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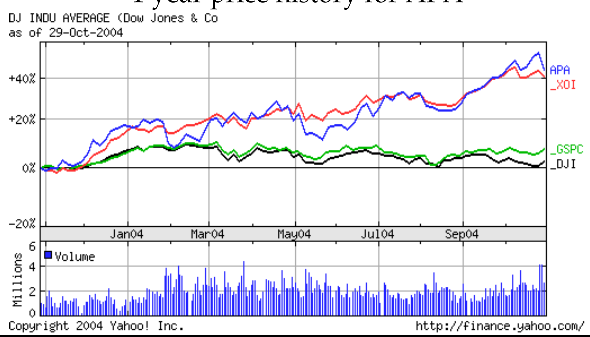
Crude Petroleum and Natural Gas E&P

Apache Corporation (APA, $57.96, BUY)

Fundamental Data:	
Share Price	$51.16
Market Capitalization	16.39bn
Target Price	$57.96
Upside to target price	13.3%
52 Wk. range	34.05 – 54.35
Shares Outstanding	326.47MM
P/E ratio	13.75
ROA (ttm)	10.07%
ROE (ttm)	19.32%
ROI (ttm)	10.81%

1 year price history for APA



HIGHLIGHTS:

Valuation: Initiating Apache's coverage as a **BUY** with a target price of $57.96.

Strong Operating Performance: Apache has consistently demonstrated superior performance both on the revenue and mainly on the cost side. We expect the company to outperform the industry benchmark in the next 12 months.

Strong Balance Sheet: Although Apache has performed substantial acquisitions in 2004, the company's leverage is still low (33% D/E ratio). We believe that the company will benefit from its A– ratings to finance profitable investment opportunities in 2005.

Valuation methods: Comparables and DCF analysis were used to predict Apache's stock price. We used WACC and APV analysis and in both cases we arrived at similar results.

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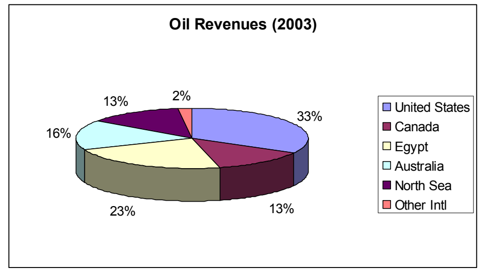
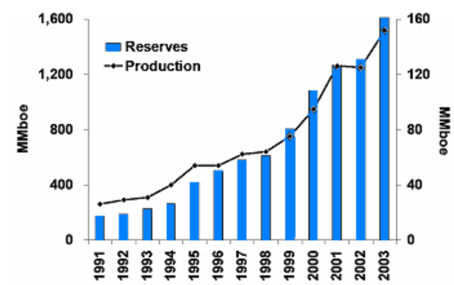
The Company

Incorporated in 1954, Apache Corporation is one of the largest independent oil and gas exploration and development companies with $12.5 billion in assets and with operations in many regions: United States, Canada, Egypt, Australia, United Kingdom (North Sea), China, and Argentina. Over its 50 years, Apache has grown through exploratory drilling and development activities as well as strategic acquisitions.[1] Compared to 2002, the company increased its overall reserves by 26%, which represents 1,660 million barrels of oil equivalent (MMBOE) of estimated proved reserves as of December 2003. Apache has 70% of its proved reserves located in the US and Canada. Other core geographic areas for E&P (exploration and production) are Egypt, the United Kingdom (North Sea), and Australia. From a geographical perspective, Apache has gradually diversified its reserves throughout the world and will continue to do so, according to management plans.



In 2003, oil production accounted for 214.5 thousand barrels of oil and natural gas liquids, and 1,217 million cubic feet (MMcf) of natural gas.



Production has been growing significantly in recent years. In 1998, Apache produced approximately 160 thousand barrels of oil equivalent per day (MBOE/day), whereas in 2003 the company produced over 417 thousand BOE per day (150 million BOE/year), which represents 260% increase in production over 6 years. In 2003, revenues from oil and gas production reached a record of $4.2 billion, 64% higher than in 2002,[2] mainly due to soaring oil prices.

