UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): September 20, 2010 (September 20, 2010)

Arch Coal, Inc.

(Exact name of registrant as specified in its charter)

Delaware	1-13105	43-0921172
(State or other jurisdiction of incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

CityPlace One
One CityPlace Drive, Suite 300
St. Louis, Missouri 63141
(Address, including zip code, of principal executive offices)

Registrant's telephone number, including area code: (314) 994-2700

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01 Regulation FD Disclosure.

On September 20th and 21st, 2010, several senior executive officers of Arch Coal, Inc. (the "Company") will be delivering presentations at the Company's 2010 Analyst Day. The slides from the presentations are attached hereto as Exhibit 99.1 and are hereby incorporated by reference.

A copy of the slides will be available at http://investor.archcoal.com/events.cfm for 30 days.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibits are attached hereto and furnished herewith.

Exhibit No.	Description
99.1	Slides from the presentations at the Arch Coal, Inc. 2010 Analyst Day.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

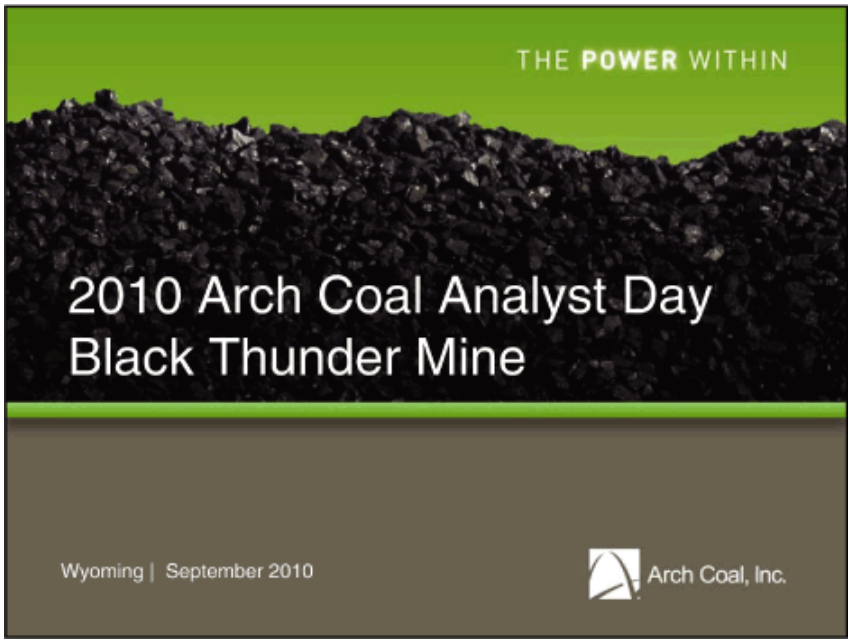
Dated: September 20, 2010

Arch Coal, Inc.

By: /s/ Robert G. Jones
Robert G. Jones
Vice President-Law, General Counsel & Secretary

Exhibit Index

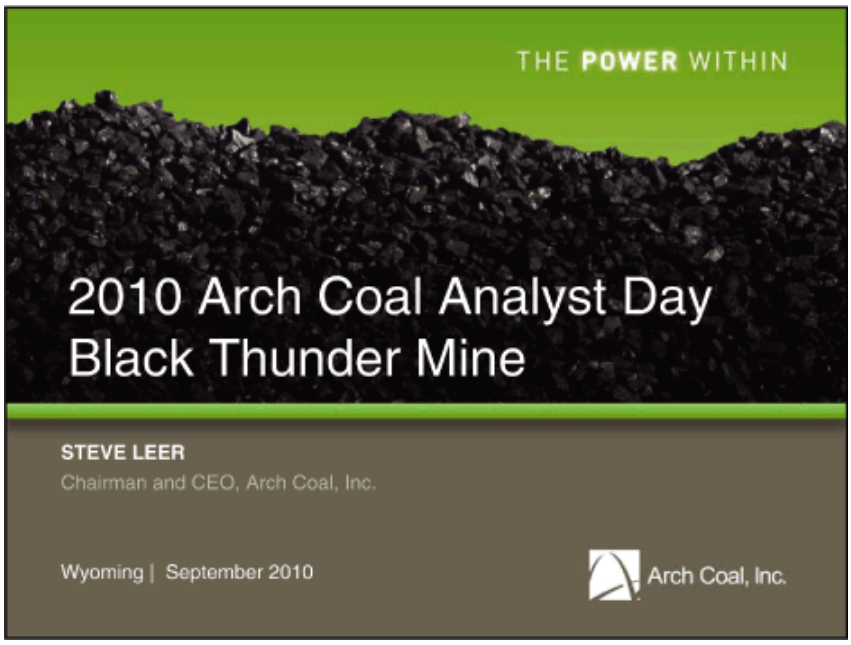
Exhibit No.	Description
99.1	Slides from the presentations at the Arch Coal, Inc. 2010 Analyst Day.


THE POWER WITHIN
2010 Arch Coal Analyst Day
Black Thunder Mine
Wyoming | September 2010
Arch Coal, Inc.

Forward-Looking Information

This presentation contains "forward-looking statements" – that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. For us, particular uncertainties arise from changes in the demand for our coal by the domestic electric generation industry; from legislation and regulations relating to the Clean Air Act and other environmental initiatives; from operational, geological, permit, labor and weather-related factors; from fluctuations in the amount of cash we generate from operations; from future integration of acquired businesses; and from numerous other matters of national, regional and global scale, including those of a political, economic, business, competitive or regulatory nature. These uncertainties may cause our actual future results to be materially different than those expressed in our forward-looking statements. We do not undertake to update our forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law. For a description of some of the risks and uncertainties that may affect our future results, you should see the risk factors described from time to time in the reports we file with the Securities and Exchange Commission.

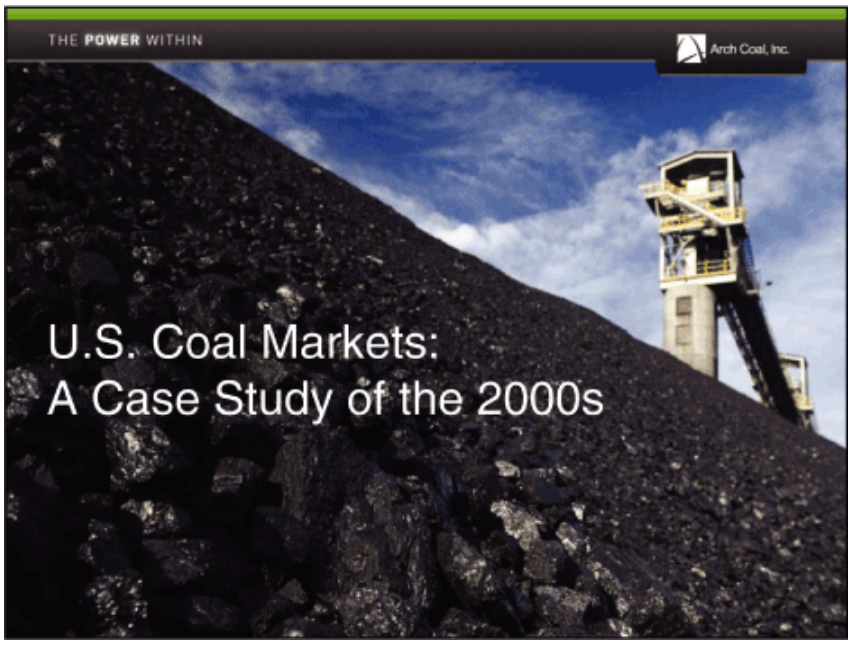
This presentation includes certain non-GAAP financial measures, including Adjusted EBITDA and Adjusted Net Income. These non-GAAP financial measures are not measures of financial performance in accordance with generally accepted accounting principles and may exclude items that are significant in understanding and assessing our financial results. Therefore, these measures should not be considered in isolation or as an alternative to net income from operations, cash flows from operations, earnings per fully-diluted share or other measures of profitability, liquidity or performance under generally accepted accounting principles. You should be aware that our presentation of these measures may not be comparable to similarly-titled measures used by other companies. A reconciliation of these financial measures to the most comparable measures presented in accordance with generally accepted accounting principles has been included at the end of this presentation.


THE POWER WITHIN
2010 Arch Coal Analyst Day
Black Thunder Mine
STEVE LEER
Chairman and CEO, Arch Coal, Inc.
Wyoming | September 2010
Arch Coal, Inc.

Arch Coal, Inc.

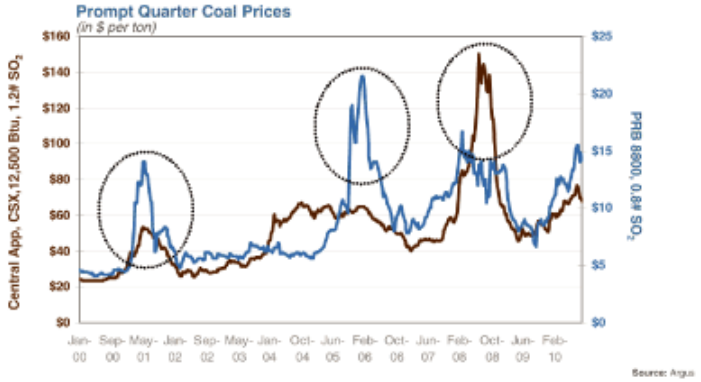
Arch's leadership position in the U.S. coal industry will drive future value creation

- **Second largest** coal producer in the United States
  - Represent **16 percent** of the U.S. coal supply
  - Provide low-sulfur coal to U.S. power producers to fuel **8 percent** of the nation's electricity
  - Ship coal to domestic/international steel manufacturers and international power producers
  - Talented workforce operates large, modern mines
- **Arch's value proposition** is anchored by …
  - Leading position in the Powder River Basin
  - Largest producer in Western Bituminous Region
  - Low-cost producer in Central Appalachia
  - Significant exposure to metallurgical markets
  - Undeveloped reserves in the Illinois Basin & Montana

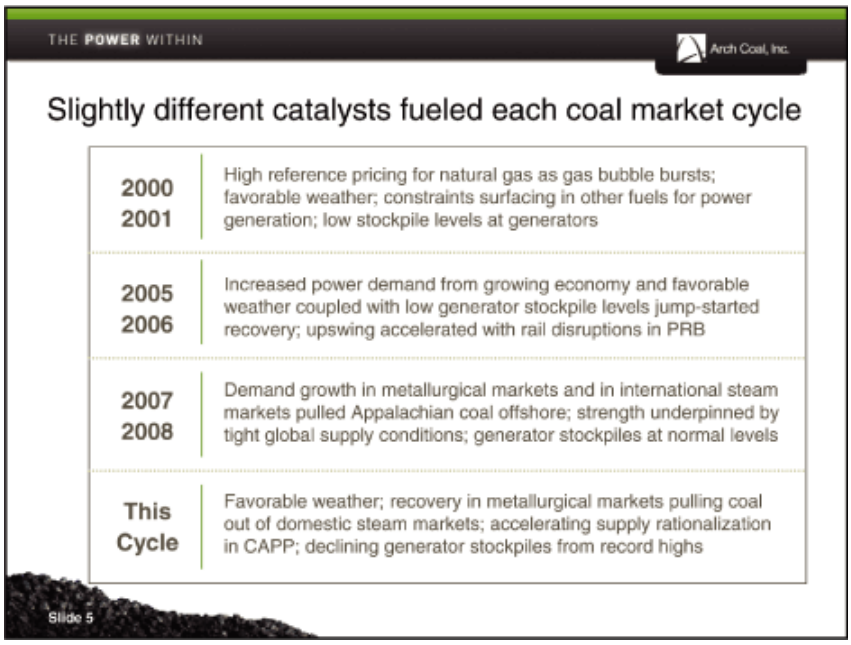

THE POWER WITHIN
Arch Coal, Inc.
U.S. Coal Markets:
A Case Study of the 2000s

Arch Coal, Inc.

The past decade of pricing in domestic coal markets has taught us that history repeats itself



The last three coal market cycles demonstrate that cycles are shortening and that peaks and troughs are generally trending higher


THE POWER WITHIN
Arch Coal, Inc.
Slightly different catalysts fueled each coal market cycle
2000 2001
High reference pricing for natural gas as gas bubble bursts; favorable weather; constraints surfacing in other fuels for power generation; low stockpile levels at generators
2005 2006
Increased power demand from growing economy and favorable weather coupled with low generator stockpile levels jump-started recovery; upswing accelerated with rail disruptions in PRB
2007 2008
Demand growth in metallurgical markets and in international steam markets pulled Appalachian coal offshore; strength underpinned by tight global supply conditions; generator stockpiles at normal levels
This Cycle
Favorable weather; recovery in metallurgical markets pulling coal out of domestic steam markets; accelerating supply rationalization in CAPP; declining generator stockpiles from record highs
Slide 5

Arch Coal, Inc.

This time around, it appears that the Powder River Basin is leading the coal market recovery

- **Growth in power demand** in 2010 – driven by favorable weather and modest growth in the economy – has reduced record-high generator stockpile levels faster than anticipated
  - Stockpiles at **PRB customers** were near normal levels in July
- **Coal supply** remains constrained, driven by regulatory and permitting challenges, reserve depletion and migration to met or export markets

Stockpile Overhang at U.S. Power Generators
(Excess days of burn above 50-day target national level)

Stockpile Overhang at PRB Generators
(Excess days of burn above 55-day target at PRB customers)

Sources: EVA and ACI

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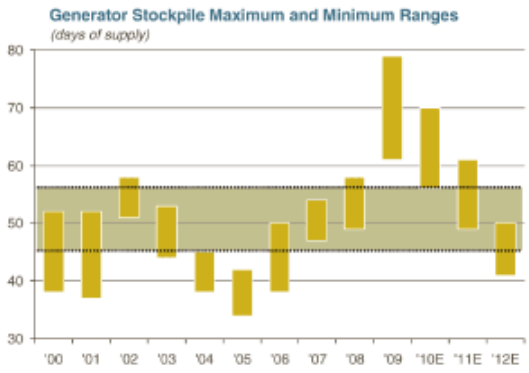
Generator stockpile levels could continue to decline in future periods, assuming modest demand growth



- Over the past decade, generator stockpile **targets** have ranged between **45-55 days**
- Stockpiles reached record highs in 2009 … and have been declining in 2010
- Assuming power demand grows 1%-2% annually, we expect **stockpiles to decline further**
  - Forecast in 2011 looks like 2008
  - Forecast in 2012 shows stockpiles below average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Arch Coal, Inc.
Arch Is Ready To Excel

Our history shows that we've judiciously deployed capital to buy or sell assets to fund future growth

Acquired

1998	Acquired ARCO assets & Thundercloud LBA to gain presence in PRB and WBIT
2004	Acquired Utah interest, Little Thunder LBA & North Rochelle to strengthen position in PRB and WBIT
2006	Acquired equity interest in Knight Hawk, re-establishing presence in Illinois Basin
2009 2010	Acquired Jacobs Ranch & Montana reserves to solidify leadership position in PRB; increased interest in ILB

Divested/De-Levered

2000	Divested non-core assets to reduce debt levels
2004	Contributed CAPP assets to NRP to fund growth strategy
2005	Sharpened focus in CAPP, selling non-strategic assets; reduced legacy liabilities to strengthen balance sheet
2009 2010	Prudently financed Jacobs Ranch; extended debt maturity profile

Arch Coal, Inc.

