

Large Cap Independent Producers Permian Plays

Symbol/Rating	28-Nov 2016	Price (US\$/sh)	EV/ Market Cap	Enterprise Value (\$mm)	Present Value by Segment (%)				Dist. Yield	McDep Ratio
					North Amer.	Rest of World	Oil Prod'n	Down- stream		
Large Independent										
EOG Resources, Inc.	EOG	94.63	1.14	59,000	13	1	86		0.7	1.10
Devon Energy Corporation	DVN	43.82	1.47	34,000	30		60	10	0.5	0.98
Occidental Petroleum Corp.	OXY	69.26	1.20	63,400	5	2	84	9	4.4	0.94
Marathon Oil Corporation	MRO B	15.99	1.60	21,700	10	2	88		1.3	0.86
ConocoPhillips	COP B	46.41	1.68	97,000	13	13	74		2.2	0.77
<i>Total or Median</i>			<i>1.47</i>	<i>275,000</i>	<i>13</i>		<i>84</i>		<i>1.3</i>	<i>0.94</i>

Summary and Recommendation

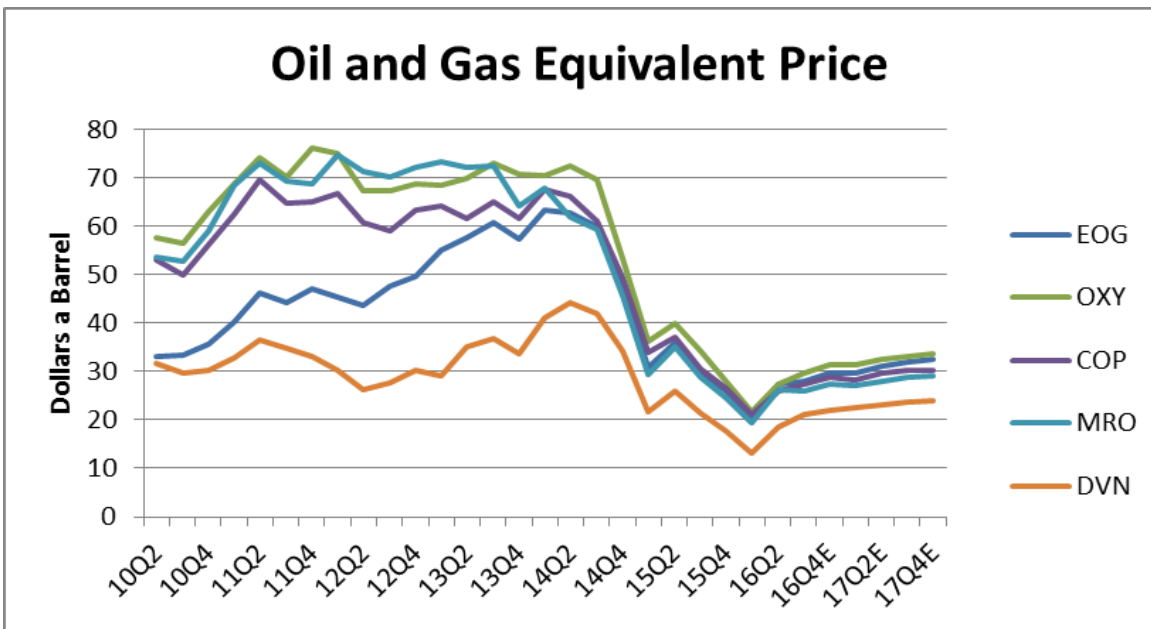
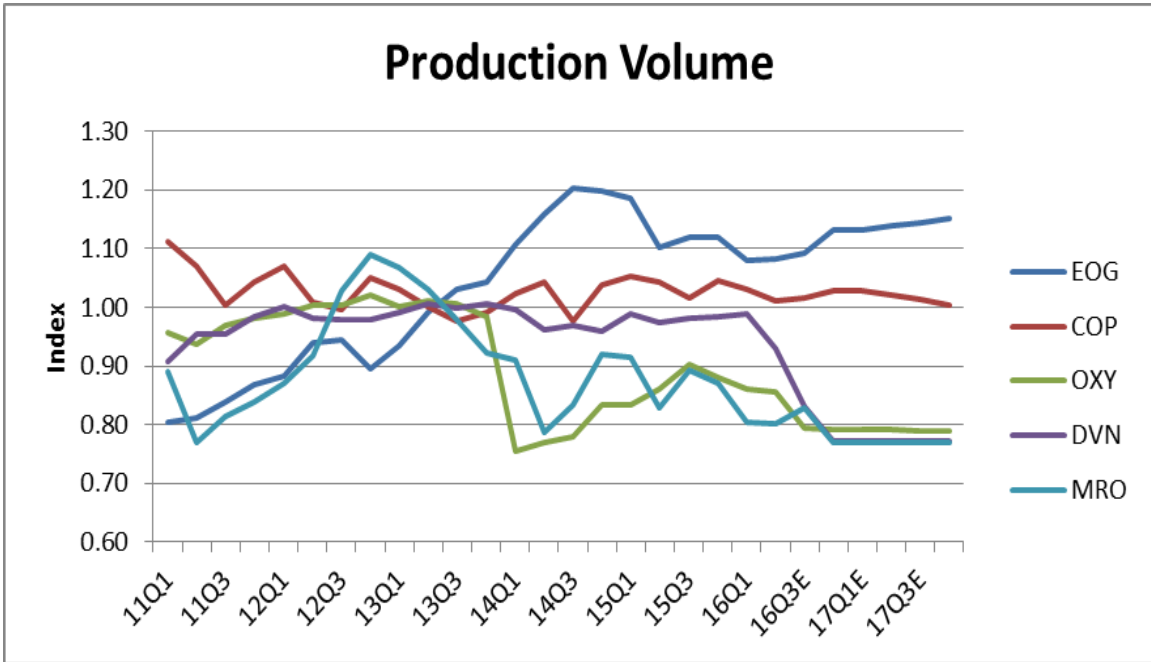
Large Cap Independent Producers have the financial and operating strength to withstand low oil price and the resource potential to grow and prosper at higher price. All have exposure to the Permian Basin, which appears to offer the most U.S. oil growth. Our McDep value buys are **ConocoPhillips (COP)** and **Marathon Oil (MRO)**. We pick **EOG Resources (EOG)** for growth because it has the superior historical record. **Occidental Petroleum (OXY)** has the largest base of Permian production from which it should eventually derive future opportunity. **Devon Energy (DVN)** retains the most exposure to natural gas surprise despite its aggressive transformation to shale oil. Looking at the comparative trends, we can see EOG's volume outperformance (see chart [Volume](#) on page 2). DVN's greater natural gas and natural gas liquids price sensitivity shows in a lower oil equivalent price (see chart [Price](#) on page 2). Tight cost controls for the five companies allow rising price to translate to rising cash flow (Ebitda) (see charts [Operating Expense](#), [Ebitda/Barrel](#) and [Ebitda](#) on pages 3 and 4). Cash flow times a multiple that depends on reserves and long-term price translates to Present Value. Reducing for debt yields estimated Net Present Value per share (see chart [NPV](#) on page 4). Quarterly models are updated for latest disclosures and futures prices (see tables [Operating and Financial Estimates](#) on pages 5-9). Current McDep Ratios imply 6% median unlevered appreciation to Present Value (see [Tables 1 - 3](#) on pages 10 - 12). It is a good year so far with median stock price gain of 27% for large cap independent producers (see [Table 4](#) on page 13). While the near-term market outlook may be volatile, we believe that oil and gas investments can contribute positively to the long-term performance of a diversified investment portfolio.

