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Coal Age

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This month, Coal Age provides a report on developing western bituminous projects. On the cover: The world's largest haul truck by volume. The truck consists of a Westech coal body mounted on a Liebherr chassis. The record was set at Peabody Energy's North Antelope Rochelle mine in Wyoming. In addition to the article (see p. 32), Westech will be on hand to answer questions at the Coal Handling & Storage conference in St. Louis during November.

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ENDANGERED Species BULLETIN

Summer 2011 Volume 36, No. 2

Editor: Mike Bender

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On the cover: The U.S. Fish and Wildlife Service and its conservation partners involved in the 30-year long Tennessee purple coneflower (*Echinacea tennesseensis*) recovery effort have reason to celebrate. In August 2011, the Service proposed to recognize the wildflower's recovery by removing it from the federal list of endangered and threatened species. ©2011 Daniel W Reed, *www.2bnTheWild.com*

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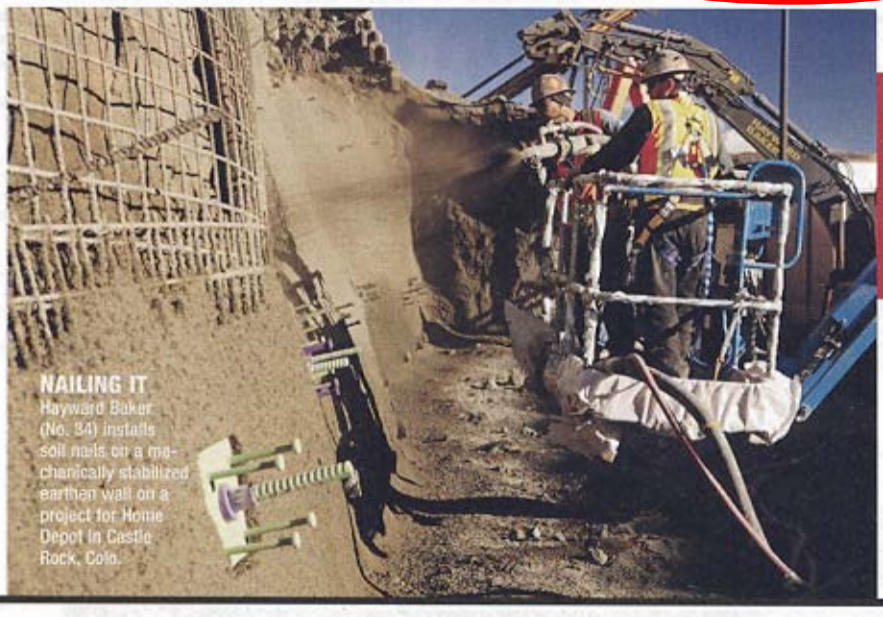
Cover illustration by Peter Bollinger; photo right courtesy of Hayward Baker Inc.



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Cover photo: Upper Yakima River Canyon, along old Highway 10 between Ellensburg and Cle Elum, WA. Photo by Tom Ring.

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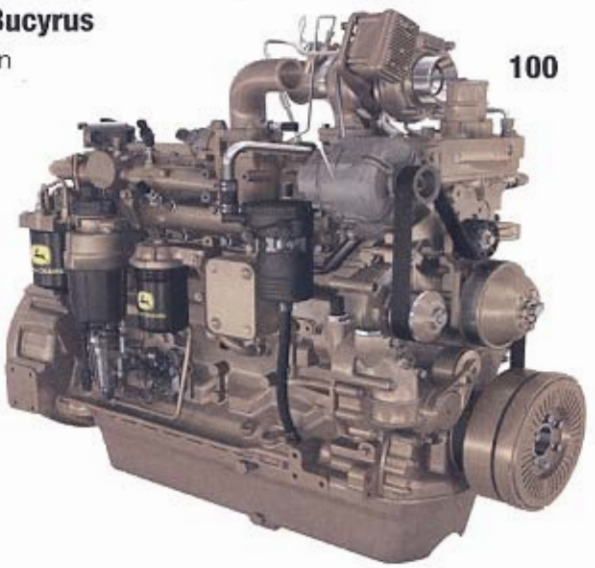

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After more than 30 years at its location in Littleton, CO, SME moved its headquarters east to a new building in Englewood, CO. On Aug. 25, more than 150 people helped celebrate the grand opening of SME's new headquarters, page 23. China's remarkable growth in recent decades has come with increased demand for coal. On page 24, Jerry Tien looks at the issue of controlling coal dust in mines in China. On page 30 of this month's issue, a team of authors from Freeport-McMoRan's Dos Pobres Mine discuss efforts for better rock fragmentation.

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June 2011

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Kennecott Utah Copper, though one of the world's largest copper mines over the past century, could have that much life remaining. Now, it's working to provide the next couple of decades of life through the Cornerstone Project. The photos on the cover are taken from a "virtual tour" that can be seen on the mine's website, www.kennecott.com, under the Visitors Center heading. They show the various process ongoing at the mine, including drilling and blasting, loading and hauling, crushing and conveying. All illustrations in this issue come from the company's website or from Rio Tinto presentations.

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W08602 *R. Liedl, P. K. Yadav, and P. Dietrich*
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Data and Analysis Notes

W08701 *Ray B. Bryant, Tamie L. Veith, Gary W. Feyereisen, Anthony R. Buda, Clinton D. Church, Gordon J. Folmar, John P. Schmidt, Curtis J. Dell, and Peter J. A. Kleinman*
U.S. Department of Agriculture Agricultural Research Service Mahantango Creek Watershed, Pennsylvania, United States: Physiography and history (doi 10.1029/2010WR010056)

W08702 *Anthony R. Buda, Tamie L. Veith, Gordon J. Folmar, Gary W. Feyereisen, Ray B. Bryant, Clinton D. Church, John P. Schmidt, Curtis J. Dell, and Peter J. A. Kleinman*
U.S. Department of Agriculture Agricultural Research Service Mahantango Creek Watershed, Pennsylvania, United States: Long-term precipitation database (doi 10.1029/2010WR010058)

W08703 *Anthony R. Buda, Gary W. Feyereisen, Tamie L. Veith, Gordon J. Folmar, Ray B. Bryant, Clinton D. Church, John P. Schmidt, Curtis J. Dell, and Peter J. A. Kleinman*
U.S. Department of Agriculture Agricultural Research Service Mahantango Creek Watershed, Pennsylvania, United States: Long-term stream discharge database (doi 10.1029/2010WR010059)

W08704 *Clinton D. Church, Tamie L. Veith, Gordon J. Folmar, Anthony R. Buda, Gary W. Feyereisen, Ray B. Bryant, John P. Schmidt, Curtis J. Dell, and Peter J. A. Kleinman*
U.S. Department of Agriculture Agricultural Research Service Mahantango Creek Watershed, Pennsylvania, United States: Long-term water quality database (doi 10.1029/2010WR010060)

Corrections

W08901 *William L. Graf, Ellen Wohl, Tushar Sinha, and John L. Sabo*
Correction to "Sedimentation and sustainability of western American reservoirs" (doi 10.1029/2011WR011172)

Special Sections in Progress

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