# **McDep Associates Independent Stock Idea** February 7, 2005

# Berry Petroleum Company A Touch of Glamour

| Symbol                       | BRY                | Ebitda Next Twelve Months ending 3/31/06 (US\$mm) | 185   |
|------------------------------|--------------------|---|-------|
| Rating                       | Buy                | North American Natural Gas/Ebitda (%)             | 11    |
| Price (\$/sh)                | 56.51              | Natural Gas and Oil Production/Ebitda (%)         | 100   |
| Pricing Date                 | 2/4/05             | Adjusted Reserves/Production NTM                  | 11.9  |
| Shares (mm)                  | 22                 | EV/Ebitda   | 7.2   |
| Market Capitalization (\$mm) | 1,260              | PV/Ebitda   | 6.4   |
| Debt (\$mm)                  | 60                 | Undeveloped Reserves (%)                          | 31    |
| Enterprise Value (EV) (\$mm) | 1,320              | Natural Gas and Oil Ebitda (\$/boe)               | 23.20 |
| Present Value (PV) (\$mm)    | 1,180              | Present Value Proven Reserves(\$/boe)             | 9.50  |
| Net Present Value (\$/share) | 50                 | Present Value Proven Reserves(\$/mcfe)            | 1.60  |
| Debt/Present Value           | 0.05               | Earnings Next Twelve Months (US\$/sh)             | 3.43  |
| McDep Ratio - EV/PV          | 1.12               | Price/Earnings Next Twelve Months                 | 16    |
| Dividend Yield (%/year)      | 0.8                | Indicated Annual Dividend (US\$/sh)               | 0.48  |
| Note: Estimated each flow or | d cornings tied to | one year futures prices for natural gas and oil   |       |

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

# **Summary and Recommendation**

We continue to recommend current purchase of the common shares of small cap **Berry Petroleum (BRY)** for representation in growing volume and rising value of domestic oil production. Revising our estimate of long-term oil price on January 26, 2005 to \$40 a barrel constant real, up from \$35, we raised out estimated net present value of Berry to \$50 a share as previously indicated in a sensitivity calculation. Up more than 160% in eleven months, the stock price exceeds net present value, but not by enough yet to cause us to change our rating to hold. The company has attractive exploration prospects and oil recovery projects that promise further potential while oil price shows no signs of reversing its upward trend.

# **Rocky Mountain Exploration Heating Up**

In a joint venture with Bill Barrett Corp (BBG), the eponymous Rocky Mountain explorer, a wildcat well is set to start drilling by the end of next month on the Lake Canyon acreage. The prospect is west of Berry's growing oil field at Brundage Canyon in Utah. BRY has 75% of the shallower oil-prospective rights while BBG has 75% of the deeper gas-prospective rights.

Berry has reached total depth on the first of nine exploratory wells it is obliged to drill to earn 50% of **Petro-Canada (PCZ)**'s Coyote Flats prospect, also in Utah. The partners are looking for unconventional natural gas in tight formations and coal bed methane.

Another joint project with Bill Barrett Corp seeks natural gas in northeastern Colorado. Also in that area Berry made a \$105 million acquisition of natural gas reserves effective November 1, 2004.

### **Diatomite Formation Pilot Showing Favorable Results**

We can remember that when **Royal Dutch/Shell (RD, SC)** acquired the Belridge oil field around 1979 one of the formations with large amounts of oil had little economic value at the time because the oil did not flow. Now Shell apparently is producing from that diatomite formation and may be able to recover a third of the oil in place. Belridge is in the same San Joaquin Basin as the Midway Sunset field where about two-thirds of Berry's reserves are located.

Berry is producing from the diatomite in a technological pilot program at its nearby Poso Creek field. Volumes have reached 500 barrels daily moving toward a target 2000 barrels daily. Meanwhile Berry has diatomite resources in place that may be almost double its proven recoverable reserves. Even 10% recovery factor on those amounts would be meaningful.

# **Growing Volume and a Smart Contract**

Oil and gas production volume is likely to continue climbing though we assume a flat trend that gives a cushion for any unexpected costs (see table <u>Quarterly Results</u>). The Company has a sales contract under which it sells 97% of its California oil production with a price mechanism equating to Light, Sweet Crude less approximately \$6.00 per barrel. The actual current spread is about \$14 a barrel! The contract expires December 31, 2005

# Present Value Relates to \$40 a Barrel Constant Real

We revised our estimate of long-term oil price on January 26, 2005 to \$40 a barrel constant real, up from \$35. As a result we raised net present value for BRY to \$50 a share, a level previously calculated for \$40 oil in a sensitivity analysis (see *Stock Idea*, <u>Berry Petroleum</u>, November 8, 2004). The calculation is sensitive to assumptions. As a check on consistency we regularly compare estimates of present value that do not change often to estimated NTM cash flow that changes every time we obtain new commodity price quotes (see table <u>Global Oil Cash Flow and Present Value</u>).