Kurt H. Wulff, CFA



Industry Idea

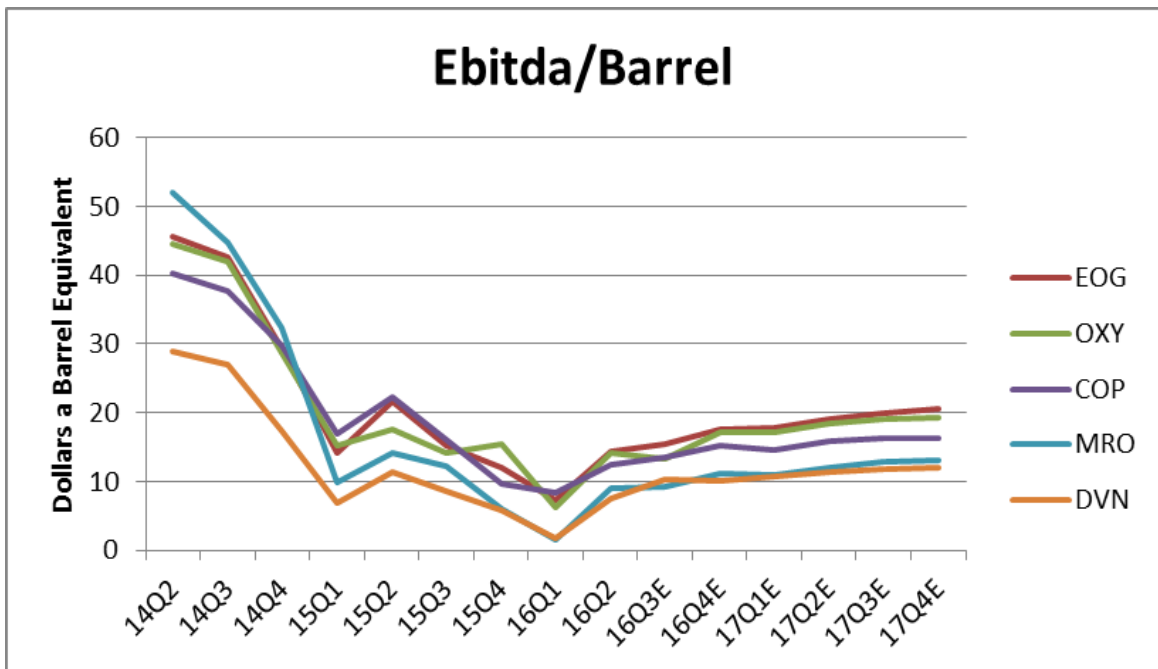
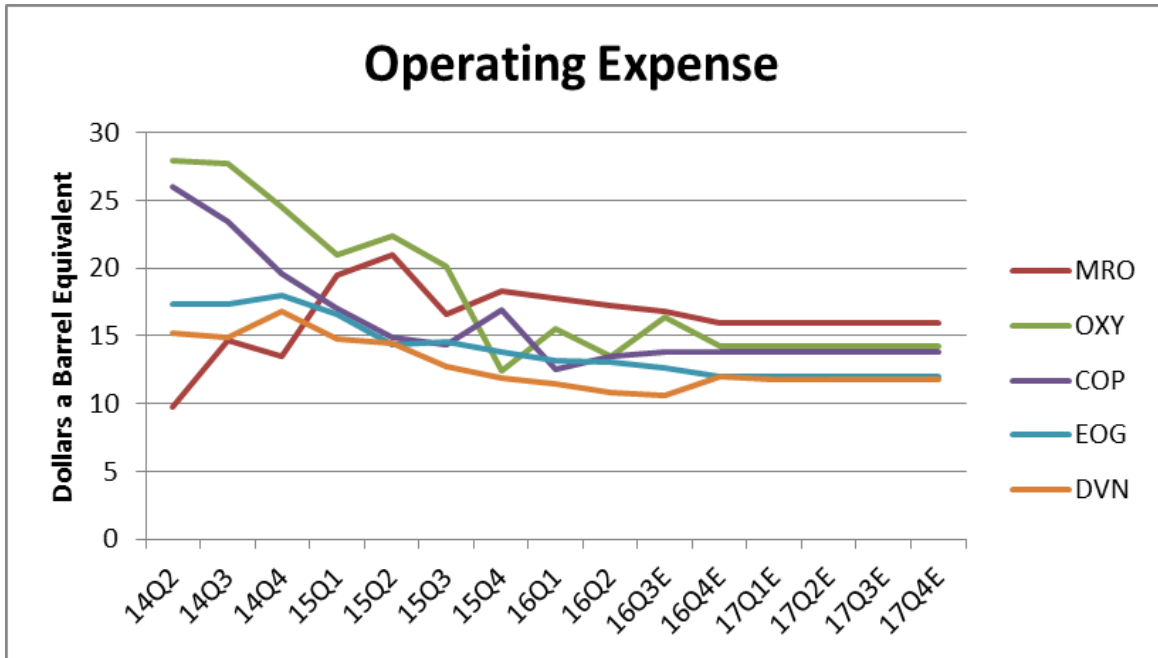
Analysis of Oil and Gas Stocks
Intraday November 28, 2016





