

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Fiscal Year Ended December 31, 2009

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 (NO FEE REQUIRED)

For the Transition Period From

Commission File Number 1-9735

A. Full title of the Plan and the address of the Plan, if different from that of the issuer named below:

BERRY PETROLEUM COMPANY THRIFT PLAN

B. Name of issuer of the securities held pursuant to the Plan and the address of its principal executive office:

Berry Petroleum Company
1999 Broadway, Ste 3700
Denver, CO 80202

**BERRY PETROLEUM COMPANY
THRIFT PLAN**

**FINANCIAL STATEMENTS
AND SUPPLEMENTAL SCHEDULE
(With Report of Independent Registered Public Accounting Firm)**

December 31, 2009 and 2008

BERRY PETROLEUM COMPANY THRIFT PLAN

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Benefit Plans Committee of the
Berry Petroleum Company Thrift Plan:

We have audited the accompanying statements of net assets available for benefits of the Berry Petroleum Company Thrift Plan (the Plan) as of December 31, 2009 and 2008, and the related statement of changes in net assets available for benefits for the year ended December 31, 2009. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2009 and 2008 and the changes in net assets available for benefits for the year ended December 31, 2009, in conformity with accounting principles generally accepted in the United States of America.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule H, Line 4i – Schedule of Assets (Held at End of Year) as of December 31, 2009, is presented for the purpose of additional analysis and is not a required part of the basic 2009 financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in our audit of the basic 2009 financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic 2009 financial statements taken as a whole.

KMJ Corbin & Company LLP
/s/ KMJ Corbin & Company LLP
Costa Mesa, California
June 9, 2010

BERRY PETROLEUM COMPANY THRIFT PLAN
Statements of Net Assets Available for Benefits
December 31, 2009 and 2008

| | <u>2009</u> | <u>2008</u> |
|--|------------------------------------|------------------------------------|
| ASSETS: | | |
| Investments, at fair value: | | |
| Interest bearing cash | \$ 383,228 | \$ 307,887 |
| Shares in registered investment companies | 17,172,417 | 11,977,743 |
| Common and collective trust | 3,623,964 | 4,623,978 |
| Common stock | - | 96,071 |
| Corporate debt | - | 30,920 |
| Common stock of sponsor | 6,572,188 | 1,955,757 |
| Participants loans | 859,923 | 775,373 |
| | <u>28,611,720</u> | <u>19,767,729</u> |
| Accrued income | - | 269 |
| Total Assets | <u>28,611,720</u> | <u>19,767,998</u> |
| LIABILITIES: | | |
| Other liabilities | 9,269 | 15,374 |
| Net assets available for benefits, at fair value | <u>28,602,451</u> | <u>19,752,624</u> |
| Adjustment from fair value to contract value for fully benefit-responsive investment contracts | 67,388 | 249,427 |
| Net assets available for benefits | <u><u>\$ 28,669,839</u></u> | <u><u>\$ 20,002,051</u></u> |

The accompanying notes are an integral part of these financial statements.

BERRY PETROLEUM COMPANY THRIFT PLAN
Statement of Changes in Net Assets Available for Benefits
Year Ended December 31, 2009

Additions to (deductions from) net assets attributable to:

| | | |
|---|----|--------------------------|
| Investment income | | |
| Interest and dividends | \$ | 334,600 |
| Interest from participant loans | | 51,882 |
| Net appreciation in fair value of investments | | 9,352,482 |
| Net investment income | | <u>9,738,964</u> |
| | | |
| Contributions: | | |
| Employer | | 1,414,083 |
| Participants | | 2,102,350 |
| Rollovers | | 94,247 |
| Total contributions | | <u>3,610,680</u> |
| | | |
| Total additions | | <u>13,349,644</u> |
| | | |
| Deductions: | | |
| Benefits paid to participants | | (4,671,838) |
| Administrative fees | | (10,018) |
| Total deductions | | <u>(4,681,856)</u> |
| | | |
| Net increase in net assets | | <u>8,667,788</u> |
| | | |
| Net assets available for benefits: | | |
| Beginning of year | | <u>20,002,051</u> |
| End of year | \$ | <u><u>28,669,839</u></u> |

The accompanying notes are an integral part of these financial statements.

