Rating: Buy
S&P 500: 1094

Unocal Corporation
Undeveloped Reserves in Developing Countries

Symbol	UCL	*Ebitda Next Twelve Months ending 3/31/05 (US$mm)*	3,400
Rating	Buy	*North American Natural Gas/Ebitda (%)*	29
Price (US$/sh)	35.03	*Natural Gas and Oil Production/Ebitda (%)*	100
Pricing Date	5/21/04	*Adjusted Reserves/Production NTM*	8.8
Shares (mm)	276	*EV/Ebitda*	4.4
Market Capitalization (US$mm)	9,700	*PV/Ebitda*	5.9
Debt (US$mm)	5,100	*Undeveloped Reserves (%)*	50
Enterprise Value (EV) (US$mm)	14,800	*Natural Gas and Oil Ebitda (US$/boe)*	22.50
Present Value (PV) (US$mm)	20,000	*Present Value Proven Reserves(US$/boe)*	11.37
Net Present Value (US$/share)	54	*Present Value Proven Reserves(US$/mcfe)*	1.89
Debt/Present Value	0.26	*Earnings Next Twelve Months (US$/sh)*	4.61
McDep Ratio - EV/PV	0.74	*Price/Earnings Next Twelve Months*	8
Dividend Yield (%/year)	2.3	*Indicated Annual Dividend (US$/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

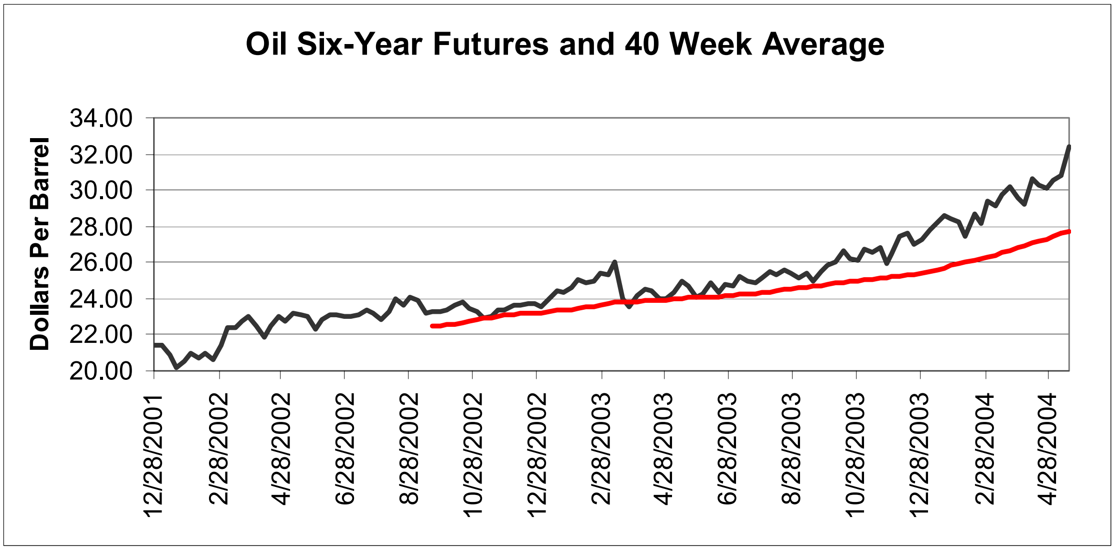
We initiate a "Buy" rating on the common shares of **Unocal Corporation (UCL)** for natural gas and oil production growth in Asia, including Thailand, Indonesia, Bangladesh and Azerbaijan. Much of that potential is reflected in a high percentage of proven reserves classified as undeveloped. Moreover natural gas price in Thailand may reflect higher world energy price only after a delay. At low commodity price until recently, the company has been less successful in North America, but has a backlog of deep water discoveries that are likely to be quite profitable looking ahead. We see possible appreciation in stock price of some 54% to reach our estimate of net present value. Undeveloped reserves in developing countries present a special set of risks along with the opportunity.

