# Berry Petroleum Company New Leader, New Prospects

| Symbol                       | BRY                 | Ebitda Next Twelve Months ending 6/30/05 (\$mm) | 157   |
|------------------------------|---------------------|---|-------|
| Rating                       | Buy                 | North American Natural Gas/Ebitda (%)           | 0     |
| Price (\$/sh)                | 29.75               | Natural Gas and Oil Production/Ebitda (%)       | 100   |
| Pricing Date                 | 8/12/04             | Adjusted Reserves/Production NTM                | 12.8  |
| Shares (mm)                  | 22                  | EV/Ebitda                                       | 4.6   |
| Market Capitalization (\$mm) | 670                 | <i>PV/Ebitda</i>                                | 6.5   |
| Debt (\$mm)                  | 60                  | Undeveloped Reserves (%)                        | 27    |
| Enterprise Value (EV) (\$mm) | 720                 | Natural Gas and Oil Ebitda (\$/boe)             | 21.20 |
| Present Value (PV) (\$mm)    | 1,020               | Present Value Proven Reserves(\$/boe)           | 9.20  |
| Net Present Value (\$/share) | 43                  | Present Value Proven Reserves(\$/mcfe)          | 1.50  |
| Debt/Present Value           | 0.06                | Earnings Next Twelve Months (US\$/sh)           | 2.79  |
| McDep Ratio - EV/PV          | 0.71                | Price/Earnings Next Twelve Months               | 11    |
| Dividend Yield (%/year)      | 1.5                 | Indicated Annual Dividend (US\$/sh)             | 0.44  |
| Note: Estimated auch flow a  | nd cornings tigd to | one year futures prices for natural gas and ail |       |

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**

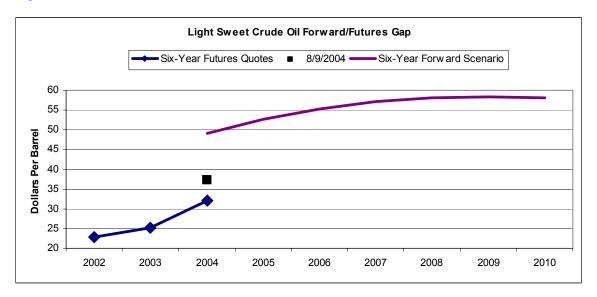
We continue to recommend current purchase of the common shares of small cap **Berry Petroleum (BRY)** for representation in growing volume and rising value of domestic oil production. A new leader, Mr. Robert F. Heinemann, directs expansion of the company's oil production in Utah that supplements continued exploitation of Berry's traditional California resources. By our illustrative calculation, Berry's current stock price reflects a constant price of just \$27 a barrel for Light, Sweet Oil. Each dollar a barrel may add more than \$1.50 per share implying that the current oil price of \$45, if sustained, could take Berry stock to \$58 a share.

#### **Moderate Oil Price Scenario**

The value of the company depends in large part on the future price of crude oil. Publicly traded in the commodity markets, futures contracts for delivery over the next six years continue in a steep uptrend. Whether the trend will slow for awhile we cannot know. Our scenario is that a move that began in the low \$20 and is now in the mid \$30 could reach \$50 (see chart).

To construct the scenario we assumed oil would peak in 2010 at \$50 in 2003 dollars. That is more moderate than the peak in early 1981 at more than \$80 in 2003 dollars. Then we applied 3% per year inflation and calculated six-year averages to build a forward curve.

Economics support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply is tight as spare capacity has virtually disappeared and the largest producing area, the Middle East, is showing maturity with the workhorse giant fields on the verge of peaking.



Monetary factors favor oil investment as interest rates below inflation drive investors to real assets for protection against the dollar losing value. If similar past periods are any guide, the authorities may not raise interest rates above inflation for the rest of the decade.

Environmental factors favor higher oil and gas price. Coal is still a quarter of world primary energy supply. Cleaner oil and gas are undervalued as long as we tolerate environmentally disadvantageous coal.

Political factors favor higher oil price in consuming countries and producing countries. Consuming governments often resort to artificial forces to hold down oil price that can appear to work temporarily. Military force could fall into that category though we would like to believe the objectives for deployment would be more worthy. Thirty years ago some of the same political leaders now directing military force directed price controls in a failed attempt to hold oil price artificially low.

In producing countries we have seen time and again that oil production goes down when international oil companies are not welcome. After Iran, Iraq and Venezuela, now Saudi Arabia appears vulnerable to political change that may bring about production decline.

Oil stock price can decline even if oil price remains firm. That happened in 1974 when economic activity and the stock market declined severely. It seemed to occur again in 2002 and we hope that is now behind us. Nonetheless the stock market may have begun a new moderate downward phase of its cycle. While oil stocks may not be entirely immune to surprise declines, we believe the fundamental outlook can carry the stocks higher over the next several years.