Apache is one of the most efficient companies in the oil industry. The production cost averaged $5.67 per BOE in 2003. Given Apache's long history of efficient production and its strong balance sheet, we believe that Apache will maintain its strong performance in 2005.

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[1] Apache's website (http://www.apachecorp.com/about/)
[2] 10-K (12/31/2003)

Trends in the Oil Industry

Oil prices continue to remain high even though the Organization of Petroleum Exporting Countries (OPEC) crude oil production reached its highest levels in September since OPEC quotas were established in 1982. OPEC crude oil production reached 30 million barrels per day, largely because of increased Iraqi production. OPEC production capacity remains only about 0.5-1.0 million barrels per day above current OPEC crude oil production levels.

Overall oil inventories in the United States and the rest of the industrialized world remain below normal, largely because almost 500,000 barrels per day[3] of production were lost during the hurricanes in the Gulf of Mexico region. Industry officials estimate that resumption of normal operations could take between 45 and 90 days.[4] Below-normal oil inventories across the industrialized countries have contributed to concerns about the adequacy of supply to meet rapidly expanding global oil demand. As a result, average monthly prices are not likely to fall below $40 per barrel until the end of 2005.[5] World petroleum demand for 2004 has been revised upwards to 2.6 million barrels per day,[6] reflecting 3.3 percent growth over 2003. However, in 2005, growth in global oil demand is expected to slow to 2.6 percent as high world oil prices begin to slow the pace of world economic growth.

On the other hand, natural gas prices weakened in the last month as demand remained below normal. However, current and futures prices increased in the latter half of September in response to natural gas production losses in the Gulf of Mexico caused by Hurricane Ivan. The average spot price of natural gas for the month of September/2004 was $5.15 per thousand cubic feet (mcf). Prices are expected to average $6.10 per mcf in 2004 and $6.18 per mcf in 2005.[7]

The loss of natural gas production resulting from the Gulf hurricanes in September resuled in an estimated end-September/2004 level of working gas in storage of 3,065 billion cubic feet, about 1 percent below last month's projection, but still about 8 percent above the 5-year average . Spot prices are still expected to rise significantly once the heating season gets under way.

With continuing high rates of drilling for natural gas in North America, 2005 domestic production is projected to grow by 1.4 percent.[8] Steady, if modest, increases in liquefied natural gas imports, restrained

[3] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.
[4] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.
[5] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.
[6] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.
[7] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.
[8] Energy Information Administration (EIA) website (www.eia.doe.gov) – Press release Oct/2004.

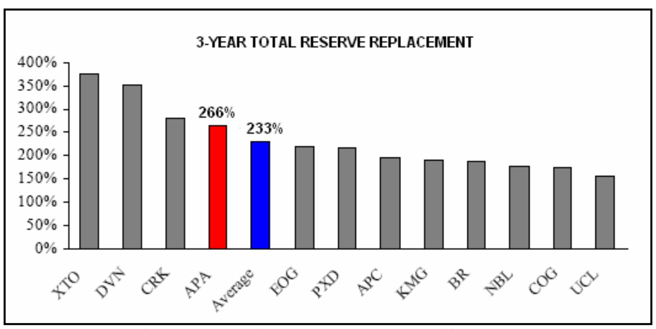
export growth, and carryover from the robust storage levels noted above are expected to contribute to moderate improvement in the supply picture through 2005.

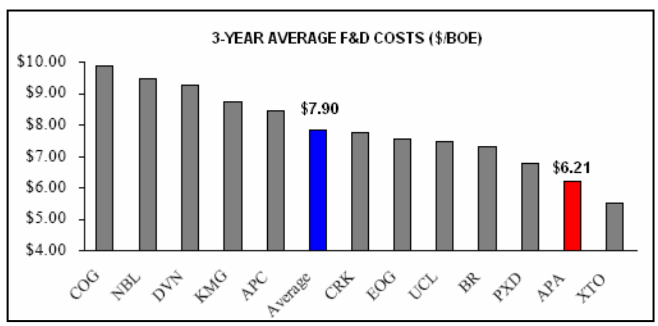
Outstanding Cost Structure

Apache has been one of the most successful independent E&P companies in recent years. The company has demonstrated strong operating performance in the last decade and has a well diversified product portfolio. We expect the company to continue to fund higher-growth international projects with strong cash flow generation domestically.