We also have successfully developed organic growth projects to enhance our return on capital

Powder River Basin

Coal Creek

Re-opened in 2006

Western Bituminous Region

Skyline

Re-opened in 2006

Central Appalachia

Mountain Laurel

Opened in 2007

Organic growth initiatives expanded our presence in each region, opened up new markets and lowered our overall cost structure

Arch Coal, Inc.

We've positioned Arch well to capitalize on this market cycle … without the need for further expansion capital

Powder River Basin	Western Bituminous Region	Central Appalachia
Unpriced volumes provide leverage to rising market	Roll off of legacy contracts provides margin opportunity	Met coal production is significant and under-appreciated
Cost containment and synergies from Jacobs Ranch have driven down cost structure	Cost structure increasing, but large longwall mines mitigate pressure	Low-cost position provides flexibility to move in/out of steam market as needed
Unused capacity could be brought back with limited capital	Supply in region is challenged to grow due to difficult geology and reserve depletion	Productive capacity of up to 15 million tons remains intact


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Arch Coal, Inc.
Future of Coal Markets

Arch Coal, Inc.

Global coal supply flows continue to shift – and create further opportunities for U.S. met/steam coal exports

Seaborne Coal Trade
(~1.1 billion tons, 2010E)

USA: growing seaborne supplier with excess export capacity; emerging supplier to Pacific Rim

Australia: continued growth in exports to Asia with port/rail constraints not keeping pace with demand; decreasing exports to Europe

Indonesia: aggressive planned expansion of exports; growing domestic demand; coal quality declining rapidly

South America: infrastructure constraints; political uncertainty; growing regional coal burn; emerging supplier to Pacific Rim (15-20% of Colombian exports could move to Asia in 2010)

Russia: coal exports to Asia are increasing, while coal exports to Europe are decreasing waning

Europe: coal production declining; growing coal burn in eastern Europe; traditional import supply

South Africa: 50% of coal exports expected to move to Asia in 2010; domestic needs and infrastructure constraints limit export growth

Arch Coal, Inc.

Around the world, countries are building coal plants to fuel electricity needs

New Coal-Fueled Generation Coming Online by 2015

(Capacity under construction, in GW)

Under Construction	227 GW 728 million tons
Total	396 GW 1.3 billion tons

Sources: ACI and Platts International, estimates based on plants currently under construction or planned

396 GW of coal-fueled capacity is planned to come online by 2015 ... and will be fueled by more than 1 billion tons of coal

Arch Coal, Inc.

Met coal demand continues to be strong

- **Strong met coal fundamentals** supported by global economic recovery and Asian steel demand
  - China has become a net importer of steam and met coal
  - Asia expected to drive met coal demand growth going forward
- **Production** and **transportation infrastructure issues** as well as a **lack of accessible, quality met coal** deposits will continue to constrict supply

Chinese Met Coal Trade Position
(in millions of tonnes)

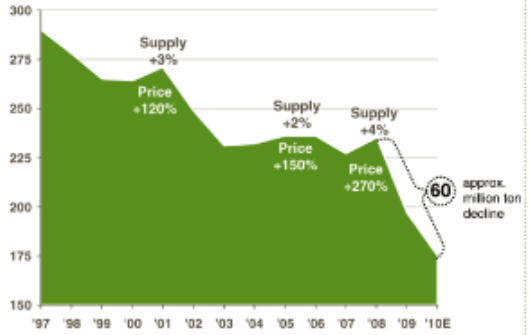
Global Met Coal Supply and Demand
(in millions of tonnes)

Sources: ACI and Wall Street research

Arch Coal, Inc.

U.S. coal production continues to shift westward given ongoing challenging reserve and regulatory landscape

Production in Central Appalachia
(in millions of tons)



Sources: ACI, Coal Daily Price Indices (CAPP 12,000 Btu / 1% Sulfur / CSX) and Ventyx

- **Sharp price run-ups** have acted to arrest production declines only temporarily
- Based on historical trend, most of the recent **supply reduction** is likely to be **permanent**
- The 2008 – 2010 drop is shaping up to be the **largest decline in production** yet

Arch Coal, Inc.

We see expanded growth opportunities for PRB coal here and abroad during the next five years

Domestic Coal Market

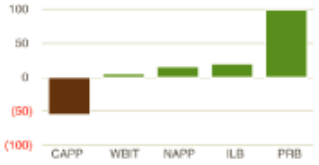
- U.S. demand grows at 1% to 2% annually
  - +125 million tons from 2009-2015
- **Significant decline in** second largest U.S. coal basin, **Central Appalachia**
- This decline will be offset by an **increase** in other regions, notably **the PRB**

International Coal Market

- Global demand grows at 4% annually
- Growth in **seaborne coal supply undershoots demand**
  - Cumulative supply deficit of ~300 million tons by 2015 … and seaborne supply forecast may be aggressive
  - Opportunity for PRB to step in

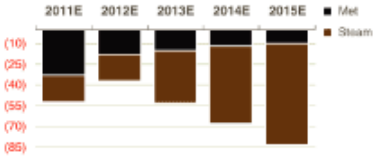
Cumulative Change in U.S. Coal Supply

(2009 to 2015, in millions of tons)



Annual Supply Deficit in Seaborne Coal Trade

(in millions of tons)

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Arch's Growth Opportunities:
The Next Decade


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Beyond the current cycle, Arch's future expansion includes a mixture of organic and strategic growth
1. Margin Expansion at Existing Operations
Invest in core businesses to enhance profit growth and return on capital
2. Organic Growth
Evaluate opportunities to further upgrade and expand reserve base; deploy capital for projects that provide an incremental rate of return above our cost of capital (e.g. Illinois Basin, Montana)
3. Strategic Growth
Consider acquisitions or other investments that strategically fit and create value (e.g. leverage core competency in steam markets, safety and mining expertise, crossover in customer base)
4. Btu Conversion
Consider investments to expand market for coal (and improve coal's value proposition) through Btu-conversion and other advanced coal technologies (e.g. CTL, Tenaska, ADA)
Arch is poised in current cycle to excel without the need for growth; focus is on strengthening balance sheet
Slide 19

Arch Coal, Inc.

Over time, we expect coal's value proposition to expand as the value inherent in a Btu converges

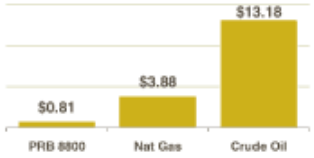
- Expect EBITDA multiples to expand as **full earnings power** is realized
  - Non-producing coal reserves not factored into current valuations
- **New technologies** that can transform coal are not considered
  - Reference pricing for other fossil fuels is still very favorable

ACI Valuation

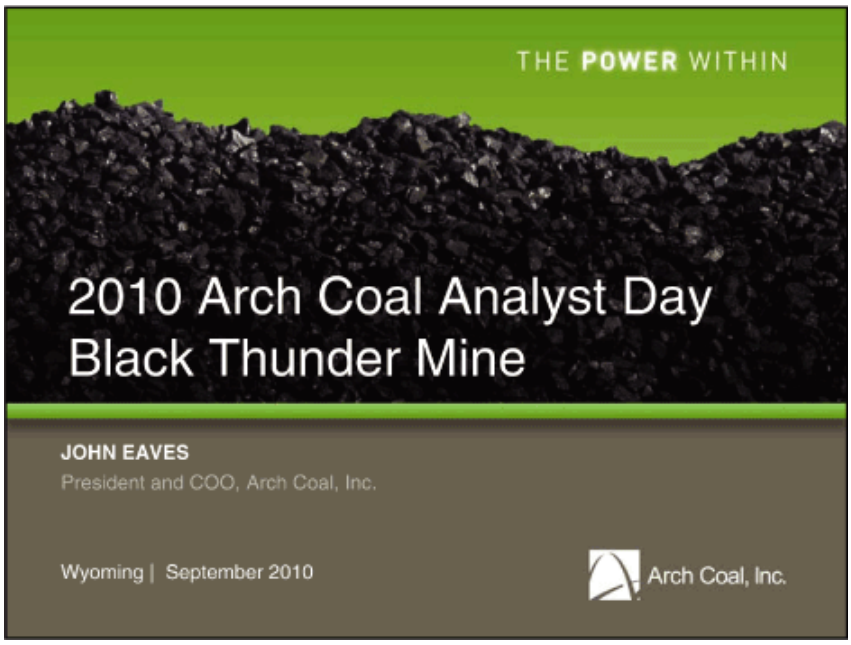
(EV/one year consensus forward EBITDA multiple)

U.S. Fuel Prices

(prompt month delivery, $ per million Btu at 9/10/10)



Sources: ACI, ThomsonReuters and Argus Coal Daily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2010 Arch Coal Analyst Day
Black Thunder Mine
JOHN EAVES
President and COO, Arch Coal, Inc.
Wyoming | September 2010
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Arch's Marketing Platform

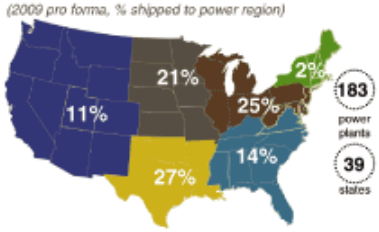
Arch Coal, Inc.

Arch is a preferred supplier to the U.S. power generation industry, with emerging sales into the global coal market

- Arch's **domestic customer base** is diversified and spans the nation
  - Sales split ~60/40 in West/East, respectively
- Arch also has customers in more than **12 countries worldwide**
  - Ship met and steam coal to Canada and Mexico
  - Ship met and steam coal to customers in Europe, South America, Africa and Asia
  - Ship PRB coal to China

Arch Coal Sales

(2009 pro forma, % shipped to power region)



(2009 pro forma, % shipped by supply region)

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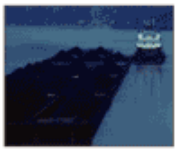
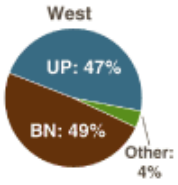
Arch has a balanced transportation platform with which to service customers

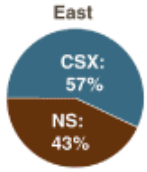
- Arch is a major shipper on four **Class I railroads**
  - Diversity grants delivery options to customers
  - Can move between carriers at some mines to take advantage of market opportunities
- **Arch Coal Terminal** on the Big Sandy River grants flexibility to deliver via barge and provides market intelligence for our trading business



Arch Coal Shipments

(2009 pro forma)





Arch has growing access to seaborne coal markets

East Coast

- Own 22% interest in DTA in Newport News, VA
- Throughput capacity of ~20 million tpy
- Met capability could reach 8 million tpy in 2011
- Steam sales could grow as Europe recovers
- Access to other East Coast terminals

Illinois Basin

- Equity interest in top 10 producer in region
- Control 306 million tons of low-cost reserves
- Throughput rights on river facility in Illinois
- Flexibility to ship PRB coal (and blend PRB/ WBIT/ILB coals) to overseas steam markets

West Coast

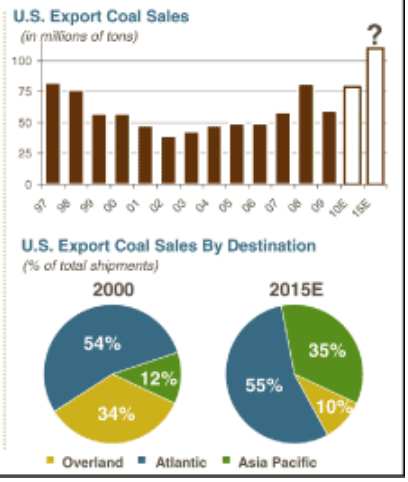
- Shipped vessels to China via Westshore
- Actively pursuing brownfield port opportunities
- Exploring options for greenfield port
- Amassed reserves in Montana, which has a transportation cost advantage to West Coast

Arch expects to export between 6 million and 7 million tons in 2010 (including overland shipments in North America)

Arch Coal, Inc.

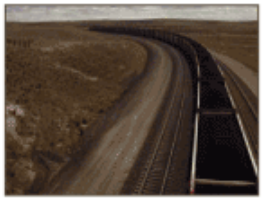
Industry-wide, we expect the United States to play a growing role in the global seaborne coal trade

- **Available eastern port capacity** to increase exports at Baltimore and Hampton Roads
- Existing port capacity at southern ports of Mobile, New Orleans, Charleston and Texas
  - Ability to mid-stream in Gulf
- Limited port capacity on West Coast currently, but **expansion opportunities developing**



Arch's marketing philosophy has evolved over time

- **High debt levels** in prior market cycles often forced us to commit tons too early
- Layering approach to sales adopted as **balance sheet strengthened**
- Fundamental changes in sales contracts
  - Indexing, sourcing flexibility, tightening of terms, pricing premium for proven reliability
- Strength of **unpriced sales position** provides investors with exposure to the commodity
- Experience evolving on scaling up and down production to **respond to market conditions**
- **Trading business** overlays and complements our physical asset sales

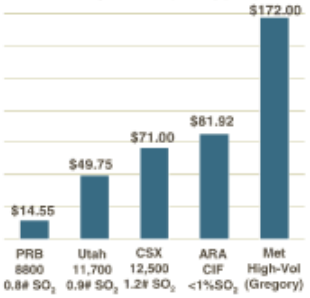


Arch Coal, Inc.