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 1. Description of Plan

The following description of the Berry Petroleum Company Thrift Plan (the Plan) is provided for general information purposes only. Participants should refer to the Plan Agreement for more complete information.

General

The Plan is sponsored and administered by Berry Petroleum Company (the Company or Plan Sponsor). The Plan is a defined contribution plan under Section 401(a) of the Internal Revenue Code (the Code), which includes a cash or deferred arrangement under 401(k) of the Code, and is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), as amended. Effective December 31, 2009, the Plan was amended (the Amendment). The Amendment, among other things, added an automatic enrollment feature to the Plan. All new employees, and all existing employees that did not previously participate in the Plan, are automatically enrolled into the Plan. In addition, 6% of eligible compensation for participants automatically enrolled is contributed to the Plan, unless the participant declines the automatic enrollment. This percentage of eligible compensation is increased by 1% on an annual basis up to a maximum of 8% of eligible compensation.

Administration

The Benefit Plans Committee (the "Committee") appointed by the Board of Directors and consisting of at least three members, has the authority to control and manage operation and administration of the Plan. The Plan assets are held under a trust for which Fidelity Management Trust Company, (Fidelity) acts as trustee and are administered under a trust agreement which requires that the trustee hold, administer, and distribute the funds of the Plan in accordance with the Plan document and the instructions of the Committee or its designees. Four officers of the Company, Walter B. Ayers, Shawn M. Canaday, Kenneth A. Olson and David D. Wolf make up the members of the Committee, and Berry Petroleum Company is the Plan Sponsor. On August 25, 2009, the Board of Directors of the Company approved Mr. Canaday to replace Mr. Wilson who resigned from the Company and adding Mr. Canaday as an additional member of the Committee. Certain administrative expenses are paid by the Company.

Contributions

Employees who elect to participate in the Plan may contribute from 1% to 60% of their eligible compensation, as defined in the Plan Agreement. The Company match consists of a 100% match of each participant's contribution up to the first 8% of the participant's eligible compensation.

Participant and employer contributions are subject to statutory limitations, which for 2009 were \$16,500 for employee contributions and \$49,000 for total employee and employer contributions, respectively. Employees who have attained the age of 50 by the end of the Plan year are eligible to make an additional catch-up contribution, for which the limit was \$5,500 for 2009. Participants vest immediately in their contributions, and vesting in employer contributions is at a rate of 20% per year of service during the first five years of employment. In addition, participants may elect to contribute a percentage of eligible compensation into the Plan on an after-tax basis or as noted above as a Roth 401(k) contribution. After-tax contributions are subject to special Internal Revenue Code rules which must be satisfied and reduce the maximum amount a participant may contribute. Any contributions that adversely affect the Plan's non-discrimination tests may be refused or refunded.

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 1. Description of Plan, continued

Contributions, continued

Contributions made by or on behalf of Plan participants are invested as directed by the participants and held under a trust agreement in one or more of the investment options as directed by participants in accordance with the provisions of the Plan Agreement. Employees may choose to have their contributions invested in the Fidelity Managed Income Portfolio, the Berry Petroleum Company Common Stock Fund and a selection of mutual funds.

Investment Funds

The investment selections available to participants are as follows:

| | |
|---|---|
| Berry Petroleum Company Common Stock Fund | ABF Large Cap Value PA Fund |
| Fidelity Managed Income Portfolio Fund | Columbia Acorn International Z Fund |
| Fidelity Contrafund | CRM Mid Cap Value Investor Fund |
| Fidelity Diversified International Fund | Managers AMG Essex Small/MicroCap Growth A Fund |
| Fidelity Low-Priced Stock Fund | Morgan Stanley Institutional Equity Growth B Fund |
| Fidelity Puritan Fund | Oppenheimer Developing Markets A Fund |
| Fidelity Freedom Income Fund | Pimco High Yield Admin Fund |
| Fidelity Freedom Funds (1) | Pimco Real Return Bond Fund |
| Fidelity U.S. Bond Index Fund | Spartan U.S. Equity Index Fund |
| ABF Small Cap Value PA Fund | |

- (1) The entire range of Freedom Funds are available and comprise the Freedom 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045 and 2050.

