Meter Reader
A Weekly Analysis of Energy Stocks Using the McDep Ratio
December 10, 2001

Halliburton Death Threat

Summary and Recommendation

Low debt and a low McDep Ratio suggest that Halliburton stock will recover from its 44% decline last week in the wake of two adverse judicial rulings regarding asbestos claims. Though surprised that a stock as respectable as HAL could drop so sharply, we remain confident in our Strong Buy recommendations of **Burlington Resources (BR)** and **Marathon Oil (MRO)**. We believe the downside risk in those two stocks is limited while low McDep Ratios point to upside appreciation potential. Meanwhile, the rout of the Taliban in Afghanistan points to world growth that could help narrow the discount for political risk in recommended **PetroChina (PTR)** and **CNOOC Limited (CEO).** At the same time, natural gas loses some of its measurable value in the past week with a steep rise in interest rates for government bonds. Yet the appeal remains mostly intact for recommended producers **PanCanadian Energy (PCX)**, **Forest Oil (FST)**, **San Juan Basin Royalty Trust (SJT)** and **Purcell Energy (PEL.TO)**. Our analysis of SJT as a test case for the valuation of long life natural gas becomes more thorough with our new projections of monthly distributions. Finally, update your perspective on a diversified energy portfolio with our valuation ranking of 61 stocks (see Table L-1, L-2, S-1 and S-2).

Halliburton Gets Death Threat from Asbestos Suits

After claiming the corporate lives of Johns Manville, W. R. Grace, and Armstrong World, among those we can recall, asbestos lawsuits now threaten the corporate life of a distinguished energy service company. Unlike Enron, Halliburton is not highly leveraged. Yet when we first added Halliburton to our coverage, the McDep Ratio did seem high at 1.60, third to Enron and **Calpine** (see *Meter Reader*, June 4, 2001). Now the McDep Ratio at 0.55 is the lowest among large cap companies in our coverage (Enron is gone from our list).

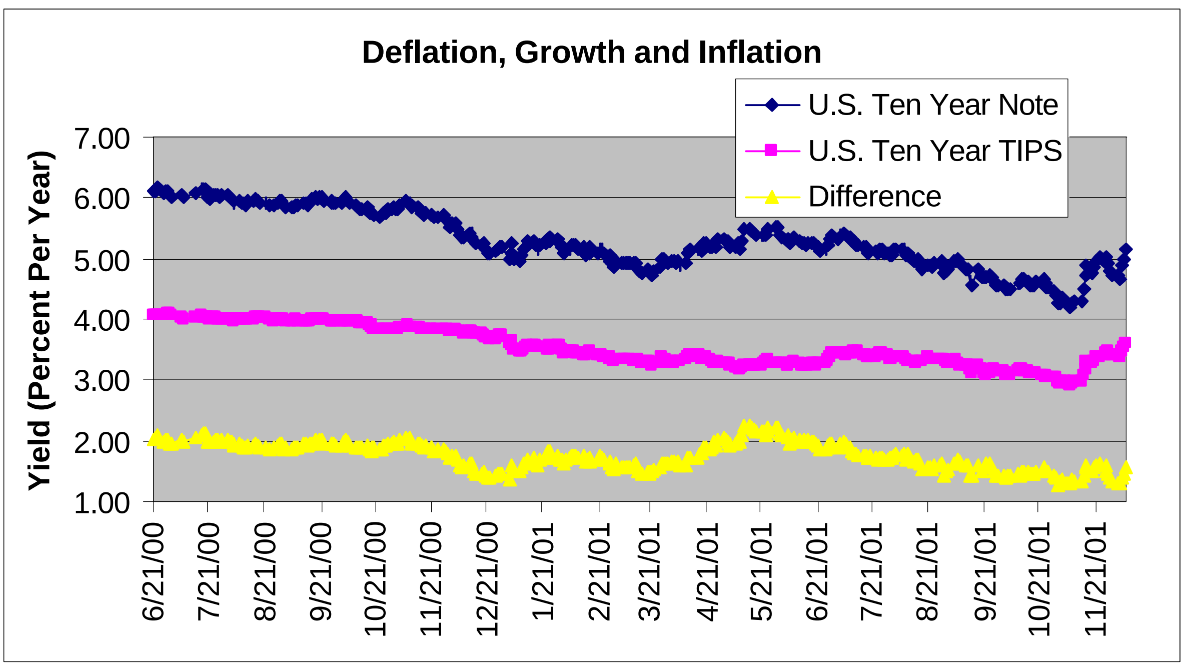
We make no attempt to quantify asbestos liabilities. Management believes that it has been settling cases at reasonable cost. The executives further believe that if the recent judicial awards are sustained, the damages are covered by insurance. The threat is from further awards. We have no knowledge whether the insurance companies have sufficient reserves to cover the losses if judicial awards multiply. We estimate McDep Ratios on Halliburton and two other service companies mainly to compare with those of the energy producers on whom we concentrate most of our analysis. Aside from the legal risk, Halliburton's business prospects appear sound.

