Discussion Topics

- BNSF coal transportation
- Historic PRB production
- Joint line overview
- Coal dust contamination
- Joint Line recovery plan
- Coal dust suppression study
- Impact on 2005 shipments
BNSF Network Coal Map
Wyoming and Montana PRB Coal Production

PRB production up 220mm tons since 1990.
The Joint Line is a 103 mile long subdivision with more than 295 miles of track due to double and triple track segments.

There are 10 coal mines on the Line which are jointly served by both BNSF and UP.

These 10 mines produced over 300 million tons of coal in 2004.
The Joint Line is maintained at a high quality, robust level.

- In 2004 and during the first quarter 2005, overall slow orders on the Joint Line were at 3-year lows.

- Track surface conditions, as measured by BNSF’s track geometry cars, improved on the Joint Line in 2004 vs. 2003.

- Overall switch reliability on the Joint Line improved by over 40% in 2004 due to a formal preventive maintenance program and extensive switch renewals.

- During First Quarter 2005, both BNSF and Union Pacific achieved record loadings on the Joint Line.
Joint Line Timeline

- April 21: Significant spring snow shutdown the mines
- May 11: Two inches of rain followed by six inches of snow
- April/May: Spring thaw
- May 14: BNSF train derailment
- May 15: UP train derailment
- May/June: Containment plan (slow orders/roadbed surfacing)
- June 29: Completion of 3rd main between Shawnee and Walker
- July 6: Joint Line repair program initiated
Coal Dust Accumulation

MP 90.5 Accumulation of Coal
Coal Dust Accumulation

MP 75.5 Accumulation of Coal
Coal Dust Accumulation

MP 63.16 Accumulation Of Coal
Coal Dust Accumulation

MP 62.3 Accumulation Of Coal
Coal Dust Accumulation
Coal Dust Accumulation
Coal Dust Accumulation
Coal Dust Accumulation
Coal Dust Accumulation
Coal Dust Accumulation
Phase 1:
Remove/Re-ballast/Replace 12 Switches

- July 6, 2005: 4 switches, 12 hour window
- July 8, 2005: 4 switches, 12 hour window
- July 23, 2005: 4 switches, 12 hour window
Phase II: Concrete Tie Installation at Reno Junction

- July 11 – August 23
  - 30,835 concrete ties installed
  - 12 track miles of new rail installed
  - 16 switches rehabilitated
  - Work days: Monday – Thursday, 10 hour windows
  - Loaded an average of 60.4 trains/day
P- 811 Concrete Tie Installation
Phase III: Undercutting Program

- August 25 – December 1
  - Joint Line triple track segments
  - 94 track miles of undercutting
  - 36 switches rehabilitated

- Work days:
  - Day shift: Monday – Wednesday, 12 hour shifts
  - Night shift: Monday – Wednesday, 12 hour shifts
RM-802 Undercutter
Switch Replacement
Study focus:

- Quantify the problem
  - Sampling coal dust accumulation in ballast at switches
  - Measuring coal dust accumulation over time at select locations

- Analyze industry best practices

- Analyze and field test coal dust suppression alternatives
Study results indicate that coal dust accumulations in the ballast at select switches range from 0.5% to 30%. The lower percentage coal values came from previously cleaned switches.

These study results also demonstrated that the ballast/coal mixture has the capacity to retain water, lose compressive strength, and ultimately cause track surface irregularities.
Coal Dust Sampling Results

- Accumulation rates range from 6 pounds/year at MP 93 to over 700 pounds/year at MP 75.2
- Average is 81 pounds/year
- Estimated volume of coal deposited on the Joint Line is more than 84,000 cubic yards over 103 route miles
Benchmarking Results
Benchmarking Results

“Stuffer” Car
Load Profile Study

“Stuffer Car”

Grooming Profile
Load Profile

Coal Car Sill Height

Horizontal Distance (ft)
Height above sill (ft)
Releases From Coal Cars

Field test to quantify coal dust release from bottom of coal cars
Field Test Plan