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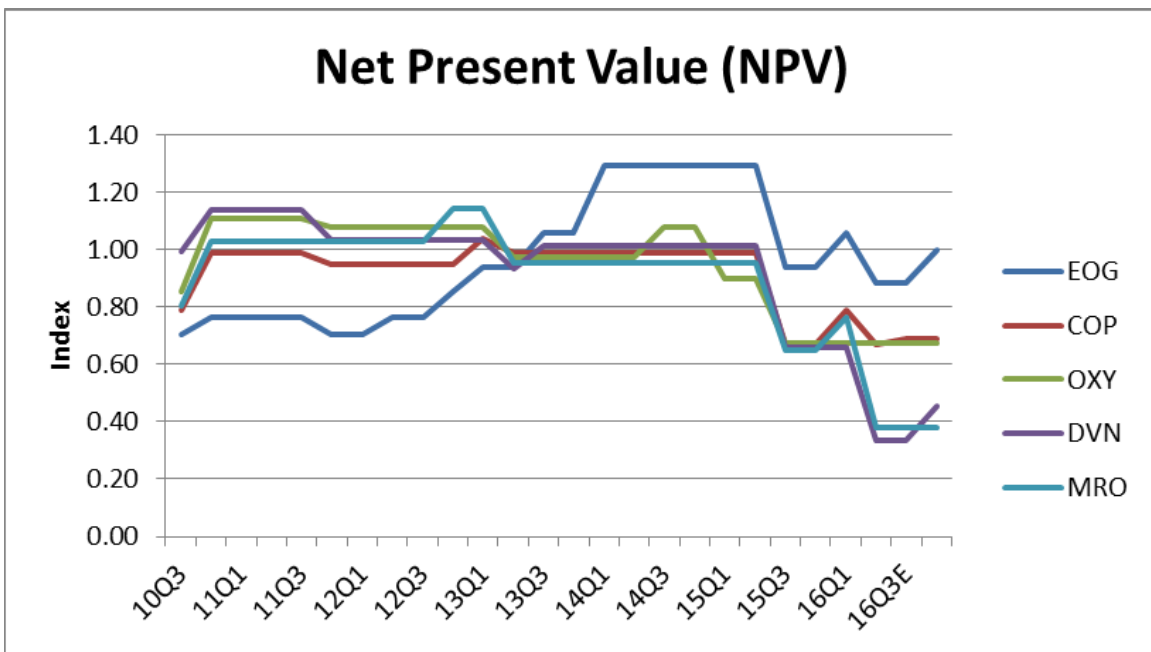
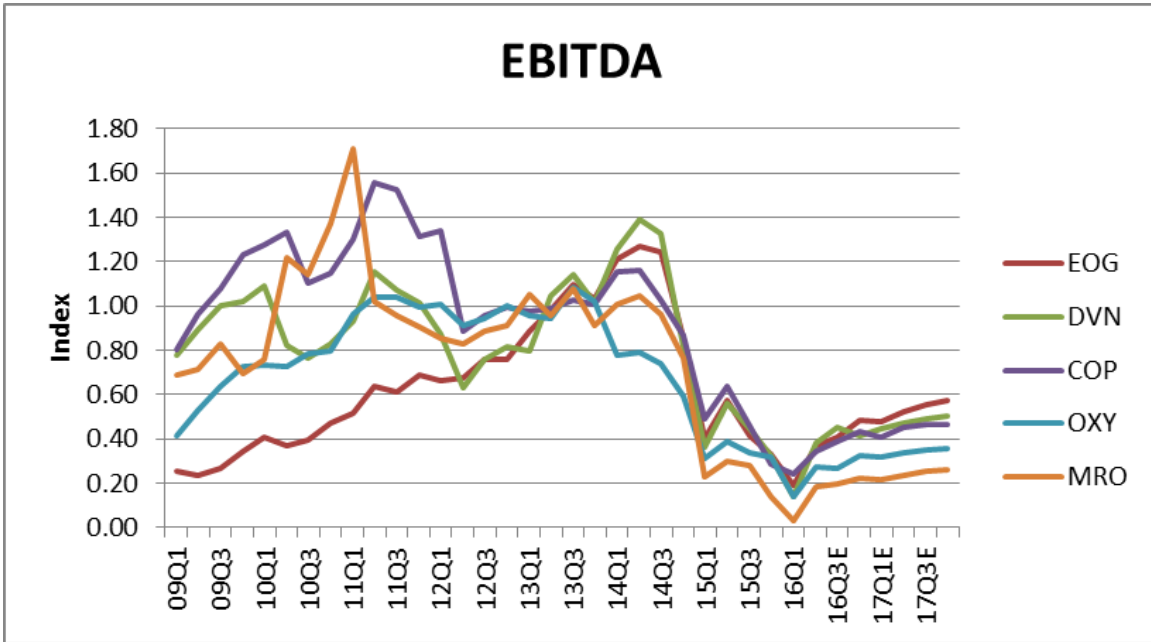
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ConocoPhillips										
Next Twelve Months Operating and Financial Estimates										
										Next Twelve Months
	Q4	Year	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	#####
	12/31/15	2015	9/30/16	12/31/16	2016	3/31/17	6/30/17	9/30/17	12/31/17	
Volume										
Natural Gas (mmcf)										
North America	2,110	2,228	1,759	1,779	1,790	1,779	1,765	1,751	1,737	1,758
Overseas	1,952	1,832	2,018	2,041	2,056	2,041	2,025	2,009	1,993	2,017
Total	4,062	4,060	3,777	3,821	3,846	3,821	3,790	3,760	3,730	3,775
Oil (mbd)	922	913	927	938	923	938	930	923	915	926
Total gas & oil (bcf)	883	3,481	859	859	3,424	850	853	855	855	3,414
Total gas & oil (mbd)	1,599	1,589	1,557	1,574	1,564	1,574	1,562	1,549	1,537	1,556
Price										
Natural gas (\$/mcf)										
Henry Hub (\$/mmbtu)	2.28	2.67	2.81	2.94	2.45	3.22	3.18	3.22	3.30	3.23
North America	2.09	2.33	2.38	2.48	2.01	2.72	2.68	2.72	2.79	2.73
Overseas	4.74	5.94	3.64	3.64	3.68	3.64	3.64	3.64	3.64	3.64
Total	3.36	3.96	3.05	3.10	2.91	3.21	3.19	3.21	3.24	3.21
Oil (\$/bbl)										
WTI Cushing	42.21	48.79	44.91	47.32	42.84	46.99	49.14	50.12	50.56	49.20
Worldwide	31.29	38.16	33.61	35.42	31.48	34.53	36.86	37.59	37.92	36.73
Total gas & oil (\$/mcf)	4.43	5.34	4.57	4.82	4.30	4.73	4.95	5.03	5.03	4.94
Revenue (\$mm)										
Natural Gas										
North America	405	1,893	384	406	1,318	435	431	438	445	1,750
Overseas	851	3,974	675	683	2,772	668	670	672	667	2,678
Total	1,256	5,866	1,060	1,089	4,091	1,104	1,101	1,110	1,112	4,427
Oil	2,654	12,712	2,866	3,055	10,633	2,914	3,120	3,191	3,194	12,419
Other	2,856	12,357	2,590	2,590	9,117	2,590	2,590	2,590	2,590	10,360
Total	6,766	30,935	6,516	6,734	23,840	6,608	6,811	6,891	6,896	27,206
Expense	5,338	21,506	4,564	4,566	16,769	4,545	4,551	4,557	4,557	18,211
Ebitda (\$mm)	1,428	9,429	1,952	2,168	7,071	2,063	2,260	2,334	2,339	8,995
Exploration	500	2,056	457	457	2,029	200	200	200	200	800
Deprec., Deplet., & Amort.	2,382	9,113	2,425	2,425	9,426	2,425	2,425	2,425	2,425	9,700
Ebit	(1,454)	(1,740)	(930)	(714)	(4,384)	(562)	(365)	(291)	(286)	(1,505)
Interest	268	920	335	335	1,263	335	335	335	335	1,340
Ebt	(1,722)	(2,660)	(1,265)	(1,049)	(5,647)	(897)	(700)	(626)	(621)	(2,845)
Income Tax	(603)	(931)	(443)	(367)	(1,976)	(314)	(245)	(219)	(217)	(996)
Net Income (\$mm)	(1,120)	(1,729)	(822)	(682)	(3,670)	(583)	(455)	(407)	(404)	(1,849)
Shares (millions)	1,244	1,244	1,246	1,246	1,245	1,246	1,246	1,246	1,246	1,246
Per share (\$)	(0.90)	(1.39)	(0.66)	(0.55)	(2.95)	(0.47)	(0.37)	(0.33)	(0.32)	(1.48)
Ebitda Margin (E&P)	37%	51%	50%	52%	48%	51%	54%	54%	54%	53%
Tax Rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%