The following investments had fair values at December 31, 2009 and 2008 representing more than 5% of net assets available for benefits:

| | 2009 | 2008 |
|---|------------------|------------------|
| Berry Petroleum Company Common Stock Fund | \$ 6,946,113 (a) | \$ 2,052,928 (a) |
| Fidelity Managed Income Portfolio | 3,623,964 (b) | 4,623,978 (b) |
| Fidelity Diversified International Fund | 2,606,449 | 1,992,289 |
| Fidelity Contrafund | 2,521,561 | 1,831,628 |
| Spartan U.S. Equity Index Fund | 1,646,954 | 1,226,178 |
| Fidelity Low-Priced Stock Fund | 1,486,795 | 1,199,926 |

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 1. Description of Plan, continued

Investment Funds, continued

- (a) Investment balances include cash and cash equivalents of \$383,194 and \$112,276, accrued income of \$0 and \$269, other liabilities of \$9,269 and \$15,374 at December 31, 2009 and 2008, respectively.
- (b) The schedule reflects the fair value. The contract value of the investment at December 31, 2009 and 2008, was \$3,691,352 and \$4,873,405, respectively.

Participant Accounts

Participants can access their accounts at any time with Fidelity's Net Benefits online service. Each participant account is credited with the participant's and the Company's contributions, and the allocation of any Plan earnings or losses. Earnings or losses are allocated on a fund-by-fund basis. Allocations are based on the ratio of the participant's account balance in each investment option to the total assets of the investment option. Forfeitures may be used to reduce the amount the Company is required to fund for matching contributions. The Plan had a balance of forfeitures at December 31, 2009 and 2008 of \$783 and \$672, respectively. For the year ended December 31, 2009, \$170,904 of forfeitures was applied to employer matching contributions.

Participant Loans

Participants are entitled to borrow from their vested account balances in amounts from \$1,000 to \$50,000, but not in excess of 50% of their vested account balances. Interest is computed based on the prime rate in the Wall Street Journal on the date of the application, plus 1%. A maximum of two loans can be outstanding at any one time and each loan must be repaid over a period of 1 to 5 years, unless the loan is for the purchase of a principal residence, in which case the loan may be repaid over a period of 10 years. Each loan is supported by a promissory note with the participant's account balance as collateral. In the event of default, death, disability or termination of employment, the entire outstanding principal balance and accrued interest becomes immediately due and payable.

Hardship Withdrawals

The Plan allows for hardship withdrawals to pay certain housing, health or education expenses if the participant does not have other funds available for these expenses. Internal Revenue Service (IRS) regulations require that a participant cannot make contributions to the Plan for six months after taking a hardship withdrawal. In addition, participants will not receive matching contributions or forfeitures for the six months they are ineligible to participate in the Plan. For the year ended December 31, 2009, the Plan had four hardship withdrawals totaling \$140,351.

Payment of Benefits

Upon termination of service due to retirement, death, disability or other reasons, the participant or beneficiary, in the case of death, can request withdrawal of his or her account equal to the value of the vested balance in the participant account, reduced by any unpaid loan balance. If desired, a participant can leave the account balance in the Plan until the participant attains the age 70 ½ unless the participant's vested account

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 1. Description of Plan, continued

Payment of Benefits, continued

balance is less than \$5,000, in which case the vested account balance can be distributed to the participant at the discretion of the Plan Sponsor. The Plan allows withdrawals from the participant accounts in the form of installment payments in addition to lump sum distributions.

Plan Termination

Although it is anticipated that the Plan will remain in effect indefinitely, the Company has the right to discontinue its contributions and terminate the Plan subject to the provisions of ERISA. In the event of complete or partial termination of the Plan, participants become 100% vested in their account balances.

Note 2. Summary of Significant Accounting Policies

Basis of Accounting

The Plan's financial statements are prepared using the accrual method of accounting in accordance with accounting principles generally accepted in the United States of America ("GAAP").

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of net assets available for benefits and changes therein. Actual results could differ from those estimates.

Investments

Investments are stated at fair value. See "Fair Value Measurements" below.