Arch is strongly positioned for the upswing in coal markets

Benchmark Coal Prices

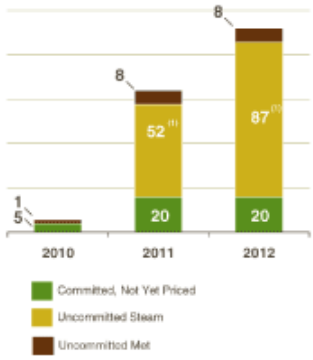
(in $/ton, 2011 steam coal prices as of 9/10/10, 4Q10 high-vol met quarterly price)



Sources: Argus Coal Daily and McCloskey

Arch Unpriced Tonnage

(as of 6/30/10, in millions of tons)



(1) Represents mid-point of expected uncommitted volumes for 2011 and 2012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Arch Coal, Inc.
Outlook for
Our Core Operating Regions

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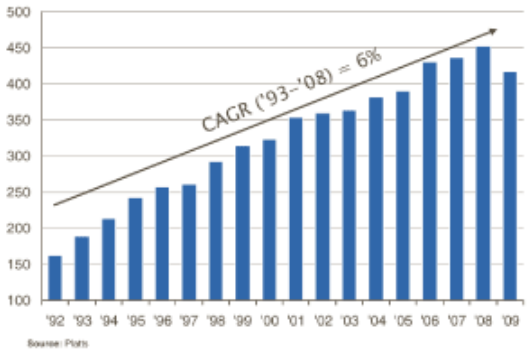
The Powder River Basin is the nation's largest and fastest growing coal supply region

Historical Production in the Southern PRB

(in millions of tons)



Source: Platts

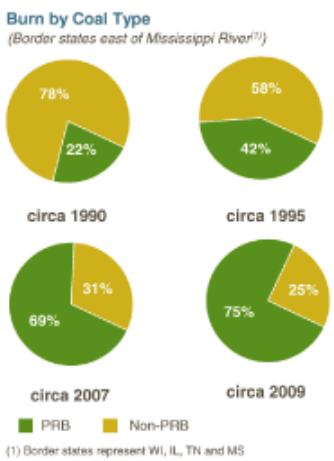
- Over the past 15 years, PRB has overtaken CAPP as the **nation's largest and most prolific supply basin**
- PRB has low geologic risk and significant **economies of scale**
- Expect continued **expansion** on the national and international stage

Arch Coal, Inc.

Since 1990, PRB coal has gained significant market share east of the Mississippi River

- Eastern border state power plants in Wisconsin, Illinois, Tennessee and Mississippi historically burned a small mix of PRB coal
- By 1995, power plants in these four states **increased their mix of PRB** coal from 22% to 42% in just five years
- From 2007 to 2009, power plants in these states increased their take of PRB coal by six percentage points
  - **Current 75% mix of PRB coal** has been achieved with relatively modest capital investment

Sources: ACI and Ventyx



Arch Coal, Inc.

We foresee increased PRB market expansion opportunities further east of the Mississippi River

- Eastern power plants in non-border states are generally comparable in design to plants in the border states
- Non-border state plants should be able to increase their PRB coal use greatly with minimal investment
- Based on historical switching in the border states and the lower heat content of PRB coal, the **theoretical PRB switching opportunity in the East exceeds 300 million tons**

Burn by Coal Type circa 2009

(Non-border states east of Mississippi River)

Sources: ACI and Ventyx

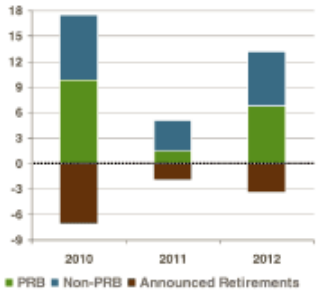
Arch Coal, Inc.

U.S. coal consumption will benefit from new coal plant start-ups; PRB to service half of that demand

- Build-out of 11 GW through 2012 equates to **36 million tons of new annual coal demand**
  - **Powder River Basin will likely service one half of this demand**
  - 5 GW (8 plants) scheduled to be online by end of 2010
- Roughly 6 GW have already started up since 2008
- Announcements suggest up to 12 million tons could be retired by the end of 2012
  - Announcements represent smaller, older and less efficient coal plants
  - Higher utilization at existing/new coal plants could offset the anticipated decline

Anticipated Annual Supply Needs for U.S. Coal Plants Under Construction

(in millions of tons)



Sources: Platts, EIA and ACI

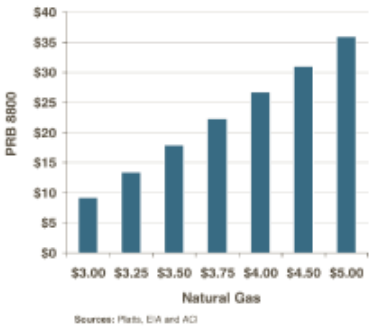
Arch Coal, Inc.

Powder River Basin coal has a compelling price story when compared to other coal basins, natural gas

- PRB is the most **cost competitive fossil fuel** source in the U.S.
- Substantial headroom for PRB prices to increase even in a low-priced natural gas environment
- In addition to the market share and volume growth story, the **PRB has a compelling price story**

PRB Parity with Natural Gas*

(coal = $ per ton; gas = $ per million Btu)



Sources: Platts, EIA and ACI

(1) Assumes transportation charge of $25 per ton; market prices for SO_2 and NOx and appropriate heat rate differentials for NGCC plants and coal plants

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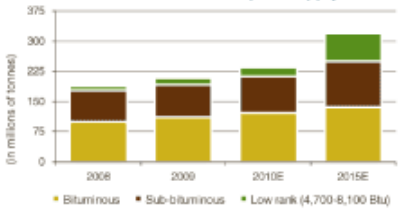
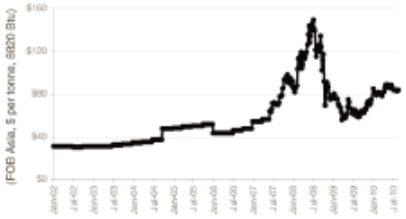
Powder River Basin has the ability to become a player in the growing seaborne steam coal market

- **Indonesia** is a major steam coal exporter in the Asia-Pacific seaborne trade with aggressive production expansion plans
  - Growing domestic demand will likely keep more coal in country
  - Coal quality is declining rapidly
- We believe that **PRB coal can become a viable alternate coal supply source** for the rapidly expanding Asian economies
  - Requires West Coast port expansion
  - Potential to increase exports via the Gulf

Indonesian Steam Coal Export Supply



Delivered Cost of Indonesian Coal



Sources: McCloskey and ACI

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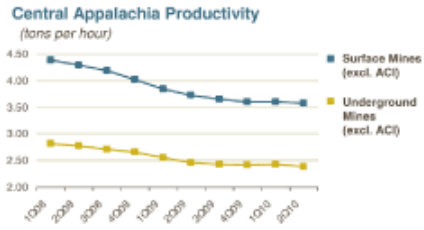
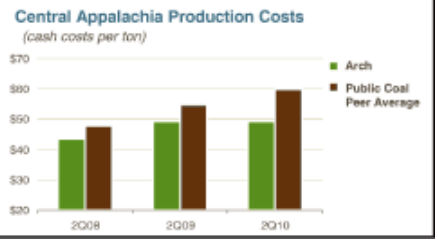
Central Appalachia productivity continues to decline, fueling higher production costs in the region

- **Surface productivity** has declined nearly 20% since beginning of 2008
- **Underground productivity** has declined 15% over this same time period
- Not surprisingly, **cash costs have increased** in the region
  - Costs up 13% for ACI, and up more than 25% for peer average





Sources: ACI, MSHA, Peer Company Filings

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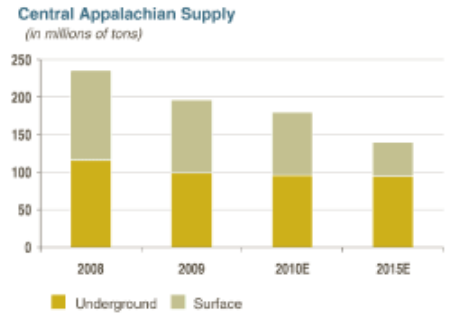
Central Appalachia production is in secular decline, remaining tons increasingly geared to metallurgical market

- **Central Appalachia** is in secular decline due to reserve degradation
- **Underground production** is geared towards met markets … and higher prices should slow the production decline
- **Surface production declines will accelerate** given regulatory challenges in the region
- Arch is well positioned with up to **15 million tons of productive capacity** to generate meaningful cash flow



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Supply is constrained in the Western Bituminous Region

- Challenging to maintain (and certainly to meaningfully grow) production in this mature coal supply basin
- **Arch has the best assets under roof …** with an opportunity to expand margins with legacy contract roll off
  - Hidden earnings contributor to Arch's story

* Colorado, Utah and southern Wyoming

Sources: ACI, Ventyx

Arch Coal, Inc.

Illinois Basin production should grow, but expect net increase to be modest

- While production in the **Illinois Basin** is set to expand, coal quality issues and competition from other basins could limit growth
- Planned additions could well prove overly ambitious; additions will likely be offset by significant depletions
  - Additions also include 6 million tons for captive Prairie State power plant
- **Arch** is strategically positioned for growth in the Illinois Basin with an **equity interest** in Knight Hawk, and a large undeveloped **reserve base** of **high-Btu, low-chlorine coal**

Illinois Basin Supply
Cumulative Production Changes through 2015

(2010-2015, in millions of tons)

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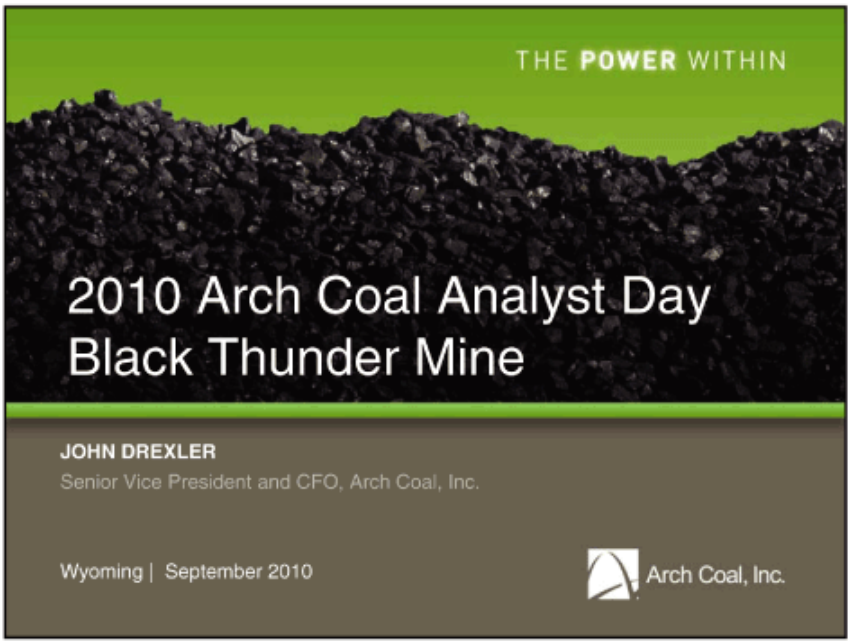
Arch's value proposition is unique

- Expect growing **free cash flow generation**
- Experienced workforce and corporate culture committed to operating the **safest**, most **environmentally responsible** mines in the nation
- Large-scale, diverse and **low-cost operations** that are flexible in response to market demand
- **Strategic reserve base** well-positioned to meet America's – and the world's – growing energy needs
- **Strong balance sheet** provides the company with financial flexibility
- Focused on advancing **clean-coal technologies** to expand market for coal beyond electricity generation
- Building a world-class energy company that can deliver **shareholder value** over the long term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Arch has re-positioned the company to excel in upturns, remain profitable in downturns

Earnings/(Loss) Per Share

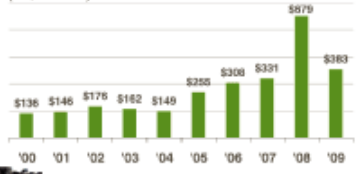
(fully diluted)

Adjusted EBITDA

(in $ millions)

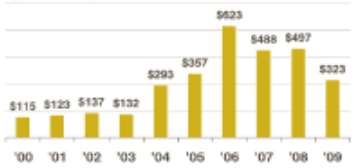
Cash Flow From Operations

(in $ millions)



Capital Expenditures

(in $ millions)



*Adjusted for Jacobs Ranch acquisition costs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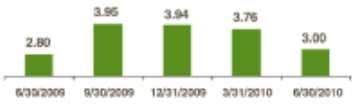
Maintaining a
Strong Balance Sheet

Arch employs a prudent financial policy and has a proven de-leveraging ability

- Employ a **prudent financial policy**
- Seek to maintain a **conservative capital structure**
- Steadily reduced leverage since 2000:
  - Balanced financing mix
  - Strong earnings growth
- Prudently financed acquisition of Jacobs Ranch to maintain **financial flexibility**
  - Senior note issuance of $600 million
  - Common stock issuance of $326 million
- Since the Jacobs Ranch acquisition, we've reduced our outstanding debt by $100+ million

Net Debt as Percentage of Net Capitalization
(at fiscal year end)

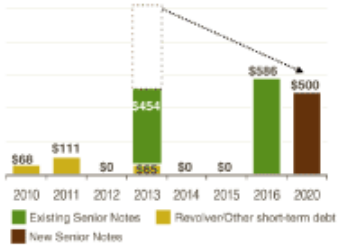
Total Debt to Last 12 Months Adj. EBITDA
(at quarter end)



After recent financing activities, Arch has minimal near-term debt maturities and ample liquidity

Pro Forma Debt Maturity Profile (1)

(at 6/30/10, in $ millions)



(1) Values for senior notes represent book values, net of unamortized discount/premium

(2) Represents cash plus unused available borrowing capacity under ACI's revolving credit facility, accounts receivable securitization program and commercial paper placement program

- Recent senior note issuance and related redemption of AWR notes **reduces 2013 debt maturity tower**
  - Issued $500 million of 7.25% senior notes at par
  - Proceeds used to retire $500 million of existing AWR notes
- Substantially all of the 2010 and 2011 maturities are related to Arch's accounts receivable securitization program and commercial paper placement program
- **Available liquidity is $850+ million** (2)

Arch has access to multiple sources of low-cost financing

- **Revolving Credit Facility**
  - Restructured in 2009 to extend facility to 2013
  - Increased initial capacity to **$860 million** through June 2011
  - Facility reduces to $762.5 million in June 2011, with the ability to increase to $800 million
- **Asset Securitization**
  - Established in 2006 and expanded in 2008
  - Capacity of **$175 million**
  - Rates are typically better than our Revolver borrowing rate
- **Commercial Paper Program**
  - Established in 2007
  - Capacity of **$75 million**
  - Rates are comparable to other highly rated CP programs
  - Rates are typically better than our Revolver borrowing rate

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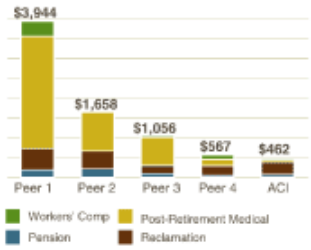
Arch's balance sheet strength includes lower legacy liabilities – and costs – than U.S. coal peers

