

2011

# **coal energy**

From the Mine to the Utility

**Feature:**

## 2010 Coal Mining Deaths

*Remembering Our Miners*

# WOMEN IN COAL MINING

**World News:**

## Colombia

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Martin Engineering

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# letter from the publisher

Good afternoon readers,

Thank you for taking the time to read another issue of Coal Energy.

Whether you are still receiving a hard copy or having Coal Energy conveniently delivered electronically to your inbox, we are sure you will enjoy finding the latest highlights in the industry and associations all in one place.

In this issue, we take a moment to remember our coal miners that lost their lives in 2010. Please kindly take a moment of silence in their honor. A special thank you to CONSOL for sponsoring this section.

We are also enjoying a dust control white paper from AKJ Industries.

In World News we look at Columbia and then take a quick look at women in underground coal mining.

As always, you can find events for the four major coal associations, and some highlighted press releases.

If you have any press releases, events, or white papers for consideration please do not hesitate to contact me at [maria@martonickpublications.com](mailto:maria@martonickpublications.com) or call me **1-866-387-0967**.

Thank you again for picking up (or clicking on!) another edition of Coal Energy. 🍷

*Maria Martonick*



# Association Comparisons

## AMERICAN SOCIETY OF MINING AND RECLAMATION

### Mission

ASMR, American Society of Mining and Reclamation, was established in 1983 to serve the mining and reclamation community as an outlet for scientific research and demonstration papers through annual National meetings. These reclamation projects include activities associated with all kinds of drastically disturbed lands.

**Originated in:** 1983  
**Dues:** \$50 - \$1000  
**For more information:**  
<http://fp1.ca.uky.edu/asmr/>

## AMERICAN COAL ASH ASSOCIATION

### Mission

The ACAA advances the management and use of coal combustion products in ways that are environmentally responsible, technically sound, commercially competitive and more supportive of a sustainable global community.

**Originated in:** Not listed  
**Dues:** \$1650 - \$13500  
**For more information:**  
[www.aaa-usa.org](http://www.aaa-usa.org)

## RMEL

### Mission

It is RMEL's mission to provide a forum for education and the sharing of ideas to better serve the electric energy industry and its customers.

**Originated in:** 1903  
**Dues:** \$200 - \$3250  
**For more information:**  
[www.rmेल.org](http://www.rmेल.org)

## NATIONAL MINING ASSOCIATION

### Mission

NMA is the public policy voice of one of America's great basic industries whose primary mission is helping the nation realize the contribution made to our economic well-being and quality of life by resources derived from mining.

**Originated in:** Not listed  
**Dues:** Not listed  
**For more information:**  
[www.nma.org](http://www.nma.org)





## AMERICAN COAL COUNCIL

### Mission

The American Coal Council (ACC) is dedicated to advancing the development and utilization of coal as an economic, abundant/secure and environmentally sound energy fuel source. The Association promotes the lawful exchange of ideas and information regarding the coal industry. It serves as an essential resource for companies that mine, sell, trade, transport or consume coal. The ACC provides educational programs, advocacy support, peer-to-peer networking forums and market intelligence that allow members to advance their marketing and management capabilities.

**Originated in:** 1982

**Dues:** \$2500

**For more information:**

[www.americancoalcouncil.org](http://www.americancoalcouncil.org)

## NATIONAL COAL TRANSPORTATION ASSOCIATION

### Mission

The Mission of the NCTA is to provide education and facilitation for the resolution of coal transportation issues in order to serve the needs of the general public, industry, and all modes of transportation. This is accomplished through the sponsoring of educational forums and providing opportunities for the lawful exchange of ideas and knowledge with all elements of the coal transportation infrastructure.

**Originated in:** Not listed

**Dues:** \$1250

**For more information:**

[www.nationalcoaltransportation.org](http://www.nationalcoaltransportation.org)

To have your coal industry association or organization included in the next issue of Coal Energy, please send information to [info@martonickpublications.com](mailto:info@martonickpublications.com).



# ONE SIZE **FITS ALL?**

BY TREY CRANFILL

Moisture. Ash. BTU value. Percent fines. These are just a few of the many characteristics that define the differences in coals mined in the United States and around the world. These characteristics dictate how coal is mined, sold and handled. Material handling processes can vary widely from mine to mine and utility to utility—each presenting their own unique set of challenges. From winter freezing concerns to dusting year-round, AKJ specializes in solving those material handling challenges.

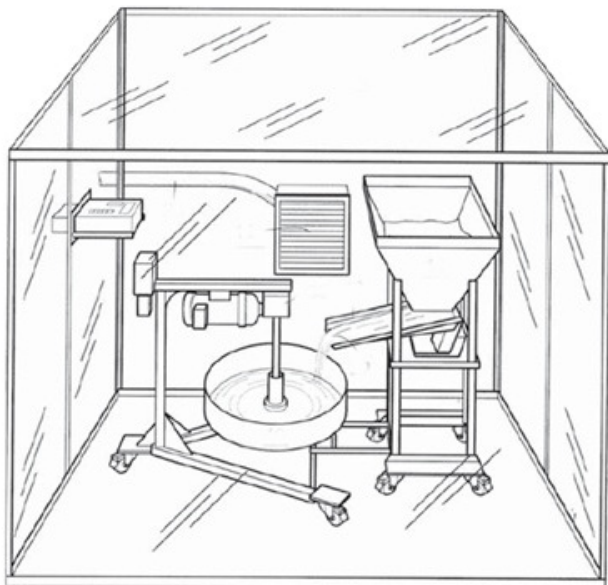
Because all coal is not the same, both freeze conditioning and dust control programs should be as varied as the coal they are treating. AKJ Industries has teamed up with the University of Kentucky School of Mining to develop test devices and procedures to identify the correct products and application rates for each individual coal tested. By simulating real world conditions, a customized approach can be created for a customer's specific coal to optimize freeze conditioning and dust control solutions.

These test devices allow AKJ to demonstrate the full effectiveness of our freeze conditioning and dust control products without the time and expense of on-site field trials. After the customer submits a sample of coal, AKJ offers a detailed report that outlines the performance of each chemical we test, be it for dust control or freeze conditioning.

## Dust Control

One of the most challenging areas to control dust is at transfer points. The coal contacts the chute walls and free-falls onto a conveyer belt, causing impacts that create new surface areas and generate large amounts of dust; the bottleneck design in chutes generates an increase in air velocity that causes this dust to become airborne. AKJ, with the University of Kentucky School of Mining, created a test device to simulate this challenging environment. The Dust Cube™ (picture to right) uses a vibrating hopper to feed coal into a rotating pan, all enclosed in a Plexiglas cage. This simulates the dust generated when coal free-falls onto a moving conveyer belt. In the Cube we introduce an increase in air velocity at 62 CFM, similar to the increase in air velocity when coal passes through a typical





chute enclosure. Dust generated is collected via an in-line filter, which is weighed before and after testing to quantitate results. A second layer of data is collected by a TSI DustTrack aerosol monitor used to measure the amount of respirable dust within the Dust Cube™.

The Dust Cube™ not only allows us to test specific coals but has also proved to be an invaluable device when it comes to product development. AKJ's newest dust control product routinely offers over 90% reduction in dust, and the picture below shows a treated sample next to an untreated sample; the visual results speak for themselves. The results found by using the Dust Cube™ have been proven in the field, and videos of it in action can be found on AKJ's YouTube channel at [youtube.com/akjindustries](http://youtube.com/akjindustries).

## Freeze Conditioning

AKJ takes a two pronged approach to freeze conditioning: side release and body feed. Side release entails applying a side release agent to the interior walls of railcars before they are loaded with coal to eliminate carryback at unloading. Body feed is applying freeze conditioning agents to the coal itself as it is being loaded into the railcars to eliminate large frozen chunks.

