Rating: Buy
S&P 500: 1065

Petro-Canada
Encana Partner

Symbol	PCZ	*Ebitda Next Twelve Months ending 6/30/05 (US$mm)*	3,800
Rating	Buy	*North American Natural Gas/Ebitda (%)*	18
Price (US$/sh)	46.07	*Natural Gas and Oil Production/Ebitda (%)*	84
Pricing Date	8/13/04	*Adjusted Reserves/Production NTM*	7.7
Shares (mm)	266	*EV/Ebitda*	4.0
Market Capitalization (US$mm)	12,300	*PV/Ebitda*	5.5
Debt (US$mm)	3,000	*Undeveloped Reserves (%)*	23
Enterprise Value (EV) (US$mm)	15,300	*Natural Gas and Oil Ebitda (US$/boe)*	24.80
Present Value (PV) (US$mm)	21,100	*Present Value Proven Reserves(US$/boe)*	20.00
Net Present Value (US$/share)	68	*Present Value Proven Reserves(US$/mcfe)*	3.30
Debt/Present Value	0.14	*Earnings Next Twelve Months (US$/sh)*	6.04
McDep Ratio - EV/PV	0.72	*Price/Earnings Next Twelve Months*	8
Dividend Yield (%/year)	1.0	*Indicated Annual Dividend (US$/sh)*	0.46

Note: Estimated cash flow and earnings tied to one-year futures prices for oil, natural gas and refinery crack.
Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.

Summary and Recommendation

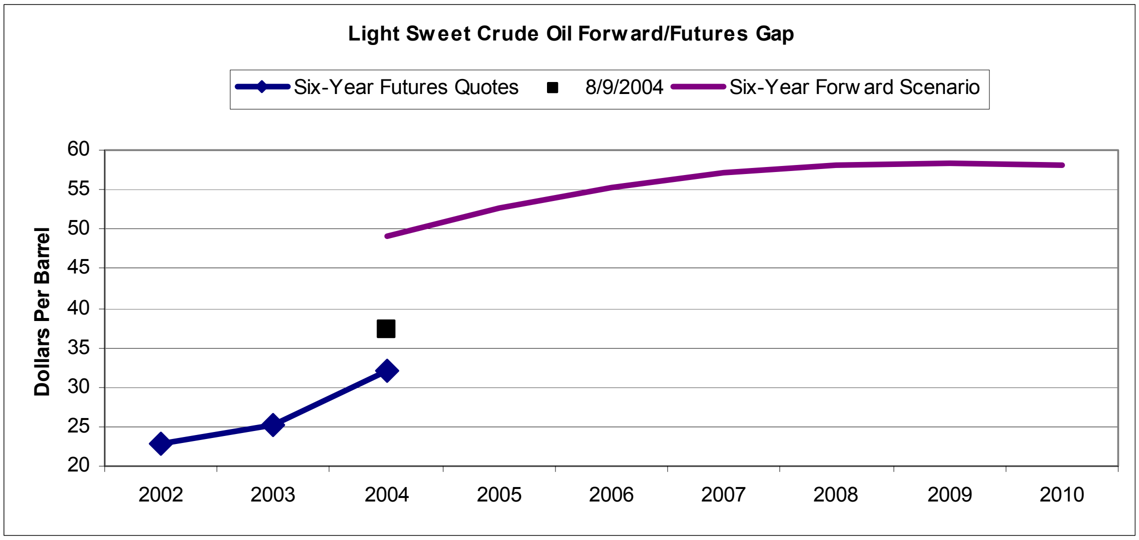
We continue a Buy rating on the common shares of **Petro-Canada (PCZ)** for the highest cash flow generation among Canada's integrated oil companies. Redeploying some of the cash flowing from its fountain the Calgary company spent US$840 million for 30% of the Buzzard field in the North Sea operated by **Encana (ECA)**. Then PCZ further shadowed Encana with the acquisition of a U.S. Rockies natural gas producer, Prima Energy, for about US$500 million. Both deals make sense in our opinion and we are optimistic about the prospects for investors to continue to make money in Petro-Canada stock.

Moderate Oil Price Scenario

The value of the company depends in large part on the future price of crude oil. Publicly traded in the commodity markets, futures contracts for delivery over the next six years continue in a steep uptrend. Whether the trend will slow for awhile we cannot know. Our scenario is that a move that began in the low $20 and is now in the mid $30 could reach $50 (see chart).

To construct the scenario we assumed oil would peak in 2010 at $50 in 2003 dollars. That is more moderate than the peak in early 1981 at more than $80 in 2003 dollars. Then we applied 3% per year inflation and calculated six-year averages to build a forward curve.