Fidelity Managed Income Portfolio Fund (Managed Income Fund) is held in a common/collective trust and consists primarily of investments in fixed-income securities and bond funds; however, the fund will also purchase third-party wrap contracts and investment contracts which result in the probability that participant directed transactions with investments in the fund will be at contract value. Therefore, investments in the Managed Income Fund are considered to be fully benefit-responsive. As a result, Plan investments in the Managed Income Fund are reported at fair value.

However, since contract value is the relevant measurement attribute for that portion of the net assets available for benefits of a defined-contribution plan attributable to fully benefit responsive investment contracts, the statements of net assets available for benefits also present an adjustment from fair value to contract value for investments in the Managed Income Fund so that such investments are ultimately reflected at contract value in the statement of net assets available for benefits.

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 2. Summary of Significant Accounting Policies, continued

Investments, continued

In accordance with the policy of stating Plan investments at fair value, the Plan presents the net appreciation (depreciation) in the fair value of its investments in the statement of changes in net assets available for benefits, which consists of the realized gains or losses and the unrealized appreciation (depreciation) on those investments.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Payment of Benefits

Benefit payments to participants are recorded when paid.

Expenses of the Plan

The Plan's administrative expenses are paid by either the Plan or the Plan's Sponsor, as provided by the Plan Agreement.

Fair Value Measurements

Effective January 1, 2008, the Plan adopted Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 820, *Fair Value Measurements and Disclosures*, which defines fair value, establishes a framework for measuring fair value in accordance with GAAP and expands required disclosures about fair value measurements. ASC 820 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal, or in the absence of a principal market, the most advantageous market for the asset or liability, in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy that requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs which prioritize the inputs used in measuring fair value:

Level 1—Quoted prices in active markets for identical assets or liabilities

Level 2—Observable inputs other than quoted prices included within Level 1, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (for example interest rates and yield curves, credit risks and default rates) or other inputs that are principally derived or corroborated by observable market data, correlation, or by other means.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 2. Summary of Significant Accounting Policies, continued

Fair Value Measurements, continued

Registered investment companies

The shares in registered investment companies are valued at quoted market prices in an exchange and active market, which represents the net asset values of shares held by the Plan at year end and are classified as Level 1 investments.

Common/collective trust funds

Investments in common/collective trust consist of investments in the Managed Income Fund, and the fair value of these investments is determined by the fund's trustee based on the fair value of the underlying securities within the fund, which represent the net asset value of the shares held by the Plan at year end. Investments in common and collective trust are classified as Level 2 investments.

Interest bearing cash

The carrying value approximates fair value.

Participant loans

Participant loans are valued at their outstanding balances, which approximates fair value and are classified as Level 3 investments.

As of December 31, 2009, the Plan's investments measured at fair value on a recurring basis were as follows:

| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---------------------------------|--|--|--|
| Registered investment companies | \$ 17,172,417 | \$ - | \$ - |
| Common/collective trusts | - | 3,623,964 | - |
| Common stock of sponsor | 6,572,188 | - | - |
| Interest bearing cash | 383,228 | - | - |
| Participant loans | - | - | 859,923 |
| | <u>\$ 24,127,833</u> | <u>\$ 3,623,964</u> | <u>\$ 859,923</u> |

The following is a reconciliation for all Level 3 investments, consisting of participant loans, for the years ended December 31, 2009 and 2008:

| | 2009 | 2008 |
|-------------------------------|-------------------|-------------------|
| Balance at January 1 | \$ 775,373 | \$ 633,247 |
| New loans issued | 563,726 | 471,955 |
| Benefit payment distributions | (125,461) | (50,312) |
| Principal repayments | (353,715) | (279,517) |
| Balance at December 31 | <u>\$ 859,923</u> | <u>\$ 775,373</u> |

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Fair Value Measurements, continued

As of December 31, 2008, the Plan's investments measured at fair value on a recurring basis were as follows:

| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Other Observable Inputs (Level 2) | Significant Unobservable Inputs (Level 3) |
|---------------------------------|--|--|--|
| Registered investment companies | \$ 11,977,743 | \$ - | \$ - |
| Common/collective trusts | - | 4,623,978 | - |
| Common stock | 96,071 | - | - |
| Corporate debt | 30,920 | - | - |
| Common stock of sponsor | 1,955,757 | - | - |
| Interest bearing cash | 307,887 | - | - |
| Participant loans | - | - | 775,373 |
| | <u>\$ 24,127,833</u> | <u>\$ 4,623,978</u> | <u>\$ 775,373</u> |