Fear of Deflation Subsides For Now

The yield on the benchmark ten-year U.S. Treasury Note has zoomed from a low of 4.19% on November 7 to 5.17% on December 7. That much of an increase in yield means about a 7% decrease in present value, or the current price of the note. It also means a decrease in the value of a dollar of cash flow from future oil and gas production before taking into account any other changes.

Reduced to its most fundamental investment meaning, the yield on government securities is a measure of investors' fear of deflation. While the term, deflation, means declining prices, it is a code word for extended weak economic times as in depression or as in the prolonged stagnation in Japan for the past decade. Government bonds in those circumstances perform well because the issuer does not default and the fixed stream of income payments becomes relatively more valuable.

For more than the past year, investors demand for deflation protection has been rising. The concern has reached the point, it seems, that it is a frequent topic of discussion in the popular business media. Ironically, just as we are hearing more about deflation, the sharp reversal in interest rate suggests that such concern has peaked, at least temporarily.



Expectations for Growth Advance

Treasury inflation indexed securities (TIIS), also known as Treasury Inflation Protected Securities (TIPS), trade on a real yield basis. We visualize the real yield as a measure of investors' minimum expectations for growth. If the guaranteed real income were reinvested in new TIPS, principal would grow at a guaranteed rate in excess of inflation. When risk-adjusted growth in other investments, mainly non-energy stocks, seems relatively more appealing, the real yield increases to remain competitive.

For most of the past year, real yield has been declining (see middle line on Chart above). During the past month it has recovered sharply.

One coincident factor appears to be favorable progress in the Afghanistan War. The defeat of the Taliban, who ruled Afghanistan with medieval backwardness, removes an obstacle to economic and political progress.

Fear of Inflation Remains Low

The difference between the real yield on TIIS and the nominal yield on conventional Treasury securities is inflation (see lower line on Chart). The pattern seems quite clear that for the past month, the reversal in deflation expectations is matched more by an increase in growth expectations than by an increase in inflation expectations. Growth without inflation is the best of all worlds.

Diversify Investments By Deflation Protection, Growth and Inflation Protection

Fascinated as we are with the implications of bond markets and commodity markets for oil and gas valuation, we still can only judge where the trends are headed. As a result each investor must make his or her own allocation that seems comfortable. Energy stocks are strongest on inflation protection. Energy stocks combined with TIPS may be sufficient protection for most investors. Energy stocks also offer reasonable growth though not as much as non-energy stocks. Low debt energy stocks even offer a little deflation protection because default risk is low and energy is an everyday necessity even in weak economic times.

Our Chinese energy stock recommendations offer perhaps more sensitivity to growth than a Mega Cap energy stock, for example. Worldwide growth is especially important for developing countries. As such countries get stronger, concerns about political risk are likely to diminish and the valuation discount is likely to narrow.

Natural Gas Present Value Sensitive to Deflation, Growth and Inflation

As we suggested above, an increase in interest rate reduces the present value of cash flow from natural gas. The cash flow may change, too, but that is a separate consideration. Our calculations for Natural Gas Royalty Trusts that we do every week use a discount rate that is 1.4 percentage points above the ten-year note yield. A week ago the adjusted rate was 6.1 percent per year. This week it is 6.6 percent per year. By itself that reduces present value by a little more than 3%.

