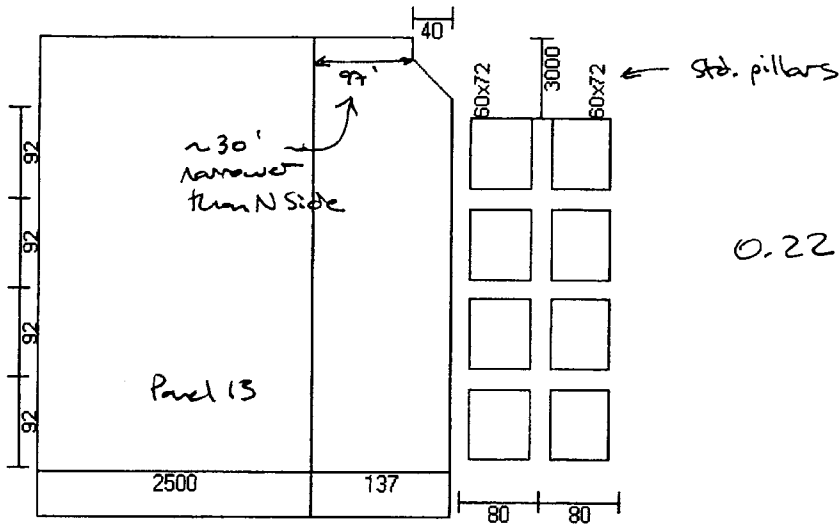


ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.

4-5-07
(226-20)



Default Design

AAI000955

EXHIBIT
10
Hardy

PENGAD 800-631-6889

ARMPS module build: 5.0.41
Project File: C:\Documents and Settings\Gilbride.AGAPITO\My Documents\MyNIOSH\226-20 GENWAL Main
Input Units: (ft) (psi)

[PROJECT TITLE]
GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....8 (ft)
Depth of Cover.....2000 (ft)
Crosscut Angle.....90 (deg)
Entry Width.....20 (ft)
Number of Entries.....3
Crosscut Spacing.....92 (ft)
Center to Center Distance #1.....80 (ft)
Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
Unit Weight of Overburden.....162 (pcf)
Breadth of AMZ.....223 (ft)
AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....ONE SIDE + ACTIVE GOB
Extend of Active Gob.....3000 (ft)
Abutment Angle of Active Gob.....21 (deg)
Extend of First Gob.....2500 (ft)
Abutment Angle of 1st Gob.....21 (deg)
Barrier Pillar Width of 1st Gob.....137 (ft)
Depth of Slab Cut in Barrier Pillar of 1st Gob....40 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....0.84
ACTIVE GOB.....0.72
ONE SIDE + ACTIVE GOB.....0.22 Retreat

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
AMZ Breadth.....223.0 (ft)
AMZ Area.....35680.0 (ft)*(ft)
Extraction Ratio Within AMZ.....0.41
Development Load on AMZ.....5.78E+06 (tons)
Front Abutment Load.....62186 (tons)/(ft)
First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
R-FACTOR For First Side Abutment.....0.730

Table with 5 columns: LOAD CONDITION, ABUTMENT LOAD (tons), LTRANSBAR (tons), LTRANSREM (tons), TOTAL (tons). Rows include DEVELOPMENT, ACTIVE GOB, and 1S + ACTIVE GOB.

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).

LTRANBAR 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	80.00	60.00	72.00
2	80.00	60.00	72.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	4.32E+03	3.21E+03	9.98E+05
2	4.32E+03	3.21E+03	9.98E+05

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 4.84E+06 (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	137.00	7.19E+03	1.58E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	5.31E+06	2.80E+06	1.01E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSEAR (tons)
First	9.11E+03	0.87	3.84E+03

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2414	1272	4600	8287

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	97.0	0.32	4.03E+06	4.03E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3833 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	764	4181	4181
2	433	2369	2369
3	196	1072	1072

