

Meter Reader

A Weekly Analysis of Energy Stocks Using the McDep Ratio

December 14, 2004

Oil and Gas at Mid Decade

Summary and Recommendation

Three to five-fold gain potential for oil and gas price over the next 5 to 13 years justifies investment in recommended oil and gas producers including **ConocoPhillips (COP)**, **Encana Corporation (ECA)**, **PetroChina (PTR)**, and **Encore Acquisition Company (EAC)**, in our opinion. Supporting improving prospects, the average futures prices of oil and gas for continuous delivery over the next six years are in a multi-year uptrend defined by the current quotes above the 40-week average. The current benchmark oil average futures price for the next six years is about \$39 a barrel. That is higher than our estimate that current stock price of recommended producers reflects a constant real oil price of perhaps \$31 a barrel.

Three to Five in Five to Thirteen

Taking the experience of past trends in oil price we see the potential for further gains beyond what most investors contemplate. Keying on the twice-in-a-lifetime bear market bottoms in 1974 and 2002, we note a preceding ten-year period of relatively stable oil price. Thus, we plot a 28-year period of oil price indexed to the average for the first ten years (see chart [Light, Sweet Crude Oil Price Cycle](#)). The historical cycle runs from 1964 to 1991. We superimpose on that a new cycle starting in 1992 and continue it through the last data point, 2004, year 13. There are similarities between 2004 and 1976 as well as differences. Undoubtedly, the current cycle will play out differently. The main point that we think is valid is that there may be surprising upside in oil price after 2004 as there was after 1976.

Futures Trend Up

Futures traders are expressing increasing conviction that the oil price trend is up. Tracking the average futures price for the next six-years we see that the current quote is above the 40-week average (see chart [Six-Year Commodity Price Meter](#)). A common presumption is that the trend is likely to continue until the current quote falls below the 40-week average. We believe the uptrend will continue, but cannot rule out occasional interruptions.

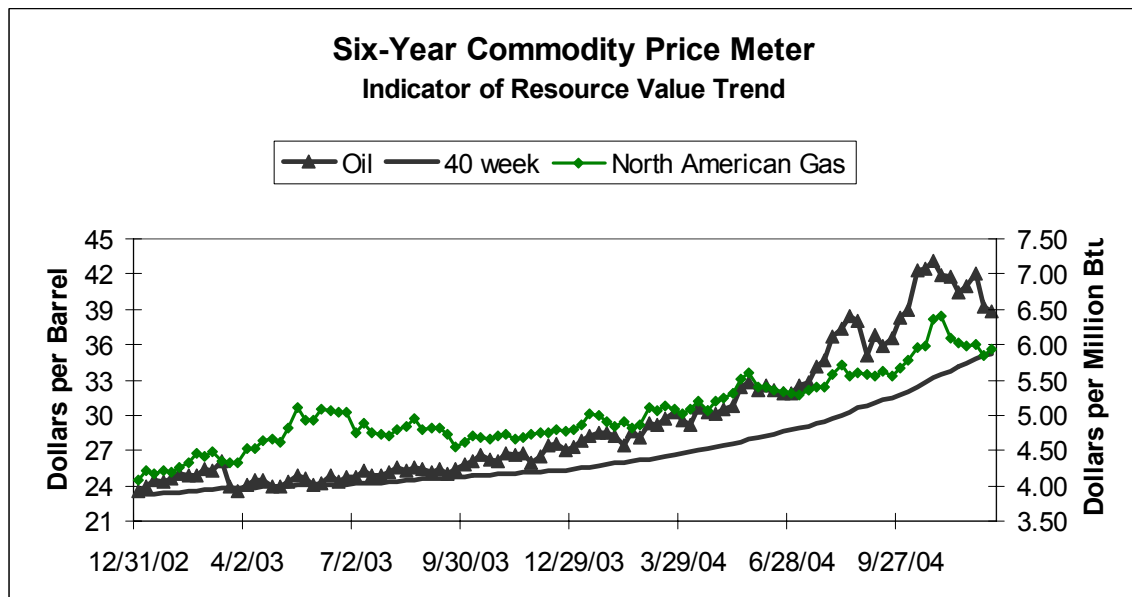
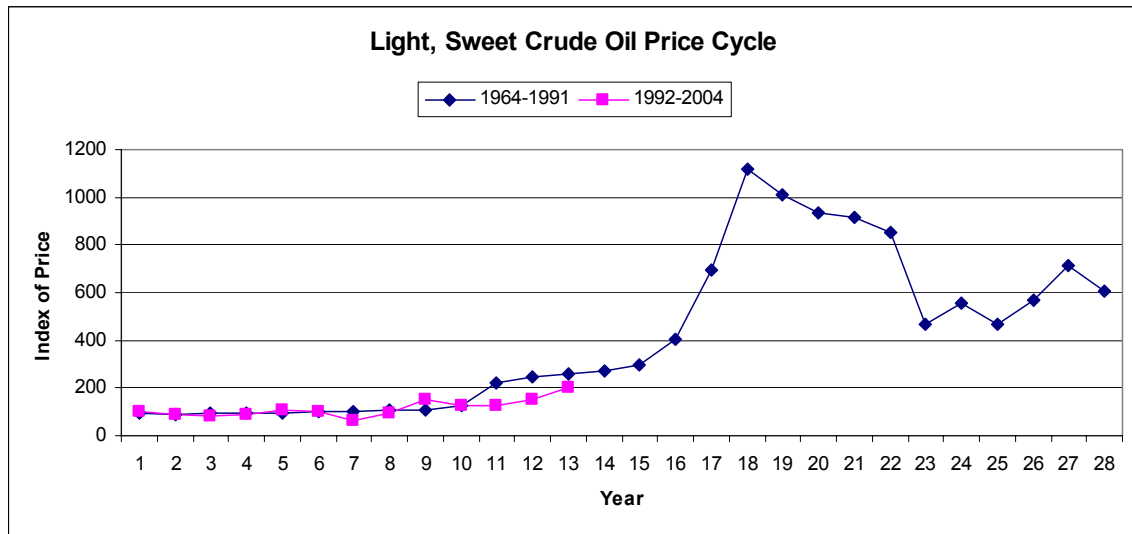
Despite the availability of data and interpretation from multiple sources, our compilation appears to be unique. As a result we print the detailed result of our calculations for the record (see chart [Six-Year and One-Year Natural Gas and Oil Futures](#)). We take monthly quotes that go into the calculation from nymex.com.

