SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

Form S-8-A

POST-EFFECTIVE AMENDMENT TO REGISTRATION STATEMENT UNDER THE SECURITIES EXCHANGE ACT OF 1933

ARCH COAL, INC. (Exact name of registrant as specified in its charter)

Delaware 43-0921172 (State or other jurisdiction of (I.R.S. Employer incorporation or organization) Identification No.)

CityPlace One, Suite 300, St. Louis, Missouri 63141 (Address of principal executive offices) (Zip Code)

ASHLAND COAL, INC. EMPLOYEE THRIFT PLAN (Full title of the plan)

JEFFRY N. QUINN ARCH COAL, INC. SUITE 300, CITYPLACE ONE ST. LOUIS, MO 63141 (314) 994-2720

(Name, address and telephone number of agent for service of process)

On July 1, 1997, 100,000 shares of Arch Coal, Inc.'s (the "Registrant") common stock, par value \$0.01 per share (the "Common Stock") were registered with the Securities and Exchange Commission ("SEC") on Form S-8, No. 333-30563 ("the Ashland Coal, Inc. Employee Thrift Plan Registration Statement") for issuance in connection with and pursuant to the terms of the Ashland Coal, Inc. Employee Thrift Plan (the "Plan"). The contents of the Ashland Coal, Inc. Employee Thrift Plan Registration Statement are hereby incorporated herein by reference to the extent not replaced hereby.

On January 1, 1998, the Plan was merged into the Arch Coal, Inc. Employee Thrift Plan (No. 333-32777). Sixty-six thousand two hundred forty eight (66,248) shares of registered Common Stock remained unissued at the time the Plan was merged.

Pursuant to an undertaking in Item 9(a)(3) of the Ashland Coal, Inc. Employee Thrift Plan Registration Statement, 66,248 shares of the Registrant's Common Stock, are hereby deregistered as well as any corresponding interests that have not been issued under the Plan.

SIGNATURES The Registrant

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Post-Effective Amendment to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the County of St. Louis, State of Missouri, as of March 16, 1998.

ARCH COAL, INC.

By:/s/ Jeffry N. Quinn Jeffry N. Quinn Senior Vice President - Law and Human Resources, General Counsel and Secretary

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment to the Registration Statement has been signed by the undersigned persons in the capacities stated as of the 16th day of March, 1998.

CAPACITY

/s/Steven F. Leer President, Chief Executive Steven F. Leer Officer and Director

(Principal Executive Officer)

/s/ Patrick A. Kriegshauser Senior Vice President, Patrick A. Kriegshauser

Treasurer and Chief Financial Officer

As Attorney-in-Fact

(Principal Financial Officer)

/s/s James P. Pye Controller James P. Pye

(Principal Accounting Officer)

James R. Boyd Director Robert A. Charpie Director Paul W. Chellgren Director Thomas L. Feazell Director

By: /s/ Jeffry N. Quinn Juan Antonio Ferrando Director Jeffry N. Quinn

John R. Hall Director Robert L. Hintz Director Douglas H. Hunt Director Steven F. Leer Director Thomas Marshall Director James L. Parker Director J. Marvin Quin Director Ronald Eugene Samples Director

THE PLAN. Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment to the Registration Statement has been signed by the undersigned Plan Administrator in the City of Huntington, State of West Virginia, as of the 16th day of March, 1998.

ASHLAND COAL, INC. EMPLOYEE THRIFT PLAN

By: /s/ Teresa A. Daniel Teresa A. Daniel Plan Administrator