Legacy Liabilities of Largest U.S. Coal Companies

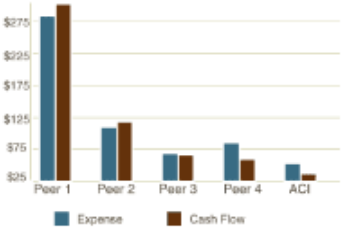
(at 12/31/09, in $ millions)



- **Low level** of legacy liabilities versus largest U.S. coal companies
- Two-thirds of Arch's legacy liabilities are comprised of **reclamation** liabilities

Legacy Liability Expenses and Cash Flows of Largest U.S. Coal Companies

(year ended 12/31/09, in $ millions)



- Recorded expense and cash payments are **significantly lower than peers**
- Post-retirement medical, pension and workers comp make up the majority of ongoing cash flows

Sources: ACI and SEC filings

Arch diligently manages risk at an operational and corporate level

- **Corporate Level**
  - Manage risk in our trading business by using VAR, sensitivity and scenario analysis
  - Manage price risk using financial swaps
  - Maximize our open position using options
  - Use purchased coal to maximize profit
- **Operational Level**
  - Hedge consumable costs at operations
    - Diesel fuel example: ratable hedge program in place to lock in 60+% of the 50 million to 60 million gallons of consumption annually
    - Thinking is evolving on future opportunities to protect against cost inflation, but participate in cost deflation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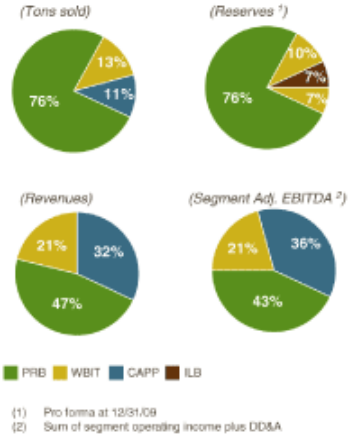
Our Earnings Platform

Arch's geographic diversity translates into financial balance and strength

- Arch's **national network of mines provides diversity** in earnings stream
- Although reserves and volumes are weighted toward the PRB, other **financial metrics are spread more evenly across the regions**
- While earnings may be weighted more to one region in a particular year, all regions have contributed significantly to Arch's earnings over the long term

Arch Coal 2009 Financials



(1) Pro forma at 12/31/09
(2) Sum of segment operating income plus DD&A

Arch has the ability to capitalize on strengthening coal markets

Arch Potential Upside to Increase in Coal Prices

(US$ in millions, except per ton and per share amounts)

	Illustrative Price Increase	
Steam Coal	$3	$6
Met Coal	$20	$40
Unpriced Tons (in millions)		
Steam Coal [1]	72.0	72.0
Met Coal [1]	8.0	8.0
Potential Incremental Revenue	$376	$752
Less: Sales-Sensitive Payments @ 18.5% [2]	(70)	(139)
Potential Incremental EBITDA	**$306**	**$613**
Less: Taxes @ 25%	(77)	(153)
Potential Incremental Net Income	$229	$460
Potential Incremental EPS [3]	**$1.40**	**$2.82**

(1) Based on midpoint of guidance for unpriced coal in 2011: 55 million to 65million uncommitted tons less 8 million tons of unpriced met coal; includes 20 million tons of committed, but unpriced coal. (2) Sales-sensitive payments consist of royalties, black lung tax and severance tax. (3) Based on diluted weighted average shares outstanding of 163.1 million for the six months ended June 30, 2010.

With major expansion plans completed, Arch is focused on generating free cash flow

- From 2004 through 2008, Arch **invested in organic growth and reserve additions**, with cumulative spending of ~$2.3 billion
- In 2009, Arch demonstrated commitment to preserving liquidity and financial flexibility through **proactive management of capital spending**
  - Aggressively curtailed capital spend by more than $100 million to match outlook
- Looking ahead, Arch will **continue to match capital spending with market conditions** – with a focus on growing free cash flow
- As markets continue to improve, **cash flow generation should improve as well**

Adjusted EBITDA* and Capital Spending
(in $ millions)

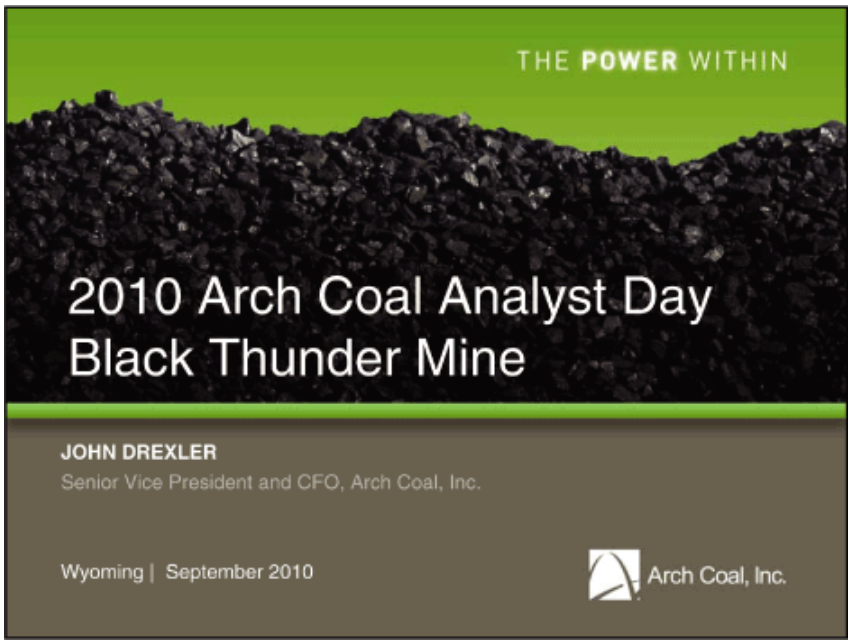
*Adjusted EBITDA is defined and reconciled at end of presentation.

Arch will optimize capital structure and prioritize use of free cash flow

- Target debt/cap of 40%
- Improve credit rating/borrowing costs as debt is reduced and earnings improve

- Arch has raised its dividend four times in the last five years
- Current dividend yield is more than 30% higher than nearest peer
- Share repurchase program authorized at 14 million shares; 10.9 million remain

- Replenish reserves as needed
- Re-invest in core business
- Evaluate strategic and organic growth
- Invest in clean coal technologies to expand market for coal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EBITDA Reconciliation Chart

Arch Coal, Inc. and Subsidiaries
Reconciliation of Non-GAAP Measures
(In thousands)

This presentation contains certain non-GAAP measures as defined by Regulation G.. The following reconciles these items to net income as reported under GAAP.

Adjusted EBITDA

Adjusted EBITDA is defined as net income attributable to the Company before the effect of net interest expense, income taxes, depreciation, depletion and amortization and the amortization of acquired sales contracts, net, other non-operating expenses and accounting changes. Adjusted EBITDA may also be adjusted for items that may not reflect the trend of future results.

Adjusted EBITDA is not a measure of financial performance in accordance with generally accepted accounting principles, and items excluded to calculate Adjusted EBITDA are significant in understanding and assessing our financial condition. Therefore, Adjusted EBITDA should not be considered in isolation nor as an alternative to net income, income from operations, cash flows from operations or as a measure of our profitability, liquidity or performance under generally accepted accounting principles. We believe that Adjusted EBITDA presents a useful measure of our ability to service and incur debt based on ongoing operations. Furthermore, analogous measures are used by industry analysts to evaluate operating performance. In addition, acquisition-related expenses are excluded to make results more comparable between periods. Investors should be aware that our presentation of Adjusted EBITDA may not be comparable to similarly titled measures used by other companies. The table below shows how we calculate Adjusted EBITDA for each year ended December 31.

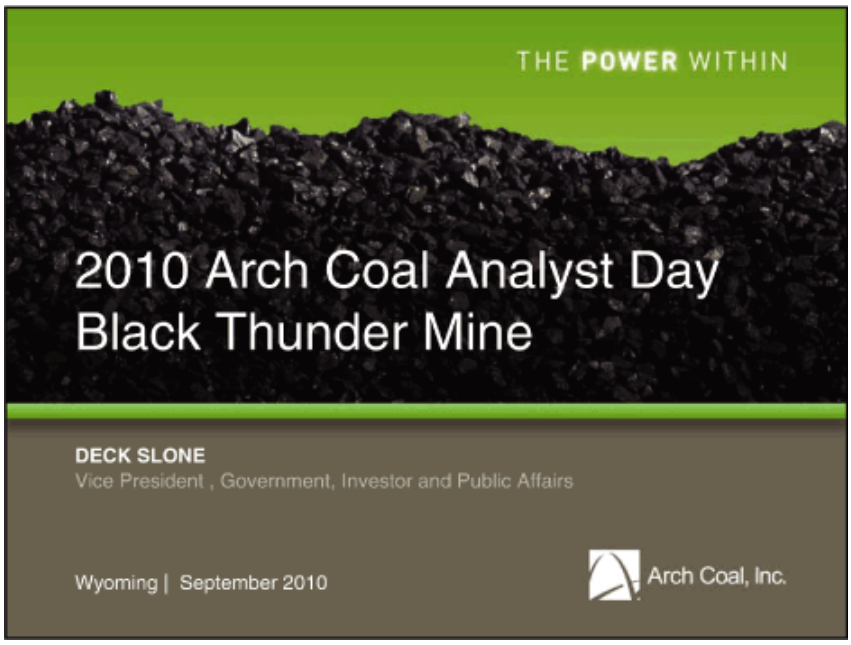
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Net income (loss)	$ (19,673)	$ 7,400	$ (2,409)	$ 16,700	$ 113,871	$ 38,767	$ 260,358	$ 175,840	$ 356,211	$ 42,179
Net income attributable to noncontrolling interest	(64)	(211)	(153)	(14)	(168)	(644)	(1,427)	(1,314)	(861)	(10)
Income tax expense (benefit)	(4,602)	(4,700)	(19,000)	(23,212)	(120)	(34,650)	7,650	(19,850)	45,774	(16,770)
Interest expense, net	90,720	58,947	50,639	47,497	56,504	63,120	60,639	72,265	64,205	99,310
Depreciation, depletion and amortization	151,709	150,044	152,565	141,542	168,539	209,248	219,096	243,896	202,553	301,598
Amortization of acquired sales contracts, net	39,803	27,460	22,184	16,822	(317)	(7,947)	(10,742)	(1,830)	(709)	19,623
Costs related to acquisition of Jacobs Ranch	-	-	-	-	-	-	-	-	-	13,726
Other non-operating expense	-	-	-	(4,356)	7,866	11,264	7,447	9,273	-	-
DD&A - Equity method investees	39,679	42,325	34,681	21,425	10,358	-	-	-	-	-
Cumulative effect of accounting change	-	-	-	3,954	-	-	-	-	-	-
Adjusted EBITDA	$ 316,573	$ 282,265	$ 238,507	$ 229,358	$ 334,727	$ 299,158	$ 543,021	$ 471,879	$ 667,373	$ 459,681

EPS Reconciliation Chart

Adjusted net income and adjusted diluted earnings per common share

Adjusted net income and adjusted diluted earnings per common share are adjusted for the after-tax impact of acquisition-related expenses and are not measures of financial performance in accordance with generally accepted accounting principles. Adjustments made to arrive at these amounts are significant in understanding and assessing our financial condition. Therefore, adjusted net income and adjusted diluted earnings per share should not be considered in isolation nor as an alternative to net income or diluted earnings per common share under generally accepted accounting principles. We believe that adjusted net income and adjusted diluted earnings per common share better reflect the trend of future results.

	Year Ended December 31, 2008
Net income attributable to Arch Coal	$ 42,169
Amortization of acquired sales contracts, net	19,623
Costs related to acquisition of Jacobs Ranch	13,726
Tax impact of adjustments	(12,172)
Adjusted net income attributable to Arch Coal	$ 63,346
Diluted weighted average shares outstanding	151,272
Adjusted diluted earnings per share	$ 0.42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Legislative and
Regulatory Update

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Federal climate legislation is unlikely before 2013 …
and it's not clear the odds will get any better then

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The environmental community is planning to re-focus climate efforts at the state level …

- RGGI
- Western Climate Initiative
- Southern Governors' Association
- Midwest Greenhouse Gas Reduction Accord

Source: ACCCE

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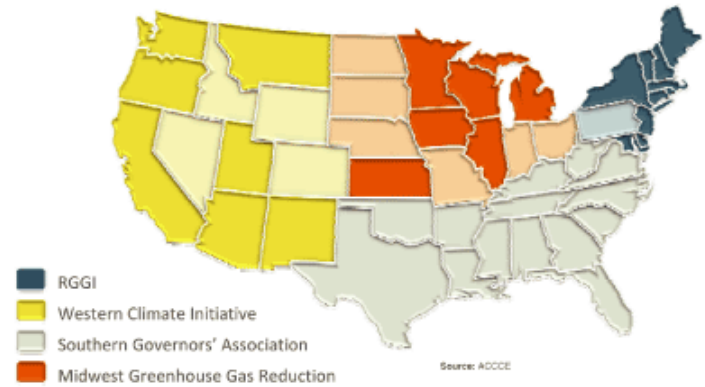
… but prospects don't look much better there



RGGI
Western Climate Initiative
Southern Governors' Association
Midwest Greenhouse Gas Reduction Accord

Source: ACCCE

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The real threat to coal-based generation is the so-called "regulatory train wreck" that has already started to unfold

- Endangerment Finding
- Transport Rule
- Coal Ash
- NAAQS
- MACT Rule


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Competing Fuels
for Power Generation

CRS analysis suggests that current maximum coal-to-gas switching potential equates to well under 10% of coal burn

Analysis Based on Likely Transmission Availability
(potential displacement of coal consumption)

NGCC (1) Capacity within…	Percentage	Tons
10 miles of existing coal plant	5%	50 million
25 miles of existing coal plant	9%	90 million

Source: Congressional Research Service Report: "Displacing Coal with Generation from Existing Natural Gas-Fired Plants," Stan Mark Kaplan (1/19/2010)

(1) Natural gas combined cycle

- In short, author assumes **transmission is unlikely to be available** for NGCC plant to displace an existing coal plant if:
  - NGCC facility is more than 25 miles away from the coal plant
  - May not be available if NGCC facility is more than 10 miles away

Arch Coal, Inc.