### Side Release

With the help of MATRIC Inc., a research firm located in Charleston, West Virginia, AKJ developed an additive used to enhance the performance of our side release products. That additive, SurfaceBond™, offers 'Stay Where You Spray' technology, which reduces product loss due to runoff. In laboratory tests, MATRIC found that SurfaceBond™ increases the amount of product that stays on the interior vertical surfaces of railcars by a factor of fourteen! In addition to our Dust

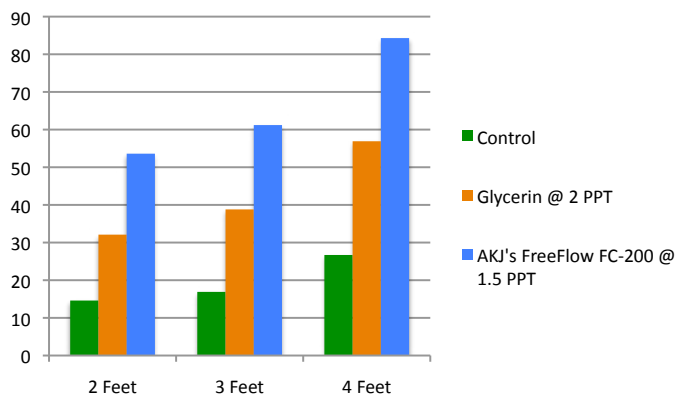
Cube™ at the University of Kentucky, AKJ also operates a shear testing device to measure the effectiveness of our side release products on our customer's coals and railcar types (aluminum vs. steel). The shear tester (pictured below) measures the amount of force required to break the frozen bond between the coal and aluminum or steel surface. Results have shown that the SurfaceBond™ additive allows AKJ's side release products to offer increased performance with decreased application rates.



### Body Feed

While developing our side release product, FreeFlow™ SR300, it was apparent that the presence of SurfaceBond™ did not allow the chemical to be absorbed by the porous coal, meaning that more product stays on the surface of the coal and greatly reduces product loss due to absorption. This allows AKJ to achieve maximum body feed performance at minimal application rates. To evaluate the performance of our body feed products on specific coals, AKJ has followed in the footsteps of Jenike & Johanson by developing a drop/shatter testing device at the University of Kentucky School of Mining.

Drop/shatter testing consists of freezing coal samples and dropping them from increasing heights over a steel grate. Performance is measured by the amount of the frozen coal sample that breaks and passes through the grate. The graph below shows the power the SurfaceBond™ additive has on our body feed products. The blue illustrates the superior performance of AKJ's FreeFlow™ body feed products, featuring the SurfaceBond™ additive.



>> **Feature:** AKJ

Because SurfaceBond™ keeps more product on the coal's surface, AKJ decided to evaluate its FreeFlow™ body feed products for dust control performance using the Dust Cube™. Initial results were clear: *FreeFlow™ products offer significant dust control during the winter months.*

conditioning programs can help your business run faster, smoother, and cleaner than ever before. In addition to running your coal through dust control and freeze conditioning evaluations, AKJ can also simulate wet coal flow and car top binding applications to help solve all of your material handling needs. 🍷

## One Size Doesn't Fit All

Contact AKJ today to submit your coal samples to receive a detailed report on how the premier dust control and freeze



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## Coal Transportation Solutions

America relies on coal, and when it comes to rail transportation for coal, you can rely on TrinityRail. Products such as our rugged rotary gondolas, industry-leading Rapid Discharge<sup>®</sup> cars and now the revolutionary RDL<sup>™</sup>, our newest coal car innovation, make TrinityRail your time-tested industry leader. With a complete line of proven and reliable coal car products and services, TrinityRail makes coal transportation effortless. As your single source provider, TrinityRail continues on track to meet your challenges and deliver new ideas.

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TrinityRail provides a unique perspective and in-depth understanding of rail equipment operations, which helps keep your fleet rolling. With access to a world-class team of transportation experts and a full-range of products and services, TrinityRail can help you increase the return on every component of your investment. Wide-ranging, integrated solutions designed to make rail shipping cost-effective and trouble-free – that's what TrinityRail is all about.

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# REMEMBERING our Coal Miners lost in 2010

Rudy Lindstrom, *57 yrs old*

Thomas N Brown, *61 yrs old*

Travis Brock, *29 yrs old*

Jesse Adkins, *39 yrs old*

Ray Oney, *61 yrs old*

Brian W Mason, *25 yrs old*

John King, *28 yrs old*

John Tittle, *37 yrs old*

Michael W Carter, *28 yrs old*

William R Dooley, *56 yrs old*

Justin W Travis, *27 yrs old*

James J Falk, *39 yrs old*

James Erwin, *55 yrs old*

Rhett Lee Mosley, *32 yrs old*

Jimmy R Carmack, *42 yrs old*

Charles R Qualls, *32 yrs old*

Ray Starcher, *60 yrs old*

For more information on the 2010 coal mining fatalities please see  
<http://www.msha.gov/FATALS/FABC2010.asp>

This page sponsored by CONSOL



**U.S. Department of Labor**

Mine Safety and Health Administration  
1100 Wilson Boulevard  
Arlington, VA 22209-3939



September 2, 2010

To the Mining Community:

While headlines focus on the disaster at West Virginia's Upper Big Branch (UBB) Mine that killed 29 miners, we cannot lose sight of the fact that other miners are losing their lives at mines around the country. To date, 28 other miners from all sectors of mining have died in fatal accidents since January 1. We need to take prompt and effective action to prevent more fatalities.

The causes of these deaths and the ways to prevent them are known to us all. Eight miners were killed after being **struck-by** moving or falling objects. **Roof falls and rib rolls** crushed 7 miners. Six miners were killed working in **close proximity** to mining or haulage equipment. Three miners lost their lives in **explosions and fires**, another was killed when he was caught inside rotating machinery, one fell to his death, one was killed when his truck went through a berm and over a highwall, and one drowned. Eight of the victims were **contractors**. Each life lost is a tragedy for a family, a mining operation, and a community.

Fatalities are not inevitable. They can be prevented by using effective **safety and health management programs** in your workplaces. **Workplace examinations** for hazards – pre-shift and on-shift every shift – can identify and eliminate hazards that kill and injure miners. And providing effective and appropriate **training** will ensure that miners recognize and understand hazards and how to control or eliminate them. Mine operators and Part 46 and Part 48 trainers need to train miners and mine supervisors on the conditions that lead to deaths and injuries and measures to prevent and avoid them.

Mining workplaces must be made safe for miners, and operators must ensure that safety procedures are always followed. Thousands of mines do that and work year in and year out without fatalities or reporting lost-time injuries.

Violations of the standards identified earlier this year in our Rules to Live By fatality prevention program continue to play key roles in mine fatalities. Based on preliminary information currently available, it appears that that violations of these priority standards were involved in more than half of these 28 fatalities.

Please visit MSHA's website at [www.msha.gov](http://www.msha.gov) for a detailed message from me on this year's fatalities, best practices to prevent them, posters for you to print and display in your operations, and other information on preventing fatalities in the mining workplace.

MSHA's inspectors will be especially mindful of these issues while performing inspections. As they carry out enforcement of the mine laws, they will be talking to miners and mine supervisors in mines throughout the country to discuss these kinds of fatalities and preventing them. Miners deserve a safe and healthy workplace and the right to go home safe and well at the end of every shift, every day. Working together, we can make that happen.

Sincerely,

A handwritten signature in blue ink that reads "Joseph A. Main".