Industry Idea

Analysis of Oil and Gas Stocks
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Devon Energy										
Next Twelve Months Operating and Financial Results										
	Q4	Year	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	Next Twelve Months
	12/31/15	2015	9/30/16	12/31/16	2016	3/31/17	6/30/17	9/30/17	12/31/17	12/31/17
Volume										
Natural Gas (bcf)	146	588	122	113	517	110	111	113	113	447
Natural Gas (mmcf/d)	1,583	1,610	1,324	1,225	1,417	1,225	1,225	1,225	1,225	1,225
Days	92	365	92	92	366	90	91	92	92	365
Oil (mb)	38	150	33	30	137	30	30	30	30	120
Oil (mbd)	417	412	355	330	374	330	330	330	330	330
Total gas & oil (mmboe)	63	248	53	49	223	48	49	49	49	195
Total gas & oil (mboed)	681	680	576	534	610	534	534	534	534	534
Price										
Natural gas (\$/mcf)										
Henry Hub (\$/mmbtu)	2.28	2.67	2.81	2.94	2.45	3.22	3.18	3.22	3.30	3.23
Company	1.75	2.14	2.24	2.34	1.84	2.56	2.53	2.56	2.63	2.57
Oil (\$/bbl)										
WTI Cushing	42.21	48.79	44.91	47.32	42.84	46.99	49.14	50.12	50.56	49.20
Company	22.48	27.43	25.69	27.07	23.05	26.88	28.11	28.67	28.92	28.15
Total gas & oil (\$/mcf)	2.97	3.61	3.50	3.68	3.07	3.75	3.86	3.93	3.98	3.88
Revenue (\$mm)										
Natural Gas	255	1,260	273	263	951	283	282	289	296	1,150
Oil	862	4,125	839	822	3,156	798	844	870	878	3,391
Total	1,117	5,384	1,112	1,085	4,107	1,081	1,126	1,159	1,174	4,540
Expense										
	746	3,347	563	590	2,507	567	574	580	580	2,301
Ebitda (\$mm)										
Production	371	2,037	549	495	1,600	514	552	579	594	2,240
Midstream (DVN share)	95	378	95	95	373	120	115	120	120	475
Total Ebitda	466	2,415	643	590	1,973	634	667	699	714	2,715
Deprec., Deplet., & Amort.	641	3,129	394	425	1,845	425	425	425	425	1,700
Hedging and other	(804)	(2,832)	(67)	(69)	(406)	(25)	6	35	49	65
Ebit										
	628	2,119	316	233	534	233	237	239	240	949
Interest	139	517	243	150	720	150	150	150	150	600
Ebt										
	489	1,602	73	83	(186)	83	87	89	90	349
Income Tax	171	561	26	29	(65)	29	30	31	32	122
Net Income (\$mm)										
	318	1,041	47	54	(121)	54	56	58	59	227
Shares (millions)										
	413	412	527	527	436	527	527	527	527	527
Per Share (\$)	0.77	2.53	0.09	0.10	(0.28)	0.10	0.11	0.11	0.11	0.43
Ebitda Margin (Production)	33%	38%	49%	46%	39%	48%	49%	50%	51%	49%
Tax Rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%