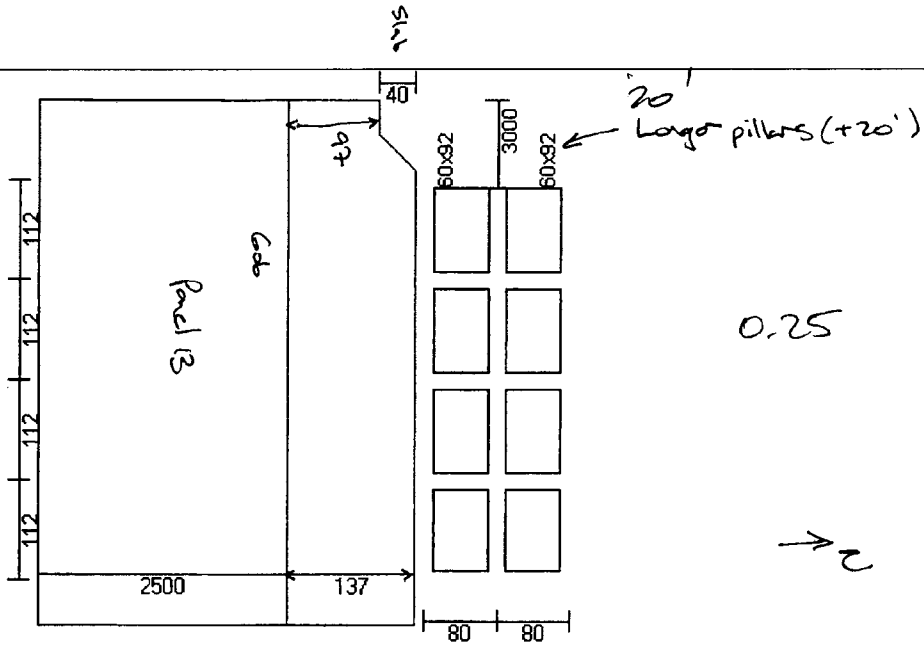
FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	9022
2	4823

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMP5: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.

4-5-07
(226-20)



ARMPS module build: 5.0.41
 Project File: C:\Documents and Settings\Gilbride.AGAPITO\My Documents\MyNIOSH\226-20 GENWAL Main
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]
 Entry Height.....8 (ft)
 Depth of Cover.....2000 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....112 (ft)
 Center to Center Distance #1.....80 (ft)
 Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]
 In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....223 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]
 Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....137 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....40 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....0.94
 ACTIVE GOB.....0.81
 ONE SIDE + ACTIVE GOB.....0.25 *Retreat*

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
 AMZ Breadth.....223.0 (ft)
 AMZ Area.....35680.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.38
 Development Load on AMZ.....5.78E+06 (tons)
 Front Abutment Load.....62186 (tons)/(ft)
 First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.730

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	5.78E+06
ACTIVE GOB	9.01E+05	0.00E+00	0.00E+00	6.68E+06
1S + ACTIVE GOB	3.75E+06	7.68E+06	4.03E+06	2.21E+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).

LTRANBAR 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	80.00	60.00	92.00
2	80.00	60.00	92.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	5.52E+03	3.43E+03	1.36E+06
2	5.52E+03	3.43E+03	1.36E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 5.43E+06 (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	137.00	7.19e+03	1.58E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	5.31E+06	2.80E+06	1.01E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	9.11E+03	0.87	3.84E+03

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2414	1272	4600	8287

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LPTBAR (tons)	LTRANSREM (tons)
First	97.0	0.32	4.03E+06	4.03E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

AAI000961

DEVELOPMENT STRESSES.....3652 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

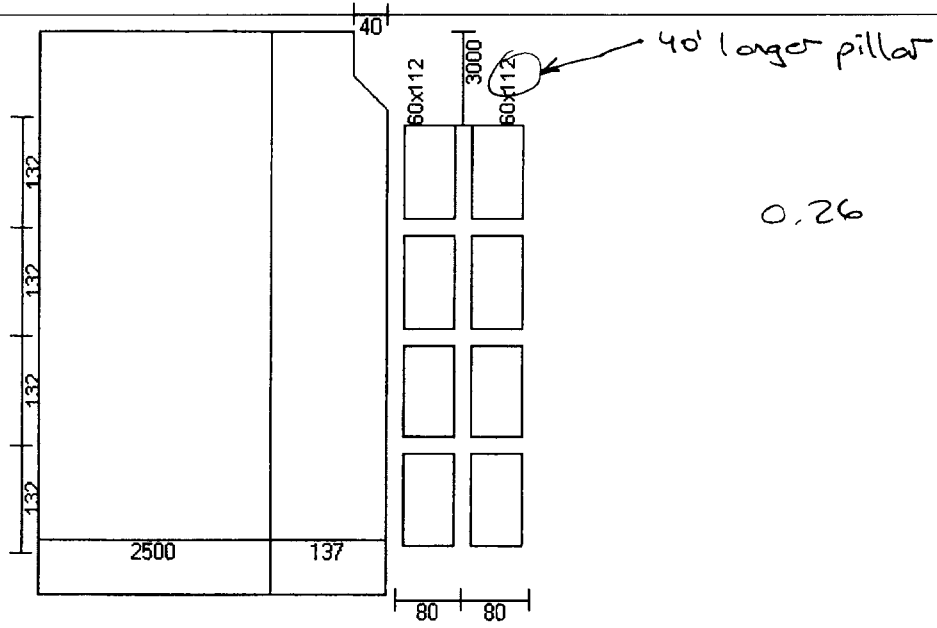
PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	691	3782	3782
2	331	1810	1810
3	103	565	565