Recent Accounting Pronouncements

In September 2009, the FASB issued the FASB Accounting Standards Codification (the Codification). The Codification is the source of authoritative GAAP recognized by the FASB to be applied by nongovernmental entities. All accounting guidance that is not included in the Codification will be considered to be non-authoritative. The FASB will issue Accounting Standards Updates (ASUs), which will serve only to update the Codification, provide background information about the guidance and provide the basis for conclusions on changes in the Codification. ASUs are not authoritative in their own right. The Codification did not change GAAP or have an effect on the Plan's statement of net assets available for benefits or statement of changes in net assets available for benefits.

Note 3. Tax Status

Fidelity, the Plan's trustee, received a favorable IRS Determination Letter from the IRS for their Prototype Plan (the Prototype Plan) in November 2002. On June 1, 2003, the Company adopted Fidelity's Prototype 401(k) Plan conforming the operations of the Plan to the Prototype Plan, thereby allowing the Company to rely on Fidelity's current and future favorable IRS determination letters. Although the Plan has been amended since receiving the determination letter, the Plan Sponsor believes the Plan is designed, and is currently being operated, in compliance with the applicable requirements of the Code.

Note 4. Transactions with Parties-in-Interest and Related Party Transactions

During the years ended December 31, 2009 and 2008, there were transactions involving investment of Plan assets in investment funds maintained by the trustee and participant loans. The trustee and participants are considered to be parties-in-interest as defined in Section 3(14) of ERISA. One of the Plan's investment options is Berry Petroleum Company Common Stock which is purchased by the trustee in the open market.

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**

Note 4. Transactions with Parties-in-Interest and Related Party Transactions, continued

During the year ended December 31, 2009, the Plan Sponsor paid \$81,530 of Plan administration and employee education costs. In addition, as of December 31, 2009 and 2008, the Plan had outstanding participant loan balances of \$859,923 and \$775,373, respectively. All of these transactions are considered exempt party-in-interest transactions under ERISA.

Note 5. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the amount per the Form 5500 as of December 31, 2009 and 2008:

| | 2009 | 2008 |
|--|----------------------|----------------------|
| Net assets available for benefits per the financial statements | <u>\$ 28,669,839</u> | <u>\$ 20,002,051</u> |
| Adjustment from fair value to contract value for fully benefit-responsive investment contracts | <u>(67,388)</u> | <u>(249,427)</u> |
| Net assets available for benefits per the Form 5500 | <u>\$ 28,602,451</u> | <u>\$ 19,752,624</u> |

The following is a reconciliation of the net increase in net assets per the financial statements to the amount per the Form 5500 for the year ended December 31, 2009:

| | |
|---|---------------------|
| Net increase in net assets per the financial statements | \$ 8,667,788 |
| Change in the adjustment from fair value to contract value for fully benefit-responsive investment contracts for the year ended December 31, 2009 | <u>182,039</u> |
| Investment loss per the Form 5500 | <u>\$ 8,849,827</u> |

Note 6. Risks and Uncertainties

The Plan provides for investments in any combination of mutual funds, Berry Petroleum Company Common Stock, corporate bonds, common stock and the Managed Income Portfolio, with different investment strategies. These investments are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investments and the level of uncertainty related to the changes in the value of these investments, it is at least reasonably possible that changes in risks in the near term would materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits and the statement of changes in net assets available for benefits.

Note 7. Subsequent Events

The Plan has evaluated subsequent events through June 9, 2010, the date of this report, and determined that no subsequent events have occurred that would require recognition in the financial statements or disclosure in the notes thereto other than as disclosed in the accompanying notes.

BERRY PETROLEUM COMPANY THRIFT PLAN
Plan # 002 EIN # 77-0079387
Schedule I - Schedule H, Line 4i-Schedule of Assets (Held at End of Year)
As of December 31, 2009

| (a) | (b) | (c) | (e) |
|--|--|---|---------------|
| Identity of issuer, borrower, lessor, or similar party | Description of investment, including maturity date, rate of interest, collateral, par or maturity value | Current Value | |
| * | Berry Petroleum Company Common Stock Fund *** | Class A Common Stock Fund (\$0.01 par value) | \$ 6,946,113 |
| * | Fidelity Managed Income Portfolio Fund | Common Collective Trust | 3,623,964 |
| * | Fidelity Diversified International Fund | Mutual Fund | 2,606,449 |
| * | Fidelity Contrafund | Mutual Fund | 2,521,561 |
| * | Fidelity Low-Priced Stock Fund | Mutual Fund | 1,486,795 |
| * | Spartan U.S. Equity Index Fund | Mutual Fund | 1,646,954 |
| | ABF Large Cap Value PA Fund | Mutual Fund | 1,310,052 |
| * | Fidelity US Bond Index Fund | Mutual Fund | 938,887 |
| | CRM Mid Cap Value Investor Fund | Mutual Fund | 787,353 |
| | Morgan Stanley Institutional Equity Growth B Fund | Mutual Fund | 950,222 |
| * | Fidelity Freedom 2020 Fund | Mutual Fund | 430,223 |
| | ABF Small Cap Value PA Fund | Mutual Fund | 533,838 |
| | Managers AMG Essex Small/Microcap Growth A Fund | Mutual Fund | 445,148 |
| | Pimco Real Return Bond Fund | Mutual Fund | 752,306 |
| * | Fidelity Puritan Fund | Mutual Fund | 477,608 |
| * | Fidelity Freedom 2030 Fund | Mutual Fund | 280,860 |
| | Pimco High Yield Admin Fund | Mutual Fund | 472,622 |
| * | Fidelity Freedom 2025 Fund | Mutual Fund | 303,924 |
| * | Fidelity Freedom 2010 Fund | Mutual Fund | 242,214 |
| * | Fidelity Freedom 2040 Fund | Mutual Fund | 82,939 |
| | Columbia Acorn International Z Fund | Mutual Fund | 382,780 |
| * | Fidelity Freedom Income Fund | Mutual Fund | 107,528 |
| * | Fidelity Freedom 2000 Fund | Mutual Fund | 67,735 |
| * | Fidelity Freedom 2035 Fund | Mutual Fund | 117,247 |
| * | Fidelity Freedom 2015 Fund | Mutual Fund | 85,873 |
| * | Fidelity Freedom 2045 Fund | Mutual Fund | 62,177 |
| * | Fidelity Freedom 2050 Fund | Mutual Fund | 51,515 |
| | Oppenheimer Developing Markets A Fund | Mutual Fund | 27,607 |
| | Fidelity Retirement Money Market ** | Money Market | 34 |
| | | | 27,742,528 |
| * | Participant loans | Interest bearing loans at prime rate plus 1% to 2%; interest rates on outstanding loans range from 4.25% to 9.25% for a period of 1 to 5 years. | 859,923 |
| | | | \$ 28,602,451 |
| * | Party-in-interest | | |
| ** | Fidelity Retirement Money Market Funds unallocated to participant accounts at year-end. | | |
| *** | Includes 225,461 shares of Class A Common Stock, \$0.01 par value, and cash of \$383,194 and other liabilities of \$9,269. | | |

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Administration Committee has duly caused this annual report to be signed on behalf of the Plan by the undersigned hereunto duly authorized.

BERRY PETROLEUM COMPANY

Thrift Plan

/s/ Kenneth A. Olson

Kenneth A. Olson

Member of the Benefits Plan Committee

Date: June 15, 2010

EXHIBIT INDEX

Exhibit Number

Description

23.1

Consent of Independent Registered Public Accounting Firm (filed herewith).



Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement on Form S-8 No. 333-62871 pertaining to the Berry Petroleum Company Thrift Plan of our report dated June 9, 2010, with respect to the statements of net assets available for the Berry Petroleum Company Thrift Plan as of December 31, 2009 and 2008, and the related statement of changes in net assets available for benefits for the year ended December 31, 2009 and the related supplemental schedule, which report appears in the December 31, 2009 Annual Report on Form 11-K of the Berry Petroleum Company Thrift Plan.

KMJ | Corbin & Company LLP

Costa Mesa, California
June 9, 2010