Economics support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply growth is limited as spare capacity has virtually disappeared. The largest producing fields in the Middle East are now mature. It will take time, large amounts of capital and a secure political climate to boost producing rates.



Monetary factors favor oil investment as interest rates below inflation drive investors to real assets for protection against the dollar losing value. If similar past periods are any guide, the authorities may not raise interest rates above inflation for the rest of the decade.

Environmental factors favor higher oil and gas price. Coal is still a quarter of world primary energy supply. Cleaner oil and gas are undervalued as long as we tolerate environmentally disadvantageous coal.

Political factors favor higher oil price in consuming countries and producing countries. Consuming governments often resort to artificial forces to hold down oil price that can appear to work temporarily. Military force could fall into that category though we would like to believe the objectives for deployment would be more worthy. Thirty years ago some of the same political leaders now directing military force directed price controls in a failed attempt to hold oil price artificially low.

In producing countries we have seen time and again that oil production goes down when international oil companies are not welcome. After Iran, Iraq and Venezuela, now Saudi Arabia appears vulnerable to political change that may bring about production decline.

Oil stock price can decline even if oil price remains firm. That happened in 1974 when economic activity and the stock market declined severely. It seemed to occur again in 2002 and we hope that is now behind us. Nonetheless the stock market may have begun a new moderate downward phase of its cycle. While oil stocks may not be entirely immune to surprise declines, we believe the fundamental outlook can carry the stocks higher over the next several years.

One-Year Futures Point to Higher Cash Flow and Profits

As our next twelve months (NTM) cash flow model moves ahead to the period ending June 30, 2005 expectations also advance mainly because of advancing one-year futures. We relate natural gas and oil price to the quotes for commodities traded on the New York Mercantile Exchange (see table Next Twelve Months Operating and Financial Estimates).

Petro-Canada
Next Twelve Months Operating and Financial Estimates
(Canadian Dollars)

	Q1 3/31/04	*Q2 6/30/03*	*Q3E 9/30/04*	*Q4E 12/31/04*	***Year 2004E***	*Q1E 3/31/05*	*Q2E 6/30/05*	***Next Twelve Months 6/30/05***
Volume								
Natural Gas (mmcfd)								
U.S. (or North America)	508	531	531	531	**527**	508	508	**520**
Overseas	174	131	131	131	**142**	174	174	**152**
Total	682	662	662	662	**669**	682	682	**672**
Oil (mmb)	23.7	22.1	22.4	22.4	**90.5**	21.9	22.1	**88.7**
Oil (mbd)	260	243	243	243	**247**	243	243	**243**
Total gas & oil (mmb)	34.0	32.2	32.5	32.5	**131.2**	32.1	32.5	**129.6**
Total gas & oil (mbd)	374	353	353	353	**359**	357	357	**355**
Price								
Natural gas ($/mcf)								
Henry Hub (US$/mmbtu)	5.64	6.10	5.74	6.28	**5.94**	6.88	6.13	**6.26**
Currency (US$/C$)	0.76	0.74	0.76	0.76	**0.76**	0.76	0.76	**0.76**
Henry Hub (C$/mmbtu)	7.43	8.29	7.51	8.22	**7.86**	9.01	8.03	**8.19**
U.S. (or North America)	6.46	6.91	6.27	6.86	**6.62**	7.51	6.70	**6.82**
Overseas	5.26	5.19	5.84	5.94	**5.54**	5.71	5.53	**5.74**
Total	6.15	6.57	6.18	6.68	**6.39**	7.05	6.40	**6.58**
Oil ($/bbl)								
WTI Cushing (US$/bbl)	35.23	38.34	43.19	43.93	**40.17**	42.25	40.88	**42.56**
WTI Cushing (C$/bbl)	46.41	52.09	56.55	57.52	**53.14**	55.32	53.53	**55.73**
Worldwide	41.17	46.46	50.43	51.29	**47.25**	49.34	47.74	**49.71**
Total gas & oil ($/bbl)	37.43	42.33	44.10	45.58	**42.30**	44.31	42.07	**44.01**
NY Harbor 3-2-1 ($/bbl)	6.98	11.45	8.04	6.98	**8.36**	7.83	7.78	**7.66**
Revenue ($mm)								
Natural Gas								
U.S. (or North America)	299	334	306	335	**1,274**	343	310	**1,294**
Overseas	83	62	70	72	**287**	89	88	**319**
Total	382	396	376	407	**1,561**	433	397	**1,613**
Oil	974	1,027	1,127	1,147	**4,275**	1,079	1,056	**4,409**
Downstream	2,134	2,335	2,335	2,335	**9,139**	2,335	2,335	**9,340**
Other	(17)	(193)		-	**(210)**	-		**-**
Total	3,473	3,565	3,839	3,888	**14,765**	3,847	3,788	**15,362**
Expense								
Upstream	342	442	455	462	**1,701**	456	447	**1,820**
Downstream	1,933	2,124	2,124	2,138	**8,321**	2,126	2,127	**8,516**
Other	(17)	(193)			**(210)**			**-**
Total	2,258	2,374	2,579	2,601	**9,812**	2,582	2,574	**10,337**
Ebitda ($mm)								
Upstream	1,014	981	1,049	1,091	**4,135**	1,056	1,006	**4,202**
Downstream	201	211	211	197	**818**	209	208	**824**
Total	1,215	1,191	1,260	1,288	**4,953**	1,264	1,214	**5,025**
Exploration	45	65	65	65	**240**	65	65	**260**
Deprec., Deplet., & Amort.								
Upstream	288	274	274	274	**1,110**	274	274	**1,096**
Downstream	67	69	69	69	**274**	69	69	**276**
Total	355	343	343	343	**1,384**	343	343	**1,372**
Ebit	815	783	852	880	**3,329**	856	806	**3,393**
Interest	37	38	38	38	**151**	38	38	**152**
Ebt	778	745	814	842	**3,178**	818	768	**3,241**
Income Tax	272	261	285	295	**1,112**	286	269	**1,135**
Net Income ($mm)								
Upstream	462	355						
Downstream	87	92						
Other	(44)	37						
Total	505	484	529	547	**2,066**	532	499	**2,107**
Shares (millions)	266	266	266	266	**266**	266	266	**266**
Per share ($)	1.90	1.82	1.99	2.06	**7.76**	2.00	1.87	**7.91**
Ebitda Margin (E&P)	80%	72%	73%	74%	**75%**	74%	74%	**74%**
Tax Rate	35%	35%	35%	35%	**35%**	35%	35%	**35%**