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	8596
2	4595

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



0.26

ARMPS module build: 5.0.41
Project File: C:\Documents and Settings\Gilbride.AGAPITO\My Documents\MyNIOSH\226-20 GENWAL Main
Input Units: (ft) (psi)

[PROJECT TITLE]
GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]
Entry Height...8 (ft)
Depth of Cover...2000 (ft)
Crosscut Angle...90 (deg)
Entry Width...20 (ft)
Number of Entries...3
Crosscut Spacing...132 (ft)
Center to Center Distance #1...80 (ft)
Center to Center Distance #2...80 (ft)

[DEFAULT PARAMETERS]
In Situ Coal Strength...900 (psi)
Unit Weight of Overburden...162 (pcf)
Breadth of AMZ...223 (ft)
AMZ set automatically

[RETREAT MINING PARAMETERS]
Loading Condition...ONE SIDE + ACTIVE GOB
Extend of Active Gob...3000 (ft)
Abutment Angle of Active Gob...21 (deg)
Extend of First Gob...2500 (ft)
Abutment Angle of 1st Gob...21 (deg)
Barrier Pillar Width of 1st Gob...137 (ft)
Depth of Slab Cut in Barrier Pillar of 1st Gob...40 (ft)

[ARMPS STABILITY FACTORS]
DEVELOPMENT...1.01
ACTIVE GOB...0.87
ONE SIDE + ACTIVE GOB...0.26

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]
AMZ Width...160.0 (ft)
AMZ Breadth...223.0 (ft)
AMZ Area...35680.0 (ft)*(ft)
Extraction Ratio Within AMZ...0.36
Development Load on AMZ...5.78E+06 (tons)
Front Abutment Load...62186 (tons)/(ft)
First Side Abutment Load...62186 (tons)/(ft)
R-FACTOR For Front Abutment...0.900
R-FACTOR For First Side Abutment...0.730

Table with 5 columns: LOAD CONDITION, ABUTMENT LOAD (tons), LTRANSBAR (tons), LTRANSREM (tons), TOTAL (tons). Rows include DEVELOPMENT, ACTIVE GOB, and 1S + ACTIVE GOB.

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).

LTRANBAR 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	80.00	60.00	112.00
2	80.00	60.00	112.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	6.72E+03	3.57E+03	1.73E+06
2	6.72E+03	3.57E+03	1.73E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 5.84E+06 (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	137.00	7.19e+03	1.58E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	5.31E+06	2.80E+06	1.01E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	9.11E+03	0.87	3.84E+03

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2414	1272	4600	8287

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	97.0	0.32	4.03E+06	4.03E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3536 (psi)

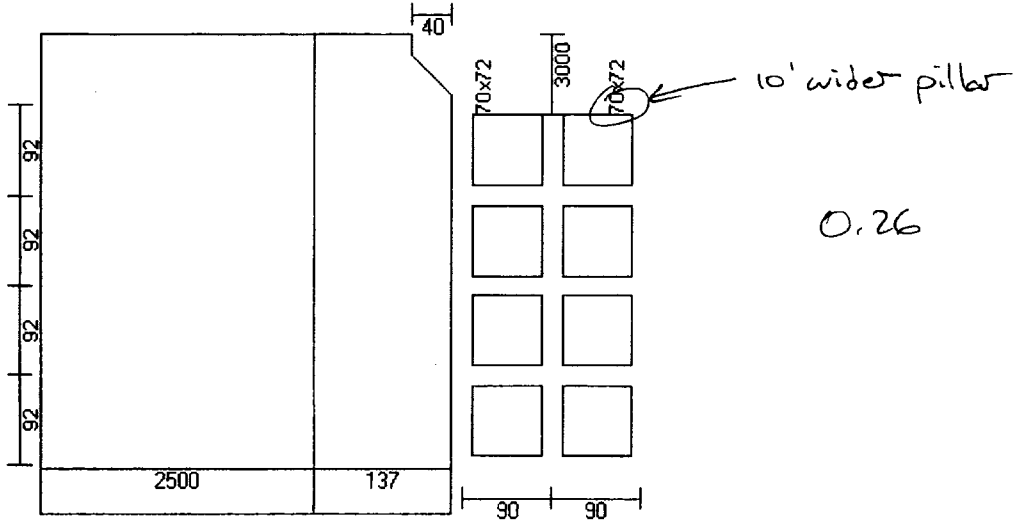
FRONT ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	635	3473	3473
2	251	1372	1372
3	45	248	248