Joseph A. Main  
Assistant Secretary for  
Mine Safety and Health

# Coal Fatalities for \_\_\_\_\_ \_\_\_\_\_ **1900** Through **2011**

Year	Miners	Fatalities	Year	Miners	Fatalities	Year	Miners	Fatalities
1900	448,581	1,489	1938	541,528	1,105	1976	221,255	141
1901	485,544	1,574	1939	539,375	1,078	1977	237,506	139
1902	518,197	1,724	1940	533,267	1,388	1978	255,588	106
1903	566,260	1,926	1941	546,692	1,266	1979	260,429	144
1904	593,693	1,995	1942	530,861	1,471	1980	253,007	133
1905	626,045	2,232	1943	486,516	1,451	1981	249,738	153
1906	640,780	2,138	1944	453,937	1,298	1982	241,454	122
1907	680,492	3,242	1945	437,921	1,068	1983	200,199	70
1908	690,438	2,445	1946	463,079	968	1984	208,160	125
1909	666,552	2,642	1947	490,356	1,158	1985	197,049	68
1910	725,030	2,821	1948	507,333	999	1986	185,167	89
1911	728,348	2,656	1949	485,306	585	1987	172,780	63
1912	722,662	2,419	1950	483,239	643	1988	166,278	53
1913	747,644	2,785	1951	441,905	785	1989	164,929	68
1914	763,185	2,454	1952	401,329	548	1990	168,625	66
1915	734,008	2,269	1953	351,126	461	1991	158,677	61
1916	720,971	2,226	1954	283,705	396	1992	153,128	55
1917	757,317	2,696	1955	260,089	420	1993	141,183	47
1918	762,426	2,580	1956	260,285	448	1994	143,645	45
1919	776,569	2,323	1957	254,725	478	1995	132,111	47
1920	784,621	2,272	1958	224,890	358	1996	126,451	39
1921	823,253	1,995	1959	203,597	293	1997	126,429	30
1922	844,807	1,984	1960	189,679	325	1998	122,083	29
1923	862,536	2,462	1961	167,568	294	1999	114,489	35
1924	779,613	2,402	1962	161,286	289	2000	108,098	38
1925	748,805	2,518	1963	157,126	284	2001	114,458	42
1926	759,033	2,234	1964	150,761	242	2002	110,966	28
1927	759,177	2,231	1965	148,734	259	2003	104,824	30
1928	682,831	2,176	1966	145,244	233	2004	108,734	28
1929	654,494	2,187	1967	139,312	222	2005	116,436	23
1930	644,006	2,063	1968	134,467	311	2006	122,975	47
1931	589,705	1,463	1969	133,302	203	2007	122,936	34
1932	527,623	1,207	1970	144,480	260	2008	133,828	30
1933	523,182	1,064	1971	142,108	181	2009	134,089	18
1934	566,426	1,226	1972	162,207	156	2010	135,500	48
1935	565,202	1,242	1973	151,892	132	2011	143,437	21
1936	584,582	1,342	1974	182,274	133			
1937	589,856	1,413	1975	224,412	155			

Please Note: Office workers included starting in 1973.

# The best coal cars come from FreightCar America.

FreightCar America is the world's leading coal car builder for good reason. Its BethGon® II gondola car and AutoFlood III™ automatic discharge hopper car are the standards of the industry.

No one builds more aluminum, steel, and stainless steel coal cars than FreightCar America. That should come as no surprise - FreightCar America and its predecessor companies have been at it for 105 years!

In addition to coal cars, FreightCar America builds flat cars, mill gondolas, intermodal cars, coil steel cars, covered hopper cars and AVC Aluminum Vehicle Carriers.

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# Company Profile

## 1. WHAT DO YOU ATTRIBUTE THE SUCCESS OF THE COMPANY TO?

As a family-owned company incorporated in Illinois, Martin Engineering reflects its small-town roots and practices the “let’s roll up our sleeves and figure it out” work ethic. Martin Engineering’s success can be attributed to providing practical, tested, and proven solutions to real-life problems faced in the coal handling industry.

## 2. WHAT ARE THE COMPANY’S GOALS IN REGARDS TO THE COAL INDUSTRY?

Martin Engineering strives to make coal handling cleaner, safer, and more productive. The coal industry can be dangerous, and anything Martin Engineering can do to promote safer and cleaner practices and environments is of the most importance. Our products are engineered with safety in mind!

## 3. HOW HAS THE COMPANY EVOLVED OVER TIME TO WHERE IT IS TODAY?

The company has taken a proactive approach to continuous improvement.

Martin constantly researches and develops better and safer ways to handle material. The company built a new Research and Development Center in 2008. The Center for Innovation (CFI) is located on the company’s Neponset, IL campus. Focused on solving problems encountered with material handling, CFI is concentrated on reducing and controlling dust and spillage from belt conveyors, and enhancing the flow of materials from storage and through processes. Projects at the CFI include basic research, industry education, new product development, the analysis of bulk material properties, and the testing of material handling systems and components under simulated operating conditions.

## 4. WHAT ARE YOUR VISIONS FOR THE COAL INDUSTRY?

Martin Engineering envisions the coal industry to continue to be a reliable source of energy. We hope the industry can continue to

grow support and awareness of clean and safe coal practices.

## 5. HOW MANY EMPLOYEES ARE IN THE COMPANY AND WHEN WAS THE COMPANY ESTABLISHED?

Martin Engineering, founded in 1944, employs over 800 employees worldwide.

## 6. WHAT PRODUCTS ARE OFFERED AND WHAT TYPE OF WORK IS DONE WITHIN THE COMPANY?

Martin Engineering manufactures an extensive line of material handling solutions. Specializing in belt cleaning, material flow, belt tracking, belt support, transfer point performance, dust management, and leading edge conveyor technology, Martin Engineering is the leading international developer, manufacturer, and supplier of innovations to improve material handling.

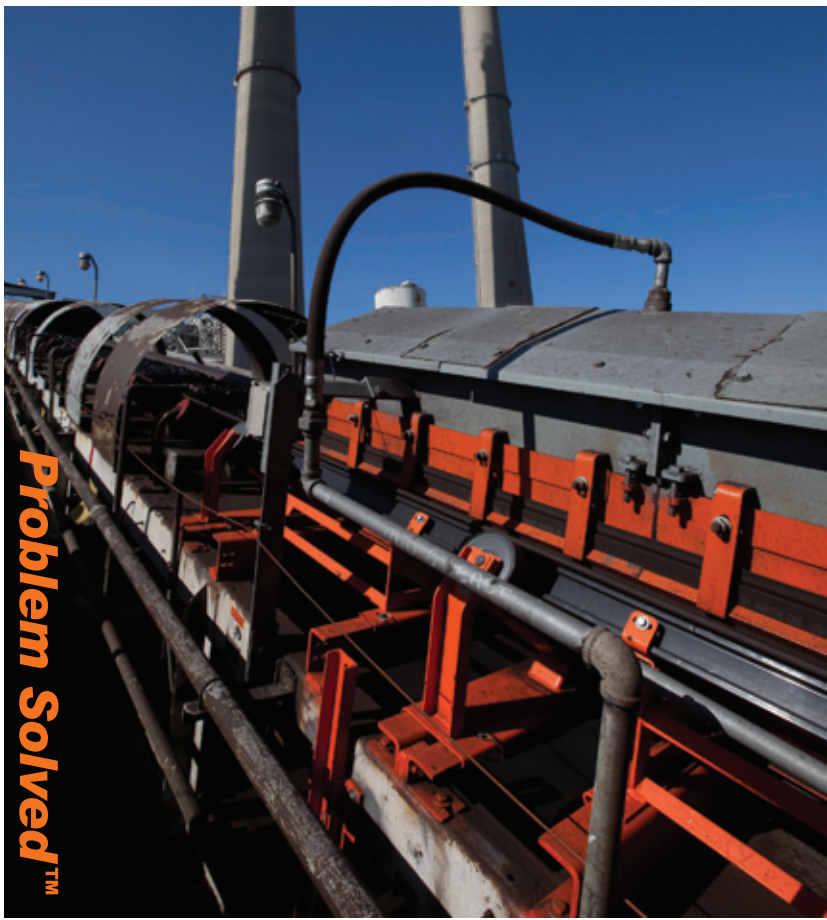
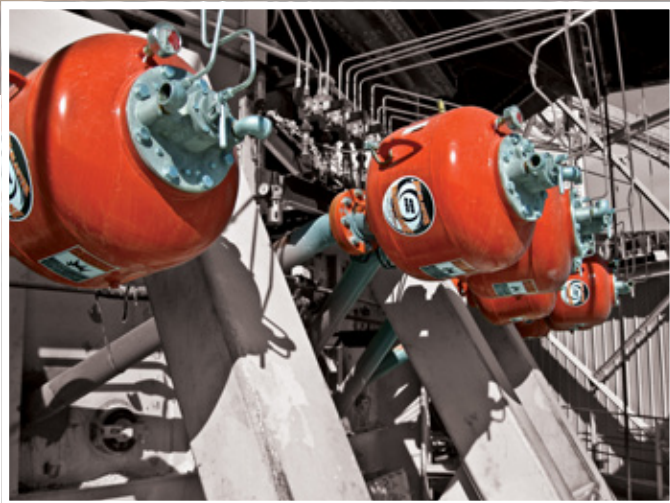
## 7. CAN YOU TELL ME A LITTLE BIT ABOUT THE MISSION STATEMENT?

Martin delivers tough, tested, and innovative material handling solutions, backed by genuine and dependable industry experience since 1944. Martin is very proud of its longstanding reputation as a worldwide leader in making bulk materials handling cleaner, safer, and more productive. Being able to provide solutions to those facing common problems and bottlenecks is important to us as a company.

