Rating: Buy
S&P 500: 1098

Unocal Corporation
Asian Natural Gas and Oil

Symbol	UCL	*Ebitda Next Twelve Months ending 6/30/05 (US$mm)*	3,400
Rating	Buy	*North American Natural Gas/Ebitda (%)*	24
Price (US$/sh)	37.33	*Natural Gas and Oil Production/Ebitda (%)*	100
Pricing Date	8/16/04	*Adjusted Reserves/Production NTM*	9.0
Shares (mm)	278	*EV/Ebitda*	4.5
Market Capitalization (US$mm)	10,400	*PV/Ebitda*	5.9
Debt (US$mm)	4,900	*Undeveloped Reserves (%)*	50
Enterprise Value (EV) (US$mm)	15,300	*Natural Gas and Oil Ebitda (US$/boe)*	23.00
Present Value (PV) (US$mm)	19,900	*Present Value Proven Reserves(US$/boe)*	11.30
Net Present Value (US$/share)	54	*Present Value Proven Reserves(US$/mcfe)*	1.88
Debt/Present Value	0.25	*Earnings Next Twelve Months (US$/sh)*	4.32
McDep Ratio - EV/PV	0.77	*Price/Earnings Next Twelve Months*	9
Dividend Yield (%/year)	2.1	*Indicated Annual Dividend (US$/sh)*	0.80

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

Summary and Recommendation

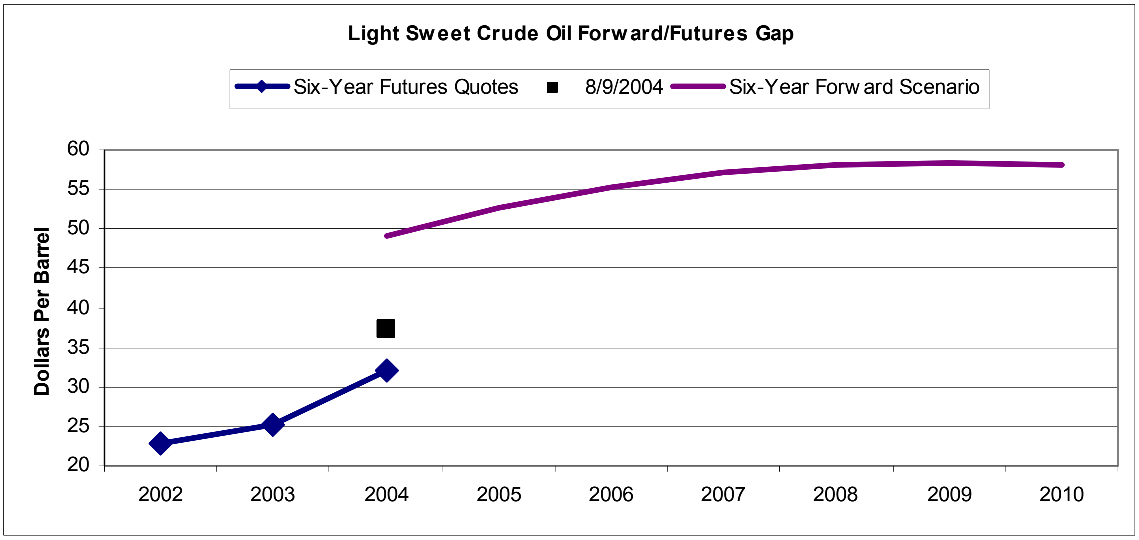
We continue a Buy rating on the common shares of **Unocal Corporation (UCL)** for natural gas and oil production growth in Asia, including Thailand, Indonesia, Bangladesh and Azerbaijan. Revenue is responding more slowly to higher world energy price, but cash margins are high and present value appears attractive. Transparent disclosures highlight the difficulties along with the opportunities in oil and gas exploration and production. New volumes are expected from Asia and the deep water Gulf of Mexico.

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 upper $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.

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.

Too much of a gain in oil price might cause problems of economic adjustment though we think much of the concern expressed is exaggerated. Nonetheless we have a threshold of 60% gain in monthly price compared to a year earlier when we start to become concerned about weak demand for oil. October futures currently under $47 a barrel would have to remain above $52 for the 60% threshold to be breached.

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).

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Next Twelve Months Operating and Financial Estimates

	Q1 3/31/04	*Q2 6/30/04*	*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)								**-**
North America	599	594	594	594	**595**	594	594	**594**
Overseas	909	921	921	921	**918**	921	921	**921**
Total	1,508	1,515	1,515	1,515	**1,513**	1,515	1,515	**1,515**
Oil (mbd)	158	151	151	151	**153**	151	151	**151**
Total gas & oil (mmb)	37	37	37	37	**148**	36	37	**147**
Total gas & oil (mbd)	409	404	404	404	**405**	404	404	**404**
Price								
Natural gas ($/mcf)								
Henry Hub ($/mmbtu)	5.64	6.10	5.62	6.06	**5.85**	6.75	5.98	**6.10**
North America	5.09	4.88	4.50	4.85	**4.83**	5.40	4.79	**4.88**
Overseas	3.00	3.04	3.50	3.58	**3.28**	3.46	3.35	**3.47**
Total	3.83	3.76	3.89	4.08	**3.89**	4.22	3.91	**4.03**
Oil ($/bbl)								
WTI Cushing	35.23	38.34	44.17	45.25	**40.74**	43.66	42.29	**43.84**
Worldwide	31.64	34.44	39.67	40.64	**36.56**	39.22	37.98	**39.38**
Total gas & oil ($/bbl)	26.32	27.00	29.45	30.52	**28.33**	30.53	28.91	**29.85**
Revenue ($mm)								
Natural Gas								
North America	277	264	246	265	**1,052**	289	259	**1,058**
Overseas	248	255	297	304	**1,103**	287	281	**1,168**
Total	526	518	542	569	**2,155**	576	539	**2,226**
Oil	455	473	551	565	**2,044**	533	522	**2,171**
Other	911	988	988	988	**3,877**	988	988	**3,954**
Total	1,892	1,980	2,082	2,122	**8,075**	2,097	2,050	**8,350**
Expense								
Natural Gas and Oil	250	241	253	258	**1,001**	255	249	**1,015**
Other	911	988	988	988	**3,877**	988	988	**3,954**
Total	1,161	1,229	1,242	1,246	**4,878**	1,243	1,238	**4,969**
Ebitda ($mm)	731	751	840	875	**3,197**	854	812	**3,381**
Exploration	80	97	97	97	**371**	97	97	**388**
Deprec., Deplet., & Amort.	232	240	240	240	**952**	240	240	**960**
Interest	41	46	46	46	**179**	46	46	**184**
Ebt	378	368	457	492	**1,695**	471	429	**1,849**
Income tax	132	129	160	172	**593**	165	150	**647**
Net Income ($mm)	246	239	297	320	**1,102**	306	279	**1,202**
Per share ($)	0.89	0.86	1.07	1.15	**3.97**	1.10	1.00	**4.32**
Shares (millions)	276	278	278	278	**278**	278	278	**278**
Ebitda margin (E&P)	75%	76%	77%	77%	**76%**	77%	76%	**77%**
Tax rate - current	35%	35%	35%	35%	**35%**	35%	35%	**35%**

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 a barrel of proven reserves, 0.50 developed and 0.50 undeveloped.

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.

Unocal
Present Value of Oil and Gas Reserves

Volume Decline (%/yr):	16	Nymex Oil Price Post 2005 ($/bbl)	35
Volume Enhancement (%/yr):	15	Price/Nymex Post 2005 (%):	78
Variable Cost (%):	15	Real Discount Rate (%/yr):	7.0
Capex/Cash Flow (%):	20		

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												
	0.500	0.500	1.000	27.35	27.35	4.02	4.10	19.23	2.37	16.86	0.67	$\boxed{11.30}$
2005	0.083	0.000	0.083	29.85	2.48	0.20	0.37	1.91	0.38	1.53	0.97	1.48
2006	0.070	0.013	0.082	27.13	2.24	0.20	0.34	1.70	0.34	1.36	0.90	1.23
2007	0.058	0.023	0.082	27.13	2.22	0.20	0.33	1.68	0.34	1.35	0.84	1.14
2008	0.049	0.032	0.081	27.13	2.19	0.20	0.33	1.66	0.33	1.33	0.79	1.05
2009	0.041	0.039	0.080	27.13	2.17	0.20	0.33	1.65	0.33	1.32	0.74	0.97
2010	0.034	0.045	0.079	27.13	2.15	0.20	0.32	1.63	0.33	1.30	0.69	0.90
2011	0.029	0.050	0.079	27.13	2.13	0.20	0.32	1.61	0.32	1.29	0.64	0.83
2012	0.024	0.054	0.078	27.13	2.11	0.20	0.32	1.60	0.00	1.60	0.60	0.96
2013	0.020	0.045	0.065	27.13	1.77	0.20	0.27	1.31	0.00	1.31	0.56	0.73
2014	0.017	0.038	0.055	27.13	1.49	0.20	0.22	1.06	0.00	1.06	0.53	0.56
2015	0.014	0.032	0.046	27.13	1.25	0.20	0.19	0.86	0.00	0.86	0.49	0.42
2016	0.012	0.027	0.039	27.13	1.04	0.20	0.16	0.69	0.00	0.69	0.46	0.32
2017	0.010	0.022	0.032	27.13	0.88	0.20	0.13	0.54	0.00	0.54	0.43	0.23
2018	0.008	0.019	0.027	27.13	0.73	0.20	0.11	0.42	0.00	0.42	0.40	0.17
2019	0.007	0.016	0.023	27.13	0.62	0.20	0.09	0.32	0.00	0.32	0.37	0.12
2020	0.006	0.013	0.019	27.13	0.52	0.20	0.08	0.24	0.00	0.24	0.35	0.08
2021	0.005	0.011	0.016	27.13	0.43	0.20	0.06	0.17	0.00	0.17	0.33	0.05
2022	0.004	0.009	0.013	27.13	0.36	0.20	0.05	0.11	0.00	0.11	0.31	0.03
2023	0.003	0.008	0.011	27.13	0.30	0.20	0.05	0.06	0.00	0.06	0.29	0.02
2024	0.003	0.006	0.009	27.13	0.26	0.20	0.04	0.02	0.00	0.02	0.27	0.00

For discount rate we use a 7% real return per year on an unlevered basis. That means a buyer who pays present value would earn 7% per year above inflation if all the projections were to materialize as stated.

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. A price of $35 a barrel leads to present value of future cash flow from a barrel of reserves equal to $11.30 (see box in right hand column).

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). Oil price corresponds to present value per barrel which then leads step by step to the final result. The price of $35 a barrel corresponds to our standardized present value of $54 a share. In reverse fashion, for a present value of $37, the current stock price, the corresponding constant real oil price would be $27.

Unocal
Net Present Value Calculation

Constant Oil Price ($/bbl):	27	35	40	50
Present Value per Barrel ($):	8.60	11.30	13.00	16.30
Oil and Gas reserves (million barrels equivalent):	1,759	1,759	1,759	1,759
Present Value of Oil and Gas Reserves ($mm):	15,100	19,900	22,900	28,700
Debt ($mm):	4,900	4,900	4,900	4,900
Present Value of Equity ($mm):	10,200	15,000	18,000	23,800
Shares (mm):	278	278	278	278
Net Present Value ($/sh):	37	54	65	86

A Struggle May Be Rewarded

Unocal is a real-life example of an integrated oil company that remade itself as a nearly pure exploration and production company. Its strategy in its new form has been to grow by reinvesting cash flow in finding and developing new reserves. In the current vernacular it has grown organically by the drill bit rather than by acquisitions.

The company has proved that oil and gas exploration and production is not an easy business. A management incentive program was once set up to reward performance without counting commodity price gains. The rewards went uncollected as we recall.

Now commodity price gains appear to be unfolding. It seems fitting that companies that have struggled under low prices should now gain with more realistic economic recognition for their vital product.

Kurt H. Wulff, CFA

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