- Perform laser analysis of coal load profile of PRB loads
- Recommend optimum load profile/“grooming” process
- Test Samples of PRB Coal to determine the optimum “binder”
- Field test combinations of binders and grooming to confirm coal dust suppression effectiveness
- Field test to quantify coal dust releases from bottom of coal cars
## Field Test Configuration

<table>
<thead>
<tr>
<th>Cars</th>
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<td>101-120</td>
<td>81-100</td>
<td>61-80</td>
<td>41-60</td>
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<td>1-20</td>
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<tr>
<td>Current Profile</td>
<td>Groomed Profile</td>
<td>Current Profile</td>
<td>Groomed Profile</td>
<td>Groomed Profile</td>
<td>Current Profile</td>
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</table>

- No Binder → Binder “B” → Binder “A” → Chemical Treatment

- Each car in the diagram above represents 20 cars
- Each set of 20 cars represents a separate “experiment”
Field Test Devices

Passive Collectors

Attach passive collectors to back of coal cars to capture loss

Portable Weather Station

Attach portable weather data collection system to back of train to measure “Trip Stress”
## Total Rail Haul PRB – September YTD 2005

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<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>Tons</th>
<th>Percent</th>
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<tr>
<td>January</td>
<td>33.9</td>
<td>34.2</td>
<td>+0.3</td>
<td>+0.9%</td>
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<td>February</td>
<td>29.9</td>
<td>33.9</td>
<td>+4.0</td>
<td>+13.4%</td>
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<td>March</td>
<td>33.5</td>
<td>37.6</td>
<td>+4.1</td>
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<td>April</td>
<td>32.9</td>
<td>34.8</td>
<td>+1.9</td>
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<td>May</td>
<td>33.6</td>
<td>31.6</td>
<td>-2.0</td>
<td>-6.0%</td>
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<tr>
<td>June</td>
<td>33.5</td>
<td>32.9</td>
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<tr>
<td>July</td>
<td>33.8</td>
<td>35.8</td>
<td>+2.0</td>
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<tr>
<td>August</td>
<td>36.0</td>
<td>34.7</td>
<td>-1.3</td>
<td>-3.6%</td>
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<tr>
<td>September</td>
<td>35.4</td>
<td>34.9</td>
<td>-0.5</td>
<td>-1.4%</td>
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<tr>
<td><strong>Total</strong></td>
<td>302.5</td>
<td>310.4</td>
<td>+7.9</td>
<td>+2.6%</td>
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## Total Rail Haul PRB

PRB production will be up 34 mm tons in two years.

### 2003 – 2005 F

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<th>2004</th>
<th>Change</th>
<th>Percent</th>
<th>2005*</th>
<th>Change</th>
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<td>Montana</td>
<td>26.3</td>
<td>29.0</td>
<td>+2.7</td>
<td>+10.3%</td>
<td>30.2</td>
<td>+1.2</td>
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<tr>
<td>Wyoming</td>
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<td>North Gillette</td>
<td>51.2</td>
<td>55.6</td>
<td>+4.4</td>
<td>+8.6%</td>
<td>61.9</td>
<td>+6.3</td>
<td>+11.3%</td>
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<tr>
<td>Joint Line</td>
<td>308.6</td>
<td>322.5</td>
<td>+13.9</td>
<td>+4.5%</td>
<td>327.8</td>
<td>+5.3</td>
<td>+1.6%</td>
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<tr>
<td>Total</td>
<td>386.1</td>
<td>407.1</td>
<td>+21.0</td>
<td>+5.4%</td>
<td>419.9</td>
<td>+12.8</td>
<td>+3.1%</td>
</tr>
</tbody>
</table>
Joint Line Capacity Expansion

Phase I:
3rd Main 14 Miles
In Service June '05

Phase II:
3rd Main 15 Miles
In Service July '06

Caballo Mine
(North End of Joint Line)

Reno Junction

West Nacco Junction

Converse Junction

Bill

Walker

Shawnee Junction
(South End of Joint Line)