## 8. HOW HAS THE ECONOMY AFFECTED YOUR COMPANY?

Obviously if coal handling operations have less money to spend, that can affect manufacturing companies. However, Martin products and services keep coal handling systems up and running while increasing productivity and efficiency. Plants can’t afford to have their coal handling systems down and inoperable, so Martin products and services are still heavily in demand. Clean, safe, and productive coal handling from the beginning will result in less downtime and unexpected/unbudgeted maintenance and upgrade costs. 🍷





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# IN THE PRESS

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## NEW SONIC HORN IMPROVES OPERATING EFFICIENCY AND CONSISTENCY

*For Immediate Release*

[Neponset, IL] – One of the world leaders in bulk material flow technology has introduced a new addition to its family of flow aid products. The MARTIN® Sonic Horn is an acoustic cleaner that reduces system downtime, maintenance, and operating costs, while improving performance and prolonging equipment life. In addition to the low cost of ownership, acoustic cleaning helps avoid structural fatigue or damage, prevents dry particulate build-up, and increases system efficiency. Especially effective around pipes and behind obstacles, sonic energy de-bonds particulates with a 360-degree sweep, cleaning inaccessible parts.

Sonic horns work by producing a low-frequency, high-pressure sound wave, which is created when compressed air flexes a titanium diaphragm in the sound generator. This sound wave is then magnified as it is emitted through the cleaner's bell. The sound pressure causes dry particulate deposits to resonate and become fluidized, allowing them to be removed by constant gas flow or gravity.

“Acoustic cleaning technology has been providing cost-saving solutions

for decades,” commented Jeff Shelton, Multiport Specialist, from Martin Engineering. “It’s a proven technology that can improve throughput and reduce blockages.”

There are 2 models of the sonic horn available. MARTIN® Model D-75 Sonic Horn has a fundamental frequency of 75 Hz and measures 92.07 inches (2339 mm) in length and weighs 190 pounds (86.2 kg). This model has a wavelength of 14.75 feet (4.5 m).



Sonic horn 010: The MARTIN® Sonic Horn is an acoustic cleaner that reduces system downtime, maintenance, and operating costs, while improving performance.

The MARTIN® Model D-230 Sonic Horn (230 Hz fundamental frequency) features a wavelength of 4.75 feet (1.5 m) and is 27.5 inches long (698.5 mm).

It weighs 54.27 pounds (24.6 kg).

Sonic Horns comply with OSHA dB regulations for vessel interiors, helping manufacturing facilities to comply with emissions regulations. MARTIN® Sonic Horns are well suited for use in boilers, heat exchangers, economizers, bag houses, selective catalytic reduction (SCR) processes, ID fans, electrostatic precipitators (ESP), silos, hoppers, cyclones, and air pre-heaters.


Used in combination with Martin Engineering’s BIG BLASTER® Air Cannon technology, MARTIN® Sonic Horns provide a total cleaning and flow solution. Specific launch dates of this new product may vary slightly, depending on the country / region.

Founded in 1944, Martin Engineering is the world leader in making bulk materials handling

cleaner, safer and more productive. The firm is headquartered in Neponset, IL, with global reach from operations in Brazil, China, France, Germany, Indonesia, Mexico, South Africa, Turkey, India

## >> In the Press

and the UK. For more information, visit [www.martin-eng.com](http://www.martin-eng.com) or call (309) 852-2384. Exact dates of this product introduction may vary by region. Global representatives for Martin Engineering can be found at [www.martin-eng.com/rep-finder](http://www.martin-eng.com/rep-finder).

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# JAMES RIVER COAL ANNOUNCES SENTINELS OF SAFETY AWARD FOR OUTSTANDING SAFETY PERFORMANCE

**RICHMOND, Va., Sept. 30, 2011 /PRNewswire/ -- James River Coal Company (NASDAQ:JRCC), today announced that one of its subsidiaries has earned the Sentinels of Safety Award.**


The Sentinels of Safety is the most distinguished safety award in the United States mining industry. It is awarded on an annual basis by the Mine Safety and Health Administration (MSHA) and the National Mining Association (NMA) to mining facilities based on size and mining method.

McCoy Elkhorn's Bevin's Branch Preparation Plant earned the 2010 Sentinels of Safety Award for its outstanding safety performance in the category of large

Processing Facilities. Bevin's Branch is located in Pike County, Kentucky. The mine worked a total of 142,000 man-hours without a lost-time accident.

"We are very proud to have received the distinguished Sentinels of Safety Awards," said C.K. Lane, Chief Operating Officer. "In 2009 Bevin's Branch was awarded second place and our employees have worked very hard to achieve the award for first place. At James River we are continually striving to make safety our number one priority."

James River Coal Company is one of the leading coal producers in Central Appalachia and the Illinois Basin. The company sells metallurgical, bituminous steam and industrial-grade coal to electric utility companies and industrial customers both domestically and internationally.

The Company's operations are managed through eight operating subsidiaries located throughout eastern Kentucky, southern West Virginia and southern Indiana. Additional information about James River Coal can be found at its web site [www.jamesrivercoal.com](http://www.jamesrivercoal.com) 

SOURCE:  
**James River Coal Company**  
News Provided by Acquire Media  
CONTACT:  
James River Coal Company  
**Elizabeth M. Cook**  
Director of Investor Relations  
(804) 780-3000

# ARCH COAL OPERATIONS AMONG SAFEST IN NATION; MSHA HONORS EMPLOYEES OF ARCH OPERATIONS WITH TWO SENTINELS OF SAFETY AWARDS

October 17, 2011 4:06 PM ET

**ST. LOUIS, Oct. 17, 2011 -- Arch Coal, Inc. (NYSE: ACI) today announced that employees of Canyon Fuel Company's Sufco mine and Powell Mountain Energy's preparation plant achieved the nation's best 2010 safety records in their respective categories, according to the U.S. Department of Labor's Mine Safety and Health Administration (MSHA).**

The prestigious Sentinels of Safety awards were presented at a banquet today in Washington, D.C. "The companies being recognized today understand the importance of having effective safety and health programs in place and diligently implementing those programs every day," said Joseph A. Main, assistant secretary of labor for mine safety and health. "They also demonstrate to the rest of the industry that it is possible to take responsibility for mine safety and health and run mining operations safely every day of the year."

The Sufco mine is located near Salina, Utah, and its underground operation

utilizes longwall and continuous mining systems. In 2010, Sufco employees worked 797,517 continuous hours with a lost-time incident rate of zero compared to the national underground average of 3.72 incidents per 200,000 employee-hours worked.

The former Powell Mountain preparation plant in Lee County, Va., operated for three years without a single reportable safety incident. The plant was idled recently to achieve operating synergies with Arch's Lone Mountain Processing, Inc. located in Lee County, Va., and Harlan County, Ky.


"These top accolades from the U.S. Department of the Interior today were hard earned by our dedicated employees," said Arch's Chairman and Chief Executive Officer Steven F. Leer. "It is with great pride that I congratulate the employees of Sufco mine and Powell Mountain's prep plant for leading their peers in safety excellence."

The Sentinels of Safety awards program is cosponsored by MSHA and the National Mining Association. Sentinels of Safety award recipients represent mining operations that have worked the most employee hours in each category without a lost-time incident. Six award winners are chosen from large and small

operations in three category types, with a minimum of 4,000 hours logged without a lost-time incident.

The awards were initiated in 1925 by then-Commerce Secretary Herbert Hoover and remain the nation's most prestigious awards. More information on the Sentinels of Safety awards and categories is posted at <http://www.msha.gov/>.

In 2010, Arch set new company records in safety performance, environmental compliance and revenue generation. In 2010, Arch's lost-time safety incident rate of 0.46 was the company's best yet, and less than one-fifth the industry average of 2.52 incidents per 200,000 employee-hours. In the past 10 years, Arch subsidiary operations have earned a total of five Sentinels of Safety awards.

U.S.-based Arch Coal is a top five global coal producer and marketer, with 179 million tons of coal sold pro forma in 2010. Arch is the most diversified American coal company, with mining complexes across every major U.S. coal supply basin. Arch's core business is supplying cleaner-burning, low-sulfur thermal and metallurgical coal to power generators and steel manufacturers on four continents. 

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# Industry Events

## American Coal Council:

- Utility Coal Conference, June 28-19, 2011, Minneapolis, USA.
- Coal Market Strategies, August 22-24, 2011, Colorado Springs, CO.