Some of the CRS assumptions on fuel switching are likely aggressive – a fact the author acknowledges

- Analysis doesn't weigh economic realities
- Some of the identified switching capacity is in regions where economics are likely to favor coal even in a very low natural gas price environment
- Analysis assumes NGCC capacity is always available to accommodate switching
- In 2009, when conditions were highly favorable for coal-to-gas switching, Arch believes **less than 30 million tons of coal was displaced**
  - Suggests constraints may indeed be greater than described in CRS report
- Most excess NGCC capacity is in Southeast
  - Thus Central App is likely to bear the brunt of any coal-to-gas switching
- In summary, study almost certainly overstates real potential for switching – and **Western basins are far less susceptible**

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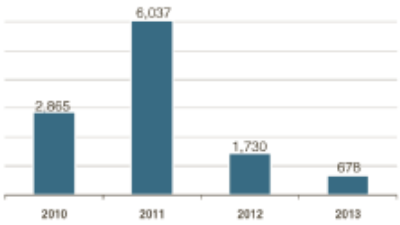
Only a handful of new combined cycle gas plants are currently under construction

- In total, there are only 20 NGCC plants – with total capacity of 11,310 MWs – currently under construction
- Only **five** of the 20 are in "battleground" states, where coal and gas truly compete

NGCC Capacity Currently Under Construction
(in MWs, by expected completion date)



Sources: ACI, Ventyx

New study by APPA finds that switching from coal to gas would require massive new investment

According to American Public Power Association, Switching All Coal-Fueled Capacity to Natural Gas Would Require the Following Incremental Investments:

Natural gas generating capacity	$335 billion
Pipeline capacity	$348 billion
Natural gas storage capacity	$9 billion
Total	**$691 billion**

- Even a modest shift away from coal would require very heavy investment
- PUCs are likely to be very cautious in weak economic environment – particularly given uncertainty surrounding future power needs
- Moreover, APPA states that switching all coal-fueled capacity to natural gas would require a 60% increase in gas consumption (from 23 tcf to 36 tcf per year)
- EIA projects gas prices will rise to $8 per million Btu by 2036 (in 2008 $) even with flat gas use
  - APPA suggests massive growth in gas use would drive gas prices well above such levels

Source: "Implications of Greater Reliance on Natural Gas for Electricity Generation," prepared by Aspen Environmental Group for APPA (7/7/2010)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Outlook for Coal Use in the U.S.

While some coal plants will close in face of tightening regulations, coal consumption should remain robust

"Some of my colleagues have talked about 30,000 or 40,000 megawatts of coal-fired generation being off line. … **The fact is baseload generation will be needed.** The existing plants will be needed, and the EPA rules will be adjusted to the reality of the economy. In the next 2-3 years as the U.S. economy struggles going forward, I can't imagine a scenario where those laws and rules will be implemented to the extent that some think they will."

Mike Morris, Chairman and CEO of AEP, 2Q Earnings Call, 8/2/10

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Even with coal plant retirements, market opportunity could prove meaningful for most producing regions

Potential Demand Increases and Decreases

(in millions of tons)

Potential plant retirements over next decade (downside case)	(118)
Increasing utilization at remaining plants from 71.6% to 76.6%	64
Incremental demand from newly constructed plants	60
Incremental export potential (including PRB moves off West Coast)	30
Subtotal	36

Additional Market Opportunity for PRB and Other Basins

Rationalization in Central Appalachia from 2008 through 2015	92
Total	**128**

In recent years, power generators have shifted their fuel focus every few years … and that could continue

Late 1990s

- Generators planned to build natural gas plants almost exclusively due to the "gas bubble" and low capital costs
- Nuclear was viewed as politically infeasible – perhaps permanently
- Coal's growth was limited to increased utilization at existing plants; no new plants were expected to be built

Early 2000s

- Following a run-up to $10/mm Btu in Dec. 1999, natural gas was suddenly viewed as scarce and expensive
- Consequently, coal became the fuel of choice in many regions – with more than 100 new GWs announced
- Nuclear was still viewed as politically infeasible – and renewables were a sidebar

Mid 2000s

- Following Hurricane Katrina, *An Inconvenient Truth*, and emergence of Democratic majority in Congress, climate change began to influence utility fuel choice
- Natural gas was viewed as too expensive and too volatile for baseload power
- Nuclear began to gain traction as a potential carbon-free power source … as did wind, solar and bio-mass

Late 2000s

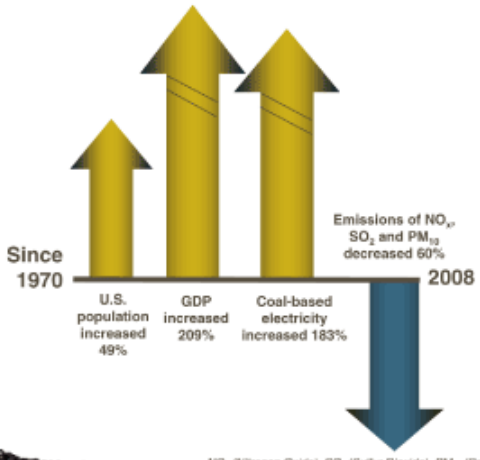
- Sticker shock and financial risk aversion set in – and a nuclear renaissance suddenly seemed less likely
- The limitations of renewables – and the challenges of massive new transmission – became more apparent
- "Shale gas" emerged as a potential "game-changer" for natural gas – and gas moved back to the fore

2010 and Beyond?

- Will tighter drilling regulations on gas reduce availability and drive up costs?
- Will energy scarcity become an increasingly important economic and policy concern?

Arch Coal, Inc.

Coal is increasingly clean…and will become more climate-friendly with time and funding



NO_x (Nitrogen Oxide), SO_2 (Sulfur Dioxide), PM_{10} (Particulate Matter)

Source: NWA, EPA

Leaders around the world increasingly recognize the importance of clean coal technologies

"The vast majority of new power stations in China and India will be coal-fired; not 'may be coal-fired'; will be. **So developing carbon capture and storage technology is not optional, it is literally of the essence.**"

Former British Prime Minister Tony Blair (June 2008)

***"Charting a path toward clean coal is essential to achieving our goals of providing clean energy,** creating American jobs, and reducing greenhouse gas emissions. It will also help position the United States as a leader in the global clean energy race…"*

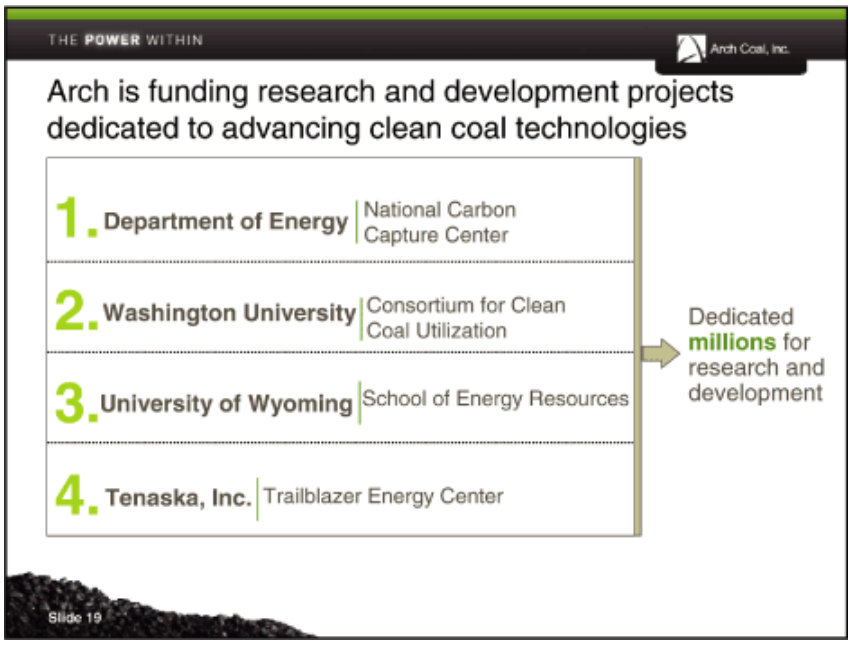
Secretary of Energy Dr. Chu (July 2010)

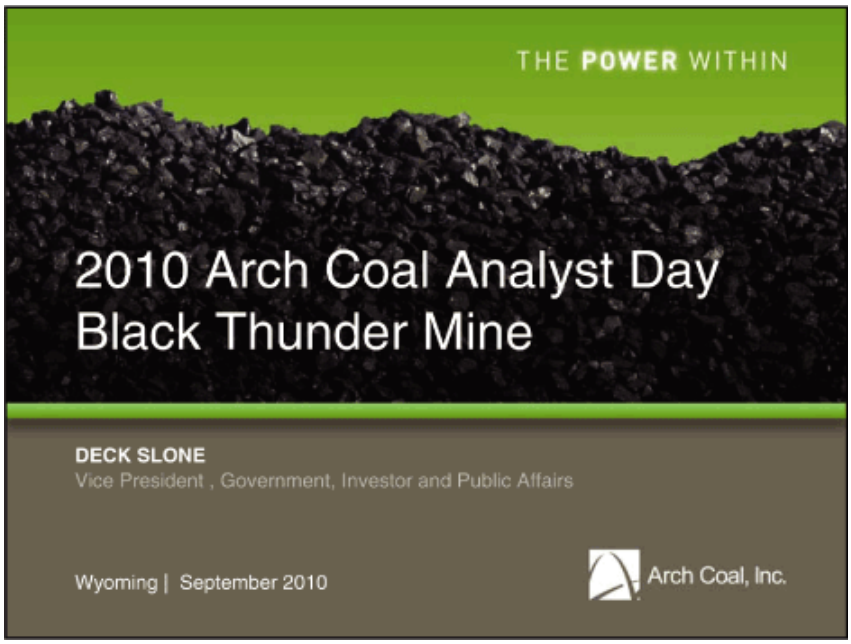
Meanwhile, deployment of advanced clean coal technologies is under way

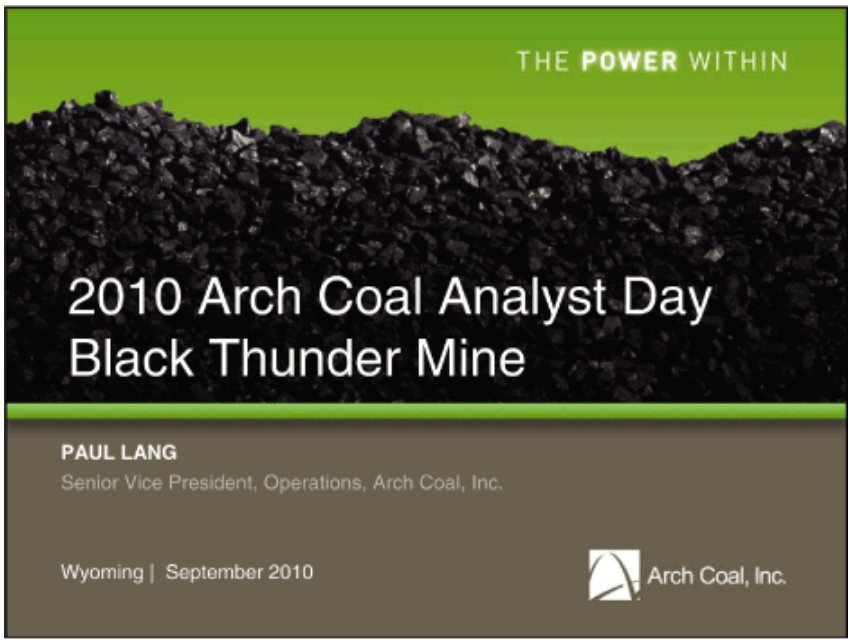
- **Duke** is near mid-way point in constructing a 618-MW IGCC plant in Knox County, IN
- **Southern** plans to start construction soon on a 582-MW IGCC plant (with DOE support) in Kemper County, MS
- **AEP** is capturing 90% of CO_2 from a 20-MW slipstream at Mountaineer – and plans to scale up to 240 MWs by mid-decade
- **FutureGen 2.0** is moving forward as an oxy-combustion project at a 200-MW Ameren unit in Meredosia, IL
- The 600-MW **Trailblazer Complex** near Sweetwater, TX, is targeting capture and sale of 85% to 90% of CO_2 emissions

Edwardsport

Mountaineer


THE POWER WITHIN
Arch Coal, Inc.
Arch is funding research and development projects dedicated to advancing clean coal technologies
1. Department of Energy | National Carbon Capture Center
2. Washington University | Consortium for Clean Coal Utilization
3. University of Wyoming | School of Energy Resources
4. Tenaska, Inc. | Trailblazer Energy Center
Dedicated millions for research and development
Slide 19


THE POWER WITHIN
2010 Arch Coal Analyst Day
Black Thunder Mine
DECK SLONE
Vice President , Government, Investor and Public Affairs
Wyoming | September 2010
Arch Coal, Inc.


THE POWER WITHIN
2010 Arch Coal Analyst Day
Black Thunder Mine
PAUL LANG
Senior Vice President, Operations, Arch Coal, Inc.
Wyoming | September 2010
Arch Coal, Inc.

Arch Coal, Inc.

Arch's foundation is built upon three key pillars

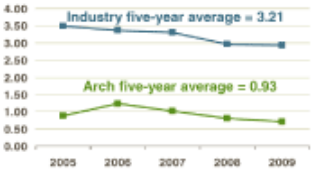
Safety		• Goal is to operate world's safest coal mines • Best safety record among major coal peers • Sustained focus on continuous improvement • Safe mines are productive and profitable
Stewardship		• Best-in-class environmental compliance • Award-winning stewardship practices • Good corporate citizen in our communities • Supplier of clean coal technologies
Shareholder Value		• National, diversified U.S. coal producer • Low-cost position in core operating regions • Very low level of legacy liabilities • Prudent stewards of capital


THE POWER WITHIN
Arch Coal, Inc.
Industry Safety Leader

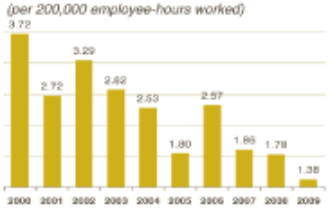
Our operations are constantly striving to improve upon already industry-leading safety rates

- Arch's **safety record** is the best in the U.S. coal industry
  - Arch's rate is one-fourth the national coal industry average
- Four operations completed 3+ years without a lost-time injury in 2009
- On track to deliver record safety performance in 2010
  - Five operations achieved a "Perfect Zero" in the second quarter (no reportable safety and environmental incidents)

Lost-Time Safety Incident Rate
(per 200,000 employee-hours worked)



ACI Total Incident Rate
(per 200,000 employee-hours worked)



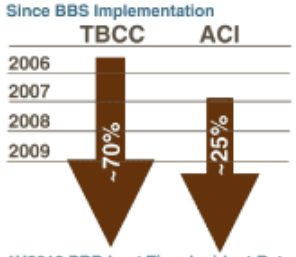
Sources: ACI, MSHA, State environmental agencies

Arch Coal, Inc.