Please see disclosures on the final page.

Investors who want calendar year estimates can find 2004 in the table. For 2005 we suggest using the next twelve months as a rough estimate. Estimates can change frequently along with oil markets.

Present Value at Real Price and Real Return

NTM estimates determine to a large extent the first year of projected cash flow that we discount to present value (see table Present Value of Oil and Gas Reserves). The calculation is set up on the basis of one barrel equivalent of reported proven reserves, 0.77 barrel developed and 0.23 barrel undeveloped. As a result, total present value, the number in the box, is also present value per barrel of proven reserves.

Petro-Canada
Present Value of Oil and Gas Reserves
(U.S. dollars)

Volume Decline (%/yr):	13	Nymex Oil Price Post 2005 ($/bbl)	35
Volume Enhancement (%/yr):	5	Real Discount Rate (%/yr):	7.0
Capex/Cash Flow (%):	6	Variable Cost (%):	21

Year	Basic (bbl)	Volume Enhanced (bbl)	Total (bbl)	Price ($/bbl)	Revenue ($)	Fixed Cost ($)	Var. Cost ($)	Cash Flow ($)	Cap Ex ($)	Free CF ($)	Disc Factor	Present Value ($)
Total 2005 through 2024; years ending on 6/30												
	0.771	0.229	1.000	31.49	31.49	2.99	6.61	21.88	0.89	20.99	0.71	$\boxed{15.00}$
2005	0.115	0.000	0.115	33.59	3.88	0.20	0.81	2.87	0.17	2.69	0.97	2.60
2006	0.100	0.007	0.107	31.22	3.34	0.20	0.70	2.44	0.15	2.29	0.90	2.07
2007	0.087	0.012	0.099	31.22	3.10	0.20	0.65	2.25	0.13	2.11	0.84	1.78
2008	0.076	0.016	0.092	31.22	2.87	0.20	0.60	2.07	0.12	1.94	0.79	1.53
2009	0.066	0.020	0.085	31.22	2.66	0.20	0.56	1.90	0.11	1.79	0.74	1.32
2010	0.057	0.022	0.079	31.22	2.47	0.20	0.52	1.75	0.10	1.64	0.69	1.13
2011	0.049	0.024	0.073	31.22	2.29	0.20	0.48	1.61	0.10	1.51	0.64	0.97
2012	0.043	0.025	0.068	31.22	2.12	0.20	0.44	1.47	0.00	1.47	0.60	0.89
2013	0.037	0.022	0.059	31.22	1.84	0.20	0.39	1.25	0.00	1.25	0.56	0.71
2014	0.032	0.019	0.051	31.22	1.60	0.20	0.34	1.06	0.00	1.06	0.53	0.56
2015	0.028	0.016	0.044	31.22	1.39	0.20	0.29	0.90	0.00	0.90	0.49	0.44
2016	0.024	0.014	0.039	31.22	1.20	0.20	0.25	0.75	0.00	0.75	0.46	0.35
2017	0.021	0.012	0.033	31.22	1.04	0.20	0.22	0.63	0.00	0.63	0.43	0.27
2018	0.018	0.011	0.029	31.22	0.91	0.20	0.19	0.52	0.00	0.52	0.40	0.21
2019	0.016	0.009	0.025	31.22	0.79	0.20	0.17	0.42	0.00	0.42	0.37	0.16