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There remains seasonal risk some of which we have experienced in recent weeks. Our sense is that the better long-term prospects will limit short cycle downturns.

Futures Prices Understate Long-Term Potential

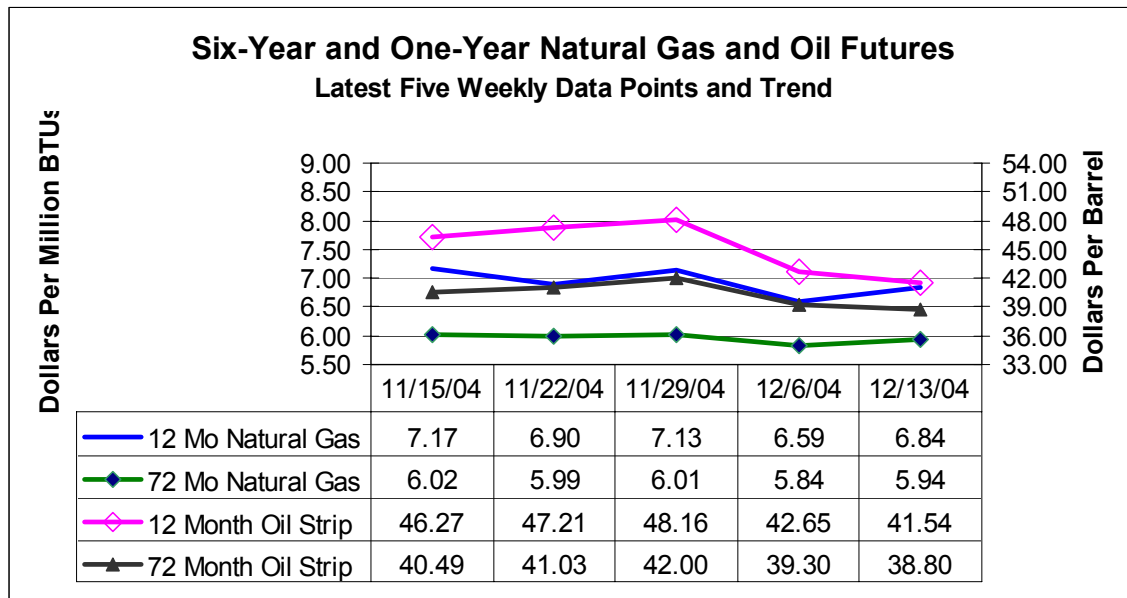
We think the futures market is a great contribution to validating expectations. In particular the availability of longer term futures is especially valuable as demonstrated when they are referenced by Chairman Greenspan of the Federal Reserve Bank. Yet, futures do not conform to a pattern that we would regard as more realistic.

