

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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, 2005
- Transition Report Pursuant to Section 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____.

Commission file number: 1-13105

Arch Coal, Inc. Employee Thrift Plan

(Full title of the plan and the address of the plan, if different from that of the issuer named below)

Arch Coal, Inc.
One CityPlace Drive, Suite 300
St. Louis, Missouri 63141

(Name of issuer of the securities held pursuant to the plan and the address of its principal executive office)

*ARCH COAL, INC.
EMPLOYEE THRIFT PLAN
FINANCIAL STATEMENTS
DECEMBER 31, 2005*

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[Consent of Independent Registered Public Accounting Firm](#)

Report Of Independent Registered Public Accounting Firm

To the Pension Committee
Arch Coal, Inc. Employee Thrift Plan

We have audited the accompanying statement of net assets available for benefits of the Arch Coal, Inc. Employee Thrift Plan (the Plan) as of December 31, 2005 and 2004, and the related statement of changes in net assets available for benefits for the years then ended. 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. An audit includes 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 also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, 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 at December 31, 2005 and 2004, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/ RubinBrown LLP

St. Louis, Missouri
June 23, 2006

ARCH COAL, INC. EMPLOYEE THRIFT PLAN
STATEMENT OF NET ASSETS AVAILABLE FOR BENEFITS

	<u>December 31,</u>	
	<u>2005</u>	<u>2004</u>
Assets		
Investments, At Fair Value (Note 3)		
Money market	\$ 2,521,074	\$ 2,078,221
Mutual funds and common/collective fund	196,403,572	164,696,914
Guaranteed investment account	64,984,586	61,236,705
Company stock	29,362,090	15,133,166
Brokerage securities	17,501,232	16,637,272
Participant loans (Note 4)	13,247,484	11,880,873
Net Assets Available For Benefits	\$ 324,020,038	\$ 271,663,151

See the accompanying notes to financial statements.

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ARCH COAL, INC. EMPLOYEE THRIFT PLAN
STATEMENT OF CHANGES IN NET ASSETS
AVAILABLE FOR BENEFITS

	For The Years Ended December 31,	
	2005	2004
Additions To Net Assets Attributed To:		
Investment Income (Note 3)		
Dividends and interest	\$ 9,702,428	\$ 6,290,664
Net appreciation in fair value of investments	26,443,068	19,449,026
Net Investment Income	36,145,496	25,739,690
Transfer Into The Plan (Note 7)	11,091,394	—
Contributions		
Salary deferral	16,179,664	12,890,588
Employer	12,225,450	9,681,067
Employee after-tax	1,289,169	1,122,335
Rollover	844,043	413,592
Total Contributions	30,538,326	24,107,582
Total Additions	77,775,216	49,847,272
Deductions From Net Assets Attributed To:		
Benefits paid directly to participants	25,418,329	20,979,554
Net Increase	52,356,887	28,867,718
Net Assets Available For Benefits - Beginning Of Year	271,663,151	242,795,433
Net Assets Available For Benefits - End Of Year	\$ 324,020,038	\$ 271,663,151

ARCH COAL, INC. EMPLOYEE THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2005 And 2004

1. Description Of The Plan

The Arch Coal, Inc. Employee Thrift Plan (the Plan) was established by Arch Coal, Inc. (the Company) for the benefit of the eligible employees of the Company, its subsidiaries and controlled affiliates.

The following description of the Plan provides only general information. Participants should refer to the Plan Agreement for a more complete description of the Plan's provisions.

Certain provisions of the Plan as described below do not apply to or have been modified for certain subsidiaries and affiliates of the Company.

General

The Plan, which has been adopted by Arch Coal, Inc., is a defined contribution plan, which includes a 401(k) provision. The Plan covers all full-time salaried employees, all full-time nonunion hourly employees, and certain union employees where specified by applicable collective bargaining agreements of the Company, its subsidiaries, and any controlled affiliates that elect to participate in the Plan. It is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

Contributions

Participants may elect to defer between 1 percent and 50% of compensation. Highly compensated employees may contribute up to 16%, with the exception of the highly compensated hourly employees at Mingo Logan and Mountain Laurel who may contribute up to 17%. The percentage of employer match or nondiscretionary contribution depends upon the location.

