

## ***Meter Reader***

*A Weekly Analysis of Energy Stocks Using the McDep Ratio*

October 12, 2004

Corrected for Currency

# **Sensitivity**

## **Summary and Recommendation**

Buy recommendations **Canadian Oil Sands Trust (COSWF)**, **Suncor (SU)** and **Lukoil (LUKOY)** appear most sensitive to the future price of crude oil. The three stocks have sensitivities of 1.78, 1.54 and 1.76 respectively that relate percent change in net present value per share to percent change in long-term oil price. For the remaining 24 buy recommendations, median sensitivity is 1.00 and the range is 0.89 to 1.19. Meanwhile current stock price for the median buy recommendation relates to a constant real oil price of \$30 a barrel, far below the futures price for the next six years of \$42 a barrel. Moreover when we superimpose the price trend since 1992 on the trend since 1964 we see the potential for current oil price to continue climbing to multiples of the current level.

### **A Dollar a Barrel, Two Dollars a Share.**

A median oil price sensitivity of 1.00 implies that a 1.0 percent change in long-term oil price translates to a 1.0 percent change in net present value per share. Since the median buy-recommendation appears priced for \$30 oil, each dollar a barrel of higher price that sticks is worth 3.3% in net present value. Because the median net present value of buy recommendations is about \$60 a share, a dollar a barrel increase in long-term price is worth about \$2 a share in stock price presuming that stock price increases equally with present value.

A specific sensitivity applies only within a particular price range and it depends on simplifying assumptions we have made in each case. The results of separate analyses for 28 stocks during the past three months conclude with net present value estimates for each of four assumed price levels (see table [Sensitivity of Stock Price to Oil Price](#)).

Three of the buy recommendations show particularly strong sensitivities. The long-life oil producers, Canadian Oil Sands Trust and Suncor would increase in net present value by 1.78 and 1.56 percent for each one percent change in oil price on average over the range of \$30 to \$50 a barrel.

The high sensitivity for Lukoil, 1.74, is certainly not as precise as we state it, but rather reflects the long way that Russian companies have to go to reach international levels of profitability. Because we project a decline in costs in the future, increases in price have a magnified impact that may or may not be achieved.

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#### Sensitivity of Stock Price to Oil Price

	Symbol/ Rating	Price (\$/sh) 11-Oct 2004	Net Present Value and Long-Term Oil Price				Sensitivity % chg/ % chg	
			\$30/bbl	\$35/bbl	\$40/bbl	\$50/bbl		
<b>Mega Cap</b>								
Shell Transport and Trading Co. plc	SC	B3	46.06	45	51	56	67	0.89
Royal Dutch Petroleum	RD	B1	53.11	52	60	66	79	0.91
BP plc	BP	B3	59.41	52	60	68	83	0.96
Exxon Mobil Corporation	XOM	B3	49.79	37	43	49	60	0.97
Total S.A.	TOT	B3	104.67	96	113	127	156	0.98
ChevronTexaco Corporation	CVX	B1	54.91	57	66	76	95	1.00
	<i>Median</i>							0.97
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
Kinder Morgan, Inc.	KMI	S2	65.25	-	-	-	-	-
Imperial Oil Limited (30%)	IMO	B3	53.87	46	52	58	69	0.90
Norsk Hydro ASA	NHY	B1	75.90	79	90	101	121	0.92
Petro-Canada	PCZ	B3	53.72	60	68	76	92	0.92
PetroChina Company Ltd (10%)	PTR	B2	54.42	70	82	94	117	1.00
Marathon Oil Corporation	MRO	B3	41.02	35	41	47	59	1.01
ConocoPhillips	COP	B1	87.15	88	110	128	165	1.13
Suncor Energy	SU	B3	34.02	27	38	49	70	1.56
Lukoil Oil Company	LUKOY	B2	130.75	135	208	268	392	1.74
	<i>Median</i>							1.00
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
CNOOC Limited (19%)	CEO	B2	56.26	51	59	67	84	0.99
Encana Corporation	ECA	B1	49.10	54	63	72	90	1.00
Devon Energy Corporation	DVN	B3	74.45	94	110	126	158	1.01
Occidental Petroleum Corp.	OXY	B3	57.57	63	75	87	112	1.07
Burlington Resources	BR	B1	42.22	48	58	67	86	1.08
XTO Energy Inc.	XTO	B1	33.41	30	38	45	58	1.16
Unocal Corporation	UCL	B3	42.85	44	54	65	86	1.17
Anadarko Petroleum Corp.	APC	B1	68.95	75	94	113	149	1.19
	<i>Median</i>							1.07
<b>Independent Natural Gas and Oil - Small Cap</b>								
Cimarex Energy Company	XEC	B2	35.10	33	38	42	49	0.89
Energy Partners Ltd.	EPL	B3	17.09	19	22	24	30	0.95
Berry Petroleum Company	BRY	B2	38.11	34	43	50	66	1.16
Encore Acquisition Company	EAC	B2	34.75	38	47	57	75	1.18
	<i>Median</i>							1.06
<b>Income</b>								
San Juan Basin Royalty Trust	SJT	H	31.45	22	26	30	39	1.06
Canadian Oil Sands Trust (US\$)	COSWF	B1	48.59	45	67	89	134	1.78
Kinder Morgan Energy Partners, L.P.	KMP	S3	47.02					
Kinder Morgan Management, LLC	KMR	S3	41.66					