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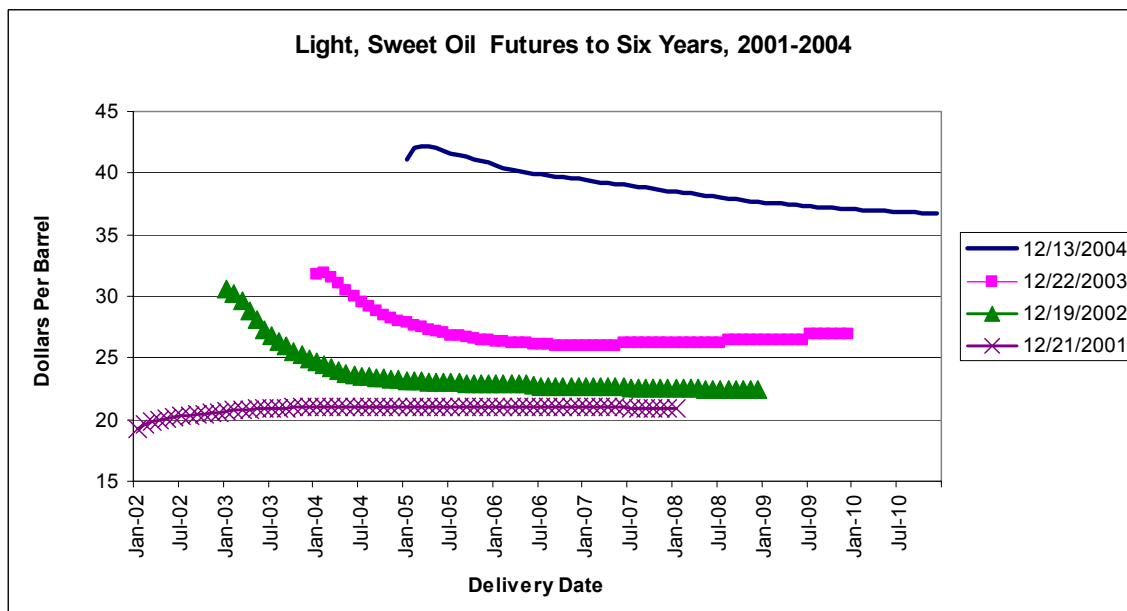
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Invariably, futures start at the current price and gradually take that price down over time. We are not sure why that pattern persists. It is definitely the wrong pattern in a rising oil and gas price environment as we have been in the first half of this decade. Nonetheless, futures prices for the rest of the decade exhibit a declining pattern known as “backwardation” (see chart [Light, Sweet Oil Futures to Six Years, 2001-2004](#)).



The societal problem with energy is that we consume too much at a price that is too cheap from a long-term point of view. Meanwhile from a short-term point of view,

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energy price that goes up too fast causes problems of adjustment. We are grateful that \$55 oil did not last too long at this time. That was in the range of a percentage gain over the previous year that in the past seemed to be too much at once. At the same time the evidence for higher future price as a result of economic, monetary, environmental and security factors seems compelling to us. That is why we recommend energy producers. The converse implication is that energy consumers should prepare for higher price. In our opinion, the futures price pattern that would be consistent with an orderly economic adjustment would be one of a price down that road that is higher than today.

Stock Prices May Reflect \$31 a Barrel

Our analysis of stocks includes an estimate of present value of the oil and gas resources and other businesses of about thirty producers. We assume a constant real oil price of \$35 a barrel after the first year. We regularly check the consistency of our estimates in a correlation of Next Twelve Months cash flow with adjusted reserve life. Present value estimates change only occasionally. NTM cash flow estimates are changing continually because we use prices from the futures market as an objective input.

On the basis of current present value estimates, the median McDep Ratio for 27 buy-rated stocks is about 0.87 (see table [Rank by McDep Ratio](#)). That means the stock market capitalization and debt of the median company is less than our estimate of present value at \$35 a barrel. Roughly, we suggest that market cap and debt would equal present value if we were to assume \$31 constant real.

