

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, 2007
- 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, 2007*

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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, 2007 and 2006, 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, 2007 and 2006, 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 27, 2008

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

	December 31,	
	2007	2006
Assets		
Investments, At Fair Value (Note 3)		
Money market	\$ 2,855,837	\$ 2,098,427
Mutual funds and common/collective fund	212,749,496	195,099,078
Guaranteed investment account	55,425,773	51,701,027
Company stock	32,456,196	23,590,240
Brokerage securities	14,211,712	16,173,578
Participant loans (Note 4)	13,068,103	12,695,150
Net Assets Reflected At Fair Value	330,767,117	301,357,500
Employer Contribution Receivable (Note 8)	2,000,000	—
Adjustment From Fair Value To Contract Value For Fully Benefit-Responsive Investment Contracts	(431,713)	781,446
Net Assets Available For Benefits	\$332,335,404	\$302,138,946

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,	
	2007	2006
Additions To Net Assets Attributed To:		
Investment Income (Note 3)		
Dividends and interest	\$ 18,661,425	\$ 12,927,085
Net appreciation in fair value of investments	7,391,119	9,163,977
Net Investment Income	26,052,544	22,091,062
Contributions		
Salary deferral	18,822,753	16,466,791
Employer	16,777,799	13,117,492
Employee after-tax	1,267,997	1,182,386
Rollover	1,493,489	1,518,973
Total Contributions	38,362,038	32,285,642
Total Additions	64,414,582	54,376,704
Deductions From Net Assets Attributed To:		
Transfer out of the plan (Note 7)	—	54,347,152
Benefits paid directly to participants	34,206,968	21,910,644
Administrative fees	11,156	—
Total Deductions	34,218,124	76,257,796
Net Increase (Decrease)	30,196,458	(21,881,092)
Net Assets Available For Benefits - Beginning Of Year	302,138,946	324,020,038
Net Assets Available For Benefits - End Of Year	\$332,335,404	\$302,138,946

See the accompanying notes to financial statements.

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**ARCH COAL, INC. EMPLOYEE THRIFT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2007 And 2006**

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 substantially all salaried employees, 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).

Effective January 1, 2006, the Plan was amended to include an automatic enrollment provision for all eligible employees. The automatic enrollment provided for default deferral contributions of 6% of eligible compensation. The contributions will be invested in both equity and fixed income investments. The participant has the option to make changes to the deferral percentage and investment allocation at any time.

Contributions

Participants may elect to defer between 1% 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 employer is required to make matching contributions equal to 100% of participant contributions up to the first 6% of eligible compensation.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (*Continued*)

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.

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 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 receive a lump-sum amount equal to the value of the participant's vested interest in his or her account. Participant accounts with vested balances of \$1,000 or less will be automatically distributed unless otherwise instructed.

On June 20, 2007, the company announced the sale of its Mingo Logan subsidiary's Ben Creek mining complex to Cobra Natural Resources, LLC. The divestiture of the complex resulted in the termination of approximately 250 employees, who became eligible to withdraw their balances from the Plan.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (*Continued*)

Forfeited Accounts

Forfeited amounts of employer contributions are used to offset future Company matching contributions of the Plan. At December 31, 2007 and 2006, forfeited amounts that became available to reduce future Company contributions were \$418,932 and \$246,883, respectively.

Investment Options

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

Withdrawals

Subject to certain qualifications, participants may take an in-service withdrawal of their after-tax or company matching contributions. 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.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (*Continued*)

As described in Financial Accounting Standards Board 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 (the FSP), investment contracts held by a defined contribution plan are required to be reported at fair value. However, 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 because contract value is the amount participants would receive if they were to initiate permitted transactions under the terms of the plan. As required by the FSP, the statement of Net Assets Available for Benefits presents the fair value of the investment contracts as well as the adjustment of the fully benefit-responsive investment contracts from fair value to contract value. The Statement of Changes in Net Assets Available for Benefits is prepared on a contract value basis.

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. The fair value of the Invesco Stable Value Fund is calculated by discounting the related cash flows based on current yields of similar instruments with comparable durations.

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.

Recent Accounting Pronouncement

On September 20, 2006, the Financial Accounting Standards Board released Statement of Financial Accounting Standards No. 157, *Fair Value Measurements* (SFAS 157). SFAS 157 establishes an authoritative definition of fair value, sets out a hierarchy for measuring fair value, and requires additional disclosures about the inputs used to develop the measurements of fair value and the effects of certain measurements reported in the statement of operations for a fiscal period. The application of SFAS 157 will be effective for the Plan's fiscal year beginning January 1, 2008. As of this date, the Plan Sponsor is unable to determine the effect of the adoption of SFAS 157 on the Plan's financial statements.