Independent producers, because they are concentrated on the resource that changes in value in our calculations, tend to have greater sensitivity than integrated companies that also have downstream operations. While that seems obvious, the differences also depend on other factors that include financial leverage, reserve life and cash margin.

Sensitivity and oil price also help make the continuing investment case for stocks that have higher McDep Ratios including buy-recommendations **ExxonMobil (XOM)**, and **Imperial Oil Limited (IMO)**, 65% owned by XOM. Long-term performance has been

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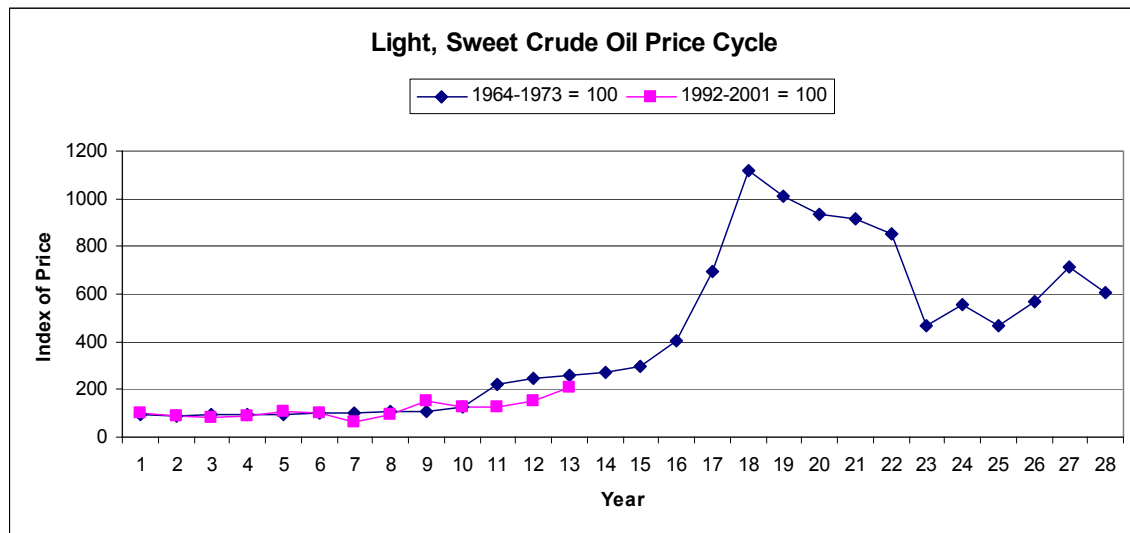
October 12, 2004

favorable, risks are low and there may be further upside ahead even if not as much as in some lower McDep Ratio stocks.