#### **One-Year Futures Point to Higher Cash Flow and Profits**

As our next twelve months (NTM) cash flow model moves ahead to the period ending June 30, 2005 expectations also advance mainly because of advancing one-year futures. We relate natural gas and oil price to the quotes for commodities traded on the New York Mercantile Exchange (see table Next Twelve Months Operating and Financial Estimates).

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## McDep Associates Independent Stock Idea

August 13, 2004

|                            |         |         |         |          |       |         |         | Next<br>Twelve |
|----------------------------|---------|---------|---------|----------|-------|---------|---------|----------------|
|                            | QI      | Q2      | Q3E     | Q4E      | Year  | QIE     | Q2E     | Months         |
|                            | 3/31/04 | 6/30/04 | 9/30/04 | 12/31/04 | 2004E | 3/31/05 | 6/30/05 | 6/30/05        |
| Volume                     |         |         |         |          |       |         |         |                |
| Oil (mbd)                  | 19.40   | 20.32   | 20.32   | 20.32    | 20.09 | 20.32   | 20.32   | 20.32          |
| Total (mb)                 | 1,765   | 1,849   | 1,869   | 1,869    | 7,352 | 1,828   | 1,849   | 7,415          |
| Total (mbd)                | 19.4    | 20.3    | 20.3    | 20.3     | 20.1  | 20.3    | 20.3    | 20.3           |
| Price                      |         |         |         |          |       |         |         |                |
| WTI Cushing (\$/bbl)       | 35.23   | 38.34   | 43.19   | 43.93    | 40.17 | 42.25   | 40.88   | 42.56          |
| Differential               | 6.97    | 7.51    | 8.46    | 8.60     | 9.06  | 8.60    | 8.01    | 8.33           |
| Company                    | 28.26   | 30.83   | 34.73   | 35.32    | 31.11 | 33.97   | 32.88   | 34.23          |
| Revenue (\$mm)             |         |         |         |          |       |         |         |                |
| Oil                        | 50      | 57      | 65      | 66       | 238   | 62      | 61      | 254            |
| Other                      | (5)     | (4)     |         |          | (9)   |         |         |                |
| Total                      | 45      | 53      | 65      | 66       | 229   | 62      | 61      | 254            |
| Expense                    |         |         |         |          |       |         |         |                |
| Lease operating            | 18      | 19      | 20      | 20       | 76    | 19      | 19      | 78             |
| General and administrative | 3       | 4       | 5       | 5        | 17    | 5       | 5       | 19             |
| Total                      | 21      | 24      | 24      | 24       | 93    | 24      | 24      | 96             |
| Ebitda                     | 24      | 29      | 41      | 42       | 135   | 38      | 37      | 157            |
| Exploration                | -       | -       | -       | -        |       | 1       | 1       | 2              |
| Deprec., Deplet., & Amort. | 7       | 9       | 9       | 9        | 34    | 9       | 9       | 37             |
| Other Non Cash             | (0)     | 0       | 7       | 8        | 15    | 6       | 6       | 27             |
| Ebit                       | 17      | 21      | 24      | 25       | 86    | 22      | 21      | 91             |
| Interest                   | 1       | 1       | 1       | 1        | 2     | 1       | 1       | 2              |
| Ebt                        | 16      | 20      | 23      | 24       | 84    | 21      | 20      | 89             |
| Income Tax                 | 4       | 5       | 7       | 7        | 23    | 6       | 6       | 27             |
| Net Income (\$mm)          | 12      | 15      | 16      | 17       | 61    | 15      | 14      | 62             |
| Per Share (\$)             | 0.55    | 0.68    | 0.73    | 0.75     | 2.71  | 0.67    | 0.63    | 2.79           |
| Shares (millions)          | 22      | 22      | 22      | 22       | 22    | 22      | 22      | 22             |
| Lease operating (\$/bbl)   | 10.20   | 10.39   | 10.50   | 10.50    | 10.40 | 10.50   | 10.50   | 10.50          |
| General and admin (\$/bbl) | 1.87    | 2.38    | 2.50    | 2.50     | 2.32  | 2.50    | 2.50    | 2.50           |
| Deprec., D,& A (\$/bbl)    | 4.08    | 4.60    | 5.00    | 5.00     | 4.68  | 5.00    | 5.00    | 5.00           |
| Ebitda Margin              | 53%     | 55%     | 63%     | 63%      | 59%   | 62%     | 60%     | 62%            |
| Tax rate                   | 26%     | 24%     | 30%     | 30%      | 28%   | 30%     | 30%     | 30%            |

Berry Petroleum Company Quarterly Results

Investors who want calendar year estimates can find 2004 in the table. For 2005 we suggest using the next twelve months as a rough estimate. Estimates can change frequently along with oil markets.