While there are many assumptions that could be discussed, discount rate and oil price are especially important. Price escalation and discount rate interact. In this case we make the simplification of dealing in constant dollars. That assumes price escalation, cost escalation and discount rate are all net of inflation.

On discount rate we presume that earning a 5% real return per year on an unlevered basis is a decent achievement. That compares to the 2% real return per year offered by U.S. Treasury Inflation Protected Securities. For good measure we bump that up to 7%.

While first year oil price is from the futures market we hold it constant at an arbitrary level thereafter. The assumed price listed in the upper right hand corner is the commonly quoted benchmark Light, Sweet Crude.

Present Value per Barrel Leads to Present Value per Share

We illustrate the calculation of Net Present Value (NPV) in a sensitivity table where each column is headed by a different oil price (see table Net Present Value Calculation). The price of $35 a barrel corresponds to our standardized present value of $68 a share.

Reported reserves that we use in the calculation understate likely future volumes. Contrary to our projection of volume decline in calculating the value of proven reserves, the company historically has added new reserves and slowed decline. Petro-Canada reports a moderate 23% of reserves as undeveloped after we add to last years disclosures 120 billion cubic feet of developed reserves for the Prima acquisition and 150 million barrels of undeveloped reserves for the Buzzard acquisition.

Present value per barrel multiplied by barrels of proven reserves tends to understate value more for companies with a shorter reserve life. We see that in a strong correlation of enterprise value with NTM cash flow and adjusted reserve life. We highlight the amount of the understatement as short life uplift that amounts to about a ninth of reserve value in the standard case.

We know from experience that some well-run short-life companies have outperformed their longer-life peers even though the longer-life stocks were more asset rich. It is indisputable that short-life companies generate current cash flow at a higher rate relative to resource value. With more cash to reinvest, the short life company becomes more sensitive to return on that reinvestment. In Petro-Canada's case we can see that chief executive officer Mr. Ron Brenneman has reinvested successfully for shareholders since he arrived in 2000 after a long career at **Imperial Oil (IMO)** and parent **ExxonMobil (XOM)**.

Kurt H. Wulff, CFA

Petro-Canada
Net Present Value Calculation
(U.S. dollars)

Constant Oil Price ($/bbl):	30	35	40	50
Present Value per Barrel ($):	13.00	15.00	17.00	21.00
Oil and Gas Reserves (million barrels equivalent):	1,045	1,045	1,045	1,045
Present Value of Oil and Gas Reserves ($mm):	13,600	15,700	17,800	22,000
Short Life Uplift	2,000	2,000	2,000	2,000
Present Value of Other Businesses ($mm):	3,400	3,400	3,400	3,400
Total	19,000	21,100	23,200	27,400
Debt ($mm):	2,900	2,900	2,900	2,900
Present Value of Equity ($mm):	16,100	18,200	20,300	24,500
Shares (mm):	266	266	266	266
Net Present Value ($/sh):	60	68	76	92

Research Methodology/Ratings Description: McDep Associates is an independent research originator focused on oil and gas stocks exclusively. The firm applies the thirty years of experience of its analyst to estimate a present value of the oil and gas resources and other businesses of covered companies. That value is compared with a company's stock market capitalization and debt. Stocks with low market cap and debt relative to present value tend to outperform stocks with high market cap and debt relative to present value. Buy recommendations are expected to deliver a total return better than 7% per year above inflation. Hold recommendations assume the attributes of the underlying business are reflected in the current price of the stock. Sell recommendations are expected to deliver a negative total return less than 7% per year including the effects of inflation.

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