Oil Looks Up by the Charts, Fundamentals, Inflation and Security

Six-year futures describe the commodity price trends most relevant to estimating resource value. The longer time horizon better matches the period during which more of current resources will actually be produced. The longer term measure also smoothes the frantic near-month fluctuations and has the potential to keep climbing even if near-month quotes drop back temporarily.

The plots of weekly results since the beginning of 2002 trace a trend of six-year oil price rising 16% a year (see chart). We measure momentum with the 40-week moving average.
The charts look good as long as the current six-year quote remains above the trailing average.

Fundamental factors support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply is tight as the Middle East is showing maturity with the workhorse giant fields on the verge of peaking.



Monetary factors also favor oil investment as interest rates below inflation drive investors to real assets for protection against currency debasement. Compared to Treasury Inflation Protected Securities that we also favor, oil price is likely to rise more than the official government determined inflation measure.

There appears to be little of the cost of maintaining global security reflected in the price of oil. The U.S. military presence in the Middle East may be controversial today. Yet when the U.S. supported government in Iran fell at the end of the 1970s, the world experienced its highest energy prices ever.

At some point oil price could be too strong and economic activity would be adversely affected. Six times in the past thirty years the annual gain in monthly price exceeded 70% briefly. July futures near $40 a barrel for Light, Sweet Crude Oil would have to exceed $52 a barrel to trigger a 70% warning.

Volume, Price and Costs Translate to Attractive Cash Flow

Our process of estimating company-specific present value begins with an estimate of next twelve months cash flow. Current projections lead to a healthy level of unlevered cash flow, also known as Ebitda, short for earnings before interest, tax, depreciation and amortization (see table). We choose the next twelve months ending March 31, 2005 as the relevant time period.

For the next twelve months we project constant natural gas and oil volume at the first quarter 2004 level. That is sufficient for our valuation calculation. Management provides rich detail in conference calls, presentations and copious regulatory disclosures to put more color on a projection of growth for the rest of the decade.

We take the futures market at face value in projecting price for the next twelve months. Henry Hub quotes guide our projection of natural gas revenue. Light Sweet Crude quotes guide our projections of oil revenue. Because futures are constantly changing, our projection is adjusted accordingly. As a result, the specific amounts we project today may not be the amounts realized when the company next reports.

Unocal
Next Twelve Months Operating and Financial Estimates

	Q1 3/31/04	*Q2E 6/30/04*	*Q3E 9/30/04*	*Q4E 12/31/04*	***Year 2004E***	*Q1E 3/31/05*	***Next Twelve Months 3/31/05***
Volume							
Natural Gas (mmcfd)							**-**
North America	599	599	599	599	**599**	599	**599**
Overseas	909	909	909	909	**909**	909	**909**
Total	1,508	1,508	1,508	1,508	**1,508**	1,508	**1,508**
Oil (mbd)	158	158	158	158	**158**	158	**158**
Total gas & oil (bcf)	223	223	226	226	**899**	221	**896**
Price							**-**
Natural gas ($/mcf)							**-**
Henry Hub ($/mmbtu)	5.64	6.14	6.52	6.69	**6.25**	6.88	**6.55**
North America	5.09	5.54	5.88	6.03	**5.64**	6.21	**5.91**
Overseas	3.00	3.37	3.48	3.32	**3.29**	3.17	**3.34**
Total	3.83	4.23	4.44	4.40	**4.23**	4.38	**4.36**
Oil ($/bbl)							
WTI Cushing	35.23	39.60	40.90	39.00	**38.68**	37.26	**39.19**
Worldwide	31.64	35.57	36.74	35.03	**34.75**	33.47	**35.21**
Total gas & oil ($/mcf)	8.47	8.97	9.12	8.99	**8.89**	8.96	**9.01**
Revenue ($mm)							
Natural Gas							
North America	277	302	324	332	**1,236**	335	**1,293**
Overseas	248	279	291	278	**1,096**	260	**1,108**
Total	526	581	615	610	**2,332**	594	**2,400**
Oil	455	511	534	509	**2,010**	476	**2,031**
Other	911	911	911	911	**3,646**	911	**3,646**
Total	1,892	2,004	2,061	2,031	**7,987**	1,982	**8,077**
Expense							
Natural Gas and Oil	250	264	271	267	**1,051**	261	**1,063**
Other	911	911	911	911	**3,646**	911	**3,646**
Total	1,161	1,175	1,182	1,179	**4,697**	1,173	**4,709**
Ebitda ($mm)	731	828	879	852	**3,290**	809	**3,368**
Exploration	80	80	80	80	**320**	80	**320**
Deprec., Deplet., & Amort.	232	232	232	232	**928**	232	**928**
Interest	41	41	41	41	**164**	41	**164**
Ebt	378	475	526	499	**1,878**	456	**1,956**
Income tax	132	166	184	175	**657**	160	**685**
Net Income ($mm)	246	309	342	324	**1,221**	296	**1,271**
Per share ($)	0.89	1.12	1.24	1.18	**4.42**	1.07	**4.61**
Shares (millions)	276	276	276	276	**276**	276	**276**
Ebitda margin	39%	41%	43%	42%	**41%**	41%	**42%**
Tax rate - current	35%	35%	35%	35%	**35%**	35%	**35%**