Participant Accounts

Each participant's account is credited with the participant's contributions, the employer's matching contribution, if applicable, or employer non-discretionary contribution, if applicable, and an allocation of Plan earnings. The allocation of earnings is determined by the earnings of the participant's investment selection based on each participant's account balance, as defined in the Plan agreement. The benefit to which a participant is entitled is the benefit that can be provided from the participant's account.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (Continued)

Vesting

Participants are fully vested in their contributions plus actual earnings. All eligible employees of the Company at December 31, 1997 became fully vested in the Plan. Eligible employees hired subsequent to December 31, 1997 vest in Company contributions and earnings upon the completion of three full and consecutive years of service. The hourly employees at Mingo Logan and Mountain Laurel are fully vested after the completion of two full and consecutive years of service.

All participants become fully vested upon death while employed, total disability, or normal retirement age, regardless of the number of months of participation.

Participant Loans

Active participants, with some exceptions, may borrow from their fund accounts a minimum of \$500 or up to a maximum equal to the lesser of \$50,000 or 50 percent of their vested account balances. Loan terms range from one to five years or longer for the purchase of a primary residence. The loans are secured by the balance in the participant's account and bear interest at the prime rate listed in the Wall Street Journal on the first day of the month the loan is processed. Principal and interest are paid ratably through payroll deductions.

Payment Of Benefits

Upon death, termination of service, or attainment of age 70-1/2, a participant may elect to receive either a lump-sum amount equal to the value of the participant's vested interest in his or her account, a single annuity, the purchase of a joint and survivorship annuity with various survivor options, or a series of installment payments.

Forfeited Accounts

Forfeited amounts of employer contributions are used to offset future Company matching contributions of the Plan. At December 31, 2005 and 2004, forfeited amounts available to reduce future Company contributions were \$161,849 and \$39,409, respectively.

Investment Options

Upon enrollment in the Plan, a participant may direct contributions in a number of investment options offered by the Plan.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (Continued)

Hardship Withdrawals

A participant who has reached age 59-1/2 or experienced a qualifying financial hardship may withdraw all or part of his or her vested account. Hardship withdrawals will be approved only if they conform to the Plan provisions and established Internal Revenue Service safe harbors.

2. Summary Of Significant Accounting Policies

Basis Of Accounting

The financial statements of the Plan are prepared under the accrual basis of accounting.

Estimates And Assumptions

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 assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of additions to and deductions from net assets during the reporting period. Actual results could differ from those estimates.

Investment Valuation And Income Recognition

Investments in mutual funds are valued at reported net asset value at December 31 as determined by the fund manager. Participant loans are valued at their outstanding balances, which approximate fair value.

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

Payment Of Benefits

Benefits are recorded when paid.

3. Investments

The Company has established a Pension Committee to oversee the activities of the Plan and has appointed the Vice President — Human Resources as the Plan Administrator. Mercer Fiduciary Trust Company is the Trustee for the Plan and Mercer HR Services is the Plan recordkeeper.

[Table of Contents](#)**ARCH COAL, INC. EMPLOYEE THRIFT PLAN**

Notes To Financial Statements (Continued)

Net Assets Available For Benefits

	December 31,	
	2005	2004
Putnam Money Market Fund	\$ 2,521,074	\$ 2,078,221
Mutual Funds And Common/Collective Fund		
American Century Income and Growth Fund	32,171,638*	33,023,173*
Growth Fund of America	24,631,761*	18,556,267*
Investment Company of America	1,927,475	1,414,736
Black Rock Small Cap Core Equity Fund	3,079,098	—
Dodge & Cox Balanced Fund	27,074,513*	22,148,939*
Franklin Templeton Balance Sheet Fund	26,176,501*	20,582,889*
Julius Baer International Equity Fund	15,964,475*	—
PIMCO Total Return Fund	16,434,041*	15,641,715*
Putnam Asset Allocation: Balanced Fund	5,352,404	1,733,323
Putnam S&P 500 Index	25,145,367*	22,702,828*
Putnam Vista Fund	13,299,605	9,704,941
Wells Fargo Advantage Outlook 2010	2,114,854	1,882,094
Wells Fargo Advantage Outlook 2020	1,340,528	1,004,852
Wells Fargo Advantage Outlook 2030	898,320	564,358
Wells Fargo Advantage Outlook 2040	792,992	703,981
Fidelity Diversified International Equity Fund	—	12,285,398*
Fidelity Small Cap Fund	—	2,747,420
Total Mutual Funds And Common/Collective Fund	196,403,572	164,696,914
Invesco Stable Value Fund	64,984,586*	61,236,705*
Arch Coal, Inc. Common Stock	29,362,090*	15,133,166*
Putnam Direct Personal Choice Retirement Account	17,501,232*	16,637,272
Participant Loans	13,247,484	11,880,873
	\$ 324,020,038	\$ 271,663,151