A 6.6% discount rate seems a bit low on its face. Yet in an historical context it reflects how times have changed. Twenty years ago we used 15% per year (see *DLJ Action Recommendation*, San Juan Basin Royalty Trust, July 9, 1981). Ten years ago we used 10% per year (see *McDep Research Bulletin*, San Juan Basin Royalty Trust, October 18, 1991). The downward trend in discount rate matches the trend in interest rates on government securities.

Nor do we think the discount rate should be higher for risk. Natural gas royalty trusts are not junk bonds. SJT, for example, has a longer, safer and more profitable history as a publicly traded entity than any independent exploration company traded today. Keep in mind SJT has no debt. The typical stock in all industries has about one-third debt. The 1.4 percentage point spread for our discount rate is roughly comparable to the spread in yield for high-grade corporate debt compared to government bonds.

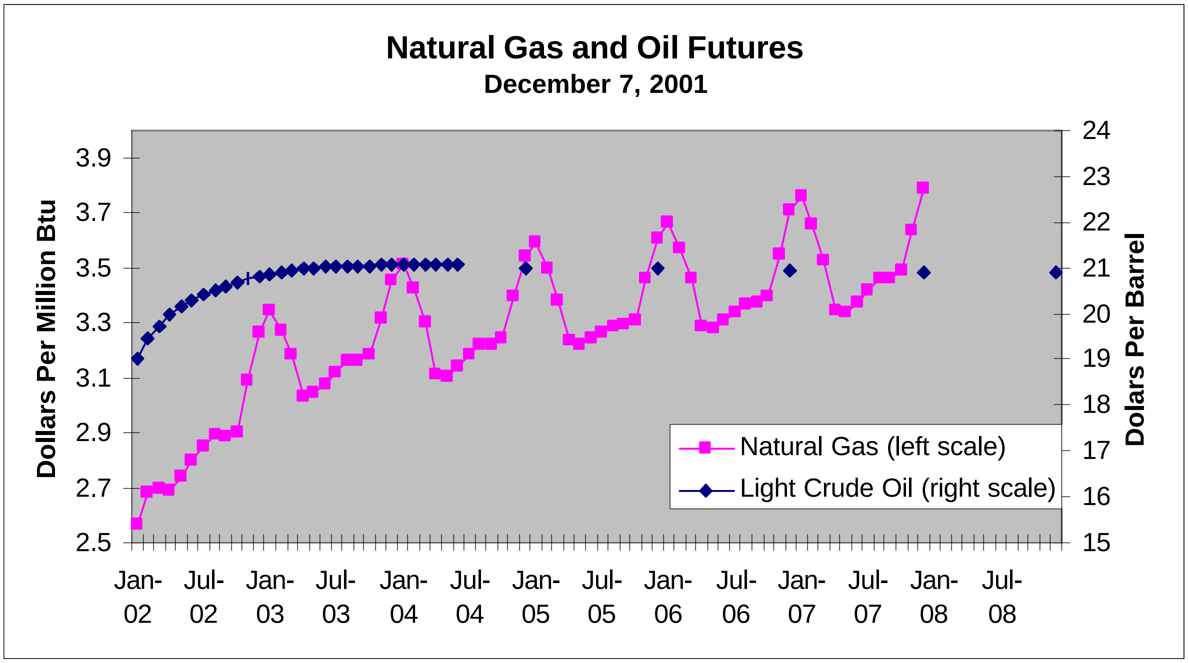
Nor is natural gas just any old commodity. It is our cleanest fuel. Its price has been gaining relative to oil for the past three decades and futures prices imply further gains relative to oil.

Offsetting the increase in nominal interest rate is the lesser increase in inflation expectations. We apply the market inflation rate to natural gas price beyond the furthest month quoted in the futures market until recently. A week ago the inflation rate was 1.3% per year. Now the expected rate for the next ten years is 1.6% per year. That difference is worth a little over 1% of present value in our calculations. Thus the net effect of higher interest rate and higher inflation is to reduce present value about 2%.

Some decline in commodity prices also contributed to reduced present value on the week. We have noticed how the commodity market and the stock market do not move necessarily at the same time. That is probably true of the bond market as well.

Enron Bankruptcy Appears to Spur More Public Price Discovery in Natural Gas

Last week we noted that the NewYork Mercantile Exchange extended quotes for natural gas to 2007. This week we have quotes for every month in that time frame (see Chart below). One wonders if the disappearance of a major over-the-counter natural gas trader in Houston has had the positive effect of spurring the public exchange to expand its contribution to price discovery. We much prefer to see prices widely quoted than being administered by a single trader.