Arch's goal is to achieve the "Perfect Zero"

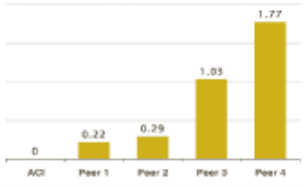
- Launched Behavior Based Safety (BBS) pilot program in Wyoming in 2006
- Implemented BBS programs in 2006-2007 to advance **safety performance** to the next level
  - Programs unique to every operation
- **First** among coal industry peers to implement BBS programs
- BBS has increased employee involvement in our safety process
  - Culture to eliminate "at-risk behaviors" has expanded
  - Has allowed us to identify new talent pool of future company **leaders**

Total Incident Rates Are on the Decline Since BBS Implementation



1H2010 PRB Lost Time Incident Rate

(per 200,000 employee-hours worked)



Sources: ACI, MSHA

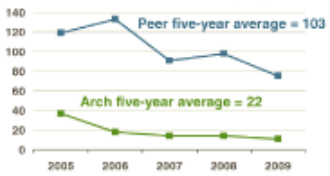

THE POWER WITHIN
Arch Coal, Inc.
Arch's commitment to safety is reflected in dozens of awards for excellence
• Earned 12 national and state safety awards in 2009
– Black Thunder earned Governor's Safety Award among large mines and achieved Wyoming's best safety record among large mines from State Mine Inspector
– West Elk earned Excellence in Safety Award from Colorado Division of Reclamation Mining and Safety
– Mountain Laurel's Mountaineer II Mine earned top WV safety honor for achieving state's best underground mine safety record
– Coal-Mac earned Mountaineer Guardian Award for its perfect lost-time safety record
Perfect Year Safety Records
(Number of years without a lost-time incident)
1 Skyline
2 Black Thunder
4 Coal-Mac
4 Coal Creek
8 Arch of Wyoming
Slide 6


THE POWER WITHIN
Arch Coal, Inc.
Industry Environmental
Performance Leader

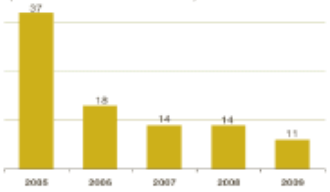
2009 marked our fourth consecutive year of improving environmental performance

- Arch's **environmental compliance record** is the best in the U.S. coal industry
  - Received only 11 total SMCRA violations in 2009, a 22% improvement over 2008
  - Ten subsidiary mines and facilities achieved zero SMCRA violations in 2009
- On track to set a new record for environmental compliance in 2010

Environmental Compliance
(SMCRA violations based on state reports)



ACI Historical Environmental Compliance
(number of SMCRA violations)



Sources: ACI, state environmental agencies


THE POWER WITHIN
Arch Coal, Inc.
Arch strives for excellence in environmental stewardship
In 2008 and 2009, Arch earned a dozen environmental stewardship awards across our network of mining operations
Wyoming
National Public Outreach Award 2009
West Virginia
State Construction Award 2009
Turkey Habitat Award 2009
West Virginia Reclamation Award 2008
Wetland West Virginia Award 2008
State Reclamation Award 2008
Excellence in Preventative Measures Award 2008
Colorado
Pollution Prevention Award 2008 and 2009
Excellence in Reclamation Award 2009
Excellence in Preventative Measures Award 2008
Utah
U.S. Agriculture Certificate of Appreciation 2008
Earth Day Award 2008
Our ultimate goal is to achieve a "Perfect Zero" – which means zero safety incidents and zero environmental violations
Slide 9


THE POWER WITHIN
Arch Coal, Inc.
Delivering
Shareholder Value

Arch Coal, Inc.

Arch's mines are highly mechanized, productive and profitable

- **Strong productivity** rates in 2009 despite lower production targets
- All of Arch's longwall operations ranked among **top 20** most productive underground mines last year
- Black Thunder's combined 2009 productivity rate of 30 tons per employee-hour was **282% better** than national surface mine average
- Operations **further optimizing** to increase efficiencies and reduce costs

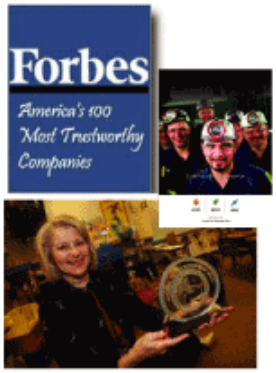
2009 Coal Mine Productivity
(tons per employee-hour)

Underground Mines

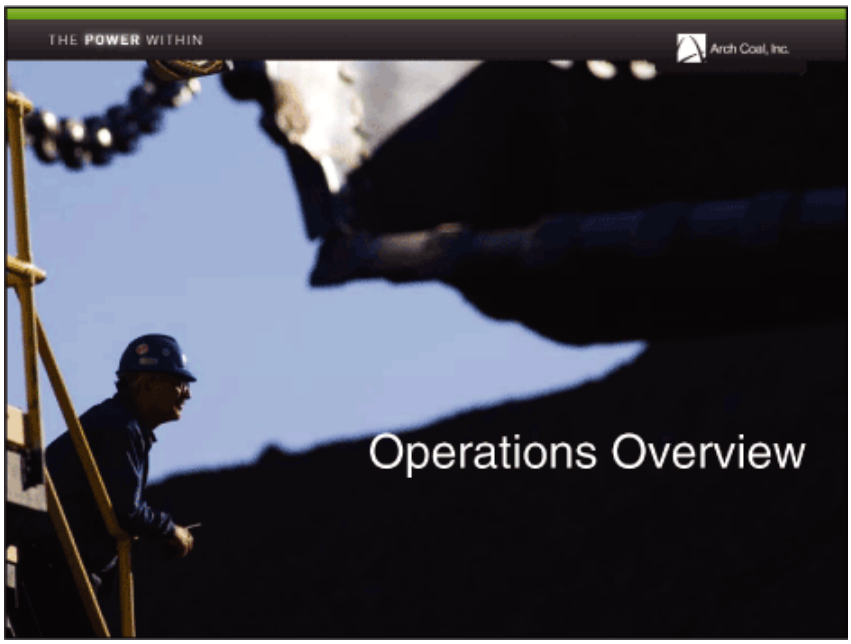
Surface Mines

Source: Vertyx

Arch's reputation as a good corporate citizen adds *value* for its shareholders

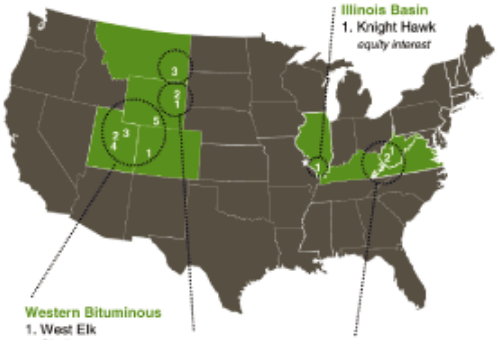


- Acting responsibly and with integrity is the **right thing to do** – for us and for future generations – and it's a central tenet for our long-term success
- A strong history of **safety** and **environmental** compliance will ultimately be a competitive advantage for Arch
- **Good governance** provides the foundation for ethical practices and promotes corporate sustainability and shareholder trust


THE POWER WITHIN
Arch Coal, Inc.
Operations Overview

Arch Coal, Inc.

Arch's national scope of operations and reserve base includes presence in five major U.S. coal basins



Illinois Basin
1. Knight Hawk
equity interest

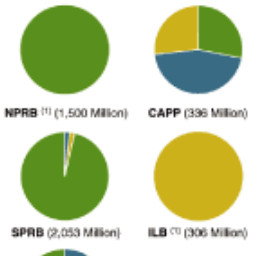
Western Bituminous
1. West Elk
2. Skyline
3. Dugout Canyon
4. Sufco
5. Arch of Wyoming

Powder River Basin
1. Black Thunder
2. Coal Creek
3. Otter Creek reserves

★ **Headquarters**

Central Appalachia
1. Mountain Laurel
2. Coal-Mac
3. Cumberland River
4. Lone Mountain

4.7-Billion-Ton Reserve Base (1)



NPRB (1) (1,500 Million)
CAPP (336 Million)
SPRB (2,053 Million)
ILB (1) (306 Million)
WBIT (455 Million)

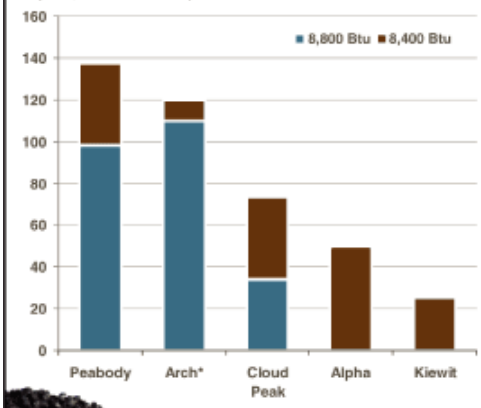
Compliance
Low Sulfur
High Sulfur

(1) Pro-forma reserves at 12/31/09

Arch Coal, Inc.

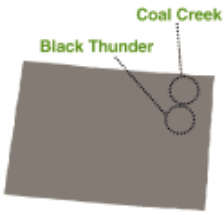
Arch is the second largest producer in the Southern Powder River Basin

Major Producers in Southern Powder River Basin
(2009, in millions of tons)



* Includes full year of Jacobs Ranch

Sources: ACI, Ventyx

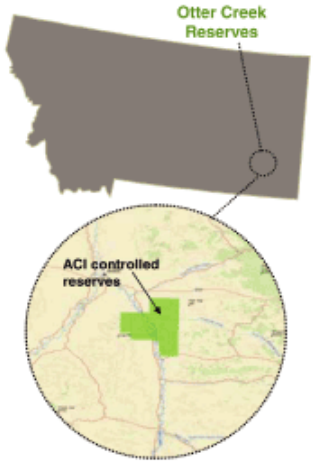


- The PRB is the **largest** coal supply region in the U.S.
- The PRB is also the nation's **fastest growing** supply region

Arch Coal, Inc.

Arch could become a major coal producer in Montana in time

- Northern Powder River Basin production totaled nearly **40 million tons** in 2009
- Arch secured **1.5 billion tons** of Otter Creek coal reserves from GNP and the state of Montana
- Development will strengthen Arch's ability to **competitively** serve northern U.S. power generation market
- Provides an additional supply source to **export** into the Pacific Rim via the West Coast
- Has potential to also support a **coal-to-liquids facility** some day



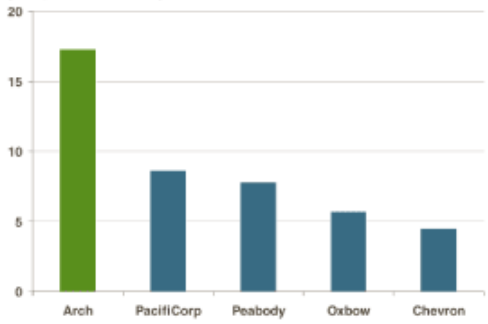
Sources: ACI, Vantys

Arch Coal, Inc.

Arch is the largest producer in the Western Bituminous Region

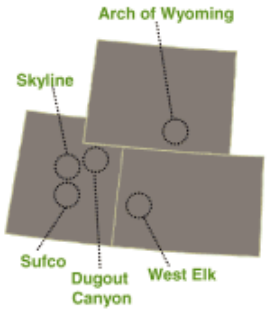
Major Producers in Western Bituminous Region*

(2009, in millions of tons)



* Colorado, Utah and southern Wyoming

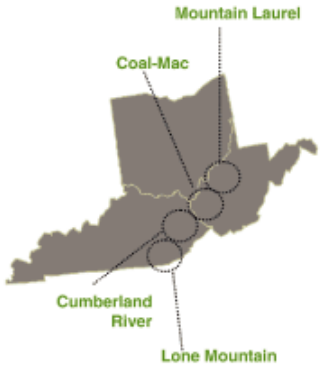
Sources: ACI, Ventyx



- Supply in the mature Western Bit region is challenged due to **difficult geology** and **reserve depletion**

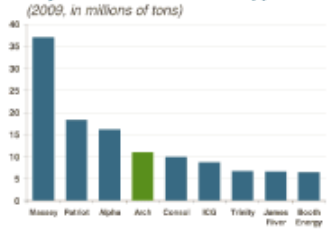
Arch Coal, Inc.

Arch is a major producer in Central Appalachia and a leading producer of coking and PCI coal



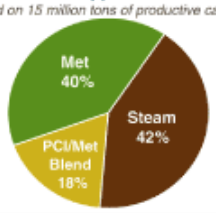
Major Producers in Central Appalachia

(2009, in millions of tons)



Arch's Central App Production Profile

(based on 15 million tons of productive capacity)



Sources: ACI, Wolfe

Arch Coal, Inc.

Arch has an extensive and competitive reserve base in the growing Illinois Basin

- Increased our equity interest in **Knight Hawk to 42 percent** in June of 2010
- Currently in the process of permitting Arch's low chlorine **Lost Prairie** reserves
- Market **opportunities** will develop as Central App supply continues to decline and scrubbing increases
- Region well positioned to export to the Atlantic Basin market via **Gulf** of Mexico

Sources: ACI, Vantyx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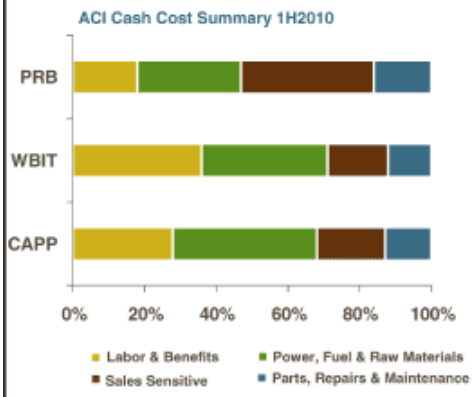
Arch Coal, Inc.
Cost Control

Arch Coal, Inc.