## Present Value at Real Price and Real Return

NTM estimates determine to a large extent the first year of projected cash flow that we discount to present value (see table Present Value of Oil and Gas Reserves). The calculation is set up on the basis of one barrel equivalent of reported proven reserves, 0.73 barrel developed and 0.27 barrel undeveloped. As a result, total present value, the number in the box, is also present value per barrel of proven reserves.

While there are many assumptions that could be discussed, discount rate and oil price are especially important. Price escalation and discount rate interact. In this case we make the

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simplification of dealing in constant dollars. That assumes price escalation, cost escalation and discount rate are all net of inflation.

On discount rate we presume that earning a 5% real return per year on an unlevered basis is a decent achievement. That compares to the 2% real return per year offered by U.S. Treasury Inflation Protected Securities. For good measure we bump that up to 7%.

While first year oil price is from the futures market we hold it constant at an arbitrary level thereafter. The assumed price listed in the upper right hand corner is the commonly quoted benchmark Light, Sweet Crude.

#### Berry Petroleum Company Present Value of Oil and Gas Reserves

| Volume<br>Volume<br>Capex/C | Enhance   | ment (%/yr):   |        | 7<br>6<br>10 |         | Nymex Oil Price Post 2005 (\$/bbl)<br>Real Discount Rate (%/yr):<br>Variable Cost (%): |      |       |      | 35<br>7.0<br>23 |        |         |
|-----------------------------|-----------|----------------|--------|--------------|---------|--|------|-------|------|-----------------|--------|---------|
|                             |           | Volume         |        |              |         | Fixed  | Var. | Cash  | Cap  | Free            |        | Present |
|                             | Basic     | Enhanced       | Total  |              | Revenue | Cost   | Cost | Flow  | Ex   | CF              | Disc   | Value   |
| Year                        | (bbl)     | (bbl)          | (bbl)  | (\$/bbl)     | (\$)    | (\$)   | (\$) | (\$)  | (\$) | (\$)            | Factor | (\$)    |
| Total 200                   | 05 throug | gh 2024; years | ending | on 6/30      |         |  |      |       |      |                 |        |         |
|                             | 0.730     | 0.270          | 1.000  | 28.56        | 28.57   | 6.53   | 6.57 | 15.47 | 0.80 | 14.67           | 0.63   | 9.20    |
|                             |           |                |        |              |         |  |      |       |      |                 | -      |         |
| 2005                        | 0.068     | 0.000          | 0.068  | 34.23        | 2.32    | 0.33   | 0.53 | 1.46  | 0.15 | 1.31            | 0.97   | 1.27    |
| 2006                        | 0.063     | 0.004          | 0.067  | 28.15        | 1.88    | 0.33   | 0.43 | 1.12  | 0.11 | 1.01            | 0.90   | 0.91    |
| 2007                        | 0.058     | 0.008          | 0.066  | 28.15        | 1.86    | 0.33   | 0.43 | 1.11  | 0.11 | 1.00            | 0.84   | 0.84    |
| 2008                        | 0.054     | 0.011          | 0.065  | 28.15        | 1.84    | 0.33   | 0.42 | 1.09  | 0.11 | 0.98            | 0.79   | 0.78    |
| 2009                        | 0.050     | 0.015          | 0.065  | 28.15        | 1.82    | 0.33   | 0.42 | 1.08  | 0.11 | 0.97            | 0.74   | 0.72    |
| 2010                        | 0.047     | 0.017          | 0.064  | 28.15        | 1.80    | 0.33   | 0.41 | 1.06  | 0.11 | 0.96            | 0.69   | 0.66    |
| 2011                        | 0.043     | 0.020          | 0.063  | 28.15        | 1.78    | 0.33   | 0.41 | 1.05  | 0.10 | 0.94            | 0.64   | 0.61    |
| 2012                        | 0.040     | 0.023          | 0.063  | 28.15        | 1.76    | 0.33   | 0.41 | 1.03  | 0.00 | 1.03            | 0.60   | 0.62    |
| 2013                        | 0.037     | 0.021          | 0.058  | 28.15        | 1.64    | 0.33   | 0.38 | 0.93  | 0.00 | 0.93            | 0.56   | 0.53    |
| 2014                        | 0.035     | 0.019          | 0.054  | 28.15        | 1.52    | 0.33   | 0.35 | 0.84  | 0.00 | 0.84            | 0.53   | 0.44    |
| 2015                        | 0.032     | 0.018          | 0.050  | 28.15        | 1.41    | 0.33   | 0.32 | 0.76  | 0.00 | 0.76            | 0.49   | 0.37    |
| 2016                        | 0.030     | 0.017          | 0.047  | 28.15        | 1.31    | 0.33   | 0.30 | 0.68  | 0.00 | 0.68            | 0.46   | 0.31    |
| 2017                        | 0.028     | 0.016          | 0.043  | 28.15        | 1.22    | 0.33   | 0.28 | 0.61  | 0.00 | 0.61            | 0.43   | 0.26    |
| 2018                        | 0.026     | 0.014          | 0.040  | 28.15        | 1.13    | 0.33   | 0.26 | 0.54  | 0.00 | 0.54            | 0.40   | 0.22    |
| 2019                        | 0.024     | 0.013          | 0.037  | 28.15        | 1.05    | 0.33   | 0.24 | 0.48  | 0.00 | 0.48            | 0.37   | 0.18    |
| 2020                        | 0.022     | 0.012          | 0.035  | 28.15        | 0.97    | 0.33   | 0.22 | 0.42  | 0.00 | 0.42            | 0.35   | 0.15    |
| 2021                        | 0.021     | 0.012          | 0.032  | 28.15        | 0.90    | 0.33   | 0.21 | 0.37  | 0.00 | 0.37            | 0.33   | 0.12    |
| 2022                        | 0.019     | 0.011          | 0.030  | 28.15        | 0.84    | 0.33   | 0.19 | 0.32  | 0.00 | 0.32            | 0.31   | 0.10    |
| 2023                        | 0.018     | 0.010          | 0.028  | 28.15        | 0.78    | 0.33   | 0.18 | 0.27  | 0.00 | 0.27            | 0.29   | 0.08    |
| 2024                        | 0.016     | 0.009          | 0.026  | 28.15        | 0.72    | 0.33   | 0.17 | 0.23  | 0.00 | 0.23            | 0.27   | 0.06    |