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	8321
2	4449

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'



ARMPS module build: 5.0.41
 Project File: C:\Documents and Settings\Gilbride.AGAPITO\My Documents\MyNIOSH\226-20 GENWAL Main v
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]
 Entry Height.....8 (ft)
 Depth of Cover.....2000 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....92 (ft)
 Center to Center Distance #1.....90 (ft)
 Center to Center Distance #2.....90 (ft)

[DEFAULT PARAMETERS]
 In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....223 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]
 Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....137 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....40 (ft)

[ARMPS STABILITY FACTORS]
 DEVELOPMENT.....0.93
 ACTIVE GOB.....0.79
 ONE SIDE + ACTIVE GOB.....0.26

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]
 AMZ Width.....180.0 (ft)
 AMZ Breadth.....223.0 (ft)
 AMZ Area.....40140.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.39
 Development Load on AMZ.....6.50E+06 (tons)
 Front Abutment Load.....62186 (tons)/(ft)
 First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.730

TOTAL LOADINGS ON AMZ, INCLUDING TRANSFER FROM BARRIERS

CONDITION	LOAD	ABUTMENT	LTRANSBAR	LTRANSREM	TOTAL
	LOAD (tons)	LOAD (tons)	(tons)	(tons)	(tons)
DEVELOPMENT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.50E+06
ACTIVE GOB	1.14E+06	0.00E+00	0.00E+00	0.00E+00	7.64E+06
1S + ACTIVE GOB	3.75E+06	7.68E+06	4.47E+06		2.35E+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).

LTRANBAR 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	90.00	70.00	72.00
2	90.00	70.00	72.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	5.04E+03	3.45E+03	1.25E+06
2	5.04E+03	3.45E+03	1.25E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 6.07E+06 (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	137.00	7.19e+03	1.58E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	5.31E+06	2.80E+06	1.01E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	9.11E+03	0.87	3.84E+03

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2414	1272	4600	8287

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	97.0	0.32	4.47E+06	4.47E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3696 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	825	4076	4076
2	468	2309	2309
3	212	1045	1045

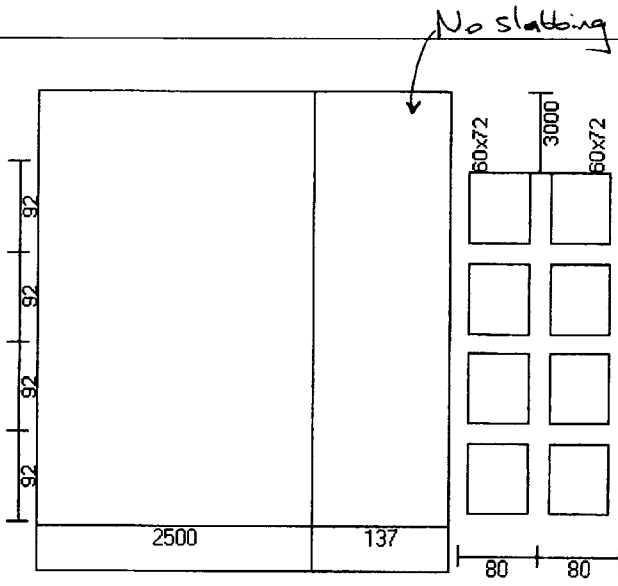
FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	8487
2	3857

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

AAI000970

ARMPs: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



Default
Design — NO SLAB

0.25

AAI000971

ARMPS module build: 5.0.41
Project File: 226-20 GENWAL Main West Mains Area SOUTH SIDE.ARM
Input Units: (ft) (psi)

[PROJECT TITLE]
GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....8 (ft)
Depth of Cover.....2000 (ft)
Crosscut Angle.....90 (deg)
Entry Width.....20 (ft)
Number of Entries.....3
Crosscut Spacing.....92 (ft)
Center to Center Distance #1.....80 (ft)
Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
Unit Weight of Overburden.....162 (pcf)
Breadth of AMZ.....223 (ft)
AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....ONE SIDE + ACTIVE GOB
Extend of Active Gob.....3000 (ft)
Abutment Angle of Active Gob.....21 (deg)
Extend of First Gob.....2500 (ft)
Abutment Angle of 1st Gob.....21 (deg)
Barrier Pillar Width of 1st Gob.....137 (ft)
Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....0.84
ACTIVE GOB.....0.72
ONE SIDE + ACTIVE GOB.....0.25