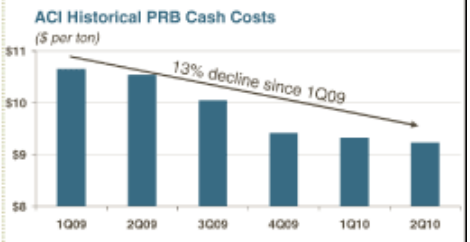
We continue to seek new and innovative ways to manage controllable costs at all of our operations



- Predictive maintenance **reduces** unplanned downtime and overtime, extends equipment life
  - Est. **$11 million cost-savings** in 2009
- Increased coordination through centralized purchasing, operations, safety and environmental affairs
- Continued **focus** on cost control of major consumables such as diesel, electricity, explosives (natural gas) and tires (petroleum products)

Arch's Powder River Basin costs have declined for six consecutive quarters

- 1Q09 to 2Q10, pro-forma production decreased 6 percent while cash costs decreased 15 percent
- **Cost improvements** reflect benefit of integrating Jacobs Ranch into Black Thunder
- Lower diesel costs due to the roll-off of higher-priced hedges
- We believe there may be **opportunities** for further improvement



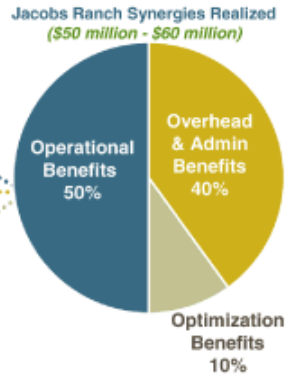
Arch Coal, Inc.

Arch has realized $50 million to $60 million in synergies from Jacobs Ranch acquisition

- Shortened haul distances
- Re-deployed dragline and shovel
- Consolidated purchasing agreements
- Installed effective dispatch system

- Eliminated duplicative jobs, corporate management fees and inter-company leasing agreement
- Reduced reclamation costs

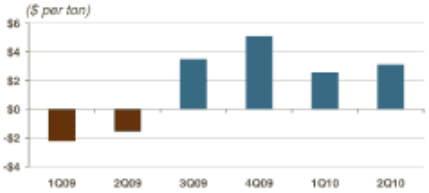
- Optimized coal blending
- Created more diverse product base
- Additional OTC spec products
- Access to 110 million tons of low-cost reserves under rail spur



Arch's Western Bit assets are a strong contributor to the company's earnings profile

Arch WBIT Operating Margin

($ per ton)



- Expect continued margin expansion as legacy contracts roll off
- Arch's large longwall mines in the Western Bit region should help mitigate ongoing cost pressures

Sources: MSHA, Vertyx

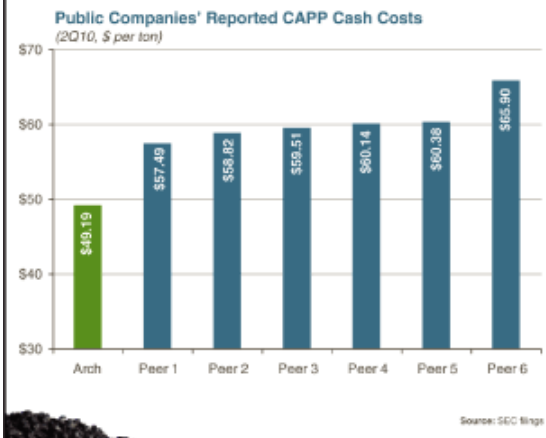
Top Longwall Operations in the U.S.

(2009, productivity tons per hour)

Rank	Mine Owner	Mine
1	Cline Group	Mach No. 1
2	**Arch Coal**	**Sufco**
3	BHP Billiton	San Juan
4	Oxbow	Elk Creek
5	Deseret	Deserado
6	Peabody	Twentymile
7	CONSOL	Enlow Fork
8	PacifiCorp	Deer Creek
9	**Arch Coal**	**Skyline**
10	PacifiCorp	Bridger
11	Murray	Powhatan
12	**Arch Coal**	**West Elk**
13	Murray	Century
14	**Arch Coal**	**Dugout Canyon**
15	CONSOL	Bailey

- Arch's mines are some of the **safest** and **most productive** in the U.S.

Arch's cash cost structure remains one of the lowest in the Central App region



Source: SEC filings

- As costs in the region have grown due to increased safety and environmental regulations, Arch has remained a **low-cost producer** in the region
- Maintaining a strong cost performance is always our goal; however, increased met opportunities may result in a marginal increase in our cost structure

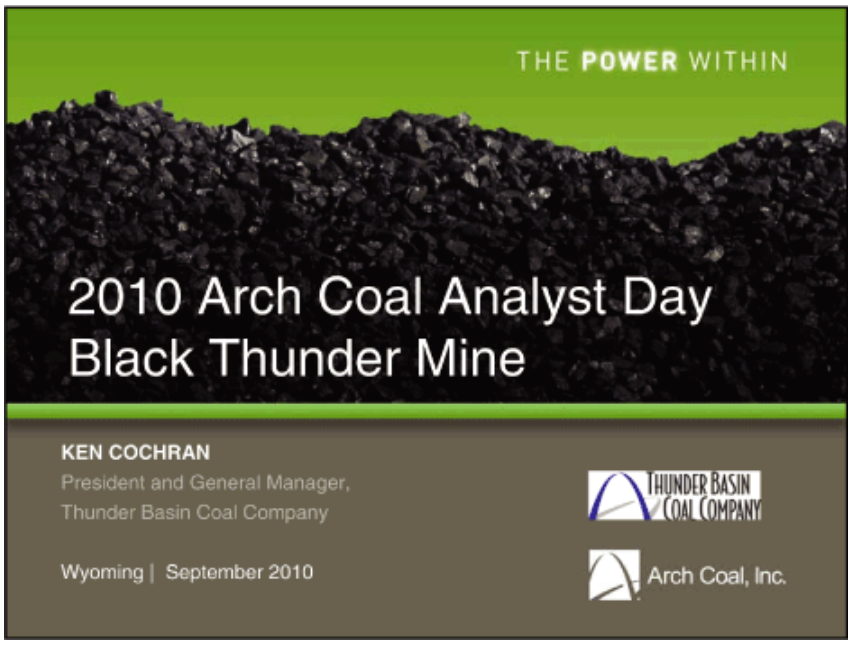
Arch Coal, Inc.

Arch's cash margins are one of the strongest in the Central App region

Public Companies' Reported CAPP Cash Margins
(2Q10, $ per ton)

Source: SEC filings

- Low cost production and improved coking and PCI prices have allowed Arch to capture **strong cash margins**
- Arch has invested modest capital in 2010 to **add met** production at Cumberland River – increasing total met capabilities up to **8 million tons per year** on an annualized basis, if market conditions warrant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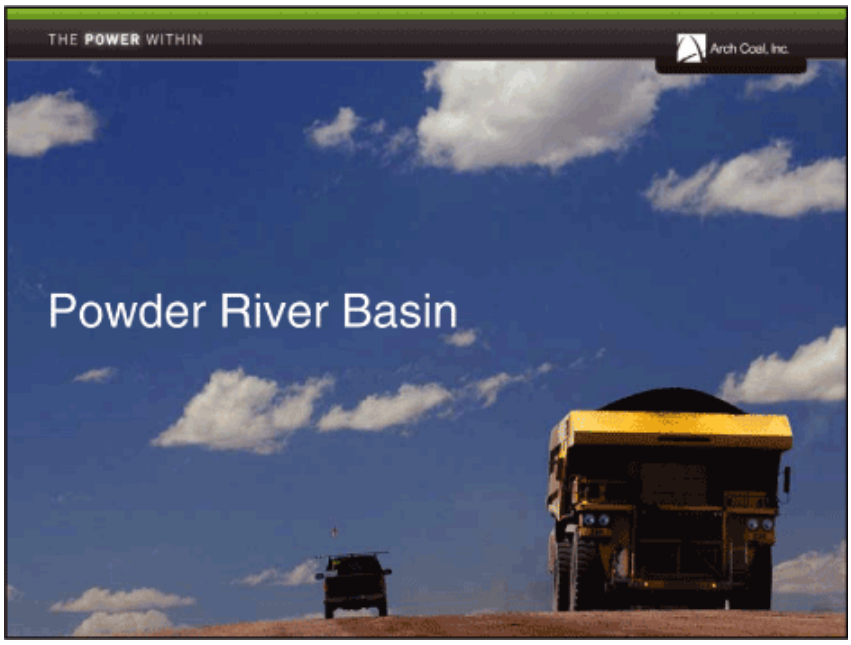
2010 Arch Coal Analyst Day
Black Thunder Mine
KEN COCHRAN
President and General Manager,
Thunder Basin Coal Company
Wyoming | September 2010
Thunder Basin Coal Company
Arch Coal, Inc.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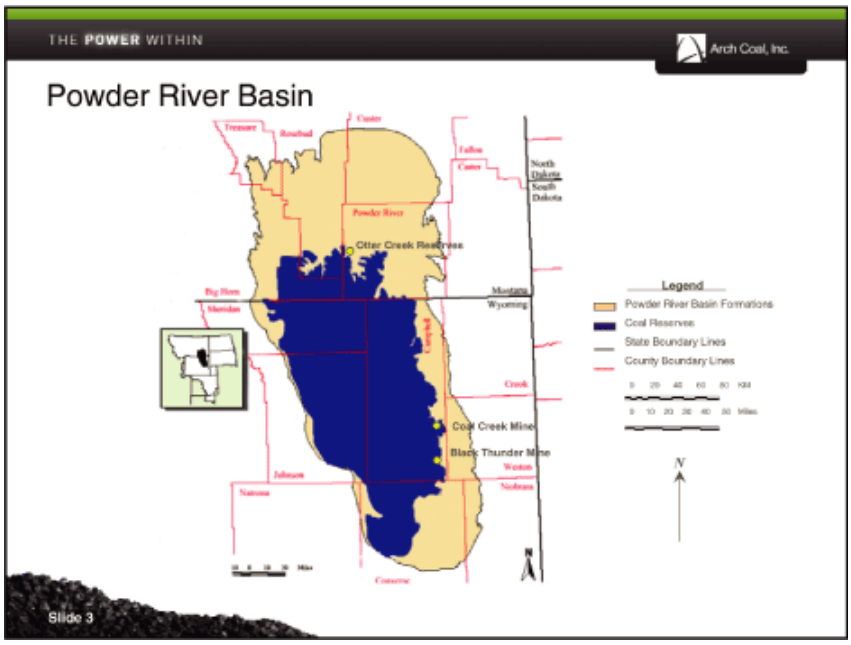
Arch Coal, Inc.
Powder River Basin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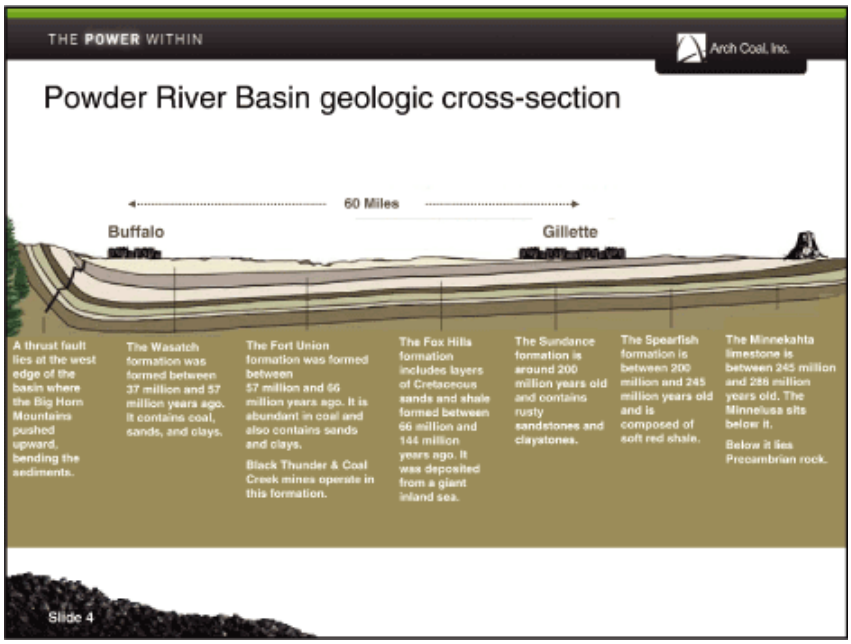
Arch Coal, Inc.
Powder River Basin
Treasure
Rosebud
Custer
Fallon
Custer
North Dakota
South Dakota
Powder River
Otter Creek Reserves
Big Horn
Sheridan
Montana
Wyoming
Campbell
Crook
Coal Creek Mine
Black Thunder Mine
Weston
Niobrara
Johnson
Natrona
Converse
Legend
Powder River Basin Formations
Coal Reserves
State Boundary Lines
County Boundary Lines
N
Slide 3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Arch Coal, Inc.
Powder River Basin geologic cross-section
60 Miles
Buffalo
Gillette
A thrust fault lies at the west edge of the basin where the Big Horn Mountains pushed upward, bending the sediments.
The Wasatch formation was formed between 37 million and 57 million years ago. It contains coal, sands, and clays.
The Fort Union formation was formed between 57 million and 66 million years ago. It is abundant in coal and also contains sands and clays.
Black Thunder & Coal Creek mines operate in this formation.
The Fox Hills formation includes layers of Cretaceous sands and shale formed between 66 million and 144 million years ago. It was deposited from a giant inland sea.
The Sundance formation is around 200 million years old and contains rusty sandstones and claystones.
The Spearfish formation is between 200 million and 245 million years old and is composed of soft red shale.
The Minnekahta limestone is between 245 million and 286 million years old. The Minnelusa sits below it.
Below it lies Precambrian rock.
Slide 4

Arch Coal, Inc.

Producers in Wyoming's Powder River Basin

Mine	2009 Production Tons (000's)
Rawhide	15,800
Buckskin	25,400
Eagle Butte	21,500
Wyodak	6,000
Dry Fork	5,200
Subtotal - Tier III	**73,900**
Caballo	23,300
Cordero-Rojo	39,400
Belle Ayr	28,400
Coal Creek	9,800
Subtotal - Tier II	**100,900**
Black Thunder*	110,200
North Antelope-Rochelle	98,300
Antelope	34,000
Subtotal - Tier I	**242,500**
Total	**417,300**

* Pro-forma Jacobs Ranch

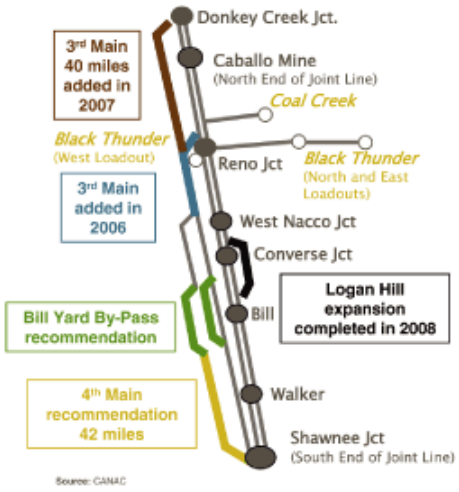
Source: MSHA

THE **POWER** WITHIN

Arch Coal, Inc.