Industry Idea

Analysis of Oil and Gas Stocks
Intraday November 28, 2016

EOG Resources Inc.										
Next Twelve Months Operating and Financial Estimates										
										<i>Next</i>
	<i>Q4</i>	<i>Year</i>	<i>Q3</i>	<i>Q4E</i>	<i>Year</i>	<i>Q1E</i>	<i>Q2E</i>	<i>Q3E</i>	<i>Q4E</i>	<i>Months</i>
	<i>12/31/15</i>	<i>2015</i>	<i>9/30/16</i>	<i>12/31/16</i>	<i>2016E</i>	<i>3/31/17</i>	<i>6/30/17</i>	<i>9/30/17</i>	<i>12/13/17</i>	<i>12/31/17</i>
Volume										
Natural Gas (mmcf)										
U.S.	860	886	791	825	816	825	817	809	800	813
Overseas	397	401	353	337	362	337	317	298	280	308
Total	1,257	1,287	1,144	1,162	1,182	1,162	1,134	1,106	1,080	1,120
Days	92	365	92	92	366	90	91	92	92	365
Oil (mb)	33	132	34	35	132	34	36	37	37	144
Oil (mbd)	360	361	365	383	362	383	391	398	406	395
Total gas & oil (bcf)	314	1,261	307	318	1,226	311	316	322	324	1,273
Total gas & oil (mmcf)	3,417	3,456	3,334	3,460	3,353	3,460	3,477	3,497	3,519	3,489
Price										
Natural gas (\$/mcf)										
Henry Hub (\$/mmbtu)	2.28	2.67	2.81	2.94	2.45	3.22	3.18	3.22	3.30	3.23
U.S.	1.44	1.97	1.94	2.02	1.60	2.22	2.19	2.22	2.28	2.23
Overseas	2.83	3.03	1.97	1.97	1.99	1.97	1.97	1.97	1.97	1.97
Total	1.88	2.30	1.95	2.01	1.72	2.15	2.13	2.15	2.20	2.16
Oil (\$/bbl)										
WTI Cushing	42.21	48.79	44.91	47.32	42.84	46.99	49.14	50.12	50.56	49.20
Worldwide	34.38	40.51	36.57	38.54	35.20	38.27	40.02	40.82	41.18	40.10
Total gas & oil (\$/mcf)	4.31	5.09	4.67	4.94	4.41	4.96	5.19	5.33	5.43	5.23
Revenue (\$mm)										
Natural Gas										
U.S.	114	637	141	154	479	165	163	165	168	660
Overseas	103	444	64	61	264	60	57	54	51	222
Total	217	1,081	205	215	742	225	220	219	218	882
Oil	1,139	5,345	1,228	1,358	4,661	1,319	1,423	1,496	1,540	5,778
Total	1,356	6,426	1,433	1,573	5,404	1,544	1,642	1,715	1,758	6,660
Expense	724	3,122	644	637	2,596	623	633	643	648	2,547
Ebitda (\$mm)	632	3,304	789	936	2,807	921	1,009	1,072	1,111	4,113
Exploration	35	164	35	35	131	50	50	50	50	200
Deprec., Deplet., & Amort.	769	3,313	890	936	3,617	916	931	946	952	3,746
Hedging and other	(9)	(462)	130	-	239	-	-	-	-	-
Ebit	(164)	289	(266)	(35)	#####	(45)	29	76	108	167
Interest	63	237	71	71	281	71	71	71	71	284
Ebt	(227)	52	(337)	(106)	#####	(116)	(42)	5	37	(117)
Income Tax	(79)	18	(118)	(37)	(512)	(41)	(15)	2	13	(41)
Net Income (\$mm)	(147)	34	(219)	(69)	(950)	(75)	(28)	3	24	(76)
Shares (millions)	546	565	548	548	547	548	548	548	548	548
Per Share (\$)	(0.27)	0.06	(0.40)	(0.13)	(1.74)	(0.14)	(0.05)	0.01	0.04	(0.14)
Ebitda Margin	47%	51%	55%	60%	52%	60%	61%	62%	63%	62%
Tax Rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%



Industry Idea

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Marathon Oil Corporation										
Next Twelve Months Operating and Financial Estimates										
	Q4	Year	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	Next Twelve Months
	12/31/15	2015	9/30/16	12/31/16	2016	3/31/17	9/30/17	9/30/17	12/31/17	12/31/17
Volume										
Natural Gas (mmcf)										
U.S. (or North America)	345	351	315	292	308	292	292	292	292	292
Overseas (or Int'l)	467	439	489	453	445	453	453	453	453	453
Total	812	789	804	745	753	745	745	745	745	745
Days	92	365	92	92	366	90	91	92	92	365
Oil (mmb)	27	109	25	23	98	23	23	23	23	92
Oil (mbd)	292	298	273	253	267	253	253	253	253	253
Total gas & oil (bcf)	236	942	225	208	863	204	206	208	208	826
Total gas & oil (mmbd)	427	430	407	377	393	377	377	377	377	377
Price										
Natural gas (\$/mcf)										
Henry Hub (\$/mmbtu)	2.28	2.67	2.81	2.94	2.45	3.22	3.18	3.22	3.30	3.23
U.S. (or North America)	2.12	2.66	2.67	2.79	2.35	3.06	3.01	3.06	3.13	3.06
Overseas (or Int'l)	0.58	0.68	0.46	0.46	0.51	0.46	0.46	0.46	0.46	0.46
Total	1.23	1.56	1.33	1.37	1.26	1.48	1.46	1.48	1.51	1.48
Oil (\$/bbl)										
WTI Cushing	42.21	48.79	44.91	47.32	42.84	46.99	49.14	50.12	50.56	49.20
Worldwide	32.35	38.21	34.75	36.62	32.73	35.90	37.55	38.59	38.93	37.75
Total gas & oil (\$/mcf)	4.08	4.90	4.32	4.55	4.12	4.50	4.68	4.80	4.85	4.71
Revenue (\$mm)										
Natural Gas										
U.S. (or North America)	67	341	77	75	265	80	80	82	84	326
Overseas (or Int'l)	25	109	21	19	83	19	19	19	19	76
Total	92	449	98	94	348	99	99	101	103	402
Oil	869	4,162	873	852	3,204	817	864	898	906	3,485
Other	514	1,249	258	258	913	258	258	258	258	1,033
Total	1,475	5,861	1,229	1,204	4,465	1,174	1,221	1,257	1,267	4,920
Expense (\$mm)										
Expense	1,234	4,205	886	813	3,348	801	807	813	813	3,234
Ebitda (\$mm)	241	1,656	343	391	1,117	373	414	444	454	1,685
Exploration	312	743	83	83	379	100	100	100	100	400
Deprec., Deplet., & Amort.	668	2,957	594	594	2,358	594	594	594	594	2,376
Other non cash	(325)	(978)	(278)							
Ebit	(414)	(1,066)	(56)	(286)	(954)	(321)	(280)	(250)	(240)	(1,091)
Interest	87	267	87	87	345	87	87	87	87	348
Ebt	(501)	(1,333)	(143)	(373)	(1,299)	(408)	(367)	(337)	(327)	(1,439)
Income Tax	(175)	(466)	(50)	(131)	(455)	(143)	(128)	(118)	(114)	(503)
Net Income (\$mm)	(325)	(866)	(93)	(242)	(845)	(265)	(238)	(219)	(213)	(935)
Shares (millions)	678	677	847	847	800	847	847	847	847	847
Per share (\$)	(0.48)	(1.28)	(0.11)	(0.29)	(1.06)	(0.31)	(0.28)	(0.26)	(0.25)	(1.10)
Ebitda Margin (E&P)	25%	36%	35%	41%	31%	41%	43%	44%	45%	43%
Tax Rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%