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
AMZ Breadth.....223.0 (ft)
AMZ Area.....35680.0 (ft)*(ft)
Extraction Ratio Within AMZ.....0.41
Development Load on AMZ.....5.78E+06 (tons)
Front Abutment Load.....62186 (tons)/(ft)
First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
R-FACTOR For First Side Abutment.....0.730

TOTAL LOADINGS ON AMZ, INCLUDING TRANSFER FROM BARRIERS

Table with 5 columns: CONDITION, LOAD, ABUTMENT LOAD (tons), LTRANSBAR (tons), LTRANSREM (tons), TOTAL (tons). Rows include DEVELOPMENT, ACTIVE GOB, and 1S + ACTIVE GOB.

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

AAI000972

side abutment load that is applied to the barrier pillar (the remainder is applied to the AMZ).

LTRANBAR 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	80.00	60.00	72.00
2	80.00	60.00	72.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	4.32E+03	3.21E+03	9.98E+05
2	4.32E+03	3.21E+03	9.98E+05

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 4.84E+06 (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	137.00	7.19e+03	1.58E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	5.31E+06	5.60E+05	1.01E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	7.99E+03	0.99	2.72E+03

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2414	254	4600	7269

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	137.0	0.60	4.03E+06	3.63E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

AAI000973

DEVELOPMENT STRESSES.....3833 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

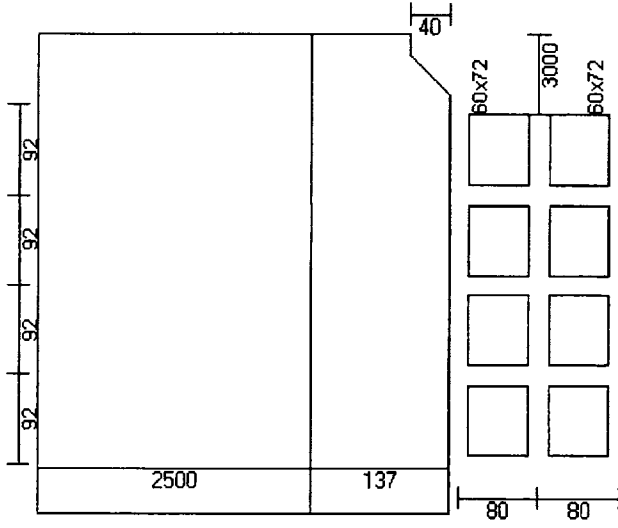
PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	764	3843	3843
2	433	2178	2178
3	196	985	985

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	7254
2	3878

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



Default Design
1500 ft deep

0.44

AAI000975

ARMPS module build: 5.0.41
 Project File: 226-20 GENWAL Main West Mains Area SOUTH SIDE.ARM
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....8 (ft)
 Depth of Cover.....1500 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....92 (ft)
 Center to Center Distance #1.....80 (ft)
 Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....193 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....137 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....40 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....1.12
 ACTIVE GOB.....0.95
 ONE SIDE + ACTIVE GOB.....0.44

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
 AMZ Breadth.....193.0 (ft)
 AMZ Area.....30880.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.41
 Development Load on AMZ.....3.75E+06 (tons)
 Front Abutment Load.....34980 (tons)/(ft)
 First Side Abutment Load.....34980 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.793

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	3.75E+06
ACTIVE GOB	6.67E+05	0.00E+00	0.00E+00	4.42E+06
1S + ACTIVE GOB	1.40E+06	1.58E+06	2.18E+06	9.58E+06

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).

LTRANBAR 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	80.00	60.00	72.00
2	80.00	60.00	72.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	4.32E+03	3.21E+03	9.98E+05
2	4.32E+03	3.21E+03	9.98E+05

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 4.19E+06 (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	137.00	6.93e+03	1.32E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	3.45E+06	1.57E+06	5.35E+06

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	5.19E+03	1.27	7.89E+02

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	1811	827	2811	5448

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	97.0	0.55	2.18E+06	2.18E+06

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

AAI000977

DEVELOPMENT STRESSES.....2875 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