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

Notes To Financial Statements (Continued)

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.

Net Assets Available For Benefits

	December 31,	
	2007	2006
Putnam Money Market Fund	\$ 2,855,837	\$ 2,098,427
Mutual Funds And Common/Collective Fund		
American Century Income and Growth Fund	26,975,227*	28,562,832*
Growth Fund of America	27,844,828*	24,007,199*
Investment Company of America	3,787,854	2,791,113
Black Rock Small Cap Core Equity Fund	3,279,890	3,246,612
Dodge & Cox Balanced Fund	27,707,522*	27,734,043*
Franklin Templeton Balance Sheet Fund	20,148,075*	23,375,402*
Julius Baer International Equity Fund	25,451,843*	19,536,028*
PIMCO Total Return Fund	16,826,961*	14,094,269
Putnam Asset Allocation: Balanced Fund	18,557,507*	11,876,688
Putnam S&P 500 Index	24,396,716*	24,077,681*
Putnam Vista Fund	10,891,592	11,196,169
Wells Fargo Advantage Outlook 2010	1,875,639	1,474,966
Wells Fargo Advantage Outlook 2020	2,220,572	1,170,765
Wells Fargo Advantage Outlook 2030	1,419,013	1,050,139
Wells Fargo Advantage Outlook 2040	1,366,257	905,172
Total Mutual Funds And Common/Collective Fund	212,749,496	195,099,078
Invesco Stable Value Fund (At Contract Value)	54,994,060*	52,482,473*
Arch Coal, Inc. Common Stock	32,456,196*	23,590,240*
Putnam Direct Personal Choice Retirement Account	14,211,712	16,173,578*
Participant Loans	13,068,103	12,695,150
	\$330,335,404	\$302,138,946

* Investment represents 5% or more of net assets.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (Continued)

During 2007 and 2006, the Plan's investments (including gains on investments bought and sold, as well as held during the year) appreciated (depreciated) in value as follows:

	2007	2006
Mutual funds and common/collective fund	\$ (4,014,737)	\$17,246,603
Company stock	11,405,856	(8,082,626)
	\$ 7,391,119	\$ 9,163,977

The plan has entered into a benefit-responsive investment contract with Invesco which maintains the contributions in a managed account. The account is credited with earnings on the underlying investments and charged for participant withdrawals and administrative expenses. The investment contract issuer is not contractually obligated to repay the principal and a specified interest rate to the Plan. However, the underlying assets of the fund carry guaranteed rates of interest.

As described in Note 2, because the contract is fully benefit-responsive, contract value is the relevant measurement attribute for that portion of the net assets available for benefits attributable to the guaranteed investment contract. Contract value, as reported to the Plan by Invesco, represents contributions made under the contract, plus earnings, less participant withdrawals and administrative expenses. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value.

There are no reserves against contract for credit risk of the contract issue or otherwise. Interest income on the Invesco Stable Value Fund is calculated and credited daily based on the aggregate contract yield of the underlying investments. Interest rates are reset on a monthly basis. The investment contracts included in this fund had an average yield of 4.88% and 4.87% for the years ended December 31, 2007 and 2006, respectively. The average crediting interest rate was 4.96% and 4.98% at December 31, 2007 and 2006, respectively.

Certain events limit the ability of the Plan to transact at contract value with the issuer. Such events include the following: (1) amendments to the plan documents (including complete or partial plan termination or merger with another plan), (2) the decision by the Plan Sponsor to withdraw all assets from the funds and reinvest in another investment vehicle. The Plan Administrator does not believe that the occurrence of any such value event, which would limit the Plan's ability to transact at contract value with participants, is probable.

ARCH COAL, INC. EMPLOYEE THRIFT PLAN

Notes To Financial Statements (*Continued*)

The contract permits the company or Invesco to terminate the agreement upon 90 days notice to the other party.

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, 2007, the interest rates on the participant loans range from 4% — 9.50%. The final installments are due at various dates through May 2022.

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.

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 believes the amendments made will maintain the tax qualification of the Plan and the related trust will continue to be tax exempt.

7. Transfers

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. During 2006, the participants' account balances were transferred to the Magnum Coal Company 401(k) Plan as of the effective date of the sale.