Berry's cash flow multiple appears in line with that for the oil resources of **Anadarko Petroleum** (**APC**), **Occidental Petroleum** (**OXY**) and **XTO Energy** (**XTO**). The cash flow multiple for each of the four companies is about 10% less than what the current correlation with adjusted reserve life indicates. The ongoing comparison is dynamic as new information develops on adjusted reserve life and estimated NTM cash flow. In Berry's case some of the factors include final year end 2004 reserves when they are reported, the trend in daily volume and the light/heavy price differential after its favorable crude oil contract expires at year end 2005. A final implication is that there is little recognition in present value of reserves or cash flow for the exploration prospects or the diatomite program except that Berry is expected to earn a normal return on reinvested capital.

# McDep Associates Independent Stock Idea

February 7, 2005

|                            | Quarterly results |                 |               |                |                |                |                 | Maria         |                |                                     |
|----------------------------|-------------------|-----------------|---------------|----------------|----------------|----------------|-----------------|---------------|----------------|-------------------------------------|
|                            | Q3<br>9/30/04     | Q4E<br>12/31/04 | Year<br>2004E | Q1E<br>3/31/05 | Q2E<br>6/30/05 | Q3E<br>9/30/05 | Q4E<br>12/31/05 | Year<br>2005E | Q1E<br>3/31/06 | Next<br>Twelve<br>Months<br>3/31/06 |
| Volume                     | 2720707           | 12/01/07        | 200.2         | 0/01/00        | 0/20/02        | 2700700        | 12/01/00        | 20002         | 5/51/00        | 0,01,00                             |
| Natural Gas (bcf)          | 0.83              | 1.38            | 2.41          | 1.35           | 1.37           | 1.38           | 1.38            | 5.48          | 1.35           | 5.48                                |
| Natural Gas (mmcfd)        | 9.1               | 15.0            | 6.6           | 15.0           | 15.0           | 15.0           | 15.0            | 15.0          | 15.0           | 15.0                                |
| Days                       | 92                | 92              | 366           | 90             | 91             | 92             | 92              | 365           | 90             | 365                                 |
| Oil (mb)                   | 1,777             | 1,777           | 6,973         | 1,738          | 1,758          | 1,777          | 1,777           | 7,050         | 1,738          | 7,050                               |
| Oil (mbd)                  | 19.32             | 19.32           | 19.05         | 19.32          | 19.32          | 19.32          | 19.32           | 19.32         | 19.32          | 19.32                               |
| Total (mb)                 | 1,916             | 2,007           | 7,375         | 1,963          | 1,985          | 2,007          | 2,007           | 7,963         | 1,963          | 7,963                               |
| Total (mbd)                | 20.8              | 21.8            | 20.1          | 21.8           | 21.8           | 21.8           | 21.8            | 21.8          | 21.8           | 21.8                                |
| Price                      | 20.0              | 21.0            | 20.1          | 21.0           | 21.0           | 21.0           | 21.0            | 21.0          | 21.0           | 21.0                                |
| Henry Hub (\$/mmbtu)       | 5.75              | 7.10            | 6.15          | 6.21           | 6.21           | 6.36           | 6.72            | 6.37          | 7.20           | 6.62                                |
| Differential (\$/mmbtu)    | (0.23)            | 0.85            | 0.07          | 0.74           | 0.74           | 0.76           | 0.80            | 0.76          | 0.80           | 0.79                                |
| Company (\$/mcf)           | 5.98              | 6.25            | 6.08          | 5.46           | 5.47           | 5.60           | 5.91            | 5.61          | 6.34           | 5.83                                |
| WTI Cushing (\$/bbl)       | 43.89             | 48.30           | 41.44         | 46.56          | 47.32          | 46.67          | 45.83           | 46.60         | 45.35          | 46.29                               |
| Differential               | 8.32              | 9.15            | 7.37          | 9.15           | 8.97           | 8.84           | 8.68            | 4.47          | 8.68           | 8.77                                |
| Company                    | 35.58             | 39.14           | 34.06         | 37.74          | 38.36          | 37.82          | 37.15           | 42.12         | 36.75          | 37.52                               |
| Total (\$/bbl)             | 35.60             | 38.95           | 34.34         | 37.17          | 37.72          | 37.34          | 36.95           | 37.29         | 36.90          | 37.23                               |
| Revenue (\$mm)             | 55.00             | 50.75           | 54.54         | 57.17          | 57.72          | 57.51          | 50.75           | 57.27         | 50.90          | 57.25                               |