Finding and Development (F&D) costs and Reserve Replacement Ratio: These are key data in the oil industry, since the rate of production from oil and gas properties usually declines as reserves are depleted. Therefore, oil companies have to continuously search for properties with already proved reserves, or alternatively conduct E&D (exploration and development) activities to offset the gradual depletion caused by the current production at proved reserves.

For the last three years, Apache's finding and development costs have averaged $6.21 per barrel of oil equivalent (BOE), and it has replaced 266% of its reserves. We can see in the charts below that the company is indeed among the most efficient independent operators of oil and gas fields. With production costs averaging $5.67 per BOE in 2003, Apache clearly demonstrates that it is one step ahead of the competition.





Source: E&P Independents Oil & Gas Reserve Profile (1999-2004) – Oppenheimer & Co, Inc.

Acquisition Strategy: Apache's growth strategy involves acquiring producing properties and adding value through cost reductions, aggressive development drilling, and increased exploration activity. The recent acquisitions in the Gulf Coast region will enhance the company's production capacity, and will add significant drilling and operational enhancement opportunities in the years ahead given that they can be economically and easily integrated with Apache's current holdings in the Gulf. We believe that with its acquisitions strategy coupled with its strong cost structure, the company is well positioned to derive the benefits of new markets.

Company Prospects

Apache had an excellent year 2003 and year 2004 has not been different. We strongly believe that the company will outperform its peers within the 12-month time frame due to the following reasons:

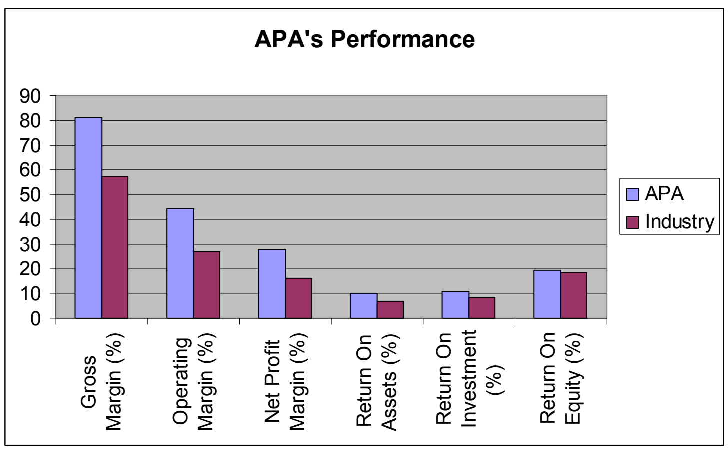
- Accretive Acquisitions: Management has been efficient on doing accretive acquisitions for below the average purchase metrics. The acquisitions occurred in this industry after April 1 averaged $11.42 BOE. Apache's acquisitions averaged $8.23 per BOE. We positively expect management to continue its strategic investments efficiently in order to maintain Apache's high ratio of replacement and production ratios already mentioned in this report.

- Strong Operating Performance: Apache has demonstrated a strong operating performance over the last decade, and we have no reason to believe that Apache will deviate from its positive path. With an average of 20% annualized revenue growth over the last decade and outstanding cost structure, Apache sets apart from its competitors and demonstrates that the company is ready for next year's mid-cycle oil prices. We expect that the combination of both accretive acquisitions and strong operating performance will lead Apache's revenue growth to outstanding 30% per year from 2005 to 2009.

- Proved developed reserves: Apache's reserve base has a high 71% of proved developed reserves, which is the lowest-risk classification of reserves. Additionally, Apache's proved undeveloped reserves are mainly in mature regions with readily available infrastructure. This implies that Apache will probably need a relatively low capital spending to fully exploit these non-producing reserves in the near future. Concerning its proved reserves, Apache has never been under investigation by SEC, and the company claims that it follows SEC rules, disclosing only proved reserves demonstrated by actual production or conclusive formation tests to be economically and legally producible under existing economic and operating conditions. In our DCF models, we assumed that CAPEX will increase to 55% of sales after 2005 due to aggressive exploration of new fields, and that COGS and SG&A expenditures will remain a constant percentage of sales – 18% and 8%, respectively – over the next five years.