### A 28-Year Oil Price Cycle

Recommended stocks appear to have appreciation potential should oil price drop, as widely anticipated, from current levels. Increasingly though, the current situation is looking more like the previous cycle when oil price continued to rise to surprising levels.

To illustrate a possible price pattern, we compare the relatively stable price period from 1992 to 2001 to the period from 1964 to 1973. Each was a ten year period that immediately preceded a sharply lower stock market in 2002 and in 1974. Then price started moving up strongly. The 2004 annual average without further gains is double the average of the ten year base from 1992 to 2001. At the same time in the previous cycle, the 1976 average was 2.6 times the ten year base from 1964 to 1973 (see chart Light, Sweet Crude Oil Price, 1964-2004).



Having pointed to the similarity in the early parts of the current cycle and the previous cycle, we can now look to the unfolding of the previous cycle as an indicator of what might be ahead in the current cycle. First, we can say that oil price never came close to the 1976 level again despite widespread expectation of decline. Instead oil price peaked above 1100, or 11 times the base, and more than four times the 1976 level. Second, we can say that just the average price for the fifteen years after 1976 was 2.6 times the 1976 level.

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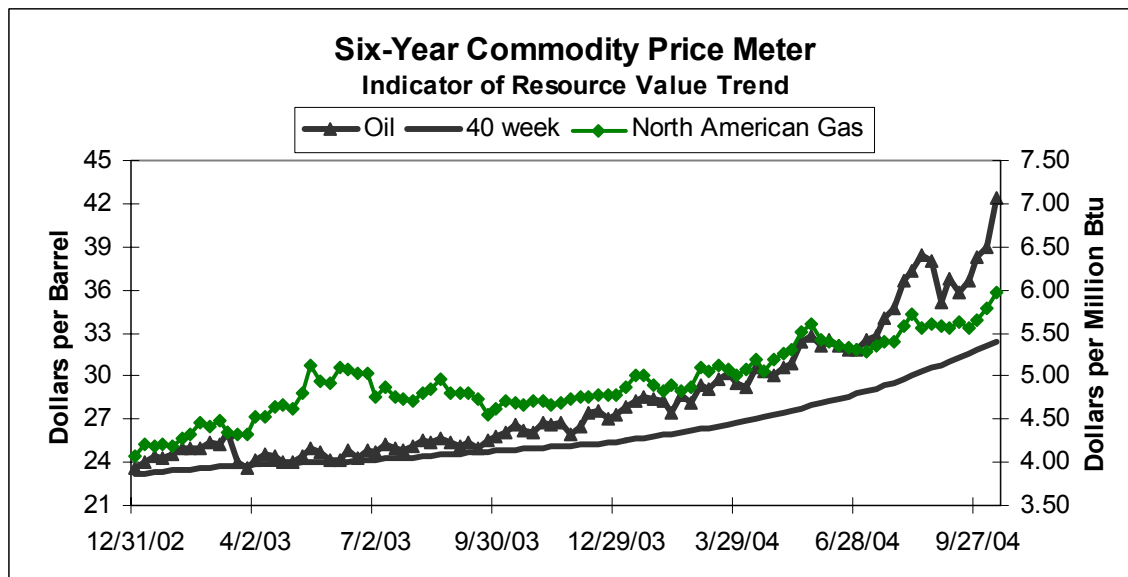
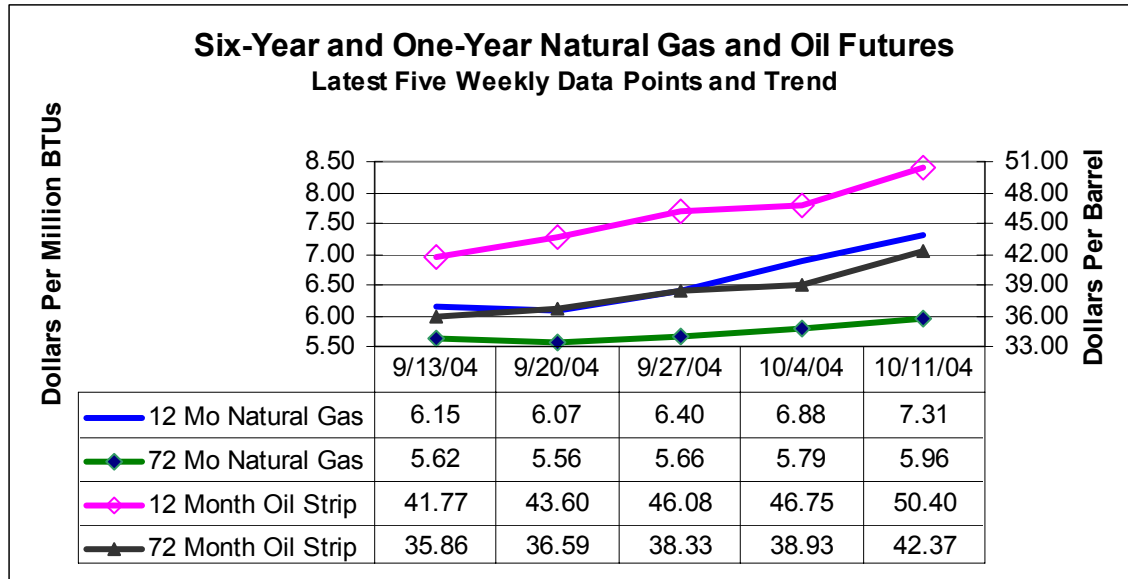
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### Commodity Price Trends Continue Upward

