



Performance Coal Company

P.O. Box 69

Naoma, WV

25140

March 18, 2010

Mr. Robert G. Hardman
Mine Safety and Health Administration
100 Bluestone Road
Mount Hope, WV 25880

Re: Performance Coal Company
Upper Big Branch Mine
MSHA ID: 46-08436
State ID: U-3042-92
Ventilation Revision

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Dear Sir:

Please find the enclosed ventilation revision for your review and approval. This revision is to move the 004 Section to the No. 11 Panel once mining in the No. 16 Panel is completed. The attached map shows the ventilation controls to be installed and/or removed to begin mining the No. 11 Panel. Also shown on the attached map is the proposed sequence of installation and removal of the needed controls.

Mining in the No. 11 Panel will be first mining only. Pillars will be 100ft X 100ft, Center Line to Center Line, or larger. Included with this revision is a barrier pillar analysis showing the stability of the barrier pillars. When mining between two longwall gobs or when gob is present on one side, the barrier pillar stability factor will remain at or above 2.0 along side the gob. In places where no gob is present the barrier pillar will be a minimum of 50ft wide.

This mine currently has no miner's representative. If you have any questions or comments, feel free to contact me at (304) 854-3516.

Respectfully Submitted,
Performance Coal Company, Inc.

Eric Lilly
Mine Engineer

ARMPS module build: 5.1.23

Project File: G:\Engineering\Mining\Rt3\Seams\Eagle\Mines\UBB\Ventilation Revision\2010\4 Section t
Input Units: (ft) (psi)

[PROJECT TITLE]

Upper Big Branch Panel 11 Gob on both Sides

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....6.5 (ft)
Depth of Cover.....1250 (ft)
Crosscut Angle.....90 (deg)
Entry Width.....20 (ft)
Number of Entries.....7
Crosscut Spacing.....100 (ft)
Center to Center Distance #1.....100 (ft)
Center to Center Distance #2.....100 (ft)
Center to Center Distance #3.....100 (ft)
Center to Center Distance #4.....100 (ft)
Center to Center Distance #5.....100 (ft)
Center to Center Distance #6.....100 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
Unit Weight of Overburden.....162 (pcf)
Breadth of AMZ.....176 (ft)
AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....TWO SIDES + ACTIVE GOB
Extend of Active Gob.....0 (ft)
Abutment Angle of Active Gob.....21 (deg)
Extend of First Gob.....3915 (ft)
Abutment Angle of 1st Gob.....21 (deg)
Barrier Pillar Width of 1st Gob.....120 (ft)
Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)
Extend of Second Gob.....1230 (ft)
Abutment Angle of 2nd Gob.....21 (deg)
Barrier Pillar Width of 2nd Gob.....120 (ft)
Depth of Slab Cut in Barrier Pillar of 2nd Gob....0 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....2.08
ACTIVE GOB.....2.08
ONE SIDE + ACTIVE GOB.....1.91
TWO SIDES + ACTIVE GOB.....1.76

[BARRIER PILLAR STABILITY FACTORS]

FIRST SIDE GOB.....2.02
SECOND SIDE GOB.....2.02

[WARNINGS]

In the ARMPS data base, of the 9 case histories of Active Retreat and Two Side Gobs under deep cover, only 2 were successful. This extraction sequence should be avoided if possible.

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....600.0 (ft)
AMZ Breadth.....176.0 (ft)

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AMZ Area.....105600.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.36
 Development Load on AMZ.....1.07E+07 (tons)
 Front Abutment Load.....0 (tons)/(ft)
 First Side Abutment Load.....24291 (tons)/(ft)
 Second Side Abutment Load.....24291 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.779
 R-FACTOR For Second Side Abutment.....0.779

TOTAL LOADINGS ON AMZ, INCLUDING TRANSFER FROM BARRIERS

LOAD CONDITION	ABUTMENT LOAD (tons)	LTRANSBAR (tons)	LTRANSREM (tons)	TOTAL (tons)
DEVELOPMENT	0.00E+00	0.00E+00	0.00E+00	1.07E+07
ACTIVE GOB	0.00E+00	0.00E+00	0.00E+00	1.07E+07
1S + ACTIVE GOB	9.45E+05	0.00E+00	0.00E+00	1.16E+07
2S + ACTIVE GOB	9.45E+05	0.00E+00	0.00E+00	1.26E+07

R-Factor for front abutment is the percent of the total front abutment load that is applied to the AMZ.

R-Factor for side abutment is the percent of the total side abutment load that is applied to the barrier pillar (the remainder is applied to the AMZ).

LTRANSBAR is the load transferred to the AMZ from the barrier pillar between the side and active gob if the barrier's SF is less than 1.5.

LTRANSREM is the load transferred to the AMZ from the remnant barrier between the side and active gob if the remnant's SF is less than 1.5.