- Exploration-driven production growth beginning to materialize: Apart from the acquisitions, production gains in North Sea (UK) and Egypt are over 10%. The recent exploratory discoveries in Egypt (Qsar and West Med) and Australia should contribute reasonably to growth in 2005 and 2006. The Qsar discovery is a giant by all measures and should be a key growth driver for Apache in Egypt starting in 2005. Additionally, Apache has initiated an aggressive drilling program in Canada. These developments position the company favorably to enhance its presence in the Australian, Canadian and Egyptian markets. Future production performance in the US will also tend to be higher insofar as platforms affected by hurricane Ivan will be working properly in a few months.

- High returns: Management's implementation of strong unit cost controls and low finding costs have been generated and will continue to generate one of the highest returns in the industry. Not only ROA, ROI, and ROE are above the industry's average but also all profitability ratios confirm the current level of firm's efficiency (see chart below).



- Financial Flexibility: Despite its recent acquisitions, Apache is not highly leveraged. We estimate that with the current 25% debt-to-capitalization ratio and strong cash flows generation from operating activities, Apache has enough room to finance strategic acquisitions in 2005. To build our models, we increased the debt-to-capitalization ratio to 30% (20% increase) in accordance with our projections for strong worldwide investments in the next five years. Unquestionably, Apache has a very strong balance sheet and will definitely benefit from that in its future investments. The A- rating offers the company cheaper credit for future investments.

- International Operations: Based on the management views, which are fully aligned with Apache's past performance, we expect that in 2005 Apache will continue to invest in new international acquisitions. Apache expects to achieve peak production levels in China and the North Sea (operations started late 2003, early 2004 respectively). These operations are expected to propel the company's growth tremendously in the future and to expand its customer base.

Risks & Concerns

- Fluctuation in commodity prices: Prices of commodities such as crude oil are subject to fluctuations. This makes the company susceptible to profit volatility in the cyclical energy industry. Being an independent producer of oil and gas, the company does not engage in refining activities and marketing programs. Given the already high cost structure, even slight variations in commodity prices will result in eroding the company's margins substantially in the future. Also, OPEC's inability to command higher prices for oil and gas would have a negative impact on the company's profitability.

- Regulations governing energy companies: The company is subject to several federal, state and governmental laws and regulations with regard to human health and safety, environmental protection and pollution. Therefore, Apache is required to comply with laws mandated by the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act and solid waste issues and other applicable environmental regulations. Besides incurring huge costs with respect to emission controls and waste disposal, the company could be penalized for noncompliance with these issues. In addition, changes in regulations might have a negative impact on earnings and cash flow.

- International exposure: Apache's operations in international areas could be adversely affected if political or economic instability develops in the operating region with nationalization of the E&P sector, war/civil unrest, economic crisis and currency devaluation.

Valuation

We used the discounted cash flow (DCF) model to perform a valuation using both the adjusted present value (APV) and weighed average cost of capital (WACC). In both cases, we arrived at a "buy" recommendation. The following future assumptions were used in the models when appropriate:

