.93
California Resources	CRC		10.18	47	39.34	15 28	13.20	624	2.14	0.79
Continental Resources (32%)	CLR	B	37.82	33	31.31	3 14	23.90	778	1.13	0.75
Whiting Petroleum Corporation	WLL		5.10	48	33.07	9 17	18.60	884	1.48	0.54
Range Resources	RRC	B	18.92	133	17.30	8 6	8.20	1,092	1.98	0.50
<i>Total or Median</i>									<i>1.48</i>	<i>0.75</i>
Income										
San Juan Basin Royalty Trust	SJT		8.15	3	15.20	5 15	7.96	24	1.63	1.02
Permian Basin RT	PBT		8.43	1	31.94	10 7	19.74	28	1.51	0.77
Sabine Royalty Trust	SBR		39.90	1	29.14	2 11	24.02	34	1.08	0.67
Dorchester Minerals, L.P.	DMLP	B	14.75	2	31.53	7 10	21.49	45	1.33	0.61
Cross Timbers Royalty Trust	CRT	B	14.76	0	34.29	8 10	22.98	9	1.35	0.51
<i>Total or Median</i>									<i>1.35</i>	<i>0.67</i>
Canada (excl. Downstream)										
EnCana Corporation	ECA		11.25	113	29.47	12 3	16.47	1,861	1.73	0.96
Imperial Oil Limited (30%)	IMO		31.63	68	37.13	17 7	17.70	1,201	1.96	0.86
Suncor Energy	SU	B	34.12	283	47.14	22 5	22.82	6,457	1.96	0.82
Cenovus Energy Inc.	CVE		10.28	212	26.30	11 3	14.42	3,054	1.76	0.61
Birchcliff Energy Ltd.	BIREF	B	4.85	23	17.70	4 9	12.10	281	1.33	0.58
<i>Total or Median</i>									<i>1.76</i>	<i>0.82</i>
For historical research see www.mcdep.com										



Industry Idea

Analysis of Oil and Gas Stocks
September 25, 2017

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)			Dividend		stream/	Undev.	Resrvs/	Present
	Symbol/Rating		22-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	79.92	4,271	91,152	3.08	23	27	31	11.5	100.00
	Total S.A.	TOT	B 54.02	2,583	57,015	2.96	12	22	42	8.9	90.00
	Chevron Corporation	CVX	117.29	1,893	66,793	4.32	29	20	32	8.9	135.00
	Royal Dutch Shell	RDS-A	B 59.48	4,146	126,975	3.76	18	24	25	8.8	80.00
	<i>Median</i>									8.9	
Large Independent											
	ConocoPhillips	COP	B 49.08	1,237	24,405	1.06		-	20	10.3	68.00
	Occidental Petroleum Corp.	OXY	62.94	766	12,800	3.04	50	14	23	9.2	75.00
	Devon Energy Corporation	DVN	35.78	529	8,019	0.24	67	9	20	8.8	45.00
	Marathon Oil Corporation	MRO	B 12.79	850	7,129	0.20		-	39	8.6	19.00
	EOG Resources, Inc.	EOG	94.55	579	7,250	0.67		-	30	7.0	85.00
	Pioneer Natural Resources	PXD	144.01	170	1,700	0.08	59	-	7	6.0	150.00
	<i>Median</i>									8.7	
Small Independent											
	Range Resources	RRC	B 18.92	245	4,392	0.08	37	-	44	11.8	56.00
	Whiting Petroleum Corporation	WLL	5.10	363	3,589	-		-	53	11.7	18.00
	Continental Resources (32%)	CLR	B 37.82	119	2,124	-		-	59	11.4	56.00
	California Resources	CRC	10.18	42	6,000	-		-	29	10.3	50.00
	Cimarex Energy Company	XEC	110.85	95	1,442	0.32	27	-	21	6.1	120.00
	<i>Median</i>									11.4	
Income											
	Sabine Royalty Trust	SBR	39.90	15	-	2.31	17	-	4	11.9	60.00
	San Juan Basin Royalty Trust	SJT	8.15	47	-	0.51	16	-	-	10.2	8.00
	Permian Basin RT	PBT	8.43	47	-	0.56	15	-	12	9.4	11.00
	Cross Timbers Royalty Trust	CRT	B 14.76	6	-	1.11	13	-	-	9.1	29.00
	Dorchester Minerals, L.P.	DMLP	B 14.75	32	-	1.36	14	-	-	6.6	24.00
	<i>Median</i>									9.4	
Canada											
	Suncor Energy	SU	B 34.12	1,665	18,622	1.04	20	16	44	13.6	44.00
	Cenovus Energy Inc.	CVE	10.28	1,229	10,334	0.16		4	55	12.8	22.00
	Birchcliff Energy Ltd.	BIREF	B 4.85	268	608	0.08	25	-	69	12.4	10.00
	Imperial Oil Limited (30%)	IMO	31.63	255	2,063	0.52	13	32	23	9.2	38.00
	EnCana Corporation	ECA	11.25	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.