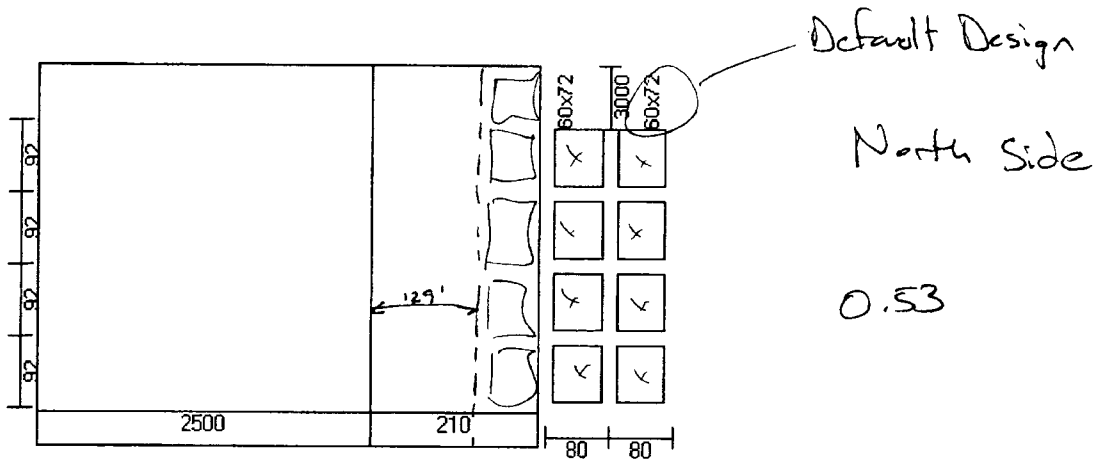
PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	630	2692	2692
2	317	1356	1356
3	112	478	478

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	3180
2	1264

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



AAI000979

ARMPS module build: 5.0.41
 Project File: C:\PROJECTS - Archived\226-20 GENWAL Main West Pillaring\226-20 GENWAL Main West Mai
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]
 Entry Height.....8 (ft)
 Depth of Cover.....2000 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....92 (ft)
 Center to Center Distance #1.....80 (ft)
 Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]
 In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....223 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]
 Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....210 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....0.84
 ACTIVE GOB.....0.72
 ONE SIDE + ACTIVE GOB.....0.53

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
 AMZ Breadth.....223.0 (ft)
 AMZ Area.....35680.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.41
 Development Load on AMZ.....5.78E+06 (tons)
 Front Abutment Load.....62186 (tons)/(ft)
 First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.895

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	5.78E+06
ACTIVE GOB	9.01E+05	0.00E+00	0.00E+00	6.68E+06
1S + ACTIVE GOB	1.45E+06	0.00E+00	9.15E+05	9.05E+06

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

AAI000980

side abutment load that is applied to the barrier pillar (the remainder is applied to the AMZ).

LTRANBAR 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	80.00	60.00	72.00
2	80.00	60.00	72.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	4.32E+03	3.21E+03	9.98E+05
2	4.32E+03	3.21E+03	9.98E+05

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 4.84E+06 (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	210.00	9.33e+03	3.15E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	7.95E+06	5.60E+05	1.24E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	1.05E+04	1.50	0.00E+00

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2357	166	3683	6206

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	210.0	1.27	4.03E+06	9.15E+05

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3833 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

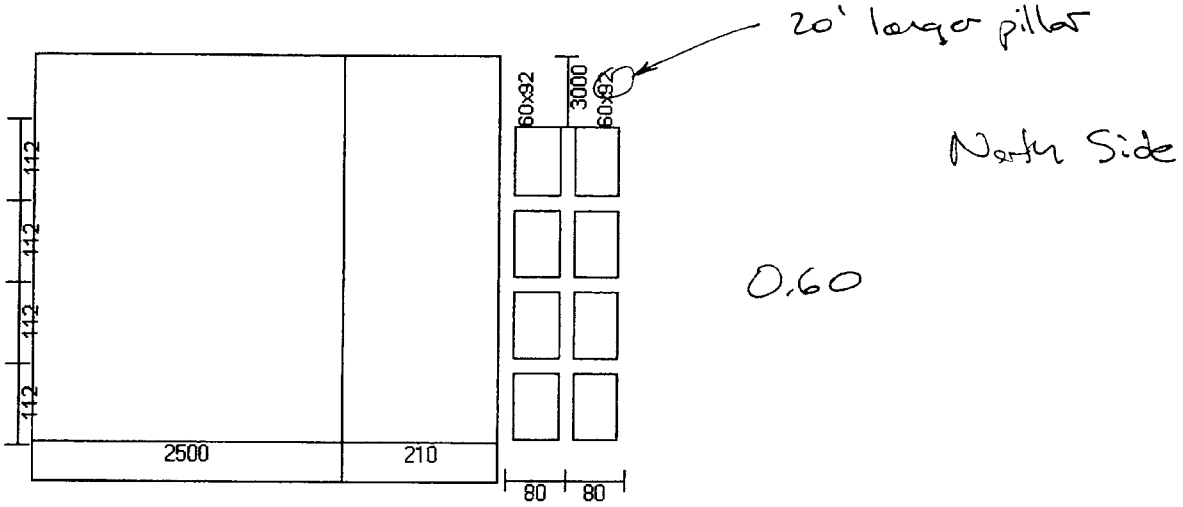
PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	764	1540	1540
2	433	873	873
3	196	395	395