| Natural Gas                | 5                 | 9               | 15            | 7              | 7              | 8              | 8               | 31            | 9              | 32                                  |
| Oil                        | 63                | 70              | 239           | 66             | 67             | 67             | 66              | 266           | 64             | 265                                 |
| Other, incl hedge          | (7)               | 70              | (16)          | 00             | 07             | 07             | 00              | -             | 01             | 205                                 |
| Total                      | 62                | 78              | 238           | 73             | 75             | 75             | 74              | 297           | 72             | 296                                 |
| Expense                    | 02                | 70              | 250           | ,5             | 10             | 15             | , ,             | 2)1           | 12             | 270                                 |
| Lease operating            | 22                | 24              | 83            | 24             | 24             | 24             | 24              | 96            | 24             | 96                                  |
| General and administrative | 4                 | 4               | 16            | 4              | 4              | 4              | 4               | 16            | 4              | 16                                  |
| Total                      | 26                | 28              | 99            | 28             | 28             | 28             | 28              | 112           | 28             | 112                                 |
| Ebitda                     | 35                | 50              | 138           | 45             | 47             | 47             | 46              | 185           | 45             | 185                                 |
| Exploration                | -                 | 1               | 1             | 1              | 1              | 1              | 1               | 4             | 1              | 4                                   |
| Deprec., Deplet., & Amort. | 8                 | 11              | 35            | 11             | 11             | 11             | 11              | 44            | 11             | 44                                  |
| Other, incl hedge          | (0)               | 6               | 5             | 4              | 5              | 4              | 4               | 18            | 4              | 17                                  |
| Ebit                       | 27                | 32              | 97            | 29             | 30             | 30             | 30              | 120           | 30             | 120                                 |
| Interest                   | 1                 | 1               | 2             | 1              | 1              | 1              | 1               | 2             | 1              | 2                                   |
| Ebt                        | 27                | 32              | 95            | 29             | 30             | 30             | 30              | 118           | 29             | 118                                 |
| Income Tax                 | 8                 | 10              | 27            | 10             | 10             | 10             | 10              | 41            | 10             | 41                                  |
| Net Income (\$mm)          | 18                | 22              | 68            | 19             | 19             | 19             | 19              | 76            | 19             | 77                                  |
| Per Share (\$)             | 0.82              | 1.00            | 3.05          | 0.83           | 0.86           | 0.87           | 0.86            | 3.42          | 0.84           | 3.43                                |
| Shares (millions)          | 22                | 22              | 22            | 22             | 22             | 22             | 22              | 22            | 22             | 22                                  |
| Lease operating (\$/bbl)   | 11.53             | 12.00           | 11.31         | 12.00          | 12.00          | 12.00          | 12.00           | 12.00         | 12.00          | 12.00                               |
| General and admin (\$/bbl) | 2.21              | 1.99            | 2.16          | 2.04           | 2.01           | 1.99           | 1.99            | 2.01          | 2.04           | 2.01                                |
| Deprec., D,& A (\$/bbl)    | 4.34              | 5.50            | 4.75          | 5.50           | 5.50           | 5.50           | 5.50            | 5.50          | 5.50           | 5.50                                |
| Ebitda Margin              | 57%               | 64%             | 58%           | 62%            | 63%            | 63%            | 62%             | 62%           | 62%            | 62%                                 |
| Tax rate                   | 31%               | 30%             | 28%           | 35%            | 35%            | 35%            | 35%             | 35%           | 35%            | 35%                                 |

