

CLOUD PEAK ENERGY INC.

Form 424B3

November 25, 2009

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Filed Pursuant to Rule 424(b)(3)
Registration No. 333-161293

PROSPECTUS SUPPLEMENT NO. 1
(To Prospectus Dated November 19, 2009)

30,600,000 Shares

CLOUD PEAK ENERGY INC.

Common Stock

This supplement no. 1 supplements our prospectus dated November 19, 2009 (the "prospectus"), relating to the initial public offering of our common stock. The purpose of this supplement no. 1 is to include the attached under the caption "Underwriting" in the prospectus. You should read this supplement no. 1 in conjunction with the prospectus. This supplement no. 1 is qualified by reference to the prospectus, except to the extent that the information in this supplement no. 1 supersedes that information.

Investing in our common stock involves risks. See the "Risk factors" section of the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is November 25, 2009.

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The Company is reimbursing the underwriters for the cost of qualifying the offering under Rule 5110 of the Financial Industry Regulatory Authority, which reimbursement will not exceed \$30,000. The Company has also agreed to reimburse the underwriters for one-half of the expense of air charters in connection with marketing the offering, which reimbursement will not exceed \$100,000.

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