Rating: Buy
S&P 500: 1175

Unocal Corporation
Incremental Production in 2005

Symbol	UCL	*Ebitda Next Twelve Months ending 12/31/05 (US$mm)*	3,800
Rating	Buy	*North American Natural Gas/Ebitda (%)*	27
Price (US$/sh)	42.98	*Natural Gas and Oil Production/Ebitda (%)*	100
Pricing Date	11/16/04	*Adjusted Reserves/Production NTM*	8.9
Shares (mm)	274	*EV/Ebitda*	4.4
Market Capitalization (US$mm)	11,800	*PV/Ebitda*	5.2
Debt (US$mm)	4,700	*Undeveloped Reserves (%)*	50
Enterprise Value (EV) (US$mm)	16,500	*Natural Gas and Oil Ebitda (US$/boe)*	25.40
Present Value (PV) (US$mm)	19,600	*Present Value Proven Reserves(US$/boe)*	11.10
Net Present Value (US$/share)	54	*Present Value Proven Reserves(US$/mcfe)*	1.85
Debt/Present Value	0.24	*Earnings Next Twelve Months (US$/sh)*	4.69
McDep Ratio - EV/PV	0.85	*Price/Earnings Next Twelve Months*	9
Dividend Yield (%/year)	1.9	*Indicated Annual Dividend (US$/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 global natural gas and oil value with likely production growth in 2005. Projects in Bangladesh, Thailand, Azerbaijan and the Gulf of Mexico promise new volumes equivalent to 16% of current production before allowing for normal decline. Revenue is lagging higher world energy price, but cash margins are high and present value appears attractive. We see potential appreciation to present value of $54 a share. Oil price is a risk, but also may be a long-term opportunity.

Global Natural Gas Producer

The company's natural gas resources may be worth slightly more than the company's oil resources (see table Functional Cash Flow and Present Value). Similarly, North American natural gas resources may be worth slightly more than the company's overseas natural gas.

The adjusted reserve life of 9.5 years for overseas natural gas counts would be a longer 13.4 years before adjustment. Undeveloped reserves account for 58% of the overseas total. Our adjustment counts undeveloped reserves at half the weight of developed reserves because the development investment has not yet been made.

Overall adjusted reserve life at 8.9 years is shorter than the median for peer companies. As a result Unocal's Present Value multiple (PV/Ebitda) is also lower than the median.

Unocal
Functional Cash Flow and Present Value

	NTM Ebitda (US$mm)	*Adjusted R/P*	*PV/ Ebitda*	*Present Value (US$mm)*	
North American Natural Gas	1,025	8.3	5.0	5,100	26%
Overseas Natural Gas	906	9.5	5.4	4,900	25%
Oil	1,843	8.7	5.1	9,500	49%
	3,775	8.9	5.2	19,500	100%
Debt (US$mm)					4,700
Net Present Value (US$mm)					14,800
Shares (mm)					274
Net Present Value (US$/sh)					54

New Projects May Increase Total Volume

Incremental volume from four geographic areas may be 16% of current volume by the fourth quarter of 2005 (see table Expected Incremental Production). Considering that Unocal's reserve life on a proved developed basis is 6.0 years, current volume declines by perhaps one-sixth each year before reinvestment. Because Unocal regularly reinvests across most of its properties, base volume should decline by less than 16%. The major projects should indeed contribute to an increase in total volume. Management earlier in 2004 suggested a 9% increase in total production in 2005.

Expected Incremental Production
Fourth Quarter 2005
(thousand barrels equivalent daily)

Bangladesh	20
Azerbaijan	18
Thailand	15
Gulf of Mexico	11
Total Increment	64
Current Production	407
Increment/Current	16%

Commodity price drives further gains in cash flow in our model (see table Next Twelve Months Operating and Financial Estimates). We hold volume constant in our projection expecting to be favorably surprised if the incremental volume in 2005 exceeds decline from the existing base.

Overseas natural gas price is a mysterious variable. Unocal discloses historical realizations, but holds information about future price confidential. That seems to be the case for much of the overseas natural gas business where long-term contracts are usually secured at the same time development commitments are made. We project only modest gains in overseas natural gas price in the next few quarters, but need to see more eventually to justify normal valuation.