- Revenues → Revenues growth for 2004 (25%) were estimated based on the information obtained from Apache's 3rd Quarter 10-Q (2004). Thereafter, we assumed that revenues will increase 30% per year over the next five years, based on Apache's average revenue growth rate for the last three years and on the expected investments to be made from financial leverage.
- Cost of Sales/SG&A/Depreciation → These three accounts were represented as a stable percentage of revenues for the last three years. We extended this stability to the next five years.
- Working Capital Requirements (WCR) → We applied the industry's WCR (11% of revenues) obtained from Prof. Damodaran's website (www.stern.nyu.edu/~adamodar).
- CAPEX → Since we already have the results of the 3rd Quarter of 2004, we were able to estimate the final CAPEX for 2004 (45%). Thereafter, due to its strong balance sheet, Apache will invest more heavily (55% of revenues) than the industry's average (50% of revenues), which was obtained from Prof. Damodaran's website (www.stern.nyu.edu/~adamodar).
- Unlevered Beta → obtained from Prof. Damodaran's website (www.stern.nyu.edu/~adamodar).
- Levered Beta → Derived from the unlevered Beta.
- Tax rate → We applied in our proforma cash flows statement the last three year's average tax rate (40%).
- Terminal Value → To calculate the terminal value, we assumed annual inflation rate of 3% after 2009.
- Target debt-to-capitalization ratio and unlevered β → We assumed that Apache will converge to the industry's debt-to-capitalization ratio (30%), obtained from Prof. Damodaran's website (www.stern.nyu.edu/~adamodar).
- Risk-free rate, market risk premium and inflation rate → we assumed respectively 4%, 6%, and 3%.
- Spread (Cost of Debt) → Based on Apache's current A- rating we obtained an approximate spread of 1.2% over the risk-free rate.
- Debt → Specifically for the APV valuation, we estimated a 15% increase in debt for the next five years, since the company is not highly levered.

- Perpetual Debt → Specifically for the APV valuation, we assumed a perpetual debt of 6,000 MM after 2009, which represents a 44% increase over our 2009 estimated debt.

Using these reasonable assumptions we arrived at similar share prices for both the APV and WACC valuation methods (see tables below): $55.48 and $56.82, respectively.

APV Valuation

Tax rate		40%						
			0	1	2	3	4	5
		2003	**2004E**	**2005E**	**2006E**	**2007E**	**2008E**	**2009E**
Revenues	$	4,190	25%	30%	30%	30%	30%	30%
Cost of sales		18%	18%	18%	18%	18%	18%	18%
Operating, General and Adm.		8%	8%	8%	8%	8%	8%	8%
Depreciation		29%	29%	29%	29%	29%	29%	29%
WCR		11%	11%	11%	11%	11%	11%	11%
CAPEX		61%	45%	55%	55%	55%	55%	55%

Revenues	5,122.00	6,146.40	6,761.04	7,775.20	9,330.24	11,196.28	13,435.54
Total Revenues	5,122.00	6,146.40	6,761.04	7,775.20	9,330.24	11,196.28	13,435.54
COGS	828.00	1,014.16	1,047.96	1,166.28	1,399.54	1,679.44	2,015.33
Operating, General and Adm.	789.00	921.96	1,014.16	1,166.28	1,399.54	1,679.44	2,015.33
Depreciation	1,297.00	1,617.25	1,778.97	2,045.82	2,454.98	2,945.98	3,535.18
EBIT	2,208.00	2,593.03	2,919.95	3,396.82	4,076.18	4,891.42	5,869.70
Income Tax	772.80	907.56	1,021.98	1,188.89	1,426.66	1,712.00	2,054.40
NOPLAT	1,435.20	1,685.47	1,897.97	2,207.93	2,649.52	3,179.42	3,815.31
Depreciation	1,297.00	1,617.25	1,778.97	2,045.82	2,454.98	2,945.98	3,535.18
(-) increases in WCR (Delta WCR)	130.00	(112.68)	(67.61)	(111.56)	(171.05)	(205.27)	(246.32)
CAPEX	2,792.00	2,458.56	2,704.42	3,498.84	4,198.61	5,598.14	6,717.77
Unlevered Free Cash Flows	(189.80)	956.85	1,040.14	866.47	1,076.95	732.53	879.03
Terminal Value							21,055.86
Discounted Unlevered CF		956.85	969.37	752.58	871.76	552.62	15,421.86
PV Unlevered Cflows		**19,525.04**					
Cost of Unlevered Equity	7.30%						