For more ACC events visit [www.accevents.org](http://www.accevents.org)

## RMEL:

- Spring Managements, Engineering and Operations Conference, May 15-17, 2011, Loveland, CO.
- RMEL Golf Tournament, July 12, 2011, Westminster, CO.
- Safety Roundtable, August 26, 2011, Fort Collins, CO.
- Fall Executive Leadership and Management Convention, September 11-13, 2011, Santa Ana Pueblo, NM.

## National Coal Transportation Association:

- NCTA Spring General Conference, April 24-27, 2011, Colorado Springs, CO.
- 2011 O & M Conference, June 13-15, 2011, Incline Village, Nevada.

## American Coal Ash Association:

- World of Coal Ash 2011, May 9-12, 2011, Denver, CO.

To submit more events for publish or to include information about your organizations calendar of events, please email [info@mar-tonickpublications.com](mailto:info@mar-tonickpublications.com) . Thank you.



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# Did You Know?

## Women in Coal Mining



Bobbie Pauley was cooking dinner when she received a phone call she will never forget. There had been an accident at the Upper Big Branch Mine, where her beloved husband Boone Payne was underground on shift that day.

Over the next few hours devastating news ripped her life apart. Most of us

are well familiar by now with the Upper Big Branch Mine tragedy.

What you may not know, is Bobbie Pauley is also an underground miner. She ran continuous-mining machines, scoops and shuttle cars. Upper Big Branch is where they met and where they fell in love.

What does Bobbie want each of us to know? She would like the world to see the sacrifices coal miners make every day for something we all take for granted – energy.

She would like the world to know that men and women are risking their lives every day.

On October 25th 1979, a 25 foot slab of shale fell on a Pennsylvania coal miner. The miner died of shock and asphyxiation. Most of us immediately picture a middle aged man with a mining hat and coal dusted face. Some of us even start to think about his wife and children he left behind.

Whatever we are thinking or picturing in our mind, we are probably thinking he. But this coal miner was Marilyn McCusker, a 35 year old woman, the first woman to be killed in a deep mine accident in North America.

Female coal miners are a statistical rarity, and the sacrifice of their lives for the

coal mining industry is rarely honored.

According to the Center for Working Class Studies at Youngstown University for every 100 men who work in coal mines there are only two women.

After the civil rights and affirmative action movements of the 1960's and 1970's the number of women actually working in the mines increased dramatically throughout the U.S. from zero to over 3,000 in the 1980's.

Currently in the U.S. women can take classes to get certified as surface miners, then as underground miners.

Pauley, Boone's wife is just one of the examples of women in coal mining.

Her first job was as a contractor at a Peabody mine. Part of the roof had collapsed, and the area was no longer being mined, but was used to vent the rest of the mine. Pauley and 18 other workers crawled on their hands and knees into the collapsed area, dragging heavy jacks to prop up the roof.

"It was the hardest work I've ever done," she said.

By the time the job was done, most of the men had quit; just she and two men worked through to the end.

Today, Pauley and thousands of other women continue to work in the coal mining industry. Let's all take a minute to applaud their courage and strength. 🍷

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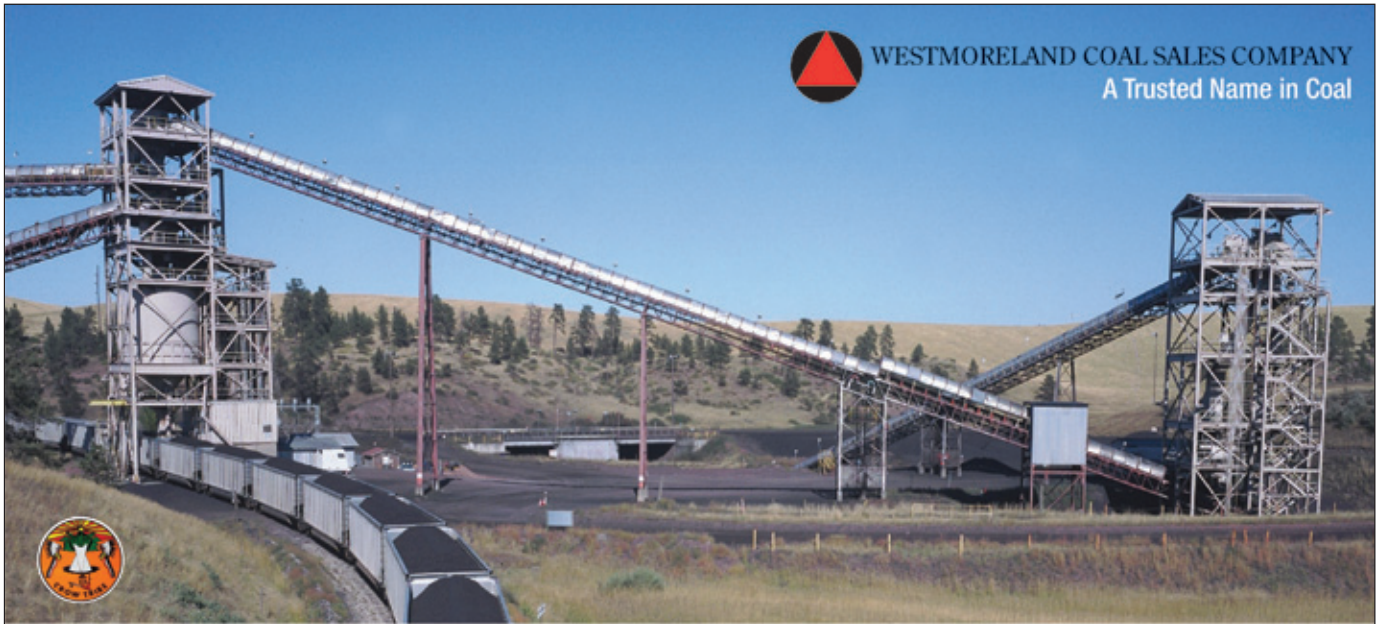


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# WORLD NEWS: COLOMBIA

According to the 2010 BP Statistical Energy Survey, Colombia had end 2009 coal reserves of 6814 million tonnes, 0.82% of the world total.

Colombia had 2009 coal production of 72.1 million tonnes, 1.37% of the world total.

Colombia had 2009 coal consumption of 3.14 million tonnes oil equivalent, 0.09% of the world total.

Colombia is one of the world's largest coal exporters. According to the 2008 BP Statistical Energy Survey, Colombia had end 2007 coal reserves of 6959 million tonnes. This coal consists of high-quality bituminous coal and a small quantity of metallurgical coal.

Colombia has the second-largest coal reserves in South America after Brazil. Most of those reserves are concentrated in the Guajira peninsula in the north and the Andean foothills. Over the past decade, production has increased greatly, reaching 71.69 million tonnes in 2007. The Colombian government has estimated that the country's coal production could reach 102 Mmst by 2010.

Cerrejón is a privately-owned, independently-managed joint venture in which BHP Billiton plc, Anglo American plc and Xstrata Coal each own a one third stake.

Located in North-East Colombia, Cerrejón produces high quality thermal coal which is very attractive to the US power

generation market due to its low ash content, low sulphur dioxide emissions profile and high calorific value. Cerrejón has a reserve base in excess of 900 million tonnes. An expansion is underway to increase Cerrejón's production from 26 million tonnes to an annual production capacity of 32 million tonnes, with further incremental brownfield expansions currently being assessed.

US company Drummond Ltd's Colombian coal operations include the Mina Pribbenow and El Descanso open-pit coal mines located in the Cesar Coal Basin near La Loma; Puerto Drummond, a deep-water ocean port on the Caribbean Sea near Santa Marta; and coal transportation and handling facilities. In June 2011 Japanese trading house Itochu



Corporation announced its intention to pay \$1.52 billion for a 20% stake in Drummond's Colombian coal mining operation.

New Age Exploration (NAE) has entered into a binding agreement to acquire an additional exploration and mining concession within the Cesar thermal coal basin in Colombia through its partnership with Aurora. NAE already owns two coal concessions in the Cesar Basin and the new acquisition increases the company's portfolio to 6,675 hectares in three highly prospective concessions. The La Miel concession is located approximately 35km to the north of the Cesar Project concessions.

Colombia is the world's tenth largest producer of hard coals and the fourth largest exporter of coal, based on 2009 data. The U.S. Geological Survey states that Colombia is the largest coal producer in South America and has the largest reserves in the region. It also states that coal mining for export is booming in Colombia, with production having increased by 80% since 1999.