[PILLAR PARAMETERS]

PILLAR	ENTRY CENTER (ft)	MINIMUM DIMENSION (ft)	MAXIMUM DIMENSION (ft)
1	100.00	80.00	80.00
2	100.00	80.00	80.00
3	100.00	80.00	80.00
4	100.00	80.00	80.00
5	100.00	80.00	80.00
6	100.00	80.00	80.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	6.40E+03	4.56E+03	2.10E+06
2	6.40E+03	4.56E+03	2.10E+06
3	6.40E+03	4.56E+03	2.10E+06
4	6.40E+03	4.56E+03	2.10E+06
5	6.40E+03	4.56E+03	2.10E+06
6	6.40E+03	4.56E+03	2.10E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 2.22E+07 (tons)

To view the distribution of Pillar Load Bearing Capacity select 'View Plots->Settings->Pillar Load Bearing Capacity'

[BARRIER PILLAR PARAMETERS]

BARRIER PILLAR	WIDTH (ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
First	120.00	7.51E+03	1.14E+07
Second	120.00	7.51E+03	1.14E+07

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{BARRIER PILLAR LOADS}

BARRIER	DEVELOPMENT	FRONT-ABUTMENT	SIDE-ABUTMENT
PILLAR	LOAD (tons)	LOAD (tons)	LOAD (tons)
First	2.32E+06	0.00E+00	3.33E+06
Second	2.32E+06	0.00E+00	3.33E+06

{BARRIER PILLAR LOADS (cont'd)}

BARRIER	TOTAL LOAD	STABILITY	LTRANSBAR
PILLAR	(tons)	FACTOR	(tons)
First	5.65E+06	2.02	0.00E+00
Second	5.65E+06	2.02	0.00E+00

{BARRIER PILLAR STRESSES}

BARRIER	DEVELOPMENT	FRONT-ABUTMENT	SIDE-ABUTMENT	TOTAL STRESS
PILLAR	STRESS (psi)	STRESS (psi)	STRESS (psi)	(psi)
First	1523	0	2190	3713
Second	1523	0	2190	3713

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ARMPS module build: 5.1.23

Project File: G:\Engineering\Mining\Rt3\Seams\Eagle\Mines\UBB\Ventilation Revision\2010\4 Section t
Input Units: (ft) (psi)

[PROJECT TITLE]

Upper Big Branch Panel 11 Gob on one Side

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....6.5 (ft)
 Depth of Cover.....1250 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....7
 Crosscut Spacing.....100 (ft)
 Center to Center Distance #1.....100 (ft)
 Center to Center Distance #2.....100 (ft)
 Center to Center Distance #3.....100 (ft)
 Center to Center Distance #4.....100 (ft)
 Center to Center Distance #5.....100 (ft)
 Center to Center Distance #6.....100 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....176 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....0 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....1230 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....120 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....2.08
 ACTIVE GOB.....2.08
 ONE SIDE + ACTIVE GOB.....1.91

[BARRIER PILLAR STABILITY FACTORS]

FIRST SIDE GOB.....2.02

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....600.0 (ft)
 AMZ Breadth.....176.0 (ft)
 AMZ Area.....105600.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.36
 Development Load on AMZ.....1.07E+07 (tons)
 Front Abutment Load.....0 (tons)/(ft)
 First Side Abutment Load.....24291 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900

R-FACTOR For First Side Abutment.....0.779

TOTAL LOADINGS ON AMZ, INCLUDING TRANSFER FROM BARRIERS

LOAD	ABUTMENT	LTRANSBAR	LTRANSREM	TOTAL
CONDITION	LOAD (tons)	(tons)	(tons)	(tons)

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DEVELOPMENT	0.00E+00	0.00E+00	0.00E+00	1.07E+07
ACTIVE GOB	0.00E+00	0.00E+00	0.00E+00	1.07E+07
1S + ACTIVE GOB	9.45E+05	0.00E+00	0.00E+00	1.16E+07

R-Factor for front abutment is the percent of the total front abutment load that is applied to the AMZ.

R-Factor for side abutment is the percent of the total side abutment load that is applied to the barrier pillar (the remainder is applied to the AMZ).

LTRANSBAR is the load transferred to the AMZ from the barrier pillar between the side and active gob if the barrier's SF is less than 1.5.

LTRANSREM is the load transferred to the AMZ from the remnant barrier between the side and active gob if the remnant's SF is less than 1.5.

[PILLAR PARAMETERS]

PILLAR	ENTRY CENTER (ft)	MINIMUM DIMENSION (ft)	MAXIMUM DIMENSION (ft)
1	100.00	80.00	80.00
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6	100.00	80.00	80.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	6.40E+03	4.56E+03	2.10E+06
2	6.40E+03	4.56E+03	2.10E+06
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TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 2.22E+07 (tons)

To view the distribution of Pillar Load Bearing Capacity select 'View Plots->Settings->Pillar Load Bearing Capacity'

[BARRIER PILLAR PARAMETERS]

BARRIER PILLAR	WIDTH (ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
First	120.00	7.51E+03	1.14E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	2.32E+06	0.00E+00	3.33E+06

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	5.65E+06	2.02	0.00E+00

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
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First

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Input Units: (ft) (psi)

[PROJECT TITLE]

Upper Big Branch Panel 11solid coal barriers

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

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Crosscut Angle.....90 (deg)
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Center to Center Distance #6.....100 (ft)

[DEFAULT PARAMETERS]

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Unit Weight of Overburden.....162 (pcf)
Breadth of AMZ.....176 (ft)
AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....DEVELOPMENT

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....2.08

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....600.0 (ft)
AMZ Breadth.....176.0 (ft)
AMZ Area.....105600.0 (ft)*(ft)
Extraction Ratio Within AMZ.....0.36
Development Load on AMZ.....1.07E+07 (tons)

TOTAL LOADINGS ON AMZ, INCLUDING TRANSFER FROM BARRIERS

LOAD	ABUTMENT	LTRANSBAR	LTRANSREM	TOTAL
CONDITION	LOAD (tons)	(tons)	(tons)	(tons)
DEVELOPMENT	0.00E+00	0.00E+00	0.00E+00	1.07E+07

R-Factor for front abutment is the percent of the total front abutment load that is applied to the AMZ.

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select 'View Plots->Settings->Pillar Load Bearing Capacity'

[BARRIER PILLAR PARAMETERS]

none

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