Project Monthly Distributions for San Juan Basin Royalty Trust

Despite knowing that anticipating the amount of monthly distribution can be frustrating because of all the sources of fluctuation, we nonetheless now do just that. A new table details our projected declarations of a low $0.01 per unit in December rebounding to $0.07 per unit in January 2002 (see Table SJT-3 in *Meter Reader Tables* on www.mcdep.com).

The main difference between the two months is that we understand that the San Juan Basin monthly index price for October was only $1.41 per mmbtu and it rebounded in November to $2.69. The actual price applies to the distribution to be declared two months later. For the past year the price reported for the trust ranged from 0.86 to 0.90 times the monthly index published by Bloomberg. Over the same period the price ranged more widely from 0.76 to 0.81 times the daily price at Henry Hub, the Louisiana pricing point for the industry. We also know the index at the beginning of the month whereas the daily average cannot be known until the end of the month.

There are ranges around other variables, too, that make projected monthly results subject to wide variation. Mechanically, we use trailing twelve months averages in estimating volume and deductions.

Knowledge is power. The main reason for projecting monthly results is to make surprises understandable. No one need sell the units of SJT on a low distribution without having some feel as to whether the causes of the low number were likely to persist. The reverse is also true. If there is selling pressure on the declaration of a low distribution, a buyer may be more confident if the negative factors appear temporary.

Some would say that the fluctuations in the monthly distribution are a disadvantage because the volatility causes the price of the units to be lower. Understanding the source of volatility can turn it to advantage. The long-term return on the natural gas royalty trusts we cover is likely to be higher, in our opinion, than on some similar investments that promise a steadier payout.

Calpine Likened to Enron by New York Times

A thoughtful piece by Gretchen Morgenson points to overstated earnings and a possibly falsified growth rate for the power producer (see *New York Times*, Is It an Enron Twin, or Just an Energy Look-Alike?, December 9, 2001). Our Sell recommendation on the stock remains in effect.

Kurt H. Wulff, CFA

Table L-1

Mega Cap and Large Cap Energy Companies
Rank by McDep Ratio: Market Cap and Debt to Present Value

	Symbol/	Rating	Price ($/sh) 7-Dec 2001	Shares (mm)	Market Cap ($mm)	Net Present Value ($/sh)	Debt/ Present Value	McDep Ratio
Mega Cap								
Exxon Mobil Corporation	XOM		38.07	6,924	264,000	36.00	0.09	1.05
BP plc	BP		44.70	3,738	167,000	47.00	0.16	0.96
Royal Dutch/Shell	RD	3	49.00	3,520	173,000	55.00	0.04	0.90
TotalFinaElf S.A.	TOT		67.59	1,382	93,000	80.00	0.15	0.87
ChevronTexaco Corporation	CVX	2	87.23	1,062	92,700	110.00	0.14	0.82
Total or Median					*790,000*		*0.14*	*0.90*
Power								
Dynegy Inc.	DYN		30.28	338	10,200	20.30	0.58	1.21
Calpine Corporation	CPN	4	21.37	377	8,100	14.90	0.62	1.17
AES Corporation	AES		16.50	543	9,000	8.80	0.83	1.15
Mirant Corporation	MIR		25.06	353	8,800	18.60	0.65	1.12
Duke Energy Corporation	DUK		36.81	773	28,500	35.80	0.43	1.02
El Paso Corporation	EPG		43.76	532	23,300	44.80	0.49	0.99
American Electric Power Co. Inc.	AEP	2	42.86	322	13,800	45.50	0.61	0.98
Williams Companies	WMB		27.80	515	14,300	32.30	0.47	0.93
Southern Company	SO		22.79	683	15,600	27.40	0.42	0.90
Dominion Resources	D		58.50	247	14,400	79.40	0.45	0.85
Exelon Corporation	EXC	2	45.40	323	14,700	78.60	0.42	0.76
Total or Median					*142,000*		*0.47*	*0.98*
Natural Gas and Oil								
Occidental Petroleum Corp.	OXY		25.80	372	9,600	28.50	0.50	0.95
Unocal Corporation	UCL		34.65	257	8,900	38.90	0.35	0.93
Anadarko Petroleum Corp.	APC		54.75	250	13,700	64.10	0.24	0.89
ENI S.p.A.	E		60.37	789	47,600	71.40	0.19	0.88
ConocoPhillips	P		57.07	680	38,800	71.20	0.34	0.87
Devon Energy (incl MND,AXN)	DVN		35.78	165	5,900	54.60	0.48	0.82
Burlington Resources (incl HTR)	BR	1	37.06	205	7,600	53.00	0.30	0.79
Marathon Oil Corporation	MRO	1	28.06	310	8,700	42.00	0.27	0.76
OAO Lukoil	LUKOY		47.25	299	14,100	69.10	0.09	0.71
Total or Median					*145,000*		*0.28*	*0.84*
Service								
Baker Hughes Inc.	BHI		34.37	338	11,600	24.50	0.13	1.35
Schlumberger Ltd.	SLB		52.79	581	30,700	44.00	0.12	1.18
Halliburton Company	HAL		12.00	429	5,200	24.90	0.12	0.55