The markets took oil and gas to new highs in the past week (see charts Six-Year and One-Year Natural Gas and Oil Futures and Six-Year Commodity Price Meter).

Kurt H. Wulff, CFA



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

	Symbol/ Rating		Price (\$/sh) 11-Oct 2004	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
<b>Mega Cap</b>								
Exxon Mobil Corporation	XOM	B3	49.79	6,547	326,000	43.00	0.08	1.14
BP plc	BP	B3	59.41	3,651	217,000	60.00	0.13	0.99
Total S.A.	TOT	B3	104.67	1,237	129,500	113.00	0.16	0.94
Shell Transport and Trading Co. plc	SC	B3	46.06	1,587	73,000	51.20	0.17	0.92
Royal Dutch Petroleum	RD	B1	53.11	2,031	108,000	60.00	0.17	0.91
ChevronTexaco Corporation	CVX	B1	54.91	2,130	117,000	62.50	0.14	0.90
					<i>Total or Median</i>		<i>0.15</i>	<i>0.93</i>
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
Kinder Morgan, Inc.	KMI	S2	65.25	125	8,160	20.00	0.73	1.61
Imperial Oil Limited (30%)	IMO	B3	53.87	108	5,800	52.00	0.11	1.03
Marathon Oil Corporation	MRO	B3	41.02	346	14,200	41.00	0.30	1.00
Suncor Energy	SU	B3	34.02	460	15,650	38.00	0.13	0.91
Norsk Hydro ASA	NHY	B1	75.90	256	19,390	90.00	0.17	0.87
ConocoPhillips	COP	B1	87.15	699	60,900	110.00	0.25	0.84
Petro-Canada	PCZ	B3	53.72	266	14,300	68.00	0.15	0.82
PetroChina Company Ltd (10%)	PTR	B2	54.42	176	9,570	82.00	0.06	0.68
Lukoil Oil Company	LUKOY	B2	130.75	209	27,000	208.00	0.05	0.65
					<i>Total or Median</i>		<i>0.15</i>	<i>0.87</i>
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
CNOOC Limited (19%)	CEO	B2	56.26	78	4,400	59.00	-	0.95
XTO Energy Inc.	XTO	B1	33.41	276	9,230	38.00	0.21	0.90
Unocal Corporation	UCL	B3	42.85	278	11,900	54.00	0.25	0.84
Encana Corporation	ECA	B1	49.10	471	23,100	63.00	0.25	0.84
Occidental Petroleum Corp.	OXY	B3	57.57	399	23,000	75.00	0.18	0.81
Anadarko Petroleum Corp.	APC	B1	68.95	254	17,500	94.00	0.21	0.79
Burlington Resources	BR	B1	42.22	397	16,800	58.00	0.14	0.77
Devon Energy Corporation	DVN	B3	74.45	249	18,500	110.00	0.24	0.75
					<i>Total or Median</i>		<i>0.21</i>	<i>0.82</i>
<b>Independent Natural Gas and Oil - Small Cap</b>								
Cimarex Energy Company	XEC	B2	35.10	43	1,500	38.00	0.00	0.92
Berry Petroleum Company	BRY	B2	38.11	22	850	43.00	0.06	0.89
Energy Partners Ltd.	EPL	B3	17.09	38	660	22.00	0.14	0.81
Encore Acquisition Company	EAC	B2	34.75	33	1,130	47.00	0.20	0.79
					<i>Total or Median</i>		<i>0.10</i>	<i>0.85</i>
<b>Income</b>								
Kinder Morgan Energy Partners, L.P.	KMP	S3	47.02	145	6,820	15.00	0.49	2.08
Kinder Morgan Management, LLC	KMR	S3	41.66	54	2,260	15.00	0.49	1.90
San Juan Basin Royalty Trust	SJT	H	31.45	47	1,470	27.00	-	1.17
Canadian Oil Sands Trust (US\$)	COSWF	B1	48.59	93	4,530	72.00	0.17	0.73
					<i>Total or Median</i>		<i>0.33</i>	<i>1.54</i>

