

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 1)

NAME OF ISSUER: ARCH COAL INC.

TITLE OF CLASS OF SECURITIES: COMMON

CUSIP NUMBER: 039380100

CUSIP NO. 039380100

(1) Names of Reporting Persons MELLON FINANCIAL CORPORATION  
SS or IRS Identification Nos. Of Above Person IRS No. 25-1233834

(2) Check the Appropriate Box if a Member of a Group (See Instructions)  
(a) ( ) (b) ( )

(3) SEC Use Only

(4) Citizenship or Place of Organization United States

Number of Shares (5) Sole Voting Power 5,816,817

Beneficially Owned by Each (6) Shared Voting Power 432,525

Reporting Person With (7) Sole Dispositive Power 6,820,878

(8) Shared Dispositive Power 179,201

(9) Aggregate Amount Beneficially Owned by Each Reporting Person  
7,043,981

(10) Check if the Aggregate Amount in Row (9) Excludes Certain  
Shares (See Instructions) ( )

(11) Percent of Class Represented by Amount in Row (9) 13.45

(12) Type of Reporting Person (See Instructions) HC

CUSIP NO. 039380100

(1) Names of Reporting Persons THE BOSTON COMPANY, INC.  
SS or IRS Identification Nos. Of Above Person IRS No. 04-2371833

(2) Check the Appropriate Box if a Member of a Group (See Instructions)  
(a) ( ) (b) ( )

(3) SEC Use Only

(4) Citizenship or Place of Organization United States

Number of Shares Beneficially Owned by Each Reporting Person With	(5)	Sole Voting Power	4,012,762*
	(6)	Shared Voting Power	254,400*
	(7)	Sole Dispositive Power	4,880,960*
	(8)	Shared Dispositive Power	0*

(9) Aggregate Amount Beneficially Owned by Each Reporting Person 4,913,362\*

(10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) ( )

(11) Percent of Class Represented by Amount in Row (9) 9.38\*

(12) Type of Reporting Person (See Instructions) HC

\* Shares beneficially owned by Boston Safe Advisors, TBC Asset Management, Inc., Boston Safe Deposit and Trust Company and Franklin Portfolio Associates as of December 31, 2001 are reported on this Schedule as beneficially owned by The Boston Company, as a holding company. As of December 31, 2001, the holding company that beneficially owned these shares was Boston Safe Deposit and Trust Company. Systems development will be required to reflect this change on future Schedules.

CUSIP NO. 039380100

- (1) Names of Reporting Persons THE BOSTON COMPANY,  
ASSET MANAGEMENT, LLC  
SS or IRS Identification Nos. Of Above Person IRS No. 04-2468567
- (2) Check the Appropriate Box if a Member of a Group (See Instructions)  
(a) ( ) (b) ( )
- (3) SEC Use Only
- (4) Citizenship or Place of Organization United States
- |   |     |                          |            |
|---|-----|--------------------------|------------|
| Number of Shares Beneficially Owned by Each Reporting Person With | (5) | Sole Voting Power        | 3,129,660* |
|   | (6) | Shared Voting Power      | 254,400*   |
|   | (7) | Sole Dispositive Power   | 4,030,260* |
|   | (8) | Shared Dispositive Power | 0*         |
- (9) Aggregate Amount Beneficially Owned by Each Reporting Person  
4,030,260\*
- (10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) ( )
- (11) Percent of Class Represented by Amount in Row (9) 7.69\*
- (12) Type of Reporting Person (See Instructions) IA

\* Shares beneficially owned by Boston Safe Advisors, TBC Asset Management, Inc., Boston Safe Deposit and Trust Company and Franklin Portfolio Associates as of December 31, 2001 are reported on this Schedule as beneficially owned by The Boston Company, as a holding company. As of December 31, 2001, the holding company that beneficially owned these shares was Boston Safe Deposit and Trust Company. Systems development will be required to reflect this change on future Schedules.