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	1412
2	486

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



AAI000983

ARMPS module build: 5.0.41

Project File: C:\PROJECTS - Archived\226-20 GENWAL Main West Pillaring\226-20 GENWAL Main West Main
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]

Entry Height.....8 (ft)
 Depth of Cover.....2000 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....112 (ft)
 Center to Center Distance #1.....80 (ft)
 Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]

In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....223 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]

Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....210 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)

[ARMPS STABILITY FACTORS]

DEVELOPMENT.....0.94
 ACTIVE GOB.....~~0.81~~
 ONE SIDE + ACTIVE GOB.....0.60

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]

AMZ Width.....160.0 (ft)
 AMZ Breadth.....223.0 (ft)
 AMZ Area.....35680.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.38
 Development Load on AMZ.....5.78E+06 (tons)
 Front Abutment Load.....62186 (tons)/(ft)
 First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.895

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	5.78E+06
ACTIVE GOB	9.01E+05	0.00E+00	0.00E+00	6.68E+06
1S + ACTIVE GOB	1.45E+06	0.00E+00	9.15E+05	9.05E+06

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

AAI000984

side abutment load that is applied to the barrier pillar (the remainder is applied to the AMZ).

LTRANBAR 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	80.00	60.00	92.00
2	80.00	60.00	92.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	5.52E+03	3.43E+03	1.36E+06
2	5.52E+03	3.43E+03	1.36E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 5.43E+06 (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	210.00	9.33e+03	3.15E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	7.95E+06	5.60E+05	1.24E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	1.05E+04	1.50	0.00E+00

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2357	166	3683	6206

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	210.0	1.27	4.03E+06	9.15E+05

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3652 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

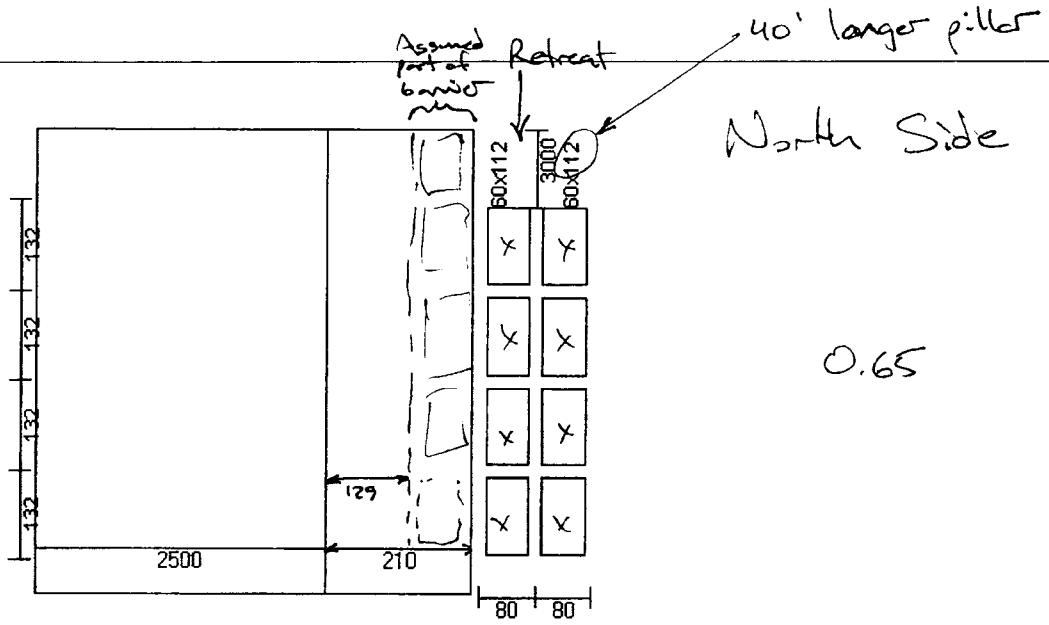
PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	691	1393	1393
2	331	667	667
3	103	208	208

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	1345
2	463

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'

ARMPS: Actual Pillar Dimensions (width*length, ft). Entries shown from left to right.