Buy/Sell rating after symbol: 1-Strong Buy, 2-Buy, 3-Neutral, 4-Sell
McDep Ratio = **M**arket **c**ap and **De**bt to **p**resent value of oil and gas and other businesses

Table L-2

Mega Cap and Large Cap Energy Companies

Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/	*Rating*	*Price ($/sh) 7-Dec 2001*	*EV/ Sales 2001E*	*EV/ Ebitda NTM*	*P/E NTM*	*Dividend or Distribution NTM (%)*	*PV/ Ebitda NTM*
Mega Cap								
Exxon Mobil Corporation	XOM		38.07	1.4	12.1	28	2.4	11.5
BP plc	BP		44.70	1.2	10.4	19	3.0	10.8
Royal Dutch/Shell	RD	3	49.00	1.1	9.8	25	2.9	10.9
TotalFinaElf S.A.	TOT		67.59	1.3	9.5	20	2.7	10.9
ChevronTexaco Corporation	CVX	2	87.23	1.3	9.0	21	3.2	11.0
Median				*1.3*	*9.8*	*21*	*2.9*	*10.9*
Power								
Dynegy Inc.	DYN		30.28	0.5	10.9	14	1.0	9.0
Calpine Corporation	CPN	4	21.37	2.3	10.5	12	-	9.0
AES Corporation	AES		16.50	3.6	10.4	13	-	9.0
Mirant Corporation	MIR		25.06	0.6	10.1	12	-	9.0
Duke Energy Corporation	DUK		36.81	0.8	9.2	14	3.0	9.0
El Paso Corporation	EPG		43.76	0.9	8.9	13	1.9	9.0
American Electric Power Co. Inc.	AEP	2	42.86	0.6	8.8	12	5.6	9.0
Williams Companies	WMB		27.80	2.5	8.3	11	2.9	9.0
Southern Company	SO		22.79	2.7	8.1	14	5.9	9.0
Dominion Resources	D		58.50	3.4	7.7	13	4.4	9.0
Exelon Corporation	EXC	2	45.40	2.1	6.8	10	3.7	9.0
Median				*2.1*	*8.9*	*13*	*2.9*	*9.0*
Natural Gas and Oil								
Occidental Petroleum Corp.	OXY		25.80	1.5	9.5	23	3.9	10.0
Anadarko Petroleum Corp.	APC		54.75	2.9	8.5	25	0.5	9.5
Unocal Corporation	UCL		17.11	2.6	7.9	64	2.3	8.5
ConocoPhillips	P		57.07	0.8	7.4	19	2.5	8.5
ENI S.p.A.	E		60.37	1.5	7.0	16	3.0	8.0
Burlington Resources (incl HTR)	BR	1	37.06	4.2	6.4	29	1.5	8.1
Devon Energy (incl MND,AXN)	DVN		35.78	3.1	5.7	17	0.6	7.0
Marathon Oil Corporation	MRO	1	28.06	0.4	4.9	10	3.3	6.5
OAO Lukoil	LUKOY		47.25	1.2	4.3	9	2.3	6.0
Median				*1.5*	*7.0*	*19*	*2.3*	*8.1*
Service								
Baker Hughes Inc.	BHI		34.37	2.2	10.8	24	1.3	9.0
Schlumberger Ltd.	SLB		52.79	2.7	9.4	26	1.4	9.0
Halliburton Company	HAL		12.00	0.5	4.4	9	4.2	9.0