Coal output in 2010 stood at 74.35 million tons, a 2% increase from 2009 but below the government's target of 80 million tons, reportedly due to unusu-

ally heavy rains in the last months of the year. Colombia's total coal exports for 2010 came in at 68.14 million tons. Carlos Rodado, Colombia's mining minister, has said coal output will reach 144 million tons in 2020.

The majority of Colombia's coal exports are shipped to European markets due to shorter distances and lower freight costs compared to the rapidly growing Asian markets. Colombia is considered to be a low-cost producer with its coal highly sought after due to its low sulfur content.

Coal output in 2010 stood at 74.35 million tons, a 2% increase from 2009 but below the government's target of 80 million tons, reportedly due to unusually heavy rains in the last months of the year. Colombia's total coal exports for 2010 came in at 68.14 million tons.

In Colombia, the state owns all hydrocarbon reserves and private companies operate coal mines under concession contracts with the state.

Coal mining in Colombia is undertaken entirely by private sector mining companies. The largest coal mining operation is that of Carbones del Cerrejón LLC in the Department of la Guajira. The company -- which is a joint venture of

Anglo American (33%), Glencore International (33%) and BHP Billiton (33%) -- produced 31.3 million tonnes in 2008. It operates the Cerrejon Centro mines, Cerrejon Sur mines, Cerrejon Zona Norte and Oreganal mines in the La Guajira Department. The U.S. Geological Survey reports that in 2005 59% of the company's exports went to Europe with a further 22% to North America.

The other major mining company is Drummond Ltd., which produced 22 million tonnes from its La Loma mine in Cesar Department.[2]. The company also operates the El Descanso mine, which it is aiming to expand from its current 3 million tonnes per annum production to 25 million tonnes.

Other coal mining projects includes the Calenturitas mine in Cesar Department by C.I. Prodeco S.A, which is entirely owned by Glencore International. In 2005 this 5 million tonnes. The next largest coal mine is a privately owned Paz del Rio mine in Boyaca Department which produced 600,000 tonnes

## Growth projections

In its review of mining in Colombia, the U.S. Geological Survey states that "based on information provided by the coal producers in Colombia, the Government expects the production of coal to increase to 124.9 mt in 2011 and to 134.2 mt in 2019; the largest increase would be in the Department of Cesar. The production from the Departments of Cesar and la Guajira is expected to continue to be exported in its entirety. The Government outlook for coal is somewhat higher than that of other analysts."

In 2011, Colombia's mining minister Carlos Rodado said coal output will reach 100 million tons by 2015 and 144 million tons in 2020

Facts at a Glance (Coal)



U.S. Coal Production <sup>1/</sup>  
(Million Short Tons)

Region	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
East	446.2	446.9	491.9	477.0	490.0	493.8	484.8	469.3	492.9	528.8	507.5	529.6	570.6	579.4	563.7	544.2	566.3	516.2	588.6	591.3	630.2
West	638.2	625.3	678.5	668.5	672.0	637.7	627.3	602.5	601.4	598.9	566.1	570.8	547.0	510.6	500.2	488.7	467.2	429.2	409.0	404.7	398.9
Surface <sup>1/</sup>	745.4	742.9	814.7	794.9	803.7	762.8	744.5	717.7	735.9	747.1	699.9	708.6	699.8	669.3	653.5	636.7	649.8	594.4	590.3	588.9	604.5
Underground	337.2	332.1	357.1	351.8	359.0	368.6	367.6	354.0	358.4	380.6	373.7	391.8	417.7	420.7	410.4	396.2	383.7	351.1	407.2	407.2	424.5
Refuse Recovery	1.9	2.7	1.4	1.2	0.8	0.7	1.0	1.0	1.0	1.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total:	1,084.4	1,074.9	1,171.8	1,146.6	1,162.7	1,131.5	1,112.1	1,071.8	1,094.3	1,127.7	1,073.6	1,100.4	1,117.5	1,089.9	1,063.9	1,032.9	1,033.5	945.4	997.5	996.0	1,029.1

Coal Consumption by Market <sup>1/</sup>  
(Million Short Tons)

Market	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
Electric Power	975.6	933.6	1,040.6	1,045.1	1,026.6	1,037.5	1,016.3	1,005.1	767.8	806.3	859.3	894.1	910.9	900.4	874.7	829.0	817.3	813.5	779.9	772.3	773.5
Other Generation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	209.7	158.1	126.5	46.8	25.7	21.0	22.2	21.2	19.9	17.5	15.0	11.4	7.4
Other Industrial	52.1	45.3	54.4	56.6	59.5	60.3	62.2	61.3	60.7	65.3	65.2	64.7	67.4	71.5	71.7	73.1	75.2	74.9	74.0	75.4	76.3
Coke	21.1	15.3	22.1	22.7	23.0	23.4	23.7	24.2	23.7	26.1	28.9	28.1	28.2	30.2	31.7	33.0	31.7	31.3	32.3	33.9	38.9
Resid./Comm.	3.0	3.2	3.5	3.5	3.2	4.7	5.1	4.2	4.4	4.4	4.1	4.9	4.9	6.5	6.0	5.8	6.0	6.2	6.2	6.1	6.7
Total:	1,051.8	997.4	1,120.6	1,127.9	1,112.3	1,125.9	1,107.3	1,094.8	1,066.3	1,060.2	1,084.0	1,038.6	1,037.1	1,029.6	1,006.3	962.1	950.1	943.4	907.4	899.1	902.8
Exports	81.7	59.1	81.5	59.2	49.6	49.9	48.0	43.0	39.6	48.7	58.5	58.5	78.0	83.5	90.5	88.5	71.4	74.5	102.5	109.0	105.8
Imports	19.4	22.6	34.2	36.3	36.2	30.5	27.3	25.0	16.9	19.8	12.5	9.1	8.7	7.5	8.1	9.5	8.9	8.2	3.8	3.4	2.7

U.S. Coal Exports  
(Million Short Tons)

Type	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
Bituminous:																					
Steam	25.0	22.5	38.5	26.4	21.7	20.8	20.5	20.8	18.1	22	24	25	29	30	37	36	24	24	43	44	43
Metallurgical	56.2	37.3	42.6	32.3	27.6	28.7	26.8	22.1	21.2	25	33	32	47	52	53	52	47	50	60	65	62
Lignite	0.3	0.4	0.5	0.5	0.3	0.3	0.4	0.3	0.2	2.2	1.9	1.6	2.1	1.8	1.2	1.1	0.9	0.6	0.5	0.5	0.6
Anthracoite	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.4	0.4	0.5	0.5	0.7	0.6	0.8	0.8	0.5	0.5	0.5	0.6	0.7

Note: g/ Preliminary. East region includes all states east of the Mississippi River. West region includes Alaska and states west of the Mississippi River. Exports include overseas and Canada.  
n/a = Not Available e/ Preliminary or estimated r/ Revised 1/ Includes refuse.

Sources: Energy Information Administration and National Mining Association, *International Coal Review*.

Updated: December 2011

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## Most Requested Statistics - U.S. Coal Industry