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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#### Rated Oil and Gas Producers

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

	Symbol/ Rating		Price (\$/sh) 11-Oct 2004	Adjstd Resrvs/ Prod NTM	PV/ Ebitda NTM	EV/ Ebitda NTM	P/E NTM	Divd or Distrib NTM (%)
<b>Mega Cap</b>								
Exxon Mobil Corporation	XOM	B3	49.79	11.1	5.8	6.6	12	2.2
Total S.A.	TOT	B3	104.67	9.1	6.4	6.0	10	2.8
BP plc	BP	B3	59.41	9.7	5.8	5.8	11	2.9
Shell Transport and Trading Co. plc	SC	B3	46.06	8.2	5.0	4.6	8	4.1
Royal Dutch Petroleum	RD	B1	53.11	8.2	5.0	4.5	8	4.1
ChevronTexaco Corporation	CVX	B1	54.91	11.0	4.9	4.4	7	2.9
	<i>Median</i>			9.4	5.4	5.2	9	2.9
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
Kinder Morgan, Inc.	KMI	S2	65.25		8.5	13.6	17	3.4
Suncor Energy	SU	B3	34.02	18.3	6.7	6.1	13	0.6
Imperial Oil Limited (30%)	IMO	B3	53.87	10.9	5.5	5.7	10	1.3
Marathon Oil Corporation	MRO	B3	41.02	7.4	4.8	4.8	8	2.4
Norsk Hydro ASA	NHY	B1	75.90	9.4	4.9	4.2	9	2.2
ConocoPhillips	COP	B1	87.15	11.2	5.1	4.4	6	2.0
PetroChina Company Ltd (10%)	PTR	B2	54.42	13.5	6.1	4.2	8	4.3
Petro-Canada	PCZ	B3	53.72	7.7	4.6	3.8	7	0.9
Lukoil Oil Company	LUKOY	B2	130.75	12.2	4.7	3.1	5	2.5
	<i>Median</i>			11.0	5.1	4.4	8	2.2
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
CNOOC Limited (19%)	CEO	B2	56.26	10.4	5.5	5.3	10	3.2
XTO Energy Inc.	XTO	B1	33.41	11.7	5.8	5.3	10	0.1
Occidental Petroleum Corp.	OXY	B3	57.57	11.1	5.2	4.2	7	1.9
Unocal Corporation	UCL	B3	42.85	9.0	4.9	4.2	7	1.9
Anadarko Petroleum Corp.	APC	B1	68.95	11.4	5.3	4.2	8	0.8
Encana Corporation	ECA	B1	49.10	6.7	4.9	4.1	8	0.8
Burlington Resources	BR	B1	42.22	10.2	5.5	4.2	8	0.8
Devon Energy Corporation	DVN	B3	74.45	6.6	4.5	3.4	6	0.5
	<i>Median</i>			10.3	5.3	4.2	8	0.8
<b>Independent Natural Gas and Oil - Small Cap</b>								
Berry Petroleum Company	BRY	B2	38.11	12.8	4.9	4.4	9	1.2
Encore Acquisition Company	EAC	B2	34.75	12.0	6.2	4.9	9	-
Cimarex Energy Company	XEC	B2	35.10	5.2	3.5	3.2	7	-
Energy Partners Ltd.	EPL	B3	17.09	5.0	3.4	2.7	7	-
	<i>Median</i>			8.6	4.2	3.8	8	-
<b>Income</b>								
Kinder Morgan Energy Partners, L.P.	KMP	S3	47.02	12.0	7.9	16.4	23	6.0
Kinder Morgan Management, LLC	KMR	S3	41.66	12.0	7.9	15.0	20	6.8
San Juan Basin Royalty Trust	SJT	H	31.45	12.5	7.7	9.0	10	9.9
Canadian Oil Sands Trust (US\$)	COSWF	B1	48.59	20.0	7.8	5.7	6	3.3
	<i>Median</i>			12.2	7.8	12.0	15	6.4