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended September 30, 2002; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

Table S-1
Mid Cap and Small Cap Energy Companies
Rank by McDep Ratio: Market Cap and Debt to Present Value

	Symbol/	Rating	Price ($/sh) 7-Dec 2001	Shares (mm)	Market Cap ($mm)	Net Present Value ($/sh)	Debt/ Present Value	McDep Ratio
Power								
Consol Energy Inc.	CNX		23.70	79	1,900	35.90	0.51	0.83
CMS Energy Corporation	CMS		23.29	128	3,000	48.30	0.62	0.81
Sempra Energy	SRE		24.40	203	5,000	41.70	0.50	0.79
Constellation Energy Group	CEG		25.51	152	3,900	56.50	0.35	0.64
Total or Median					*13,800*		*0.51*	*0.80*
Natural Gas and Oil								
Murphy Oil Corporation	MUR		78.57	46	3,600	82.00	0.18	0.97
Ocean Energy, Inc.	OEI		18.70	178	3,300	20.00	0.30	0.95
Imperial Oil Limited (30%)	IMO		27.50	119	3,300	30.00	0.11	0.92
Valero Energy Corp.(with UDS)	VLO		39.07	110	4,300	60.00	0.47	0.81
PanCanadian Energy	PCX	2	25.14	256	6,440	33.00	0.14	0.79
Norsk Hydro ASA (49%)	NHY		39.90	127	5,100	54.00	0.18	0.79
Petro-Canada	PCZ		24.22	267	6,500	33.00	0.08	0.76
PetroChina Company Ltd (10%)	PTR	2	17.79	176	3,100	28.00	0.16	0.69
Total or Median					*35,600*		*0.17*	*0.80*
Small Cap								
Quicksilver Resources Inc.	KWK		16.70	19.3	320	10.00	0.60	1.26
Spinnaker Exploration Company	SKE		41.70	28.3	1,180	40.00	-	1.04
XTO Energy Inc.	XTO		16.50	124.0	2,050	19.00	0.28	0.91
Stone Energy Company	SGY		37.40	26.4	990	42.00	0.11	0.90
Penn Virginia Corporation	PVA		30.80	9.0	280	35.00	0.10	0.89
Southwestern Energy Company	SWN		11.48	25.6	290	15.00	0.47	0.88
Newfield Exploration Company	NFX		32.76	49.3	1,620	39.00	0.21	0.87
Encore Acquisition Corp. (25%)	EAC		13.30	7.5	100	16.00	0.22	0.87
Magnum Hunter Resources, Inc.	MHR		8.49	36.8	310	11.00	0.35	0.85
Swift Energy Company	SFY		18.48	24.8	460	25.00	0.29	0.81
Forest Oil Corporation	FST	2	26.15	48.5	1,270	37.00	0.28	0.79
CNOOC Limited (19%)	CEO	2	18.70	78	1,460	30.00	-	0.62
Total or Median					*10,010*		*0.22*	*0.87*
Trusts and Partnerships								
Penn Virginia Res. Part, L.P.(48%)	PVR		23.95	7.5	180	18.40	-	1.30
Dorchester Hugoton, Ltd.	DHULZ		13.01	10.7	140	11.30	-	1.15
TEPPCO Partners, L.P.	TPP		31.17	39	1,210	26.90	0.57	1.07
Cross Timbers Royalty Trust	CRT		17.90	6.0	107	17.40	-	1.02
San Juan Basin Royalty Trust	SJT	2	10.67	46.6	500	14.40	-	0.74
Hugoton RoyaltyTrust	HGT		10.26	40.0	410	14.30	-	0.72
Total or Median					*2,550*		-	*1.05*
Micro Cap								
Abraxas Petroleum Corporation	ABP		1.17	23.6	28	0.50	0.96	1.05
Energy Partners Ltd.(30%)	EPL	2	5.95	8.1	48	10.00	0.16	0.66
Purcell Energy, Ltd. (US$)	PEL.TO	2	2.08	27.4	57	3.50	0.09	0.63