Unocal
Next Twelve Months Operating and Financial Estimates

	Q1 3/31/04	*Q2 6/30/04*	*Q3 9/30/04*	*Q4E 12/31/04*	***Year 2004E***	*Q1E 3/31/05*	*Q2E 6/30/05*	*Q3E 9/30/05*	*Q4E 12/31/05*	***Next Twelve Months 12/31/05***
Volume										
Natural Gas (mmcfd)										
North America	599	594	569	569	**583**	569	569	569	569	**569**
Overseas	909	921	942	942	**929**	942	942	942	942	**942**
Total	1,508	1,515	1,511	1,511	**1,511**	1,511	1,511	1,511	1,511	**1,511**
Oil (mbd)	158	151	155	155	**155**	155	155	155	155	**155**
Total gas & oil (mmb)	37	37	37	37	**149**	37	37	37	37	**148**
Total gas & oil (mbd)	409	404	407	407	**406**	407	407	407	407	**407**
Price										
Natural gas ($/mcf)										
Henry Hub ($/mmbtu)	5.64	6.10	5.75	6.97	**6.12**	7.99	6.79	6.80	7.07	**7.16**
North America	5.09	4.88	5.23	6.34	**5.38**	7.26	6.18	6.18	6.43	**6.51**
Overseas	3.00	3.04	3.14	3.24	**3.11**	3.34	3.44	3.54	3.64	**3.50**
Total	3.83	3.76	3.93	4.41	**3.98**	4.82	4.47	4.54	4.69	**4.63**
Oil ($/bbl)										
WTI Cushing	35.23	38.34	43.89	49.36	**41.71**	46.96	46.24	45.10	44.02	**45.58**
Worldwide	31.64	34.55	41.87	47.09	**38.81**	44.80	44.10	43.02	41.99	**43.47**
Total gas & oil ($/bbl)	26.32	27.05	30.54	34.31	**29.57**	34.96	33.41	33.23	33.42	**33.75**
Revenue ($mm)										
Natural Gas										
North America	277	264	274	332	**1,147**	372	320	323	336	**1,351**
Overseas	248	255	273	281	**1,056**	284	295	307	316	**1,202**
Total	526	518	546	613	**2,203**	655	615	631	652	**2,553**
Oil	455	475	596	670	**2,196**	624	621	612	598	**2,455**
Other	911	987	851	851	**3,600**	851	851	851	851	**3,403**
Total	1,892	1,980	1,993	2,134	**7,999**	2,130	2,087	2,094	2,101	**8,411**
Expense										
Natural Gas and Oil	259	200	278	312	**1,049**	311	306	307	309	**1,233**
Other	911	987	851	851	**3,600**	851	851	851	851	**3,403**
Total	1,170	1,187	1,128	1,163	**4,649**	1,162	1,157	1,158	1,159	**4,636**
Ebitda ($mm)	722	793	865	971	**3,350**	968	930	936	941	**3,775**
Exploration	80	97	91	141	**409**	141	141	141	191	**614**
Deprec., Deplet., & Amort.	232	240	248	248	**968**	248	248	248	248	**992**
Hedging	(9)	42	26	44	**103**	11	4	4	30	**50**
Interest	41	46	40	40	**167**	40	40	40	40	**160**
Ebt	378	368	460	498	**1,704**	539	501	507	432	**1,978**
Income tax	132	129	161	174	**596**	189	175	177	151	**692**
Net Income ($mm)	246	239	299	324	**1,108**	350	326	329	281	**1,286**
Per share ($)	0.89	0.86	1.09	1.18	**4.02**	1.28	1.19	1.20	1.02	**4.69**
Shares (millions)	276	278	274	274	**275**	274	274	274	274	**274**
Ebitda margin (E&P)	74%	80%	76%	76%	**76%**	76%	75%	75%	75%	**75%**
Tax rate - current	35%	35%	35%	35%	**35%**	35%	35%	35%	35%	**35%**

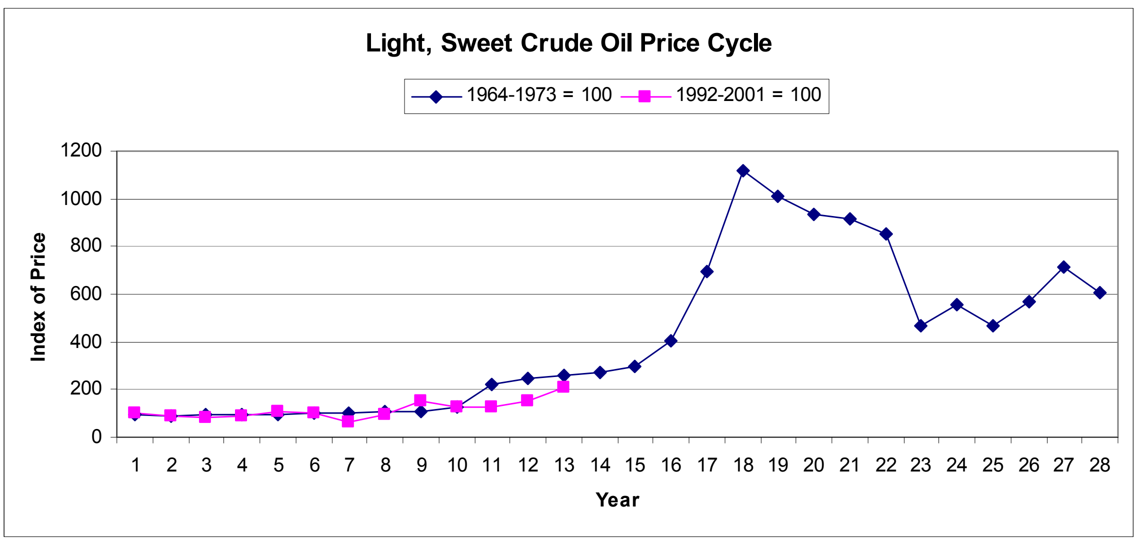
Investors' greatest concern may be the sustainability of the current level of oil price. Energy consumers and energy investors should, in our opinion, take recent oil price action as a sign of a long term change to higher price. Recent softening of oil price is welcome relief for the economy while we adjust to the price increases that have occurred and prepare for those that may occur in the future.

Oil Price Move Possibly Just Starting

To offset any inclination to underestimate further potential for oil and gas price, 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. After quiescence, oil price started moving up in each case. We may be in the early stages of a new historic move (see chart Light, Sweet Crude Oil Price Cycle).

Frankly, few investors would give much weight to the likelihood of continued oil price strength. Contrast that with the growing chorus for a weaker dollar. It may just be that oil price is not high, but the real value of the dollar is low. That, too, is a parallel to historical experience.

Let us imagine how the cycle might unfold. By the way we chose to draw the chart Year 13 corresponds to 1976 and 2004. Once the move got going in the previous cycle, the annual average oil price did not decline until Year 19 (1982). The annual peak of 1100, or 11 times the first ten year average, was too high to be sustained. It might be less disruptive economically if the peak ahead of us were lower and the decline shallower. The end point in Year 28 at 600 implies a tripling over the next 15 years. If higher oil price unfolded gradually it would give everyone time to adjust.



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