	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009 r/</u>	<u>2010 p/</u>
<b>Production (1,000 Short Tons) *</b>	1,071,753	1,112,099	1,131,498	1,162,750	1,146,635	1,171,809	1,074,923	1,085,281
East of Mississippi River <u>5/</u>	469,247	484,796	493,801	490,798	478,162	493,342	449,593	446,512
West of Mississippi River	602,506	627,303	637,697	671,952	668,474	678,467	625,330	638,769
Appalachian <sup>5/</sup>	376,071	390,875	397,363	391,911	378,956	391,626	344,131	334,316
Interior	145,992	146,038	149,165	151,389	146,668	146,586	145,811	156,656
Western	549,690	575,186	584,970	619,449	621,012	633,597	584,981	591,555
Refuse Recovery	989	990	696	752	1,156	1,408	2,688	2,754
<b>U.S. Recoverable Reserves (Mil. Sht. Tons)</b>	268,396	267,312	267,554	263,781	262,689	261,573	260,551	260,551
<b>Recoverable Reserves at Producing Mines</b> (Million Short Tons) <u>1/</u>	17,955	18,122	18,944	18,880	18,584	17,875	17,468	17,468
<b>Total Value (\$1,000)</b>	\$19,130,791	\$22,164,133	\$26,692,038	\$29,254,790	\$30,041,837	\$36,630,749	\$35,633,697	\$36,900,000
<b>Domestic Consumption (1,000 Short Tons)</b>	1,094,861	1,107,255	1,125,476	1,112,292	1,127,998	1,120,548	997,478	1,048,295
Electric Utilities/power	1,005,116	1,016,268	1,037,485	1,026,636	1,045,141	1,040,580	933,627	975,588
Coking	24,248	23,670	23,434	22,957	22,715	22,070	15,326	21,092
Other Industrial	61,261	62,195	60,340	59,472	56,615	54,393	45,314	48,535
Residential/Commercial	4,236	5,122	4,720	3,226	3,526	3,506	3,210	3,080
<b>Stocks at End of Year (1,000 Short Tons)</b>								
Consumers <u>2/</u>	127,190	112,855	109,333	150,398	158,781	170,425	197,062	182,164
Producer/Distributor	38,277	41,151	34,971	36,548	33,977	34,688	47,718	42,151
<b>Exports (1,000 Short Tons)</b>	43,014	47,998	49,942	49,647	59,163	81,519	59,097	81,716
<b>Imports (1,000 Short Tons)</b>	25,044	27,280	30,460	36,246	36,347	34,208	22,639	19,353
<b>Price Indicators (Avg. \$/Short Ton)</b>								
Value F.O.B. Mines <u>3/</u>	\$17.85 *	\$19.93 *	23.59 *	\$25.16	\$26.20	\$31.25	\$33.15	\$34.00
Cost of Coal at Electric Utility Plants (delivered price)	\$25.72	\$27.30	\$31.22	\$34.09	\$36.06	\$41.32	\$44.47	\$44.53
Cost of Coking Coal at Coke Plants (delivered price)	\$50.63	\$61.50	\$83.79	\$92.87	\$94.97	\$118.09	\$143.04	\$153.59
Cost of Coal for Industrial Uses (delivered price)	\$34.70	\$39.30	\$47.63	\$51.67	\$54.42	\$63.44	\$64.87	\$64.24
Fuel Production Price (F.O.B. \$/mmBtu)	\$0.87	\$0.98	\$1.16	\$1.24	\$1.29	\$1.55	\$1.65	N/A
Railroad Freight Charge, avg. (Frt. Rev./Tons Orig.)	\$10.06	\$10.64	\$11.68	\$12.70	\$13.50	\$16.16	\$15.32	\$17.08
<b>Methods of Mining</b>								
Underground (1,000 Short Tons)								
Continuous	160,763	175,723	177,757	175,034	173,500	174,685	160,760	162,868
Conventional & Other	8,178	1,987	2,571	3,525	2,184	3,161	4,885	4,960
Longwall	183,523	187,948	188,053	180,463	176,106	179,233	166,416	168,609
Other	1,573	1,899	231	N/A	N/A	N/A	N/A	N/A
Total Underground Production	354,037	367,557	368,612	359,022	351,790	357,079	332,062	336,437
% of Total Production	33.0%	33.0%	33.0%	31.0%	31.0%	30.0%	31.0%	31.0%
Total Surface (1,000 Short Tons) <u>5/</u>	717,716	744,542	762,886	803,728	794,845	814,730	742,862	748,844
% of Total Production	67.0%	67.0%	67.0%	69.0%	69.0%	70.0%	69.0%	69.0%
<b>Number of Mines (EIA)</b>	1,316	1,379	1,415	1,438	1,374	1,458	1,406	1,400
Underground Mines (includes refuse)	602	586	606	612	579	606	571	550
Surface Mines	714	793	809	812	795	852	835	850
<b>Number of Mine Operations (MSHA)</b>	1,972	2,011	2,063	2,113	2,030	2,129	2,076	1,945
<b>Average Number of Miners Working Daily (EIA) <u>3/</u></b>	71,023	73,912	79,283	82,959	81,278	86,859	87,755	88,000
Underground Mines (includes refuse)	40,123	42,016	44,614	47,475	46,828	49,715	50,087	50,000
Surface Mines	30,900	31,896	33,572	35,398	34,450	37,144	37,505	38,000
<b>Average Coal Mining Employment (MSHA) <u>6/</u></b>	104,824	108,734	116,433	122,974	122,936	133,827	134,089	135,415
<b>Number of Mine Injuries <u>4/</u></b>								
Fatal	30	28	22	47	34	30	18	48
All Injuries	5,168	5,129	5,182	5,249	4,881	4,916	4,495	4,149
<b>Production Per Miner Per Hour <u>3/</u></b>	6.95	6.80	6.36	6.26	6.27	5.96	5.61	5.61
Underground Mines	4.04	3.96	3.62	3.37	3.34	3.15	2.99	2.99
Surface Mines	10.76	10.57	10.04	10.19	10.25	9.82	9.22	9.22

**Notes:**

p/ Preliminary estimates. r/ Revised. e/ Estimated. n/a Not available.

1/ At active producing coal mines. 2/ The residential/commercial sector not included.

3/ Excludes mines producing less than 10,000 short tons of coal during the year.

4/ Includes contractors and office workers. Excludes mines producing less than 10,000 short tons and prep plants with less than 5,000 employee hours.

5/ Includes refuse. 6/ Includes contractor employees.

Sources: U.S. DOE/EIA, Mine Safety & Health Administration, Association of American Railroads, and NMA estimates.

Updated: June 2011

## Trends in U.S. Coal Mining 1923 - 2011



Year	Number of Mines	Number of Miners	Total U.S. Production*
1923	9,331	704,793	564.6
1933	5,555	418,703	333.6
1943	6,620	416,007	590.2
1953	6,671	293,106	457.3
1963	7,940	141,646	458.9
1973	4,744	148,121	591.7
1983	3,337	175,642	782.1
1984	3,496	177,848	895.9
1985	3,355	169,281	883.6
1986	4,424	154,645	890.3
1987	4,094	142,667	918.8
1988	3,860	135,366	950.3
1989	3,620	131,497	980.7
1990	3,430	131,306	1,029.1
1991	3,022	120,602	996.0
1992	2,746	110,196	997.6
1993	2,475	101,322	945.4
1994	2,354	97,500	1,033.5
1995	2,104	90,252	1,032.9
1996	1,903	83,462	1,063.9
1997	1,828	81,516	1,089.9
1998	1,726	85,418	1,117.5
1999	1,591	78,723	1,100.4
2000	1,453	72,748	1,073.6
2001	1,478	77,088	1,127.7
2002	1,427	75,466	1,094.3
2003	1,316	71,023	1,071.8
2004	1,379	73,912	1,112.1
2005	1,415	79,283	1,131.5
2006	1,438	82,959	1,162.8
2007	1,374	81,278	1,147.0
2008	1,458	86,859	1,171.8
2009	1,407	87,755	1,074.9
2010	1,285	86,195	1,084.4
2011 p/	1,300	88,000	1,097.0

r/ Revised. p/ NMA preliminary estimate. Includes refuse recovery.

\* Million short tons. Employment data reflects number working daily; includes employees engaged in production, preparation, processing, development, maintenance, repair, shop or yard work at mining operations. Excludes office workers and mines producing less than 10,000 short tons annually and preparation plants with less than 5,000 employee hours and excludes contract workers.

SOURCE: U.S. Department of Energy, Energy Information Administration.

Updated: December 2011

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## Coal Use by State - 2010 (Thousand Short Tons)



State	Coal Consumed	State	Coal Consumed
Texas <sup>2/</sup>	104,000	South Carolina <sup>2/</sup>	16,000
Indiana <sup>1/</sup>	61,000	Utah <sup>2/</sup>	16,000
Illinois <sup>1/</sup>	59,000	Nebraska	14,900
Ohio <sup>1/</sup>	55,000	Virginia <sup>1/</sup>	13,000
Pennsylvania <sup>1/</sup>	53,000	Montana <sup>2/</sup>	12,000
Missouri <sup>2/</sup>	46,000	Maryland <sup>2/</sup>	11,000
Kentucky <sup>1/</sup>	44,000	Mississippi <sup>2/</sup>	9,000
Michigan <sup>1/2/</sup>	37,000	New York <sup>1/2/</sup>	8,000
Georgia <sup>2/</sup>	36,000	Washington <sup>2/</sup>	6,000
West Virginia <sup>1/</sup>	34,000	Massachusetts <sup>2/</sup>	4,000
Alabama <sup>1/</sup>	31,000	Nevada <sup>2/</sup>	4,000
North Carolina	30,000	New Jersey	3,100
Iowa <sup>2/</sup>	28,500	Oregon <sup>2/</sup>	2,500
Wyoming <sup>2/</sup>	28,000	South Dakota <sup>2/</sup>	2,300
Florida <sup>2/</sup>	27,000	California	2,300
Wisconsin	25,500	Connecticut	1,370
North Dakota <sup>2/</sup>	24,000	New Hampshire	1,250
Tennessee <sup>2/</sup>	24,000	Delaware <sup>2/</sup>	1,230
Arizona <sup>2/</sup>	23,600	Hawaii <sup>2/</sup>	1,000
Kansas <sup>2/</sup>	22,000	Alaska <sup>2/</sup>	500
Oklahoma <sup>2/</sup>	20,000	Idaho <sup>2/</sup>	500
Colorado <sup>2/</sup>	20,000	Maine <sup>2/</sup>	100
Minnesota <sup>2/</sup>	19,000	Washington, D.C. <sup>3/</sup>	W
Arkansas <sup>2/</sup>	17,000	Rhode Island	-
Louisiana <sup>2/</sup>	17,000	Vermont	-
New Mexico <sup>2/</sup>	16,000	<b>Total U.S. Consumption <sup>4/</sup></b>	<b>1,048,295</b>

Note: Data subject to revision. 1/ Coke sector consumption withheld to avoid disclosure of individual company data.