* Investment represents 5% or more of net assets at the beginning of the respective Plan year.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (Continued)

Changes In Net Assets Available For Benefits

	For The Years Ended December 31,	
	2005	2004
Investment Income		
Dividends and interest	\$ 9,702,428	\$ 6,290,664
Net appreciation in fair value of investments	26,443,068	19,449,026
Net Investment Income	\$ 36,145,496	\$ 25,739,690

Interest income on the Invesco Stable Value Fund is calculated and credited daily based on the aggregate contract yield of the underlying investments. The investment contracts included in this fund had an average yield of 4.68% and 4.56% for the years ended December 31, 2005 and 2004, respectively. The average crediting interest rate was 4.71% and 4.59% at December 31, 2005 and 2004, respectively. The fair value of the investment contract was \$64,984,586 and \$61,236,705 at December 31, 2005 and 2004, respectively.

4. Participant Loans

Participant loans are secured by participants' vested balances. The loans are due in bi-weekly payments including principal and interest at varying rates reflective of the prime rate as of the time of issue. At December 31, 2005, the interest rates on the participant loans range from 4% — 10%. The final installments are due at various dates through October 2019.

5. Plan Termination

Although it has not expressed intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan, subject to the provisions of ERISA. In the event of Plan termination, participants will become 100% vested in their accounts.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (Continued)

6. Income Tax Status

The Plan obtained its latest determination letter on September 26, 2002 in which the Internal Revenue Service stated that the Plan, as then designed, was in compliance with the applicable requirements of the Internal Revenue Code. The Plan has been amended since receiving the determination letter. The Plan Administrator is working with the Plan's counsel to correct certain design and operational failures of the Plan. The Plan Sponsor will submit the corrections for approval through the Internal Revenue Service's voluntary correction program. The Plan Administrator believes that the corrective actions will maintain the tax qualifications of the Plan and the related trust will continue to be tax exempt.

7. Plan Amendments

Effective January 1, 2005, the Plan was amended to include participants in Triton Coal Company, LLC 401(k) Plan as a result of the merger of this company with Arch Coal, Inc. Prior to that date, the former Triton employees participated in the Triton Coal Company, LLC 401(k) Plan until its merger into the Plan. In addition, the Plan was amended to reduce the minimum participant account balance for which automatic cash distribution is required from \$5,000 to \$1,000.

8. New Accounting Pronouncement

In December 2005, the Financial Accounting Standards Board (FASB) issued FASB Staff Position (FSP) AAG INV-1 and SOP 94-4-1 *Reporting of Fully Benefit-Responsive-Investment Contracts Held By Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans*, which affects defined contribution pension plans that hold fully benefit-responsive investment contracts. The FSP is effective for all investment contracts as of the last day of the annual period ending after December 15, 2006. The Plan invests in the Invesco Stable Value Fund, which is a fully benefit-responsive investment as defined in the FSP. The Plan will implement the new accounting standard for the year ending December 31, 2006 and will apply the standard retrospectively to the year ended December 31, 2005.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (*Continued*)

9. Subsequent Events

On December 31, 2005, Arch Coal, Inc. sold three of its subsidiaries; Hobet Mining, Apogee Coal Company and Catenary Coal Company, to Magnum Coal Company. The employees of these subsidiaries remained participants in the Plan at December 31, 2005. Subsequent to year end, their account balances were transferred to Magnum's 401(k) Plan.

Effective January 1, 2006, the Plan was amended to increase the default percentage deferral rate from 3% to 6% for those new participants who did not make an election under the Plan.