Buy/Sell rating after symbol: 1 - Strong Buy, 2 - Buy, 3 - Neutral
McDep Ratio = **M**arket **c**ap and **De**bt to **p**resent value of oil and gas and other businesses

Table S-2

Mid Cap and Small Cap Energy Companies
Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/	Rating	Price ($/sh) 7-Dec 2001	EV/ Sales 2001E	EV/ Ebitda NTM	P/E NTM	Dividend or Distribution NTM (%)	PV/ Ebitda NTM
Power								
Consol Energy Inc.	CNX		23.70	2.0	7.5	8	4.7	9.0
CMS Energy Corporation	CMS		23.29	0.9	7.2	8	6.3	9.0
Sempra Energy	SRE		24.40	1.1	7.1	9	4.1	9.0
Constellation Energy Group	CEG		25.51	1.7	5.8	8	1.9	9.0
Median				*1.4*	*7.2*	*8*	*4.4*	*9.0*
Natural Gas and Oil								
Imperial Oil Limited (30%)	IMO		27.50	1.1	10.2	26	2.0	11.1
Murphy Oil Corporation	MUR		78.57	0.9	7.7	37	1.9	8.0
Ocean Energy, Inc.	OEI		18.70	4.4	7.5	32	0.9	7.8
PanCanadian Energy	PCX	2	25.14	1.2	6.7	16	1.0	8.4
Valero Energy Corp.(with UDS)	VLO		39.07	0.3	5.4	6	1.0	6.7
Petro-Canada	PCZ		24.22	1.3	5.2	12	1.1	6.9
Norsk Hydro ASA (49%)	NHY		39.90	0.8	4.7	14	2.6	6.0
PetroChina Company Ltd (10%)	PTR	2	17.79	1.7	3.7	9	10.3	5.4
Median				*1.2*	*6.0*	*15*	*1.5*	*7.4*
Small Cap								
Quicksilver Resources Inc.	KWK		16.70	5.8	16.1		-	12.7
Encore Acquisition Corp. (25%)	EAC		13.30	4.9	9.0	34	-	10.3
XTO Energy Inc.	XTO		16.50	5.8	9.0	27	0.2	9.9
Spinnaker Exploration Company	SKE		41.70	7.4	8.7	40	-	8.4
Penn Virginia Corporation	PVA		30.80	4.2	7.9	36	2.9	8.8
Swift Energy Company	SFY		18.48	5.2	7.7	34	-	9.4
Magnum Hunter Resources, Inc.	MHR		8.49	3.8	6.6		-	7.8
Forest Oil Corporation	FST	2	26.15	2.8	6.6	237	-	8.4
Southwestern Energy Company	SWN		11.48	2.8	6.4	23	-	7.3
Stone Energy Company	SGY		37.40	4.0	5.4	27	-	6.0
CNOOC Limited (19%)	CEO	2	18.70	3.6	4.9	10	1.3	7.9
Newfield Exploration Company	NFX		32.76	3.6	4.5	15	-	5.2
Median				*4.0*	*6.6*	*30*	-	*8.4*
Trusts and Partnerships								
Penn Virginia Res. Part, L.P.(48%)	PVR		23.95	10.7	14.3	16	8.4	11.0
Dorchester Hugoton, Ltd.	DHULZ		13.01	8.8	13.5	18	22.2	11.7
Cross Timbers Royalty Trust	CRT		17.90	7.3	13.2	14	7.0	12.9
TEPPCO Partners, L.P.	TPP		31.17	0.7	11.8	15	7.4	11.0
San Juan Basin Royalty Trust	SJT	2	10.67	6.5	8.5	12	8.1	11.5
Hugoton RoyaltyTrust	HGT		10.26	5.1	8.2	12	8.1	11.4
Median				*6.9*	*12.5*	*15*	*8.1*	*11.5*
Micro Cap								
Abraxas Petroleum Corporation	ABP		1.17	6.5	12.4		-	11.8
Energy Partners Ltd.(30%)	EPL	2	5.95	2.1	4.7		-	7.1
Purcell Energy, Ltd. (US$)	PEL.TO	2	2.08	3.2	4.5	13	-	7.2

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2002; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses