

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, 2004

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
5201 Truxtun Avenue, Suite 300
Bakersfield, CA 93309

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Administrators 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, 2004 and 2003, and the related statement of changes in net assets available for benefits for the year ended December 31, 2004. 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. 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 Berry Petroleum Company Thrift Plan as of December 31, 2004 and 2003 and the changes in its net assets available for benefits for the year ended December 31, 2004, 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 of assets (held at end of year) as of December 31, 2004, is presented for the purpose of additional analysis and is not a required part of the basic 2004 financial statements, but is supplementary information required by the United States 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 2004 financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic 2004 financial statements taken as a whole.

Corbin & Company, LLP
/s/Corbin & Company, LLP

Irvine, California
June 14, 2005

BERRY PETROLEUM COMPANY THRIFT PLAN
Statements of Net Assets Available for Benefits
December 31, 2004 and 2003

	2004	2003
ASSETS:		
Cash and cash equivalents	\$ 125,673	\$ 51,495
Employer contributions receivable	192	7,662
Investments, at fair value	13,967,623	10,409,536
Investments, at values quoted by trust	4,922,806	5,155,224
Participant loans	600,857	686,557
	<u>19,617,151</u>	<u>16,310,474</u>
LIABILITIES:		
Operating payables	-	6,777
Net assets available for benefits	<u>\$ 19,617,151</u>	<u>\$ 16,303,697</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, 2004

ADDITIONS:

Additions to net assets attributable to:

Contributions:

Participants	\$ 884,861
Employer	763,392
Rollovers	92,955
	<u>1,741,208</u>
Interest and dividends	213,157
Participant loan interest payments	45,933
Net appreciation in fair value of investments	2,573,960
	<u>2,833,050</u>
Total additions	<u>4,574,258</u>

DEDUCTIONS:

Deductions from net assets attributable to:

Administrative fees	3,538
Benefits paid to participants	1,257,266
	<u>1,260,804</u>
Total deductions	<u>1,260,804</u>
Net increase in net assets	3,313,454
Net assets available for benefits:	
Beginning of year	<u>16,303,697</u>
End of year	<u><u>\$ 19,617,151</u></u>

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

**BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS**
Note 1. Plan Description

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 a defined contribution plan under Section 401(k) of the Internal Revenue Code (the Code). The Plan was amended as of November 1, 2004 to allow for immediate enrollment eligibility for all employees of Berry Petroleum Company (the Company). Prior to November 1, 2004, employees were required to have completed six months of service, as defined in the Plan Agreement, to be eligible to participate in the Plan.

Contributions

Employees who elect to participate in the Plan may contribute from 1% to 60% of their annual earnings, as defined in the Plan Agreement. The Company matches 100% of the first 6% of the participants annual earnings contributed to the Plan. The Plan provides for a Company match in excess of 6%, if certain financial results are achieved; however, the participants must contribute at least 6% to receive the full Company match. Company matching contributions can range from 6% to 9% of eligible participating employee earnings for active participants in the Plan. Matching contributions averaged approximately 8.92% and 7.48% for 2004 and 2003, respectively.

Participant and employer contributions are subject to statutory limitations, which for 2004 were \$13,000 pre-tax and \$41,000 total for all employee and employer contributions. Employees who have attained the age of 50 by the end of the Plan year were eligible

to make an additional catch-up contribution of \$3,000 for 2004. 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. 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.

Contributions made by or on behalf of Plan participants are invested semi-monthly, as directed by the participants and held under a trust agreement in one or more of the investment options selected by the Plan Sponsor in accordance with the provisions of the Plan Agreement. Employees may choose to have their contributions invested in the Managed Income Portfolio, the Berry Petroleum Company Common Stock Fund and a selection of mutual funds. The Managed Income Portfolio is designed to preserve capital and achieve a competitive level of income over time while attempting to maintain a participant's unit value at one dollar per share, similar to a money market fund.

BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS

Note 1. Plan Description, continued

Investment Funds

The investment selections available to participants are as follows:

Berry Petroleum Company Common Stock Fund	Spartan U.S. Equity Index Fund
Managed Income Portfolio	Fidelity Freedom Funds (3)
Fidelity Contrafund	AIM Mid Cap Core Equity Fund (1)
Fidelity Diversified International Fund	American Beacon Small Cap Value Fund (2)
Fidelity Equity Income I Fund	Morgan Stanley Institutional -
Fidelity Inflation-Protected Bond Fund (1)	Equity Growth Portfolio B Fund (1)
Fidelity Low-Priced Stock Fund	PIMCO High Yield Fund (1)
Fidelity Puritan Fund	RS Smaller Company Growth Fund (1)
Fidelity U.S. Bond Index Fund	
Fidelity Freedom Income Fund	

(1) Option added as of April 1, 2004.

(2) Option added as of December 27, 2004.

(3) The entire range of Freedom Funds are available and comprise the Freedom 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035 and 2040. Not all of these funds are currently being used by participants.

The following investments had values at December 31, 2004 and 2003 representing more than 5% of net assets available for benefits:

	2004	2003
Fidelity Managed Income Portfolio	\$ 4,922,806	\$ 5,155,224
Fidelity Low-Priced Stock Fund	2,496,574	1,851,273
Fidelity Contrafund	2,301,450	1,873,337
Berry Petroleum Company Common Stock Fund	2,295,833 *	828,528 *
Spartan U.S. Equity Index Fund	2,050,619	1,004,929
Fidelity Diversified International Fund	1,725,413	1,213,012
Fidelity Equity Income I Fund	1,035,588	838,613
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Fidelity Growth & Income Fund	**	917,410

* Includes cash and cash equivalents of \$125,673 and \$51,495 at December 31, 2004 and 2003, respectively.

** Fund removed as an investment option for the Plan in April 2004.

BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS

Note 1. Plan Description, continued

Participant Accounts

Participant statements are prepared and distributed quarterly. However, 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, in addition to 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 of terminated participants' non-vested accounts may be allocated to participants' accounts as an additional Company match. If there is an allocation of forfeitures to participants' accounts, it is based on service units from 0 to 12 depending on months of service during the year. Only employees who are active participants at December 31 each year are eligible for the allocation of forfeitures to their accounts. Forfeitures allocated to participant accounts for the years ended December 31, 2004 and 2003 were \$14,919 and \$4,965, respectively.

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 2%. 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. Home loans are available for a period of 5 years up to a maximum 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 may become 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 6 months after taking a hardship withdrawal. In addition, participants will not receive matching contributions or forfeitures for the 6 months they are ineligible to participate in the Plan. For the year ended December 31, 2004, the Plan had no hardship withdrawals.

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 1/2 unless the participant's vested account balance is less than \$5,000, in which case the vested account balance would be distributed to the participant.

BERRY PETROLEUM COMPANY THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS

Note 1. Plan Description, continued

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 the Employee Retirement Income Security Act of 1974. In the event of complete or partial termination of the Plan, participants become 100% vested in the employer contributions and earnings thereon. Upon termination of the Plan, all participants have equal priority in the distribution of any Plan assets in excess of Plan liabilities.

Trustees and Administration

The Company has entered into a trust agreement with Fidelity Management Trust Company (Fidelity) to handle duties as the named

Trustee for the Plan. Three officers of the Company, Robert F. Heinemann, Ralph J. Goehring and Kenneth A. Olson, are the Administrators of the Plan, and Berry Petroleum Company is the Plan Sponsor. The Administrators have the authority to delegate plan administration duties as necessary. Certain administrative expenses are paid by the Company. Fidelity, as the Trustee, receives contributions from the Plan Sponsor, invests and reinvests the Plan's assets, determines the market value of Plan assets, prepares statements and processes loans and withdrawals to beneficiaries.

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.

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

Quoted market prices as of the valuation date are used to compute the fair value of equity securities for the Berry Petroleum Company Common Stock Fund and the mutual funds. The value of the Managed Income Portfolio is based on the unit price quoted by the trust, representing the fair value of the underlying investments.

In accordance with the policy of stating Plan assets at their fair value, the Plan presents the net appreciation (depreciation) in the fair value of its investments in the statement of changes in net assets, 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 as of the ex-dividend date.

BERRY PETROLEUM COMPANY THRIFT PLAN NOTES TO FINANCIAL STATEMENTS

Note 2. Summary of Significant Accounting Policies, continued

Payment of Benefits

Benefit payments to participants are recorded upon distribution. As of December 31, 2004, benefits payable to terminated participants who have requested distributions were zero.

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.

Note 3. Tax Status

Fidelity Management Trust Company, 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. The Plan Sponsor believes the Plan is designed, and is currently being operated, in compliance with the applicable requirements of the Internal Revenue Code.

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

During the years ended December 31, 2004 and 2003, there were transactions involving investment of Plan assets in investment funds maintained by the Plan's 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 Plan's Trustee in the open market.

During the year-ended December 31, 2004, the Plan Sponsor paid \$21,888 of Plan administration costs. In addition, as of December 31, 2004 and 2003, the Plan had outstanding participant loan balances of \$600,857 and \$686,557, respectively. All of these transactions are considered exempt party-in-interest transactions under ERISA.

Note 5. Risks and Uncertainties

The Plan provides for investments in any combination of mutual funds, Berry Petroleum Company Common Stock and a Managed Income Portfolio, with different investment strategies. These investments are exposed to various risks, such as interest rate, market and credit. 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.

BERRY PETROLEUM COMPANY THRIFT PLAN
 Schedule H, Line 4i Schedule of Assets (Held at End of Year)
 December 31, 2004

(a)	(b)	(c)	(e)
Identity of issue, borrower, lessor, or similar party	Description of investment, including maturity date, rate of interest, collateral, par or maturity value	Current Value	
*	Fidelity Managed Income Portfolio	Common Collective Trust	\$ 4,922,806
*	Fidelity Low-Priced Stock Fund	Mutual Fund	2,496,574
*	Fidelity Contrafund	Mutual Fund	2,301,450
*	Berry Petroleum Company Common Stock Fund **	Class A Common Stock Mutual Fund (\$0.01 par value)	2,295,833
*	Spartan U.S. Equity Index	Mutual Fund	2,050,619
*	Fidelity Diversified International Fund	Mutual Fund	1,725,413
*	Fidelity Equity Income I Fund	Mutual Fund	1,035,588
*	Fidelity Freedom 2020 Fund	Mutual Fund	506,591
*	Fidelity Freedom 2010 Fund	Mutual Fund	308,421
*	Fidelity Freedom 2030 Fund	Mutual Fund	266,150
*	Fidelity US Bond Index Fund	Mutual Fund	257,757
	AIM Midcap Core Equity A	Mutual Fund	216,076
*	Fidelity Puritan Fund	Mutual Fund	211,612
	RS Smaller Co. Growth Fund	Mutual Fund	137,793
*	Fidelity Freedom 2040 Fund	Mutual Fund	83,728
	Morgan Stanley Institutional Equity Growth B Fund	Mutual Fund	68,504
*	Fidelity Inflation Protected Bond Fund	Mutual Fund	42,756
	Pimco High Yield Admin Fund	Mutual Fund	31,272
*	Fidelity Freedom 2000 Fund	Mutual Fund	24,903

	American Beacon Small Cap Value Fund	Mutual Fund	19,534
*	Fidelity Freedom Income Fund	Mutual Fund	<u>12,914</u>
	Total Investments		19,016,294
*	Participant loans	Interest bearing loans at prime rate plus 2%; interest rates on outstanding loans range from 6% to 11.5% for a period of 1 to 5 years.	600,857
	Net assets available for benefits		<u>\$ 19,617,151</u>
	* Party-in-interest		

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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 Administration Committee

Date: July 8, 2005

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EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
23.1	Consent of Independent Registered Public Accounting Firm (filed herewith).

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 14, 2005, with respect to the statements of net assets available for benefits of the Berry Petroleum Thrift Plan as of December 31, 2004 and 2003, the related statement of changes in net assets available for benefits for the year ended December 31, 2004 and the related supplemental schedule, which report appears in the December 31, 2004 Annual Report on Form 11-K of the Berry Petroleum Thrift Plan.

/s/Corbin & Company, LLP
Corbin & Company, LLP
Irvine, CA

July 7, 2005

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