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended September 30, 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>
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
11-Oct	BR	Burlington Resources, Inc.	Natural Gas Sensitivity
6-Oct	COSWF	Canadian Oil Sands Trust	Ten Percent Holder Surfaces
5-Oct	LUKOY	Lukoil Oil Company	SEC Standard Reduces Reserves
30-Sep	LUKOY	Lukoil Oil Company	ConocoPhillips Partner Confirmed
30-Sep	COP	ConocoPhillips	Lukoil Investment 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	Offshore China Independent Oil Producer
8-Sep	PTR	PetroChina Company Limited	Emerging Mega Cap
8-Sep	XTO	XTO Energy Inc.	Breakthrough Acquisitions
7-Sep	APC	Anadarko Petroleum Corporation	Commodity Alternative
7-Sep	XEC	Cimarex Energy Company	High Present Value per Barrel
3-Sep	* EAC	Encore Acquisition Company	Rising Recovery and Leadership
2-Sep	ECA	EnCana Corporation	Encomparable
2-Sep	KMI	Kinder Morgan Inc.	Momentum Challenge
2-Sep	* KMP	Kinder Morgan Energy Partners, L.P.	Momentum Challenge
2-Sep	KMR	Kinder Morgan Management, LLC	Momentum Challenge
31-Aug	* COP	ConocoPhillips	Lukoil Investor?
27-Aug	* EPL	Energy Partners, Ltd.	Volume Acceleration
27-Aug	* MRO	Marathon Oil Corporation	Tilting to Refining
26-Aug	* BP	BP p.l.c.	Russia Distinction
26-Aug	* TOT	Total S.A.	Shell Acquirer?
23-Aug	* OXY	Occidental Petroleum Corporation	Oil Rich
23-Aug	* UCL	Unocal Corporation	Asian Natural Gas and Oil
16-Aug	* IMO	Imperial Oil Limited	Choice Piece of ExxonMobil
16-Aug	* PCZ	Petro-Canada	Encana Partner
16-Aug	* SU	Suncor Energy Inc.	A Boone and Charlie Favorite
13-Aug	* BRY	Berry Petroleum Company	New Leader, New Prospects
12-Aug	* DVN	Devon Energy Corporation	Capable Leader, Short Reserve Life
10-Aug	* NHY	Norsk Hydro ASA	Tempered by Taxes
6-Aug	* XOM	Exxon Mobil Corporation	Low Risk with Oil Price Upside
4-Aug	* CVX	ChevronTexaco Corporation	Stock Price Lagging Oil Price
2-Aug	* SJT	San Juan Basin Royalty Trust	Change Buy to Hold on Price
29-Jul	* COSWF	Canadian Oil Sands Trust	Great North American Energy Resource

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