Assess Present Value Multiple Depending on Reserve Life

The important variables in the valuation of future production are captured in base year cash flow and a multiple of that cash flow that depends on reserve life. Indeed investors do differentiate on that basis as reflected in a high correlation of unlevered cash flow multiple with adjusted reserve life. We convert the market relationship to a formula that produces an anticipatory value with somewhat more sensitivity to reserve life.

The adjusted reserve life index is the sum of developed and half undeveloped reserves divided by next twelve months production. When we last did an industry-wide upward revaluation on March 23, we estimated cash flow multiple equal to 2.5 plus 0.5 times reserve life. That approximates present value assuming constant commodity price near the one-year quotes at that time, about $35 a barrel for crude oil. Higher commodity prices since then imply higher cash flow and lower multiple by about 10%. Estimated present value provides a measure of appreciation potential should the market move toward that level as we expect.

Management Projects Growth Internationally

Overseas natural gas accounts for 37% and overseas oil 21% of next twelve months production that we project at a continuation of first quarter 2004 levels. Those volumes apparently could be a half higher in calendar 2007. In the U.S. it is a race between higher potential new discoveries under development and rapid decline in some existing properties.

Reported undeveloped reserves are 50%, mostly overseas. That high proportion points to high potential and has also attracted extra scrutiny in the wake of Shell's reduction of its estimates of proven undeveloped reserves. We have no reason to question Unocal's estimates. The company operates in areas with favorable prospects with even more potential than proven today.

Overseas natural gas is usually sold under long-term contracts whose pricing terms are not disclosed. We understand that the pricing eventually reflects the price of oil, though not immediately. The currently reported price for overseas natural gas is less than 60% of Unocal's reported North American price. For the delay and uncertainty as to when that price will rise we assess a lower multiple of cash flow in estimating present value.

Historical Trivia

Our past recommendations of Unocal stock may illustrate the potential and the risks today. From our first recommendation on May 7, 1979 the stock more than tripled in price until we deleted the recommendation in December 1980. Our second recommendation from January 3, 1984 to May 1985 scored a total return of 48%. Our third recommendation from July 23, 1985 to November 12, 1987 returned only the cumulative dividend of 9% over 2.3 years.

Along the way we urged the management to separate the refining/marketing business from exploration and production. While it has been a struggle for the streamlined company to earn much incremental return for shareholders the past several years, it is well positioned for the future.

Our experience with the company includes presenting shareholder proposals at annual meetings chaired by the late Mr. Fred Hartley. One of our proposals, to grant shareholders access to the company-circulated proxy statement, was too far ahead of its time. Only now is the Securities and Exchange Commission moving toward some implementation of that idea. Another proposal, to require confidential voting, did not get on the proxy statement. In response, Unocal voluntarily adopted the confidential procedures we recommended. Taken for granted today, that was a pioneer step in corporate governance necessary to pave the way for more shareholder participation.

Kurt H. Wulff, CFA

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 more than fully 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.