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Occidental Petroleum										
Next Twelve Months Operating and Financial Estimates										
	Q4	Year	Q3	Q4E	Year	Q1E	Q2E	Q3E	Q4E	Next Twelve Months
	12/31/15	2015	9/30/16	12/31/16	2016E	3/31/17	6/30/17	9/30/17	12/31/17	12/31/17
Volume										
Natural gas (bcf)										
U.S. (or North America)	36	155	32	32	132	31	31	31	31	123
Overseas (or Int'l)	57	204	50	50	219	49	49	50	50	197
Total	93	359	82	81	350	79	80	80	80	320
Natural Gas (mmcf)										
U.S. (or North America)	395	424	349	346	361	342	339	335	332	337
Overseas (or Int'l)	618	559	539	539	599	539	539	539	539	539
Total	1,013	984	888	885	960	881	878	874	871	876
Days	92	365	92	92	366	90	91	92	92	365
Oil (mmb)	46	182	42	42	172	41	42	42	42	167
Oil (mbd)	502	500	457	457	471	457	457	457	457	457
Total gas & oil (mmb)	62	242	56	56	230	54	55	55	55	220
Total gas & oil (mbd)	671	664	605	604	630	604	603	603	602	603
Price										
Natural gas (\$/mcf)										
Henry Hub (\$/mmbtu)	2.28	2.67	2.81	2.94	2.45	3.22	3.18	3.22	3.30	3.23
U.S. (or North America)	1.75	2.15	2.30	2.40	1.90	2.63	2.60	2.63	2.70	2.64
Overseas (or Int'l)	1.00	1.01	0.99	0.99	1.00	0.99	0.99	0.99	0.99	0.99
Total	1.29	1.50	1.50	1.54	1.34	1.63	1.61	1.62	1.64	1.62
Oil (\$/bbl)										
WTI Cushing	42.21	48.79	44.91	47.32	42.84	46.99	49.14	50.12	50.56	49.20
Worldwide	34.65	42.83	36.50	38.47	34.09	38.19	39.94	40.74	41.10	40.00
Total gas & oil (\$/bbl)	27.88	34.48	29.78	31.34	27.49	31.28	32.60	33.24	33.57	32.68
Revenue (\$mm)										
Natural Gas										
U.S. (or North America)	64	333	74	76	251	81	80	81	82	325
Overseas (or Int'l)	57	206	49	49	217	48	49	49	49	195
Total	120	539	123	125	468	129	129	130	131	519
Oil	1,600	7,814	1,535	1,617	5,867	1,571	1,661	1,713	1,728	6,673
Total	1,721	8,353	1,658	1,743	6,335	1,700	1,790	1,843	1,859	7,192
Expense	770	4,589	913	790	3,431	772	780	787	787	3,125
Ebitda (\$mm)										
Exploration and Production	951	3,764	745	953	2,904	928	1,010	1,056	1,073	4,067
Other	199	1,084	202	202	681	202	202	202	202	806
Total Ebitda	1,150	4,849	947	1,155	3,585	1,130	1,212	1,257	1,274	4,873
Exploration	13	30	9	25	70	25	25	25	25	100
Deprec., Deplet., & Amort.	1,276	4,544	1,046	1,046	4,264	1,046	1,046	1,046	1,046	4,184
Ebit	(139)	275	(108)	84	(749)	59	141	186	203	589
Interest	61	145	68	68	281	68	68	68	68	272
Ebt	(200)	130	(176)	16	(1,030)	(9)	73	118	135	317
Income Tax	(70)	45	(62)	5	(360)	(3)	25	41	47	111
Net Income (\$mm)										
Exploration and Production	(106)	437	(49)							
Other	71	630	97							
Unallocated	(95)	(983)	(163)							
Total	(130)	84	(115)	10	(669)	(6)	47	77	88	206
Shares (millions)										
Per share (\$)	(0.17)	0.11	(0.15)	0.01	(0.88)	(0.01)	0.06	0.10	0.12	0.27
Ebitda Margin (E&P)	55%	45%	45%	55%	46%	55%	56%	57%	58%	57%
Tax Rate	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%