Tax Shield		40%														
				0		1		2		3		4		5
		2003		**2004E**		**2005E**		**2006E**		**2007E**		**2008E**		**2009E**
Interest Expense	$	115.10	$	107.85	$	124.03	$	142.63	$	164.02	$	188.63	$	216.92
Tax Shield	$	46.44	$	43.51	$	50.04	$	57.54	$	66.17	$	76.10	$	87.52
Terminal Value													$	425.45
FCF Tax Shield	$	46.44	$	43.51	$	50.04	$	57.54	$	66.17	$	76.10	$	512.97
Discounted CF Tax Shield			$	43.51	$	47.56	$	52.00	$	56.84	$	62.13	$	398.12
PV Tax Shield			**$**	**660.16**										
Cost of Debt		5.2%												
Estimated Debt	$	2,327.00	$	2,074.00	$	2,385.10	$	2,742.87	$	3,154.29	$	3,627.44	$	4,171.55
Estimated Perpetual Debt													$	6,000.00
Debt Increase		15%												
Firm PV			**$**	**20,185.20**										
Debt			$	2,074.00										
Equity Value			$	18,111.20										
Shares Outstanding				326.47										
Price per share				**55.48**										

WACC Valuation

	2003	2004E	2005E	2006E	2007E	2008E	2009E
Tax rate	40%	0	1	2	3	4	5
Revenues	$ 4,190	25%	30%	30%	30%	30%	30%
Cost of sales	18%	18%	18%	18%	18%	18%	18%
Operating, General and Adm.	8%	8%	8%	8%	8%	8%	8%
Depreciation	29%	29%	29%	29%	29%	29%	29%
WCR	11%	11%	11%	11%	11%	11%	11%
CAPEX	61%	45%	55%	55%	55%	55%	55%
Revenues	4,190.30	5,237.88	6,809.24	8,852.01	11,507.61	14,959.89	19,447.86
Total Revenues	4,190.30	5,237.88	6,809.24	8,852.01	11,507.61	14,959.89	19,447.86
COGS	760.10	924.48	1,201.83	1,562.38	2,031.09	2,640.42	3,432.55
Operating, General and Adm.	310.90	395.46	514.10	668.33	868.82	1,129.47	1,468.31
Depreciation	1,073.30	1,532.89	1,992.75	2,590.58	3,367.75	4,378.08	5,691.50
EBIT	**2,046.00**	**2,385.04**	**3,100.56**	**4,030.73**	**5,239.94**	**6,811.93**	**8,855.50**
Income Tax	825.45	962.24	1,250.91	1,626.19	2,114.04	2,748.26	3,572.73
NOPLAT	**1,220.55**	**1,422.80**	**1,849.64**	**2,404.54**	**3,125.90**	**4,063.67**	**5,282.77**
Depreciation	1,073.30	1,532.89	1,992.75	2,590.58	3,367.75	4,378.08	5,691.50
(-) increases in WCR (Delta WCR)	130.00	(114.81)	(172.22)	(223.89)	(291.05)	(378.37)	(491.88)
CAPEX	2,547.35	2,331.38	3,711.03	4,824.34	6,271.65	8,153.14	10,599.09
FCF	**(383.50)**	**739.13**	**303.58**	**394.66**	**513.06**	**666.97**	**867.06**
Terminal Value							**24,413.94**
Discounted FCF	(383.50)	739.13	284.63	346.92	422.85	515.39	18,315.80
PV(FCF)		20,624.72					
Excess cash		0.00					
Firm Value		20,624.72					
Value of Debt		2,074.00					
Common stock value		18,550.72					
Shares outstanding		326.47					
Price per Share Common Stock		$ 56.82					

WACC Calculation	
Target D/(E+D)	30.00%
Unlevered Beta	0.55
Levered Beta	0.70
Debt Beta	0.20
Cost of Equity	8.18%
Cost of Debt	5.20%
WACC	**6.66%**

We also performed Apache's valuation using public market comparables. As it can be seen below, we arrived at a share price of $61.59 for Apache. Our target price ($57.96) represents the average of these three methods.

	P/E	Price-to-Sales	Price-to-CashFlow	Price-to-EBIT
EOG	19.21	4.45	9.22	11.54
APC	12.78	3.16	6.34	7.29
NBL	19.65	2.98	6.22	11.24
PXD	10.96	2.65	4.74	7.97
BR	12.15	3.54	6.94	8.16
POG	18.00	4.43	9.28	10.48
Average	15.46	3.54	7.12	9.45
Stock Price	67.05	52.62	57.54	69.16
Average of Stock Prices	**61.59**			

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