Since the average oil price for the next six years is about \$39 a barrel and the price we match to stock price is \$31 constant real, we say that futures prices are higher than stock prices. Technically, there is a distinction between nominal price and real price that should be noted. Futures prices are nominal prices meaning there is no adjustment for whatever inflation may be. In fact, futures prices imply deflation as they decline in nominal terms over time. Our assumed price for valuation purposes is a real price. The equivalent nominal price would be the real price adjusted for future inflation. The nominal equivalent of real price rises over time.

If inflation were 3% per year, about the current rate, a real price of \$31 six years from now would be a nominal price of about \$37. The futures price, a nominal price, declines by December 2010 to about \$37, coincidentally.

Buy Recommended Stocks

For recommendations and valuation measures, see tables [Rank by McDep Ratio](#) and [Rank by EV/Ebitda](#). Ebitda estimates are consistent with latest Next Twelve Months future prices. For recent single-stock research, see [Index of Stock Ideas](#).

Kurt H. Wulff, CFA

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Oil and Gas Producers Rank by McDep Ratio: Market Cap and Debt to Present Value

	Symbol/ Rating		Price (\$/sh) 13-Dec 2004	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
Mega Cap								
Exxon Mobil Corporation	XOM	B3	50.67	6,508	330,000	50.00	0.07	1.01
Shell Transport and Trading Co. plc	SC	B3	50.59	1,587	80,000	51.00	0.17	0.99
BP plc	BP	B3	59.14	3,614	214,000	60.00	0.13	0.99
Total S.A.	TOT	B3	107.99	1,228	133,000	113.00	0.17	0.96
Royal Dutch Petroleum	RD	B1	56.81	2,021	115,000	60.00	0.17	0.96
ChevronTexaco Corporation	CVX	B1	53.65	2,126	114,000	62.50	0.13	0.88
<i>Total or Median</i>					986,000		0.15	0.98
Producer/Refiners - Large Cap and Mid Cap								
Kinder Morgan, Inc.	KMI	S2	72.09	125	8,990	20.00	0.74	1.68
Imperial Oil Limited (30%)	IMO	B3	56.86	107	6,080	58.00	0.10	0.98
Marathon Oil Corporation	MRO	B3	36.92	347	12,810	40.00	0.31	0.95
Norsk Hydro ASA	NHY	B1	79.64	254	20,240	90.00	0.18	0.91
ConocoPhillips	COP	B1	85.81	702	60,200	110.00	0.25	0.83
Suncor Energy	SU	B3	32.09	460	14,760	42.00	0.12	0.79
Petro-Canada	PCZ	B3	50.62	269	13,640	68.00	0.18	0.79
PetroChina Company Ltd (10%)	PTR	B2	52.84	176	9,290	82.00	0.06	0.66
Lukoil Oil Company	LUKOY	B2	109.75	209	23,000	208.00	0.06	0.56
<i>Total or Median</i>					169,000		0.18	0.83
Independent Natural Gas and Oil - Large Cap and Mid Cap								
CNOOC Limited (19%)	CEO	B2	53.32	78	4,170	59.00	-	0.90
XTO Energy Inc.	XTO	B1	33.29	272	9,060	38.00	0.19	0.90
Encana Corporation	ECA	B1	52.85	472	24,900	63.00	0.21	0.87
Unocal Corporation	UCL	B3	43.40	274	11,900	54.00	0.24	0.85
Occidental Petroleum Corp.	OXY	B3	56.60	403	22,800	75.00	0.17	0.80
Devon Energy Corporation	DVN	B3	39.21	500	19,600	55.00	0.22	0.78
Burlington Resources	BR	B1	43.08	395	17,000	58.00	0.14	0.78
Anadarko Petroleum Corp.	APC	B1	66.84	253	16,900	94.00	0.20	0.77
<i>Total or Median</i>					126,000		0.20	0.82
Independent Natural Gas and Oil - Small Cap								
Berry Petroleum Company	BRY	B2	46.53	22	1,040	43.00	0.06	1.08
Cimarex Energy Company	XEC	B2	36.50	43	1,570	38.00	0.00	0.96
Energy Partners Ltd.	EPL	B3	18.45	39	720	22.00	0.15	0.86
Encore Acquisition Company	EAC	B2	32.87	33	1,080	47.00	0.22	0.77
<i>Total or Median</i>					4,400		0.10	0.91
Income								
Kinder Morgan Energy Partners, L.P.	KMP	S3	44.68	145	6,480	15.00	0.52	1.96
Kinder Morgan Management, LLC	KMR	S3	40.63	55	2,240	15.00	0.52	1.83
Pengrowth Energy Trust	PGH		19.41	136	2,640	14.00	0.26	1.29
Enerplus Resources Fund	ERF		33.99	104	3,530	28.00	0.18	1.17
San Juan Basin Royalty Trust	SJT	H	28.95	47	1,350	27.00	-	1.07
Canadian Oil Sands Trust (US\$)	COSWF	B1	47.18	91	4,300	72.00	0.19	0.72
<i>Total or Median</i>					20,500		0.22	1.23

