ARCH COAL INC Form SC 13G/A July 07, 2008

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 3)*

Arch Coal Inc.

(Name of Issuer)

Common

(Title of Class of Securities)

039380100

(CUSIP Number)

June 30, 2008

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- x Rule 13d-1(b)
- o Rule 13d-1(c)
- o Rule 13d-1(d)

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

^{*}The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

2

CUSIP No. 039380100

1.	Names of Reporting Persons PRIMECAP Management Company 95-3868081			
2.	Check the Appropria (a) (b)	ate Box if a Member of a G o o	roup (See Instructions)	
3.	SEC Use Only			
4.	Citizenship or Place of Organization 225 South Lake Ave., #400, Pasadena, CA 91101			
Number of	5.		Sole Voting Power 2,860,864	
Shares Beneficially Owned by	6.		Shared Voting Power 0	
Each Reporting Person With			Sole Dispositive Power 6,558,379	
	8.		Shared Dispositive Power 0	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 6,558,379			
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) o			
11.	Percent of Class Represented by Amount in Row (9) 4.55%			
12.	Type of Reporting Person (See Instructions) IA			

Item 1.					
	(a)	Name of Issuer			
		Arch Coal Inc.			
	(b)	Address of Issuer s Principal Executive Offices			
		One City Place Dr., Suite 300, St. Louis, MO 63141			
Item 2.					
Itelli 2.	(a)	Name of Person Filing			
	(a)	PRIMECAP Management Company			
	(b)	Address of Principal Business Office or, if none, Residence			
	(0)		225 South Lake Ave., #400, Pasadena, CA 91101		
	(c)		Citizenship		
	(0)	U.S.A.			
	(d)	Title of Class of Securities			
	(=)	Common			
	(e)	CUSIP Number			
	(5)	039380100			
T4 2	TC 41		121 1 (k) 240 121 2 (k) (x)		
Item 3.	r				
	(a)	0	Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).		
	(b)	o	Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).		
	(c)	0	Insurance company as defined in section 3(a)(19) of the Act (15		
		o .	U.S.C. 78c).		
	(d)	O	Investment company registered under section 8 of the Investment		
			Company Act of 1940 (15 U.S.C. 80a-8).		
	(e)	X	An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);		
	(f)	0	An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);		
	(g)	0	A parent holding company or control person in accordance with		
			§240.13d-1(b)(1)(ii)(G);		
	(h)	o	A savings association as defined in Section 3(b) of the Federal		
			Deposit Insurance Act (12 U.S.C. 1813);		
	(i)	О	A church plan that is excluded from the definition of an investment		
			company under section 3(c)(14) of the Investment Company Act of		
			1940 (15 U.S.C. 80a-3);		
	(j)	О	Group, in accordance with §240.13d-1(b)(1)(ii)(J).		
			3		

Item 4. Ownership

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a) Amount beneficially owned:

6.558.379

(b) Percent of class:

4.55%

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

2 860 864

(ii) Shared power to vote or to direct the vote

0

(iii) Sole power to dispose or to direct the disposition of

6,558,379

(iv) Shared power to dispose or to direct the disposition of

0

Instruction. For computations regarding securities which represent a right to acquire an underlying security see §240. 13d-3(d)(1).

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 x.

Instruction: Dissolution of a group requires a response to this item.

Item 6. Ownership of More than Five Percent on Behalf of Another Person

If any other person is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, such securities, a statement to that effect should be included in response to this item and, if such interest relates to more than five percent of the class, such person should be identified. A listing of the shareholders of an investment company registered under the Investment Company Act of 1940 or the beneficiaries of employee benefit plan, pension fund or endowment fund is not required.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

If a parent holding company has filed this schedule, pursuant to Rule 13d-1(b)(ii)(G), so indicate under Item 3(g) and attach an exhibit stating the identity and the Item 3 classification of the relevant subsidiary. If a parent holding company has filed this schedule pursuant to Rule 13d-1(c) or Rule 13d-1(d), attach an exhibit stating the identification of the relevant subsidiary.

Item 8. Identification and Classification of Members of the Group

If a group has filed this schedule pursuant to \$240.13d-1(b)(1)(ii)(J), so indicate under Item 3(j) and attach an exhibit stating the identity and Item 3 classification of each member of the group. If a group has filed this schedule pursuant to \$240.13d-1(c) or \$240.1 3d-1(d), attach an exhibit stating the identity of each member of the group.

Item 9. Notice of Dissolution of Group

Notice of dissolution of a group may be furnished as an exhibit stating the date of the dissolution and that all further filings with respect to transactions in the security reported on will be filed, if required, by members of the group, in their individual capacity. See Item 5.

Item 10. Certification

(a) The following certification shall be included if the statement is filed pursuant to §240.13d-1(b):

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 or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

(b) The following certification shall be included if the statement is filed pursuant to §240.13d-1(c):

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

July 3, 2008 Date

/s/ Karen Chen Signature

Karen Chen, CCO Name/Title

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative other than an executive officer or general partner of the filing person, evidence of the representative s authority to sign on behalf of such person shall be filed with the statement, provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. *See* §240.13d-7 for other parties for whom copies are to be sent.

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001)