ARCH COAL, INC. EMPLOYEE THRIFT PLANNotes To Financial Statements (*Continued*)**8. Employer Contribution Receivable**

During 2008, the Company found that 65 participants did not have the correct contribution deducted from their pay and deposited into their accounts for the year ended December 31, 2007. In addition, the Company determined that the employer match had not been calculated correctly for 21 participants. The shortfall in employer match totaled approximately \$30,000 and was deposited into the participants' accounts in early 2008. The Company is working with the Plan's ERISA Counsel to correct the errors and replace lost earnings. The Company estimates the correction and earnings will be approximately \$2 million.

9. Subsequent Events

Effective March 1, 2008, the Plan was amended to allow highly compensated hourly employees at Mingo Logan and Mountain Laurel to contribute up to 16% of eligible compensation.

10. Reconciliation Of Financial Statements To Form 5500

Following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 at December 31, 2007:

Net assets available for benefits per the financial statements	\$ 332,335,404
Adjustment from contract value to fair value for fully Benefit-responsive contracts	<u>431,713</u>
Net assets available for benefits per the Form 5500	<u>\$ 332,767,117</u>
Net increase per the financial statements	\$ 30,196,458
Adjustment from contract value to fair value for fully Benefit-responsive contracts	<u>431,713</u>
Net increase per the Form 5500	<u>\$ 30,628,171</u>

**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
St. Louis, Missouri
June 27, 2008

ARCH COAL, INC. EMPLOYEE THRIFT PLAN
E.I.N.: 43-0921172 PLAN NO.: 006
SCHEDULE OF ASSETS HELD AT END OF YEAR
Page 1 Of 2
December 31, 2007

Identity Of Issuer	Description Of Investment	Current Value
Money Market		
Putnam Investments*	Putnam Money Market Fund	\$ 2,855,837
Mutual Funds And Common/Collective Fund		
American Century	American Century Income and Growth Fund	26,975,227
American Fund Corporation	Growth Fund of America	27,844,828
American Fund Corporation	Investment Company of America	3,787,854
Black Rock Funds	Black Rock Small Cap Core Equity Fund	3,279,890
Dodge & Cox Funds	Dodge & Cox Balanced Fund	27,707,522
Franklin Investments	Franklin Templeton Balance Sheet Fund	20,148,075
Julius Baer Group	Julius Baer International Equity Fund	25,451,843
PIMCO Investments	PIMCO Total Return Fund	16,826,961
Putnam Investments*	Putnam Asset Allocation: Balanced Fund	18,557,507
Putnam Investments*	Putnam S&P 500 Index	24,396,716
Putnam Investments*	Putnam Vista Fund	10,891,592
Wells Fargo	Wells Fargo Advantage Outlook 2010	1,875,639
Wells Fargo	Wells Fargo Advantage Outlook 2020	2,220,572
Wells Fargo	Wells Fargo Advantage Outlook 2030	1,419,013
Wells Fargo	Wells Fargo Advantage Outlook 2040	1,366,257
Total Mutual Funds And Common/Collective Fund		<u>212,749,496</u>
Common Stock		
Arch Coal, Inc. *	Common stock	<u>32,456,196</u>
Participant Directed Brokerage Accounts		
Putnam*	Putnam Direct Personal Choice Retirement Account (Participant Directed Brokerage Accounts)	<u>14,211,712</u>
Balance Carried Forward		<u>262,273,241</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
Page 2 Of 2
December 31, 2007

Identity Of Issuer	Description Of Investment	Current Value
Balance Brought Forward		\$ 262,273,241
Guaranteed Investment Account -		
Invesco Stable Value Fund		
Bank of America NT & SA	01-257	11,140,065
ING Life & Annuity	60034	6,402,997
JP Morgan Chase Bank	433119-MGC	9,828,887
Monumental Life Insurance Co.	MDA-00589TR	8,542,433
State Street Bank & Trust Co.	103077	9,832,598
State Street Bank & Trust Co. Wrapper	MC7930	1,942,735
Union Bank of Switzerland	5155	7,736,058
Total Guaranteed Investment Account		<u>55,425,773</u>
Participant Loans		
	Bearing interest at 4% - 9.5%, due at various dates through May 2022	13,068,103
		<u>\$ 330,767,117</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 their behalf by the undersigned thereunto duly authorized.

Arch Coal, Inc. Employee Thrift Plan

By: /s/ Sheila B. Feldman

Sheila B. Feldman
Plan Administrator

June 27, 2008

Exhibit Index

<u>Exhibit</u>	<u>Description</u>
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 June 27, 2008, 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, 2007.

/s/RubinBrown LLP

RubinBrown LLP
St. Louis, Missouri
June 27, 2008