2/ Commercial or industrial consumption withheld to avoid disclosure of individual company data.

3/ Withheld to avoid disclosure of individual company data.

4/ Individual states tonnage will not add to total due to withheld tonnage, rounding and estimations.

SOURCE: Energy Information Administration.

Updated: December 2011

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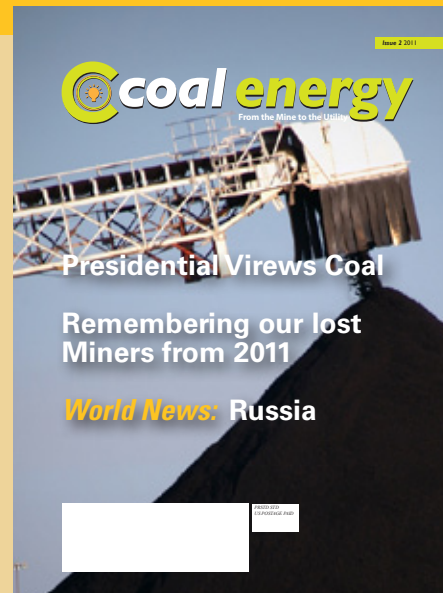
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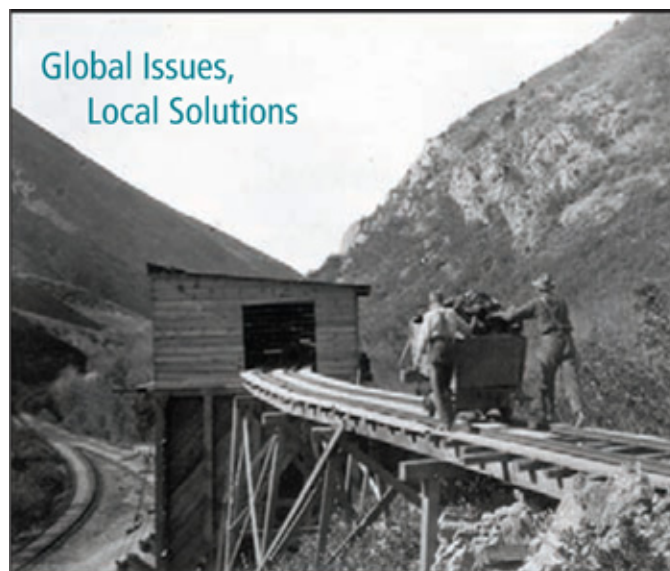
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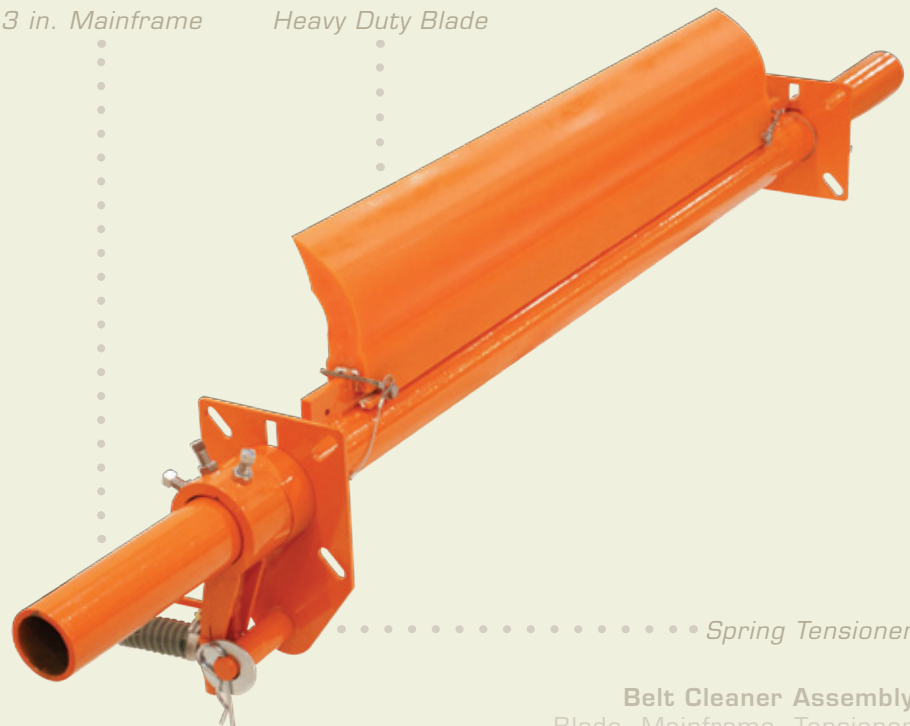
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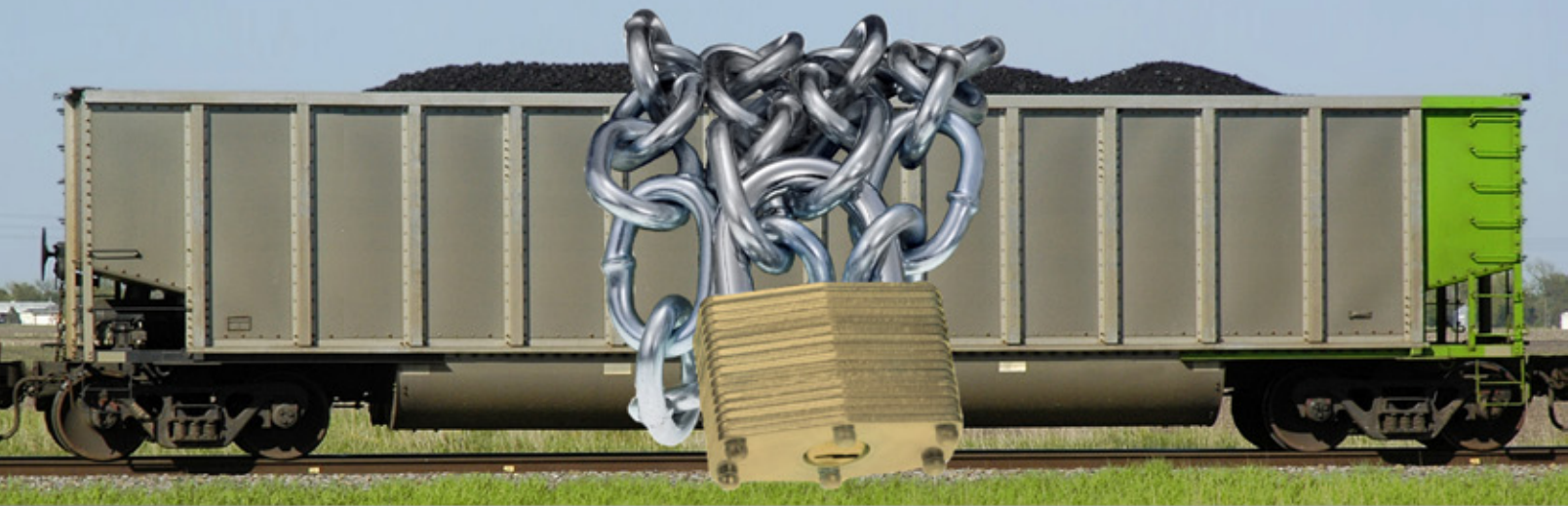
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