Table 4										
McDep Energy Stocks										
Total Return Year-to-Date 2017										
Ranked by Unlevered Total Return										
			Price	Price			Equity	Unlevered		
			(\$/sh)	(\$/sh)	Price	Cash	Total	Total		
	Symbol/Rat		22-Sep	30-Dec	Change	Distrib.	Return	Debt	Return	McDep
			2017	2016	(%)	(%)	(%)	(\$/sh)	(%)	Ratio
Global Integrated										
Royal Dutch Shell	RDS-A	B	59.48	54.38	9	5	15	31	9	0.81
Total S.A.	TOT	B	54.02	50.97	6	3	9	22	6	0.68
Chevron Corporation	CVX		117.29	117.70	(0)	3	2	35	2	0.90
Exxon Mobil Corporation	XOM		79.92	90.26	(11)	2	(9)	21	(7)	0.83
	<i>Median</i>				3		5		4	0.82
Large Independent										
ConocoPhillips	COP	B	49.08	50.14	(2)	2	(1)	20	(0)	0.78
EOG Resources, Inc.	EOG		94.55	101.10	(6)	0	(6)	13	(5)	1.10
Occidental Petroleum Corp.	OXY		62.94	71.23	(12)	2	(10)	17	(8)	0.87
Devon Energy Corporation	DVN		35.78	45.67	(22)	0	(21)	15	(16)	0.85
Marathon Oil Corporation	MRO	B	12.79	17.31	(26)	1	(25)	8	(17)	0.77
Pioneer Natural Resources	PXD		144.01	180.00	(20)	0	(20)	10	(19)	0.96
	<i>Median</i>				(16)		(15)		(12)	0.86
Small Independent										
California Resources	CRC		10.18	21.29	(52)	-	(52)	142	(7)	0.79
Cimarex Energy Company	XEC		110.85	135.90	(18)	0	(18)	15	(16)	0.93
Continental Resources (32%)	CLR	B	37.82	51.54	(27)	-	(27)	18	(20)	0.75
Range Resources	RRC	B	18.92	34.36	(45)	0	(45)	18	(29)	0.50
Whiting Petroleum Corporation	WLL		5.10	12.02	(58)	-	(58)	10	(32)	0.54
	<i>Median</i>				(45)		(45)		(20)	0.75
Income										
San Juan Basin Royalty Trust	SJT		8.15	6.62	23	6	29	-	29	1.02
Sabine Royalty Trust	SBR		39.90	35.15	14	4	18	-	18	0.67
Permian Basin RT	PBT		8.43	7.71	9	6	15	-	15	0.77
Dorchester Minerals, L.P.	DMLP	B	14.75	17.55	(16)	5	(11)	-	(11)	0.61
Cross Timbers Royalty Trust	CRT	B	14.76	17.97	(18)	4	(14)	-	(14)	0.51
	<i>Median</i>				9		15		15	0.67
Canada										
Suncor Energy	SU	B	34.12	32.69	4	1	6	11	4	0.82
EnCana Corporation	ECA		11.25	11.74	(4)	0	(4)	7	(3)	0.96
Imperial Oil Limited (30%)	IMO		31.63	34.76	(9)	1	(8)	8	(7)	0.86
Cenovus Energy Inc.	CVE		10.28	15.13	(32)	1	(32)	8	(20)	0.61
Birchcliff Energy Ltd.	BIREF	B	4.85	7.01	(31)	1	(30)	2	(23)	0.58
	<i>Median</i>				(9)		(8)		(7)	0.82
	<i>Grand Median</i>				(12)		(10)		(7)	0.79
Natural Gas (\$/mmbtu)			2.95	3.74	(21)					
Oil - West Texas Intermediate (\$/bbl)			50.65	53.72	(6)					
Total Stock Market - U.S.	VII		128.36	115.32	11					
Developed Markets - ex US	VEA		43.31	36.54	19					
Emerging Markets	VWO		44.18	35.78	23					

Source: McDep LLC, Yahoo, CME Group, Bloomberg

For historical research see www.mcdep.com



Analysis of Oil and Gas Stocks
September 25, 2017

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.

McDep or its employees may take positions in stocks the firm covers for research purposes. No trades in a subject stock shall be made within a week before or after a change in recommendation.

Certification: I, Kurt H. Wulff, certify that the views expressed in this research analysis accurately reflect my personal views about the subject securities and issuers. No part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this research analysis.