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Table 1											
McDep Energy Stocks											
Enterprise Value, Segments, Yield and McDep Ratio											
Symbol/Rating		Price (US\$/sh)	EV/ Market	Enterprise Value (\$mm)	Present Value by Segment (%)					Dist. Yield NTM (%)	McDep Ratio
					28-Nov 2016	Cap	Natural Gas	Rest of World Natural Gas	Oil Prod'n		
Global Integrated											
Exxon Mobil Corporation	XOM	86.98	1.26	458,000	10	15	49	26	3.4	0.89	
Chevron Corporation	CVX	111.15	1.33	278,000	3	14	64	20	3.9	0.86	
Royal Dutch Shell	RDS-A B	49.43	1.72	337,000	2	18	56	24	7.6	0.74	
Total S.A.	TOT B	46.64	1.56	175,000		19	57	24	5.5	0.63	
<i>Total or Median</i>			<i>1.44</i>	<i>1,248,000</i>			<i>56</i>	<i>24</i>	<i>4.7</i>	<i>0.80</i>	
Large Independent											
EOG Resources, Inc.	EOG	94.63	1.14	59,000	13	1	86		0.7	1.10	
Devon Energy Corporation	DVN	43.82	1.47	34,000	30		60	10	0.5	0.98	
Occidental Petroleum Corp.	OXY	69.26	1.20	63,400	5	2	84	9	4.4	0.94	
Marathon Oil Corporation	MRO B	15.99	1.60	21,700	10	2	88		1.3	0.86	
ConocoPhillips	COP B	46.41	1.68	97,000	13	13	74		2.2	0.77	
<i>Total or Median</i>			<i>1.47</i>	<i>275,000</i>	<i>13</i>		<i>84</i>		<i>1.3</i>	<i>0.94</i>	
Small Independent											
Cimarex Energy Company	XEC	127.11	1.11	13,100	38		62		0.3	1.05	
Continental Resources (32%)	CLR B	50.74	1.36	8,200	29		71		-	0.93	
California Resources	CRC	13.28	12.07	6,800	13		87		-	0.82	
Whiting Petroleum Corporation	WLL	9.91	2.53	7,100	10		90		-	0.76	
Range Resources	RRC B	37.10	1.47	13,300	76		24		0.2	0.74	
<i>Total or Median</i>			<i>1.47</i>	<i>49,000</i>	<i>29</i>		<i>71</i>		<i>-</i>	<i>0.82</i>	
Income											
San Juan Basin Royalty Trust	SJT	6.13	1.00	290	100		-		10.4	0.77	
Dorchester Minerals, L.P.	DMLP B	16.80	1.00	520	28		72		7.0	0.70	
Permian Basin RT	PBT	7.06	1.00	330	23		77		8.5	0.64	
Cross Timbers Royalty Trust	CRT	17.51	1.00	110	71		29		8.5	0.60	
Sabine Royalty Trust	SBR B	35.05	1.00	510	44		56		8.6	0.58	
<i>Total or Median</i>			<i>1.00</i>	<i>1,800</i>	<i>44</i>		<i>56</i>		<i>8.5</i>	<i>0.64</i>	
Canada											
EnCana Corporation	ECA	12.01	1.56	18,300	41		59		0.5	1.12	
Imperial Oil Limited (30%)	IMO	33.79	1.28	11,000	1		62	37	1.3	0.91	
Cenovus Energy Inc.	CVE	14.81	1.33	16,400	10		81	9	1.0	0.79	
Suncor Energy	SU B	31.06	1.35	69,800	-		86	14	2.8	0.76	
Birchcliff Energy Ltd.	BIREF B	6.43	1.36	2,300	74		26		1.1	0.71	
<i>Total or Median</i>			<i>1.35</i>	<i>118,000</i>			<i>62</i>		<i>1.1</i>	<i>0.79</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											



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Table 2							
McDep Energy Stocks							
Net Present Value and McDep Ratio							
			<i>Price</i>			<i>Net</i>	
	<i>Symbol/Rating</i>		<i>(US\$/sh)</i>	<i>Shares</i>	<i>Market</i>	<i>Present</i>	<i>Debt/</i>
	<i>B = Buy</i>		<i>28-Nov</i>	<i>(mm)</i>	<i>Cap</i>	<i>Value</i>	<i>Value</i>
			<i>2016</i>		<i>(US\$mm)</i>	<i>(US\$/sh)</i>	<i>McDep</i>
							<i>Ratio</i>
Global Integrated							
Exxon Mobil Corporation	XOM		86.98	4,178	363,000	100.00	0.19
Chevron Corporation	CVX		111.15	1,883	209,000	135.00	0.21
Royal Dutch Shell	RDS-A	B	49.43	3,965	196,000	80.00	0.31
Total S.A.	TOT	B	46.64	2,404	112,000	90.00	0.22
	<i>Total or Median</i>				<i>880,000</i>		<i>0.22</i>
							<i>0.80</i>
Large Independent							
EOG Resources, Inc.	EOG		94.63	548	51,900	85.00	0.13
Devon Energy Corporation	DVN		43.82	527	23,100	45.00	0.31
Occidental Petroleum Corp.	OXY		69.26	764	52,900	75.00	0.15
Marathon Oil Corporation	MRO	B	15.99	847	13,540	20.00	0.33
ConocoPhillips	COP	B	46.41	1,246	58,000	70.00	0.31
	<i>Total or Median</i>				<i>199,400</i>		<i>0.31</i>
							<i>0.94</i>
Small Independent							
Cimarex Energy Company	XEC		127.11	93	11,900	120.00	0.10
Continental Resources (32%)	CLR	B	50.74	118	6,000	56.00	0.25
California Resources	CRC		13.28	42	600	50.00	0.75
Whiting Petroleum Corporation	WLL		9.91	282	2,800	18.00	0.46
Range Resources	RRC	B	37.10	244	9,100	56.00	0.24
	<i>Total or Median</i>				<i>30,000</i>		<i>0.25</i>
							<i>0.82</i>
Income							
San Juan Basin Royalty Trust	SJT		6.13	47	290	8.00	-
Dorchester Minerals, L.P.	DMLP	B	16.80	31	520	24.00	-
Permian Basin RT	PBT		7.06	47	330	11.00	-
Cross Timbers Royalty Trust	CRT		17.51	6	110	29.00	-
Sabine Royalty Trust	SBR	B	35.05	15	510	60.00	-
	<i>Total or Median</i>				<i>1,800</i>		<i>-</i>
							<i>0.64</i>
Canada							
EnCana Corporation	ECA		12.01	973	11,700	10.00	0.40
Imperial Oil Limited (30%)	IMO		33.79	255	8,600	38.00	0.20
Cenovus Energy Inc.	CVE		14.81	833	12,300	20.00	0.19
Suncor Energy	SU	B	31.06	1,665	51,700	44.00	0.20
Birchcliff Energy Ltd.	BIREF	B	6.43	263	1,700	10.00	0.19
	<i>Total or Median</i>				<i>86,000</i>		<i>0.20</i>
							<i>0.79</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							