B1 = Buy full unlevered position, B2 = Buy half unlevered position, B3 = Alternative buy
S2 = Short half unlevered position, S3 = Short quarter unlevered position
McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses

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Oil and Gas Producers

Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/ Rating		Price (\$/sh) 13-Dec 2004	Adjstd Resrvs/ Prod NTM	PV/ Ebitda NTM	EV/ Ebitda NTM	P/E NTM	Divd or Distrib NTM (%)
Mega Cap								
BP plc	BP	B3	59.14	9.9	7.6	7.5	15	2.9
Exxon Mobil Corporation	XOM	B3	50.67	11.1	6.9	7.0	13	2.1
Total S.A.	TOT	B3	107.99	9.6	6.7	6.5	12	3.0
Shell Transport and Trading Co. plc	SC	B3	50.59	8.1	5.8	5.8	11	2.4
Royal Dutch Petroleum	RD	B1	56.81	8.1	5.8	5.6	11	2.5
ChevronTexaco Corporation	CVX	B1	53.65	11.4	6.0	5.3	9	3.0
	<i>Median</i>			9.7	6.4	6.1	11	2.7
Producer/Refiners - Large Cap and Mid Cap								
Kinder Morgan, Inc.	KMI	S2	72.09		8.3	13.9	18	3.1
Suncor Energy	SU	B3	32.09	18.4	9.1	7.2	16	0.6
Imperial Oil Limited (30%)	IMO	B3	56.86	11.3	6.8	6.7	12	1.3
Marathon Oil Corporation	MRO	B3	36.92	7.8	6.1	5.8	12	3.0
Norsk Hydro ASA	NHY	B1	79.64	9.4	5.8	5.3	15	2.2
ConocoPhillips	COP	B1	85.81	11.9	6.0	5.0	8	2.0
Petro-Canada	PCZ	B3	50.62	7.6	6.0	4.8	9	1.0
PetroChina Company Ltd (10%)	PTR	B2	52.84	13.5	6.8	4.5	10	4.5
Lukoil Oil Company	LUKOY	B2	109.75	12.2	6.7	3.7	7	3.1
	<i>Median</i>			11.6	6.7	5.3	12	2.2
Independent Natural Gas and Oil - Large Cap and Mid Cap								
XTO Energy Inc.	XTO	B1	33.29	11.7	6.4	5.7	11	0.6
Occidental Petroleum Corp.	OXY	B3	56.60	11.2	6.4	5.1	9	1.9
CNOOC Limited (19%)	CEO	B2	53.32	9.6	5.5	5.0	9	3.4
Unocal Corporation	UCL	B3	43.40	8.9	5.5	4.7	10	1.8
Burlington Resources	BR	B1	43.08	9.9	5.9	4.6	10	0.8
Anadarko Petroleum Corp.	APC	B1	66.84	10.9	5.9	4.6	10	0.8
Encana Corporation	ECA	B1	52.85	6.4	4.8	4.2	10	0.8
Devon Energy Corporation	DVN	B3	39.21	6.6	5.0	3.9	8	1.0
	<i>Median</i>			9.7	5.7	4.7	10	0.9
Independent Natural Gas and Oil - Small Cap								
Berry Petroleum Company	BRY	B2	46.53	12.5	6.9	7.4	15	1.0
Encore Acquisition Company	EAC	B2	32.87	11.9	7.7	5.9	12	-
Cimarex Energy Company	XEC	B2	36.50	5.2	4.0	3.9	11	-
Energy Partners Ltd.	EPL	B3	18.45	4.9	4.0	3.5	12	-
	<i>Median</i>			8.6	5.4	4.9	12	-
Income								
Kinder Morgan Energy Partners, L.P.	KMP	S3	44.68		8.0	15.6	21	6.5
Kinder Morgan Management, LLC	KMR	S3	40.63		8.0	14.6	19	7.2
San Juan Basin Royalty Trust	SJT	H	28.95	12.5	7.9	8.5	9	10.6
Canadian Oil Sands Trust (US\$)	COSWF	B1	47.18	20.0	11.6	8.3	11	3.5
Pengrowth Energy Trust	PGH		19.41	7.9	5.9	7.6	16	11.6
Enerplus Resources Fund	ERF		33.99	8.3	6.3	7.4	21	10.1
	<i>Median</i>			10.4	7.9	8.4	17	8.6