UNITED STATES  
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Washington, D.C. 20549

SCHEDULE 13G  
(Under the Securities and Exchange Act of 1934)

- Item 1(a) Name of Issuer: Arch Coal Inc.
- Item 1(b) Address of Issuer's Principal Executive Offices:  
City Place One Ste 300  
Arch Mineral Corp  
St. Louis, MO 63141
- Item 2(a) Name of Person Filing: Mellon Financial Corporation and any other reporting person(s) identified on the second part of the cover page(s).
- Item 2(b) Address of Principal Business Office, or if None, Residence:  
c/o Mellon Financial Corporation  
One Mellon Center  
Pittsburgh, Pennsylvania 15258  
(for all reporting persons)
- Item 2(c) Citizenship: United States
- Item 2(d) Title of Class of Securities: Common Stock
- Item 2(e) CUSIP Number: 039380100
- Item 3 See Item 12 of cover page(s) ("Type of Reporting Person") for each reporting person.

BK = Bank as defined in Section 3(a)(6) of the Act

IV = Investment Company registered under Section 8 of the Investment Company Act of 1940

IA = Investment Adviser registered under Section 203 of the Investment Advisers Act of 1940

EP = Employee Benefit Plan, Pension Fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or Endowment Fund; see Section 240.13-d(1)(b)(1)(ii)(F)

HC = Parent Holding Company, in accordance with Section 240.13-d(1)(b)(1)(ii)(G)

- Item 4 Ownership: See Items 5 through 9 and 11 of cover page(s) as to each reporting person.

The amount beneficially owned includes, where appropriate, securities not outstanding which are subject to options, warrants, rights or conversion privileges that are exercisable within 60 days. The filing of this Schedule 13G shall not be construed as an admission that Mellon Financial Corporation, or its direct or indirect subsidiaries, including Mellon Bank, N.A., are for the purposes of Section 13(d) or 13(g) of the Act, the beneficial owners of any securities covered by this Schedule 13G.

The following information applies if checked: ( ) Mellon Bank, N.A. is the trustee of the issuer's employee benefit plan (the "Plan"), which is subject to ERISA. The securities reported include all shares held of record by Mellon Bank, N.A. as trustee of the Plan which have not been allocated to the individual accounts of employee participants in the Plan. The reporting person, however, disclaims beneficial ownership of all shares that have been allocated to the individual accounts of employee participants in the Plan for which directions have been received and followed.

- Item 5 Ownership of Five Percent or Less of a Class: If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following ( )

Item 6 Ownership of More than Five Percent on Behalf of Another Person: All of the securities are beneficially owned by Mellon Financial Corporation and direct or indirect subsidiaries in their various

fiduciary capacities. As a result, another entity in every instance is entitled to dividends or proceeds of sale. The number of individual accounts holding an interest of 5% or more is ( 0 ).

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported by the Parent Holding Company:  
See Exhibit I.

Item 8 Identification and Classification of Members of the Group: N/A

Item 9 Notice of Dissolution of Group: N/A

Item 10 Certification: By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired and are not held in connection with or as a participant in any transaction having such purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct. This filing is signed by Mellon Financial Corporation on behalf of all reporting entities pursuant to Rule 13d-1(f)(1) promulgated under the Securities and Exchange Act of 1934, as amended.

Date: January 11, 2002

MELLON FINANCIAL CORPORATION

By: MARY J. RICHARDS

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Mary J. Richards  
Vice President,  
Mellon Bank, N.A.  
Attorney-In-Fact for  
Mellon Financial Corporation

Each of the undersigned hereby authorizes Mellon Financial Corporation, in accordance with Rule 13d-1(f)(1) under the Securities Exchange Act of 1934, as amended (the "1934 Act"), to file, on behalf of the undersigned, any statement required to be signed by the undersigned, on Schedule 13G pursuant to Rule 13d-1 under the 1934 Act and any amendment thereto pursuant to Rule 13d-2 under the 1934 Act.

Each of the undersigned represents that it is individually eligible to use Schedule 13G, and acknowledges its responsibility for the timely filing of such Schedule 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein. However, each of the undersigned is not responsible for the completeness or accuracy of the information concerning the other persons making the filing on Schedule 13G unless such undersigned knows or has reason to believe that such information is inaccurate.

Date: January 11, 2002

THE BOSTON COMPANY, INC.

By: MARY J. RICHARDS

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Mary J. Richards  
Vice President,  
Mellon Bank, N.A.  
Attorney-In-Fact for  
The Boston Company, Inc.