The railroads have facilitated growth in moving western coals eastward

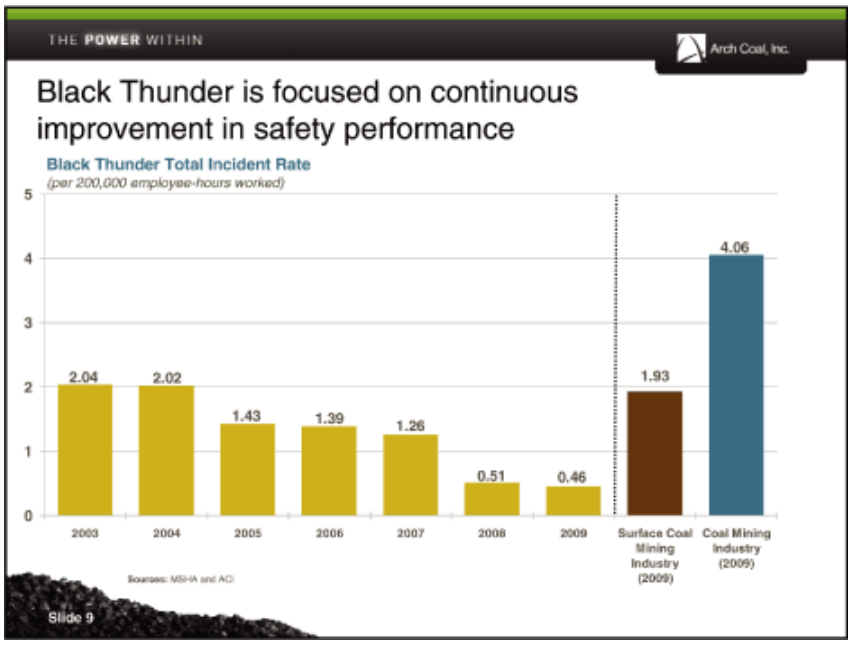
- The railroads have continued to **invest and expand** capacity in the Powder River Basin
- Current Joint Line capacity is approximately **400 million tons**
- With **additional** capital investment, capacity could expand to 450 million to 500 million tons in the future



Source: CANAC


THE POWER WITHIN
Arch Coal, Inc.
Black Thunder Mine Overview


THE POWER WITHIN
Arch Coal, Inc.
Black Thunder Mine - background
First Coal Shipped: December 1977
Acquired by Arch: June 1998
Current Lease Area: 33,400 Acres
Permitted Maximum Shipping Capacity: 190 Million Tons/Year
Cumulative Shipments (June 2010): 2.197 Billion Tons
Average Seam Thickness: 68 Feet
Recoverable Reserves: 1.634 Billion Tons
Slide 8


THE POWER WITHIN
Arch Coal, Inc.
Black Thunder is focused on continuous improvement in safety performance
Black Thunder Total Incident Rate
(per 200,000 employee-hours worked)
5
4
3
2
1
0
2.04
2.02
1.43
1.39
1.26
0.51
0.46
1.93
4.06
2003
2004
2005
2006
2007
2008
2009
Surface Coal Mining Industry (2009)
Coal Mining Industry (2009)
Sources: MSHA and ACI
Slide 9

Arch Coal, Inc.

Arch takes its commitment to environmental stewardship seriously

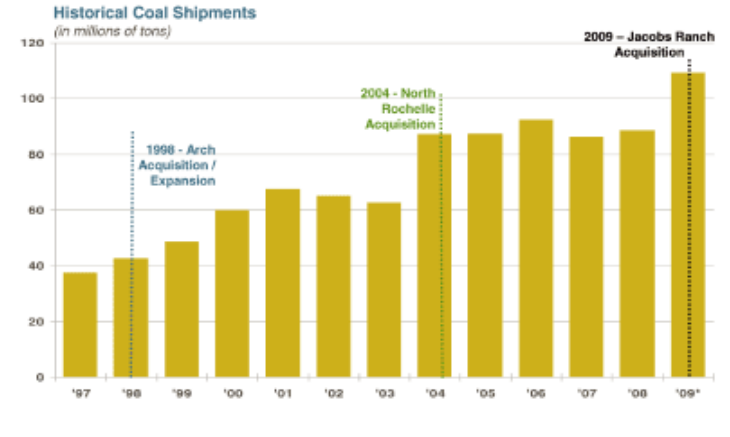
- Since 2000, we've won seven **national and state awards** for environmental stewardship at our PRB operations
- We're excelling in providing habitat enhancement programs for indigenous plants and wildlife on reclaimed lands

Thunder Basin Mine Reclamation Awards Since 2000

- 2010 Interstate Mining Compact Commission – Public Outreach
- 2008 Excellence in Surface Mining – Good Neighbor Award
- 2006 Peck Community Service Award
- 2006 U.S. Department of Interior National Good Neighbor Award
- 2006 Wyo. Good Neighbor Award
- 2005 Wyo. Industry Reclamation & Wildlife Stewardship Award
- 2002 United States Forest Service Prairie Partner Award

Arch Coal, Inc.

Black Thunder Mine



* Pro-forma Jacobs Ranch

THE **POWER** WITHIN

Arch Coal, Inc.

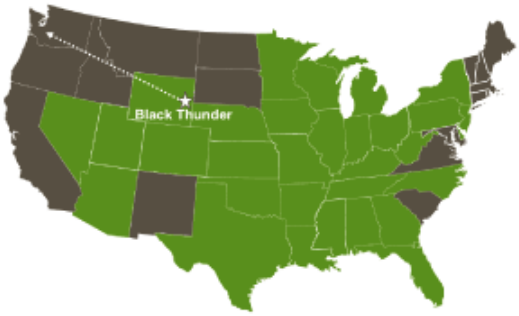
Black Thunder Mine

Black Thunder Mine
2009 Average As-Shipped Coal Quality

Parameter	Value
Moisture (%)	27.29
Ash (%)	5.15
Sulfur (%)	0.34
Btu/Lb	8,830
LbsSO_2/MMBtu	0.77

Arch Coal, Inc.

States and power plants served by Black Thunder



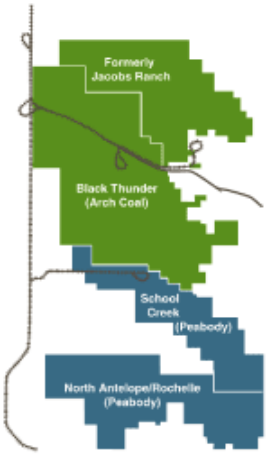
- In the past five years, Black Thunder has shipped low-sulfur coal to over **160 power plants** in **30 states**
- Arch has also been successful in shipping Black Thunder coal to the West Coast for **export** to China and the Asia-Pacific market

Arch Coal, Inc.

Arch has successfully integrated Jacobs Ranch into Black Thunder post Oct. 1, 2009

Key Synergies Obtained

- A substantial reduction in **warehouse inventory** has been achieved (~$20 million)
- **Staff optimization** and reduction (~$9 million)
- **Mine plan optimization** includes gains for cast blasting, recovery of additional coal seams and improved dragline productivity (~$30 million)



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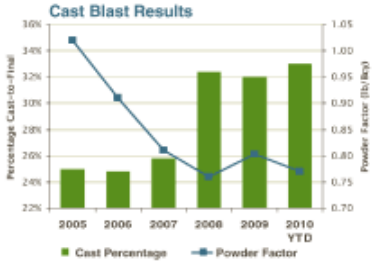
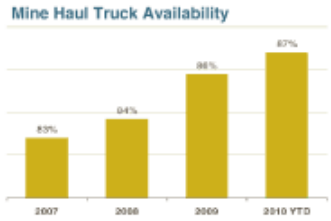
Black Thunder process improvement projects

- Since 2005, improving **cast blasting metrics** have resulted in annual cost savings of $10.5 million
- Since 2007, **increased haul truck** availability has resulted in $4.3 million of cost savings annually





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Black Thunder current manning schedule

Black Thunder Manning:	
Salaried	88
Hourly	1,462
Sub-Total	1,550
TBCC Support Staff:	
Salaried	53
Hourly	3
Temporary / Part Time	2
Sub-Total	58
Total	**1,608**

- Strong and stable workforce:
  - Over **40 percent** of the Black Thunder workforce has some **college level education**
  - The average age of the Black Thunder **workforce is under 45**
  - Very **low turnover** rates
  - Motivated and dedicated employees result in fewer supervisors needed


THE POWER WITHIN
Arch Coal, Inc.
Surface Mining 101

Arch Coal, Inc.

Typical mining sequence: truck-shovel prestrip excavation

BE495HR and Caterpillar 793

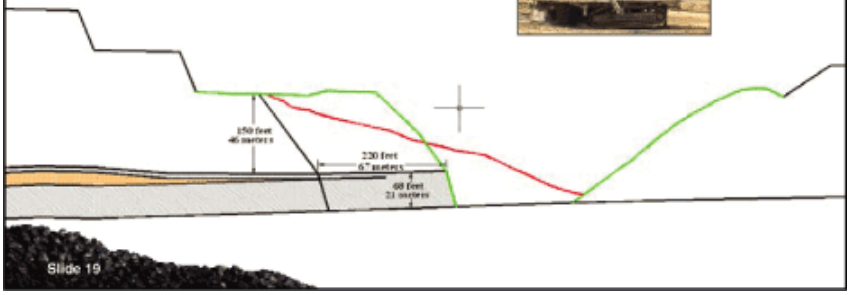
P&H4100 and Caterpillar 793

Arch Coal, Inc.

Overburden cast-blasting

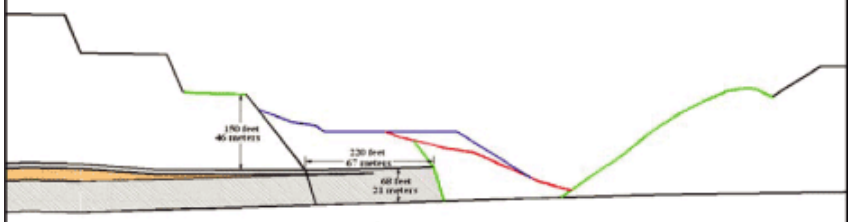
Overburden Drilling:

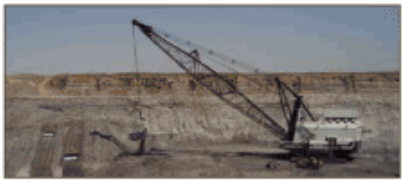
- Diesel-powered drilling – fleet of 5 drills
- Borehole diameter – 12 ¼ inch (311mm)
- Angled holes – drilled at 60 degress (highwall excavated on 55 degree slope)



Arch Coal, Inc.

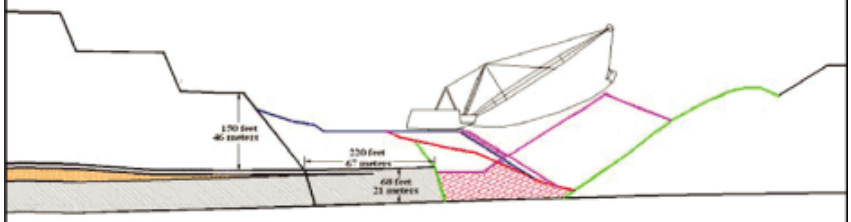
Dozer construction of dragline bench





Arch Coal, Inc.

Dragline excavation of remaining overburden



Bucyrus 2570WS Dragline – 164-cu-yd

Marion 8750 Dragline 122-cu-yd

THE **POWER** WITHIN

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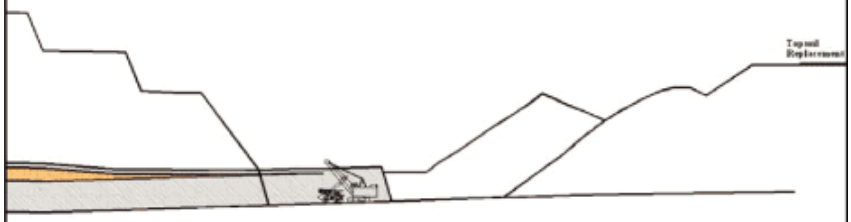
Coal loading and topsoil replacement



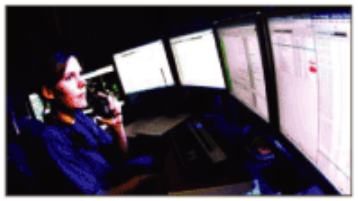
P&H 2800 Shovel & Komatsu 930E

Komatsu 930E 320 -Ton

Arch Coal, Inc.

Black Thunder – Minestar fleet commander

- Real-time monitoring and control/optimization
  - mobile equipment utilization
  - material production and movement
  - equipment health
  - haulage fleet – "Dispatch"
- "Production plans" prioritize production by loading unit:
  - mine plan sequencing
  - seam/coal quality
  - coal shipments by loadout
- Dispatcher and Minestar software manage ongoing routine production activities for crews with over 220 operators
- Data recorded for reporting and analysis



Arch Coal, Inc.

Black Thunder – coal processing facilities

Truck Dumps – Crushing & Conveying Facilities

- 1 Near Pit/Overland Conveyor (2 Truck Hoppers)
- 1 Primary (Original) System (2 Truck Hoppers)
- 1 - 5 West Crusher/Overland Conveyer (1 Truck Hopper)
- 1 Thundercloud Crusher/Overland Conveyor (1 Truck Hopper)
- 1-BT East Crusher/Overland Conveyor (1 Truck Hopper)
- 1 BT East Crusher (1 Truck Hopper)

Laboratory Analysis

–On-Site Laboratory (ASTM Laboratory)

–24 Hours Per Day / 365 Days Per Year

Near-Pit Crusher

5-West Crusher & Overland Conveyor

Arch Coal, Inc.

Black Thunder – coal processing facilities

Coal Storage Facilities

- 2 12,500 ton silos
- 2 17,500 ton silos
- 1 100,000 ton slot storage
- 7 14,000 ton silos

Train Loading Facilities

- 1 BT North Train Loadout
- 1 BT North Batch Loadout
- 1 BT West Train Loadout
- 2 BT East Train Loadout

Arch excels in restoring lands to a productive state once mining is complete

- Our operations carefully integrate a range of **environmental plans** throughout the life of each mine and treat each reclamation project as a unique effort

- **More than 12,000 acres** have been **permanently reclaimed** by Arch in the Powder River Basin
- Additionally, we have **implemented wildlife and habitat programs** to restore and improve biodiversity

- Arch understands the importance of a **strong environmental ethic** and the responsibility of caring for our planet