Berry Petroleum Company Quarterly Results

### Buy Oil and Gas Producers at Mid Decade

Berry stock has outperformed recently in an attractive group for investment (see table <u>Rank by</u> <u>McDep Ratio</u>). Three to five-fold gain potential for oil and gas price over the next 5 to 13 years justifies investment in recommended oil and gas producers, in our opinion. Supporting improving prospects, the average futures price of oil for continuous delivery over the next six years is in a multi-year uptrend as defined by the current quotes above the 40-week average. The current benchmark oil average futures price for the next six years is about \$42 a barrel.

Kurt H. Wulff, CFA

# *McDep Associates Independent Stock Idea* February 7, 2005

### **Global Oil Cash Flow and Present Value**

|                                 |        | Adjstd  |        |         |
|---------------------------------|--------|---------|--------|---------|
|                                 | Ebitda | Resrvs/ | PV/    | Present |
|                                 | NTM    | Prod    | Ebitda | Value   |
|                                 | (\$mm) | NTM     | NTM    | (\$mm)  |
| Norsk Hydro ASA                 | 2,740  | 6.0     | 4.7    | 12,900  |
| Royal Dutch/Shell               | 18,930 | 6.3     | 5.1    | 97,000  |
| Petro-Canada                    | 2,133  | 7.3     | 5.9    | 12,500  |
| Encana Corporation              | 2,850  | 7.5     | 5.3    | 15,200  |
| Energy Partners Ltd.            | 103    | 7.5     | 5.1    | 530     |
| Unocal Corporation              | 2,110  | 7.9     | 4.9    | 10,300  |
| CNOOC                           | 4,560  | 8.0     | 5.3    | 24,300  |
| Devon Energy Corporation        | 2,500  | 8.1     | 5.5    | 13,800  |
| Marathon Oil Corporation        | 1,380  | 8.4     | 6.0    | 8,300   |
| BP plc                          | 20,400 | 8.8     | 6.6    | 134,000 |
| Total S.A.                      | 12,910 | 8.9     | 6.6    | 84,800  |
| Burlington Resources            | 1,400  | 9.7     | 5.9    | 8,300   |
| ConocoPhillips                  | 9,210  | 9.8     | 5.4    | 49,700  |
| Exxon Mobil Corporation         | 22,990 | 10.3    | 7.5    | 172,000 |
| ChevronTexaco Corporation       | 13,720 | 11.2    | 7.6    | 104,300 |
| Anadarko Petroleum Corp.        | 2,060  | 11.8    | 6.2    | 12,700  |
| Occidental Petroleum Corp.      | 4,786  | 11.8    | 6.4    | 30,400  |
| Berry Petroleum Company         | 185    | 11.9    | 6.4    | 1,180   |
| XTO Energy Inc.                 | 450    | 12.1    | 6.4    | 2,900   |
| PetroChina                      | 21,100 | 12.7    | 6.6    | 139,800 |
| Imperial Oil                    | 1,776  | 13.3    | 8.7    | 15,500  |
| Encore Acquisition Company      | 214    | 16.4    | 7.7    | 1,640   |
| Lukoil Oil Company              | 4,400  | 20.0    | 10.2   | 44,900  |
| Suncor Energy                   | 2,190  | 20.0    | 11.1   | 24,300  |
| Canadian Oil Sands Trust (US\$) | 920    | 20.0    | 11.0   | 10,100  |

# Oil and Gas Producers Rank by McDep Ratio: Market Cap and Debt to Present Value

|   | Symbol | /<br>Rating | Price<br>(\$/sh)<br>4-Feb<br>2005 | Shares<br>(mm) | Market<br>Cap<br>(\$mm) | Net<br>Present<br>Value<br>(\$/sh) | Debt/<br>Present<br>Value | McDep<br>Ratio |
|---|--------|-------------|-----------------------------------|----------------|-------------------------|------------------------------------|---------------------------|----------------|
| Independent Natural Gas and Oil - Small Cap |        |             |                                   |                |                         |                                    |                           |                |
| Berry Petroleum Company                     | BRY    | B2          | 56.51                             | 22             | 1,260                   | 50.00                              | 0.05                      | 1.12           |
| Energy Partners Ltd.                        | EPL    | B3          | 23.16                             | 39             | 900                     | 24.00                              | 0.14                      | 0.97           |
| Cimarex Energy Company                      | XEC    | B2          | 34.87                             | 43             | 1,500                   | 44.00                              | 0.00                      | 0.79           |
| Encore Acquisition Company                  | EAC    | B2          | 39.34                             | 33             | 1,280                   | 57.00                              | 0.19                      | 0.75           |
| Total or Median                             |        |             |                                   |                | 4,900                   |                                    | 0.09                      | 0.88           |

B1 = Buy full unlevered position, B2 = Buy half unlevered position, B3 = Alternative buy, H = HoldS2 = Short half unlevered position, S3 = Short quarter unlevered position

McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses

#### Please see disclosures on the final page.

# McDep Associates Independent Stock Idea February 7, 2005

**Disclaimer:** This analysis was prepared by Kurt Wulff doing business as McDep Associates. The firm used sources and data believed to be reliable, but makes no representation as to their accuracy or completeness. This analysis is intended for informational purposes and is not a solicitation to buy or sell a security. Past performance is no guarantee of future results.

McDep does no investment banking business. McDep is not paid by covered companies including revenue from advertising, trading, consulting, subscriptions or research service. McDep shall not own more than 1% of outstanding stock in a covered company. No one at McDep is on the Board of Directors at a covered company nor is anyone at a covered company on the Board of Directors of McDep.

McDep or its employees may take positions in stocks the firm covers for research purposes. No trades in a subject stock shall be made within a week before or after a change in recommendation.

**Certification:** I, Kurt H. Wulff, certify that the views expressed in this research analysis accurately reflect my personal views about the subject securities and issuers. No part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this research analysis.

**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 are expected to deliver a negative total return less than 7% per year including the effects of inflation.