THE BOSTON COMPANY ASSET  
MANAGEMENT, LLC

By: MARY J. RICHARDS

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Mary J. Richards  
Vice President,  
Mellon Bank, N.A.  
Attorney-In-Fact for  
The Boston Company  
Asset Management, LLC



EXHIBIT I

The shares reported on the attached Schedule 13G are beneficially owned by the following direct or indirect subsidiaries of Mellon Financial Corporation, as marked (X):

(A) The Item 3 classification of each of the subsidiaries listed below is "Item 3(b) Bank as defined in Section 3(a)(6) of the Act."

- ( X ) Boston Safe Deposit and Trust Company
- ( ) Mellon Bank DE National Association
- ( X ) Mellon Bank, N.A. (parent holding company of Founders Asset Management LLC, The Dreyfus Corporation, Mellon Equity Associates, LLP and Laurel Capital Advisors, LLP)
- ( ) Mellon Trust of California
- ( ) Mellon Trust of New York
- ( ) Mellon Private Trust Company, National Association

(B) The Item 3 classification of each of the subsidiaries listed below is "Item 3(e) Investment Advisor registered under Section 203 of the Investment Advisors Act of 1940."

- ( ) Boston Safe Advisors, Inc.
- ( X ) Dreyfus Investment Advisors, Inc.
- ( ) Founders Asset Management LLC
- ( ) Franklin Portfolio Associates LLC
- ( ) Laurel Capital Advisors, LLP
- ( X ) Mellon Capital Management Corporation
- ( X ) Mellon Equity Associates, LLP
- ( ) Mellon-Newton Asset Management Limited
- ( ) Newton Capital Management Limited
- ( ) Newton Fund Managers Limited
- ( ) Newton International Investment Management Limited
- ( ) Newton Investment Management (IOM) Limited
- ( ) Newton Investment Management (Guernsey) Limited
- ( ) Newton Investment Management Limited
- ( ) Newton Management (Asia) Pte Limited
- ( ) Royal Bank of Scotland Portfolio Management Limited
- ( ) Royal Bank of Scotland Unit Trust Management Limited
- ( ) Stewart Newton Fund Management (Mauritius) Limited
- ( ) Sundaram Newton Asset Management Company Private Limited
- ( X ) The Dreyfus Corporation (parent holding company of Dreyfus Investment Advisors, Inc.)
- ( X ) The Boston Company Asset Management, LLC
- ( ) Wellington BES Limited
- ( ) Mellon Ventures Fund I, LLC
- ( ) Mellon Ventures II, L.P.
- ( ) Mellon Ventures, L.P.

(C) The Item 3 classification of each of the legal entities listed below is "Item 3(g) Parent Holding Company, in accordance with Section 240.13d-I(b)(ii)(G)."

- ( X ) MBC Investments Corporation (parent holding company of Mellon Capital Management Corporation, Mellon UK Holdings, Mellon Ventures Fund Holding Corp. and Mellon Ventures II, L.P.)
- ( X ) Mellon Financial Corporation
- ( ) Newton Management Limited (parent holding company of all Newton entities listed in (B) above)
- ( X ) The Boston Company, Inc. (parent holding company of Boston Safe Deposit and Trust Company, Boston Safe Advisors, Inc., Franklin Portfolio Associates, LLC, TBCAM Holdings, Inc., The Boston Company Asset Management, LLC, Mellon Trust of California, Mellon Private Trust Company, National Association and Mellon Trust of New York)

NOTE: ALL OF THE LEGAL ENTITIES LISTED UNDER (A) AND (B) ABOVE ARE DIRECT OR INDIRECT SUBSIDIARIES OF MELLON FINANCIAL CORPORATION. BENEFICIAL OWNERSHIP OF MORE THAN FIVE PERCENT OF THE CLASS BY ANY ONE OF THE SUBSIDIARIES OR INTERMEDIATE PARENT HOLDING COMPANIES LISTED ABOVE IS REPORTED ON A JOINT REPORTING PERSON PAGE FOR THAT SUBSIDIARY ON THE ATTACHED SCHEDULE 13G AND IS INCORPORATED IN THE TOTAL PERCENT OF CLASS REPORTED ON MELLON FINANCIAL CORPORATION'S REPORTING PERSON PAGE. (DO NOT ADD THE SHARES OR PERCENT OF CLASS REPORTED ON EACH JOINT REPORTING PERSON PAGE ON THE ATTACHED SCHEDULE 13G TO DETERMINE THE TOTAL PERCENT OF CLASS FOR MELLON FINANCIAL CORPORATION.)