**Report Of Independent Registered Public
Accounting Firm On Supplementary Information**

Our audits were performed 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 is presented for purposes of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee 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 the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ RubinBrown LLP

June 23, 2006

ARCH COAL, INC. EMPLOYEE THRIFT PLAN
E.I.N.: 43-0921172 PLAN NO.: 006
SCHEDULE OF ASSETS HELD AT END OF YEAR
December 31, 2005
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Identity Of Issuer	Description Of Investment	Current Value
Money Market		
Putnam Investments*	Putnam Money Market Fund	\$ 2,521,074
Mutual Funds And Common/Collective Fund		
American Century	American Century Income and Growth Fund	32,171,638
American Fund Corporation	Growth Fund of America	24,631,761
American Fund Corporation	Investment Company of America	1,927,475
Black Rock Funds	Black Rock Small Cap Core Equity Fund	3,079,098
Dodge & Cox Funds	Dodge & Cox Balanced Fund	27,074,513
Franklin Investments	Franklin Templeton Balance Sheet Fund	26,176,501
Julius Baer Group	Julius Baer International Equity Fund	15,964,475
PIMCO Investments	PIMCO Total Return Fund	16,434,041
Putnam Investments*	Putnam Asset Allocation: Balanced Fund	5,352,404
Putnam Investments*	Putnam S&P 500 Index	25,145,367
Putnam Investments*	Putnam Vista Fund	13,299,605
Wells Fargo	Wells Fargo Advantage Outlook 2010	2,114,854
Wells Fargo	Wells Fargo Advantage Outlook 2020	1,340,528
Wells Fargo	Wells Fargo Advantage Outlook 2030	898,320
Wells Fargo	Wells Fargo Advantage Outlook 2040	792,992
Total Mutual Funds And Common/Collective Fund		<u>196,403,572</u>
Common Stock		
Arch Coal, Inc. *	Common Stock	<u>29,362,090</u>
Participant Directed Brokerage Accounts		
Putnam*	Putnam Direct Personal Choice Retirement Account (Participant Directed Brokerage Accounts)	<u>17,501,232</u>
Balance Carried Forward		<u>245,787,968</u>

* Represents party-in-interest

The above information is a required disclosure for IRS Form 5500, Schedule H, Part IV, line 4i.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN
E.I.N.: 43-0921172 PLAN NO.: 006
SCHEDULE OF ASSETS HELD AT END OF YEAR
December 31, 2005
Page 2 Of 2

Identity Of Issuer	Description Of Investment	Current Value
Balance Brought Forward		<u>\$ 245,787,968</u>
Guaranteed Investment Account -		
Invesco Stable Value Fund		
Bank of America NT & SA	01-257	13,124,614
Bank of America NT & SA Wrapper	01-257	(20,676)
ING Life & Annuity	60034	8,501,277
ING Life & Annuity Wrapper	60034	63,049
JP Morgan Chase Bank	433119-MGC	11,418,025
JP Morgan Chase Bank Wrapper	433119-MGC	125,228
Mellon Bank STIF Account	6070002	953,105
Monumental Life Insurance Co.	MDA-00589TR	9,838,559
Monumental Life Insurance Co. Wrapper	MDA-00589TR	220,227
State Street Bank & Trust Co.	103077	11,423,089
State Street Bank & Trust Co. Wrapper	103077	120,478
Union Bank of Switzerland	5043	1,654,576
Union Bank of Switzerland Wrapper	5043	14,151
Union Bank of Switzerland	5155	7,473,955
Union Bank of Switzerland Wrapper	5155	74,929
Total Guaranteed Investment Account		<u>64,984,586</u>
	Bearing interest at 4% - 10%, due at various dates through October 2019	13,247,484
Participant Loans		<u>\$ 324,020,038</u>

The above information is a required disclosure for IRS Form 5500, Schedule H, Part IV, line 4i.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed on its behalf by the undersigned thereunto duly authorized.

Arch Coal, Inc. Employee Thrift Plan

By: /s/ Sheila B. Feldman

Sheila B. Feldman
Plan Administrator

June 28, 2006

Exhibit Index

Exhibit	Description
23.1	Consent of Independent Registered Public Accounting Firm

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-32777) pertaining to the Arch Coal, Inc. Employee Thrift Plan of our report dated May 22, 2006, with respect to the financial statements and supplemental schedule of Arch Coal, Inc. Employee Thrift Plan included in this Annual Report on Form 11-K for the year ended December 31, 2005.

/s/ Rubin Brown LLP

June 28, 2006