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Table 3							
McDep Energy Stocks							
Value Multiples and Dividend							
Ranked by EV/Ebitda							
			Price (US\$/sh)	Adjustd Resrvs/ Prod	PV/ Ebitda	EV/ Ebitda	Dividend NTM
	Symbol/Rating		28-Nov 2016	NTM	NTM	NTM	NTM (\$/sh)
	B = Buy						
Global Integrated							
Exxon Mobil Corporation	XOM		86.98	15.0	12.7	11.3	27 3.00
Chevron Corporation	CVX		111.15	9.8	12.1	10.4	43 4.32
Royal Dutch Shell	RDS-A	B	49.43	9.5	9.9	7.3	19 3.76
Total S.A.	TOT	B	46.64	9.9	10.7	6.7	14 2.58
	<i>Median</i>			9.8	11.4	8.8	23
Large Independent							
Devon Energy Corporation	DVN		43.82	8.4	16.1	15.8	0.24
EOG Resources, Inc.	EOG		94.63	7.5	13.1	14.3	0.67
Marathon Oil Corporation	MRO	B	15.99	12.6	14.9	12.9	0.20
Occidental Petroleum Corp.	OXY		69.26	8.9	13.9	13.0	3.04
ConocoPhillips	COP	B	46.41	11.0	14.1	10.8	1.00
	<i>Median</i>			8.9	14.1	13.0	
Small Independent							
Continental Resources (32%)	CLR	B	50.74	11.4	16.2	15.1	-
Cimarex Energy Company	XEC		127.11	6.8	13.3	14.0	0.32
Range Resources	RRC	B	37.10	11.9	18.3	13.6	0.08
California Resources	CRC		13.28	12.0	12.0	9.8	-
Whiting Petroleum Corporation	WLL		9.91	9.3	12.2	9.2	-
	<i>Median</i>			11.4	13.3	13.6	
Income							
Dorchester Minerals, L.P.	DMLP	B	16.80	7.4	18.5	12.9	18 1.17
Sabine Royalty Trust	SBR	B	35.05	9.1	19.9	11.6	12 3.01
Cross Timbers Royalty Trust	CRT		17.51	7.2	18.2	11.0	12 1.49
Permian Basin RT	PBT		7.06	8.6	16.8	10.8	12 0.60
San Juan Basin Royalty Trust	SJT		6.13	10.0	12.0	9.2	10 0.63
	<i>Median</i>			8.6	18.2	11.0	12
Canada							
EnCana Corporation	ECA		12.01	6.1	12.3	13.8	0.06
Birchcliff Energy Ltd.	BIREF	B	6.43	12.1	13.6	9.7	0.07
Cenovus Energy Inc.	CVE		14.81	16.2	12.0	9.5	0.15
Imperial Oil Limited (30%)	IMO		33.79	33.0	10.4	9.5	0.44
Suncor Energy	SU	B	31.06	20.7	11.7	8.9	0.86
	<i>Median</i>			16.2	12.0	9.5	
	<i>Grand Median</i>			10	13	11	

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2017; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses For historical research see www.mcdep.com



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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	Total	
	Symbol/Rat		28-Nov	31-Dec	Change	Distrib.	Return	Debt	McDep
			2016	2015	(%)	(%)	(%)	(\$/sh)	Ratio
Global Integrated									
	Chevron Corporation	CVX	111.15	89.96	24	4	27	37	0.86
	Exxon Mobil Corporation	XOM	86.98	77.95	12	3	14	23	0.89
	Royal Dutch Shell	RDS-A B	49.43	45.79	8	6	14	36	0.74
	Total S.A.	TOT B	46.64	44.95	4	5	8	26	0.63
	<i>Median</i>				10		14	10	0.80
Large Independent									
	EOG Resources, Inc.	EOG	94.63	70.79	34	1	35	13	1.10
	Devon Energy Corporation	DVN	43.82	32.00	37	1	38	21	0.98
	Marathon Oil Corporation	MRO B	15.99	12.58	27	1	28	10	0.86
	Occidental Petroleum Corp.	OXY	69.26	67.61	2	3	6	14	0.94
	ConocoPhillips	COP B	46.41	46.69	(1)	2	1	32	0.77
	<i>Median</i>				27		28	16	0.94
Small Independent									
	Continental Resources (32%)	CLR B	50.74	22.98	121	-	121	18	0.93
	Cimarex Energy Company	XEC	127.11	89.38	42	0	42	14	1.05
	Range Resources	RRC B	37.10	24.62	51	0	51	18	0.74
	Whiting Petroleum Corporation	WLL	9.91	9.44	5	-	5	15	0.76
	California Resources	CRC	13.28	23.30	(43)	-	(43)	148	0.82
	<i>Median</i>				42		42	30	0.82
Income									
	Dorchester Minerals, L.P.	DMLP B	16.80	9.89	70	6	76	-	0.70
	San Juan Basin Royalty Trust	SJT	6.13	4.14	48	4	52	-	0.77
	Permian Basin RT	PBT	7.06	5.06	40	6	45	-	0.64
	Cross Timbers Royalty Trust	CRT	17.51	13.01	35	7	41	-	0.60
	Sabine Royalty Trust	SBR B	35.05	26.26	33	6	39	-	0.58
	<i>Median</i>				40		45	45	0.64
Canada									
	Birchcliff Energy Ltd.	BIREF B	6.43	2.93	120	-	120	2	0.71
	EnCana Corporation	ECA	12.01	5.09	136	1	137	7	1.12
	Suncor Energy	SU B	31.06	25.80	20	3	23	11	0.76
	Cenovus Energy Inc.	CVE	14.81	12.62	17	1	18	5	0.79
	Imperial Oil Limited (30%)	IMO	33.79	32.52	4	1	5	9	0.91
	<i>Median</i>				20		23	16	0.79
	<i>Grand Median</i>				30		31	21	0.78
	Natural Gas (\$/mmbtu)		3.10	2.33	33				
	Oil - West Texas Intermediate (\$/bbl)		46.50	37.06	25				
	S&P 500		2,209	2,044	8				

Source: McDep LLC, Yahoo, CME Group, Bloomberg

For historical research see www.mcdep.com



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