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2005; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

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Index of Stock Ideas Recent Written Analyses

<u>Date</u>	<u>Symbol</u>	<u>Stock</u>	<u>Theme</u>
9-Dec	SU	Suncor Energy Inc.	Raise Net Present Value to US\$42 a Share
8-Dec	CVX	ChevronTexaco Corporation	Mega Cap at a Discount
3-Dec	COSWF	Canadian Oil Sands Trust	After Hubbert's Peak
3-Dec	COP	ConocoPhillips	Connecting with Lukoil
29-Nov	XEC	Cimarex Energy Company	Timely Talent
26-Nov	XTO	XTO Energy Inc.	Twenty Per Cent per Year per Share
24-Nov	APC	Anadarko Petroleum Corporation	Asset Upgrade
22-Nov	EAC	Encore Acquisition Company	Opportunity in Hedging Impact
22-Nov	MTR	Mesa Royalty Trust	Hugoton Predictability, San Juan Surprise
17-Nov	TOT	Total S.A.	African Oil, European Refining
17-Nov	UCL	Unocal Corporation	Incremental Production in 2005
15-Nov	* EPL	Energy Partners, Ltd.	Lowest Cash Flow Multiple
15-Nov	* OXY	Occidental Petroleum Corporation	Still Cheap
12-Nov	* CRT	Cross Timbers Royalty Trust	Low Risk, Long Life
9-Nov	* IMO	Imperial Oil Limited	Raise Present Value to US\$58 a Share
9-Nov	* DVN	Devon Energy Corporation	Large Cap Natural Gas
8-Nov	* BRY	Berry Petroleum Company	Smart Oil Contract
8-Nov	* PCZ	Petro-Canada	Looking for Long Life
5-Nov	* SJT	San Juan Basin Royalty Trust	High Winter Distributions Ahead
4-Nov	* ECA	EnCana Corporation	Bold Moves
3-Nov	* MRO	Marathon Oil Corporation	Lower Net Present Value to \$40 a Share
2-Nov	* XOM	Exxon Mobil Corporation	Raise Present Value to \$50 a Share
26-Oct	* KMP	Kinder Morgan Energy Partners, L.P.	Fallen Star
26-Oct	* KMI	Kinder Morgan Inc.	Fallen Star
26-Oct	* KMR	Kinder Morgan Management, LLC	Fallen Star
18-Oct	* NHY	Norsk Hydro ASA	High Cash Flow
11-Oct	* BR	Burlington Resources, Inc.	Natural Gas Sensitivity
11-Oct	* COSWF	Canadian Oil Sands Trust	Raise Present Value to US\$72 a Unit
11-Oct	* SJT	San Juan Basin Royalty Trust	Raise Present Value to \$27 a Unit
6-Oct	* COSWF	Canadian Oil Sands Trust	Ten Percent Holder Surfaces
5-Oct	* LUKOY	Lukoil Oil Company	SEC Standard Reduces Reserves
30-Sep	* COP	ConocoPhillips	Lukoil Investment Confirmed
30-Sep	* LUKOY	Lukoil Oil Company	ConocoPhillips Partner Confirmed
28-Sep	* RD	Royal Dutch Petroleum	Low Risk, Attractive Reward
28-Sep	* SC	Shell Transport & Trading Company, p.l.c.	Low Risk, Attractive Reward
20-Sep	* BP	BP p.l.c.	Betting on Putin
20-Sep	* LUKOY	Lukoil Oil Company	ConocoPhillips Partner
8-Sep	* CEO	CNOOC Ltd ADS	Higher Dividend, Higher Present Value
8-Sep	* PTR	PetroChina Company Limited	Dividend Raised, Present Value Trimmed
26-Aug	* BP	BP p.l.c.	Russia Distinction

* Archived on www.mcdep.com

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