

| OMB APPROVAL                                 |           |
|----------------------------------------------|-----------|
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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

|                                                                                                                                                                                                       |                                                                             |                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name and Address of Reporting Person *<br><u>Lang Paul A</u><br><br>(Last) (First) (Middle)<br>ONE CITY PLACE DRIVE<br>SUITE 300<br><br>(Street)<br>ST. LOUIS MO 63141<br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>ARCH COAL INC [ ACI ]</u> | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br>Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br>Senior VP - Operations |
|                                                                                                                                                                                                       | 3. Date of Earliest Transaction (Month/Day/Year)<br>02/23/2012              |                                                                                                                                                                                                                    |
| 4. If Amendment, Date of Original Filed (Month/Day/Year)                                                                                                                                              |                                                                             |                                                                                                                                                                                                                    |

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) |            |       | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|---|-------------------------------------------------------------------|------------|-------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------|
|                                 |                                      |                                                    | Code                           | V | Amount                                                            | (A) or (D) | Price |                                                                                               |                                                          |                                                       |

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) |     | 6. Date Exercisable and Expiration Date (Month/Day/Year) |                 | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |       |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|---|----------------------------------------------------------------------------------------|-----|----------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|-------|
|                                            |                                                        |                                      |                                                    | Code                           | V | (A)                                                                                    | (D) | Date Exercisable                                         | Expiration Date |                                                                                   |                                            |                                                                                                    |                                                           |                                                        | Title |
| Employee Stock Options                     | \$13.93                                                | 02/23/2012                           |                                                    | A                              |   | 83,300                                                                                 |     | (1)                                                      | 02/23/2022      | Common Stock                                                                      | 83,300                                     | \$0.00                                                                                             | 83,300                                                    | D                                                      |       |
| Restricted Stock Units                     | \$13.93                                                | 02/23/2012                           |                                                    | A                              |   | 33,000                                                                                 |     | (2)                                                      | (3)             | Common Stock                                                                      | 33,000                                     | \$0.00                                                                                             | 33,000                                                    | D                                                      |       |

**Explanation of Responses:**

- The options vest ratably over 3 years as follows: 27,767 shares vest on February 23, 2013; 27,767 shares vest on February 23, 2014; and 27,766 shares vest on February 23, 2015.
- The reporting person received 33,000 restricted stock units on February 23, 2012. The restricted stock units vest on February 23, 2015.
- The restricted stock units do not expire.

**Remarks:**

/s/ Jon S. Ploetz, Attorney-in-Fact      02/27/2012

\*\* Signature of Reporting Person      Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.