#### Present Value per Barrel Leads to Net Present Value

We illustrate the calculation of Net Present Value (NPV) in a sensitivity table where each column is headed by a different oil price (see table Net Present Value Calculation). The price of \$35 a barrel corresponds to our standardized present value of \$43 a share.

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Reported reserves that we use in the calculation understate likely future volumes. Contrary to our projection of volume decline in calculating the value of proven reserves, the company historically has added new reserves and slowed decline. Berry reports a moderate 27% of reserves as undeveloped.

#### Berry Petroleum Company Net Present Value Calculation

| Constant Oil Price (\$/bbl):                       | 27   | 35    | 40    | 50    |
|--|------|-------|-------|-------|
| Present Value per Barrel (\$):                     | 6.70 | 9.20  | 10.80 | 14.00 |
| Oil and Gas reserves (million barrels equivalent): | 110  | 110   | 110   | 110   |
| Present Value of Oil and Gas Reserves (\$mm):      | 740  | 1,020 | 1,190 | 1,540 |
| Debt (\$mm):                                       | 60   | 60    | 60    | 60    |
| Present Value of Equity (\$mm):                    | 680  | 960   | 1,130 | 1,480 |
| Shares (mm):                                       | 22   | 22    | 22    | 22    |
| Net Present Value (\$/sh):                         | 30   | 43    | 50    | 66    |

## New Leader Knows Oil Production Technology

Mr. Heinemann applied his doctorate in chemical engineering to reservoir performance and production technology at ExxonMobil before joining the board of directors of Berry in 2002. His field of expertise is critical for a company that derives practically all of its income from oil production and especially enhanced oil recovery. When Mr. Jerry Hoffman, Berry's leader for more than the past decade, foresaw a need to reduce his responsibilities, Mr. Heinemann was named Chairman. Then only a few weeks later Mr. Hoffman retired unexpectedly for health and personal reasons. After a brief period searching for a new chief executive officer, the Board of Directors asked Mr. Heinemann to be CEO. Though he continues to live in Dallas, Mr. Heinemann is spending much of his time at the company headquarters in Bakersfield, CA.

#### **Production Doubles in Utah**

After long seeking an acquisition outside of California, Berry seems to have made a good one at Brundage Canyon in Utah's Uintah Basin. The property was purchased from Williams Companies with the help of Mr. Logan Magruder, who had worked for Williams' predecessor Barrett and is now Senior Vice President – Rockies for Berry. Closed in August last year, the transaction added properties that produced 2100 barrels equivalent daily (bd) in the fourth quarter 2003. Daily production in July 2004 reached 4500 bd. Well count is approaching 150 and management thinks an additional 400 locations are prospective. The limits of the field have not yet been established to the west.

Last month Berry announced a deal to acquire prospective lands directly to the west of Brundage Canyon. The transaction with the Ute Indian Tribe requires government approvals. Berry would have a 75% working interest to 7500 feet deep and 25% below that. The shallower depth is prospective for light oil and deeper zones for natural gas.

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

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