AAI000987

ARMPS module build: 5.0.41
 Project File: C:\PROJECTS - Archived\226-20 GENWAL Main West Pillaring\226-20 GENWAL Main West Mai
 Input Units: (ft) (psi)

[PROJECT TITLE]
 GENWAL Crandall Canyon Main West Retreat in the Mains

[PROJECT DESCRIPTION]

[DEVELOPMENT GEOMETRY PARAMETERS]
 Entry Height.....8 (ft)
 Depth of Cover.....2000 (ft)
 Crosscut Angle.....90 (deg)
 Entry Width.....20 (ft)
 Number of Entries.....3
 Crosscut Spacing.....132 (ft)
 Center to Center Distance #1.....80 (ft)
 Center to Center Distance #2.....80 (ft)

[DEFAULT PARAMETERS]
 In Situ Coal Strength.....900 (psi)
 Unit Weight of Overburden.....162 (pcf)
 Breadth of AMZ.....223 (ft)
 AMZ set automatically

[RETREAT MINING PARAMETERS]
 Loading Condition.....ONE SIDE + ACTIVE GOB
 Extend of Active Gob.....3000 (ft)
 Abutment Angle of Active Gob.....21 (deg)
 Extend of First Gob.....2500 (ft)
 Abutment Angle of 1st Gob.....21 (deg)
 Barrier Pillar Width of 1st Gob.....210 (ft)
 Depth of Slab Cut in Barrier Pillar of 1st Gob....0 (ft)

[ARMPS STABILITY FACTORS]
 DEVELOPMENT.....1.01
 ACTIVE GOB.....0.87
 ONE SIDE + ACTIVE GOB.....0.65

[DATA ABOUT THE ACTIVE MINING ZONE (AMZ)]
 AMZ Width.....160.0 (ft)
 AMZ Breadth.....223.0 (ft)
 AMZ Area.....35680.0 (ft)*(ft)
 Extraction Ratio Within AMZ.....0.36
 Development Load on AMZ.....5.78E+06 (tons)
 Front Abutment Load.....62186 (tons)/(ft)
 First Side Abutment Load.....62186 (tons)/(ft)

R-FACTOR For Front Abutment.....0.900
 R-FACTOR For First Side Abutment.....0.895

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	5.78E+06
ACTIVE GOB	9.01E+05	0.00E+00	0.00E+00	6.68E+06
1S + ACTIVE GOB	1.45E+06	0.00E+00	9.15E+05	9.05E+06

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).

LTRANBAR 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	80.00	60.00	112.00
2	80.00	60.00	112.00

PILLAR	AREA (ft)*(ft)	STRENGTH (psi)	LOAD-BEARING CAPACITY (tons)
1	6.72E+03	3.57E+03	1.73E+06
2	6.72E+03	3.57E+03	1.73E+06

TOTAL LOAD-BEARING CAPACITY OF PILLARS WITHIN AMZ: 5.84E+06 (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	210.00	9.33e+03	3.15E+07

[BARRIER PILLAR LOADS]

BARRIER PILLAR	DEVELOPMENT LOAD (tons)	FRONT-ABUTMENT LOAD (tons)	SIDE-ABUTMENT LOAD (tons)
First	7.95E+06	5.60E+05	1.24E+07

[BARRIER PILLAR LOADS (cont'd)]

BARRIER PILLAR	TOTAL LOAD (tons)	STABILITY FACTOR	LTRANSBAR (tons)
First	1.05E+04	1.50	0.00E+00

[BARRIER PILLAR STRESSES]

BARRIER PILLAR	DEVELOPMENT STRESS (psi)	FRONT-ABUTMENT STRESS (psi)	SIDE-ABUTMENT STRESS (psi)	TOTAL STRESS (psi)
First	2357	166	3683	6206

[REMNANT BARRIER PILLARS BETWEEN GOBS]

REMNANT PILLAR	WIDTH (ft)	STABILITY FACTOR	LFTBAR (tons)	LTRANSREM (tons)
First	210.0	1.27	4.03E+06	9.15E+05

[STRESS ON INDIVIDUAL PILLARS WITHIN THE AMZ]

DEVELOPMENT STRESSES.....3536 (psi)

FRONT ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN ROW	ACTIVE GOB	1S + ACTIVE GOB	2S + ACTIVE GOB
1	635	1280	1280
2	251	506	506
3	45	91	91

FIRST SIDE ABUTMENT STRESS (psi) APPLIED TO:

PILLARS IN COLUMN	LOAD
1	1302
2	448

To view the distribution of Individual Pillar Stresses - Abutment or Total
select 'View Plots->Settings->Individual Pillar Stresses - Abutment'
select 'View Plots->Settings->Individual Pillar Stresses - Total'